Public Spending Technical Notes

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Technical Note 1: Expenditure Classifications

The value of a system of expenditure classification is that it enables analysis of expenditures which is a fundamental pre-requisite for effective budget management. Most governments have an economic classification which identifies the amounts spent on salaries, interest, transfers, etc. Such information provides a basic building block for budget analysis.   The Government Finance Statistics provides a common basis for classifying such expenditure so that cross country comparisons of expenditure patterns is possible.

Most countries also collect and organize information on budget allocations and expenditure on the basis of administrative classification, i.e. corresponding to the agencies and entities that constitute government.   The aggregate amount spent by each agency and the economic classification under each agency head is often also available.

Table 1.
Each of the following can usefully be presented in absolute real terms, as a share of GDP, and as a share of public spending for current and earlier fiscal years.

Table 1. Functional Classification of Expenditures:

Economic Services
Transportation
Fuel and energy services
Agriculture, forestry & fisheries
Mining and manufacturing
Social Services
Education
Health
Social Security & welfare
Water supply & sanitation
General public services
Defense
Public order & safety
General public administration
Other functions
Interest
General transfers

Source: IMF Government Financial Statistics.

Table 2. Economic Classification of Expenditures:

Current expenditures
Expenditures on goods & services
Wages and salaries
Employer contributions (social security, other goods and services)
Interest Payments
Subsidies
Other current transfers
Capital expenditures
Lending minus repayments

Source: IMF Government Financial Statistics

The functional classification of expenditure differs from the simple administrative classification because functions do not map into agencies on a one-to-one basis. A number of agencies may have overlapping functions (for example health services may be provided by public hospitals as well as by agencies associated with immigration and border security). Also, some functions such as public administration will constitute a part of the responsibilities of most agencies. Where budgets are highly fragmented and many activities are financed by off-budget arrangements, the accurate identification of the functional classification of expenditure is problematic. The functional composition of expenditure is useful for analysis of sectoral budgets and performance, and generally important for poverty analysis.

Table 3. Functional Composition of Expenditures by Level of Government

	Central Government	State Government	Local Government
Economic Services			
Transportation			
Fuel and energy services			
Agriculture, forestry & fisheries			
Mining and manufacturing			
Social services			
Education			
Primary Education			
Secondary Education			
Tertiary Education			
Health			
Primary Health			
Secondary Health			
Tertiary Health			
Social Security & welfare			
Water supply & sanitation			
General public services			
Defense			
Public order & safety			
General public administration			
Other functions			
Interest			
General transfers			

Source: IMF Government Financial Statistics.

Given the assignment of service responsibilities to different levels of government, it is desirable, if data permits, to identify the functional composition of expenditure across different levels of government. The appropriate treatment of transfers between government will be needed to ensure that expenditures are not double counted.

 A classification of expenditure by program categories is desirable but is often not available in developing countries. Its value is that it enables plan and policy objectives to be more directly linked to the budget, thereby facilitating the tracking of whether policy priorities are appropriately funded.

Technical Note 2. International Benchmarks for Social Sector Spending

This note borrows from Gupta, S., K. Honjo and M. Verhoeven, "The efficiency of government expenditure: experience from Africa" IMF Working Paper WP/97/153, 1997.

Spending on **primary** health care can be defined as public spending on clinics and medical dental and paramedical practitioners according to the GFS Economic classification (see above). **Secondary** and **tertiary** health care can be defined as hospital services and curative treatments by medical specialists. Intrasectoral data for health care spending are often not comparable across countries due to the lack of a universally accepted definition of primary health care.

Table 4: Public Expenditure Allocations Between Preventive and Curative Health Care in Selected Countries [1]

	Year	Preventative/Primary health Care	Curative/Tertiary Hospital Health Care
All Countries		28.0	61.8
Angola [2]	1992	6.0	48.5
Bolivia	1994	---	31.0
Burundi	1993	24.2	42.3
Central African Republic	199	5.0	95.0
Cote d'Ivoire [3]	1995	42.5	57.5
Ethiopia	1995	50.0	50.0
Gambia, The	1991	63.0	37.0
Ghana	1992	32.2	67.8
Guinea	1991-94	24.0	62.0
Honduras	1991	42.9	57.1
Kenya	1991	27.6	68.8
Lesotho	1990-91	5.0	95.0
Madagascar	1993	52.2	47.8
Nepal	1985	33.0	67.0
Uganda	1991-92	10.0	90.0
Tanzania	1993-94	14.0	79.0
Zambia	1994	---	33.0
Zimbabwe	1989	16.0	84.0

Sources: Gupta, Honjo & Verhoeven (1997) who cite World Bank Poverty Assessments: Angola (1992), Burundi (1992), Central African Republic (1993), Cote d'Ivoire (1994) Ethiopia (1994), Guinea (1997), Honduras (1994), Kenya (1995), Lesotho (1995), Mongolia (1995), Tanzania (1994), Zambia (1995) and Zimbabwe (1995); IMF Government Finance Statistics database (1995): Bolivia, The Gambia, Malawi, and Nepal; and Castro-Leal and others (1999): Ghana and Madagascar. 1/ The totals do not sum up to 100 for five countries because of nonallocation of administrative and other expenditure to preventive/primary health care and curative/tertiary hospital health care. 2/ Capital expenditure only. 3/ Recurrent expenditure only. 4/ Average from 1991 to 1994.

Table 5: Allocation of Public Education Expenditure in Selected Countries
(as percent of total) [1]

	Year	Primary Education	Secondary Education	Primary and Secondary Education	Tertiary Education	Other
All Countries		46.8	23.1	69.2	20.9	8.6
Benin	1992	54.0	---	---	---	---
Bolivia	1994	---	---	50.0	32.0	18.0
Burkina Faso	1993	17.0	---	---	---	---
Burundi	1993	44.0	25.0	69.0	23.0	8.0
Central African Republic	1992	56.0	16.0	72.0	23.0	5.0
Cote d'Ivoire	1995	48.6	33.5	82.1	17.8	0.0
Ethiopia	1992-93	45.0	24.0	69.0	13.0	18.0
Gambia, The	1990	63.0	16.0	79.0	---	---
Ghana	1992	41.5	43.2	84.7	15.3	0.0
Guinea	1992	42.0	25.0	67.0	33.0	0.0
Guinea Bissau	1992	54.3	11.4	65.7	5.5	28.8
Kenya	1992-93	60.0	17.0	77.0	17.0	6.0
Lesotho [2]	1991-92	52.0	30.0	82.0	15.0	3.0
Madagascar	1993	44.9	29.9	74.8	25.2	0.0
Mozambique	1990	50.0	35.6	85.6	14.4	0.0
Myanmar	1990	---	---	76.0	24.0	0.0
Nicaragua	1994	40.1	9.5	49.6	32.9	17.5
Nepal	1985	---	---	46.0	20.0	34.0
Niger	1992	42.0	25.0	67.0	22.0	1.0
Senegal	1991	48.9	25.5	74.4	25.5	0.0
Sierra Leone	1991	38.6	22.6	61.2	29.6	9.2
Tanzania	1993-94	52.0	13.0	65.0	35.0	0.0
Togo	1995	41.0	16.0	57.0	25.0	18.0
Zambia	1994	46.1	12.1	58.2	11.5	30.6
Zimbabwe	1990	49.3	30.6	79.9	20.2	0.0

Sources: Gupta, Honjo & Verhoeven (1997) who cite World Bank Poverty Assessments: Benin (1994), Burkina Faso (1993), Burundi (1992), Cameroon (1992), Central African Republic (1993), Ethiopia (1994), Guinea (1997), Guinea Bissau (1994), Kenya (1995), Lesotho (1995), Mongolia (1995), Mozambique (1992), Nicaragua (1995), Niger (1996), Senegal (1992), Sierra Leone (1994), Tanzania (1994), Togo (1996), Zambia (1995) and Zimbabwe (1995); IMF Government Finance Statistics database (1995): Bolivia, The Gambia, Malawi, and Nepal; and Castro-Leal an others (1999): Cote d'Ivoire, Ghana and Madagascar. 1/ The coverage of other expenditure varies by countries and includes items such as unallocated administrative expenses, adult education, vocational and technical training. 2/ Current expenditure only.

Technical Note 3: Public Expenditure Tracking Surveys: A Case Study

See Ablo, E. and R. Reinikka, 1999.

Expenditure tracking surveys can be used as supply-side checks on service delivery and budget execution when reliable and accurate data on actual budget disbursements do not exist. They are useful in situations where institutions charged with service delivery or budget management at the local levels perform poorly, or where transparency in budget management at the local level is lacking. This note outlines the main components of Uganda's Expenditure Tracking System.

Expenditure tracking surveys were introduced in Uganda in the mid-1990s, in part because health and education outcomes had stagnated despite large increases in public spending over 1980s levels. The underlying hypothesis was that actual service delivery (output) was much worse than budget allocations would imply because public funds did not reach the local facilities. Possible reasons for facilities not receiving the allocated funds could include reallocations of funds during budget execution due to competing priorities at various levels of government, corruption and/or misuse of public funds.

Methodology and Survey Design. Budget allocations and actual spending amounts were compared in two decentralized sectors: primary education and health. Because local government accounts were not generally available, a field survey was carried out in 19 of Uganda's 39 districts to collect spending data for 1991-95. The survey covered a randomly selected sample of 250 government schools and 100 public health clinics.

Education. Enumerators who collected the data from schools and clinics were mainly former teachers and health workers resident in the districts. Standardized forms were used, along with qualitative observations. Enumerators were trained and closely supervised by a national research team to ensure quality and uniformity of data collection and to assess the standard of record keeping in schools and clinics.

The field survey found that input flows in the education sector suffered from serious problems, largely due to weak governance and lack of accountability. On average, less than 30 percent of the funds intended for non-salary expenditures actually reached schools between 1991-95. District authorities kept and used most of the non-salary capitation (per student) grants meant for schools. In theory, schools were allowed to keep up to a third of mandatory tuition fees paid by parents and the rest was for district education offices. Although there were large variations between schools, at the median school retention of both capitation grants and tuition fees was zero. Teacher salaries seem to have reached schools much better than non-wage allocations—though with considerable delay. The only systematic way of misappropriating salary funds was through "ghost" teachers on the payroll.

Hence, despite an increase in budget allocations, most of the burden for financing education costs continued to be borne by parents, who accounted for as much as 70 percent of total spending on primary schooling in 1991 and 60 percent in 1995 (see Table 1). Parents' contributions continued to increase in real terms over the survey period.

Table 6. Summary of School Income Data (1991 Prices) U Sh (millions)

	1991	1992	1993	1994	1995
Teachers' salary payments by GOU	213.9	214.7	381.3	784.6	914.6
Capitation grants received by schools	4.2	15.8	58.0	60.9	58.3
Other government funding	73.8	62.5	73.6	118.7	147.1
Total Government	**291.9**	**293.0**	**512.9**	**928.2**	**1120.0**
Tuition Collected	55.4	96.8	116.6	136.2	141.3
O/w Tuition retained by schools	2.2	7.4	10.6	23.7	50.3
PTA levies	591.1	609.6	775.2	934.9	1032.7
Salary payments by PTAs	125.8	134.1	196.0	300.7	475.9
Total Parents	**772.3**	**840.5**	**1087.8**	**1371.8**	**1649.9**

Source: Ablo and Reinikka 10.

Health. Qualitative evidence was used because there was no financial information at the health facility level that would allow comparison of actual and received budget funds. The method included casual observation, focus group discussions and interviews with health care staff.

Enumerators working on the health survey gathered information on the following topics:

- Whether user fees charged were higher than what was mandated by the government;
- Extent to which donor-funded drug supplies were being offered to patients or sold privately by clinic staff;
- Timeliness of salary and non-wage disbursements from district offices to clinic staff;
- Payment scales and rate of attrition among health workers; and
- Technical skills of staff and other factors that affect the quality of care received, especially in remote areas.

The expenditure tracking survey revealed that most medical supplies provided by the Ministry of Health did reach public health facilities. Unlike in the education sector, supplies in the health sector were distributed directly to health units. However, researchers found that clinic staff was expropriating a large portion, nearly 70 percent, of drugs and medical supplies for private sale.

In addition, the survey found that most clinics did not follow user fee guidelines provided by the Ministry of Health, and that drugs supplied by donors are routinely used as a source of additional income by underpaid staff. Due to low pay of health care professionals, there is a high rate of attrition among health care workers, and a scarcity of well-trained clinic staff in rural areas.

Policy Response. Upon release of the survey findings, the government took steps to remedy the identified weakness in the budget disbursement systems in the education and health sectors. These reforms included:

- Publication of monthly transfers of public and donor funds for wage and non-wage expenditure to districts in main newspapers and radio broadcasts announcing these amounts in order to increase local knowledge of budget disbursements and to promote greater transparency and accountability at the local level. Moreover, government policy requires that transfers to primary schools from the Ministry of Education be displayed on public notice boards in each school and district center, and the Ministry monitors compliance;

- Districts are requested to pay conditional grants for primary education directly to individual school accounts.
- School-based procurement has replaced inefficient central supply of construction and other materials;
- The 1997 Local Government Act incorporated measures to enhance accountability and dissemination of accounting information. The previous statute had no such provisions; and
- Efforts are being made to institute basic public accounting systems that include district accounts with the financial support of donors.

Technical Note 4: Tax Incidence Analysis

It is important to analyze the distributional impacts of tax policy, as highly distortionary and regressive taxation can impose large welfare losses on the poor. Macroeconomic and pricing policies may also indirectly tax certain types of economic activity with direct linkages to the incomes of the poor (see the **poverty measurement**, **macroeconomic issues** and **rural poverty** chapters).

Tax incidence analysis can reveal whose real purchasing power falls due to the imposition of a tax. A tax is *progressive* if wealthier households pay a proportionately larger share of the tax than do wealthy households, relative to their overall expenditures (or a different measure of welfare). A taxes is *regressive* if the poor pay a proportionately larger share of the tax than do wealthy households. A tax is *neutral* if the tax shares among the different income groups are equal to the group's income or expenditure shares.

Statutory vs. Economic Incidence: Tax incidence analysis requires knowledge of both the statutory and economic incidence of taxes. The *statutory incidence* of the tax refers to who is legally required to pay the tax to the government. The *economic incidence* of the tax refers to who experiences a decline in purchasing power as a result of the tax. If a tax is imposed on a product or factor of production for which the household demand or supply are relatively *elastic*, the burden of the tax will generally be shifted onto those agents whose demand or supply are *inelastic*, regardless of the tax's statutory incidence. For example, if the government levies a tax on sugar, households whose consumption of sugar is highly price elastic can avoid paying the tax by switching to close substitutes; households or firms' whose consumption is price inelastic will be forced to pay the tax and will bear the economic incidence of the tax.

It is common to assume that **direct taxes** fall on those who also bear the statutory incidence of the tax; and **indirect taxes** fall on those who consume or purchase the commodity being taxed. There are two important exceptions to this rule, however: (1) gasoline taxes affect users of public transportation services as well as those who directly purchase gasoline; and (2) tariffs on imported goods affect the consumers of the imported good as well as consumers of domestically-produced substitutes since import taxes protect domestic goods from competition, and enable domestic producers to raise prices. Domestic producers of close substitutes to heavily taxed import goods will derive benefits from import taxes.

Table 1 outlines common assumptions about the economic incidence of direct and indirect taxes. However, analysts are advised to test these presumed effects in national circumstances.

Table 1: Economic Incidence of Taxes

Taxes	Economic Incidence	Statutory Tax Rate
Direct Taxes		
Corporate Income Tax/ Profit tax	• Owners of firm	
Withholding tax on wages and salaries	• Workers	
Indirect Taxes		
Excise Duties (on alcohol, tobacco, soft drinks, etc.)	• Households that consume goods	
Petroleum Tax	• Consumers and firms who use petrol. • Users of public transportation	
Import tariffs	• Consumers of the good, whether produced domestically or abroad, pay the tax. It is often the case that prices of goods for which imports are a large share of the market go up by the amount of the tariff when imposed	
VAT (broad-based)	• Consumers of taxed goods	
Trade taxes	• Consumers of taxed goods	
Explicit export taxes	• Producers of export goods	
Gasoline Taxes	• Consumers of gasoline • Consumers of transport services (optional)	

Source: Younger, Sahn, Haggblade and Dorosh, 308-309.

How can policy makers identify taxes that are regressive? There are different ways to work out which income groups in society pay a disproportionate share of a given tax, and how to shift the tax burden away from poorer households in order to improve the distribution of welfare. Four possible approaches are mentioned here, which are ordered from the least to the most demanding in terms of data and analysis:

1. General assessment. This can be based on a systematic review of the structure of taxes, and knowledge about consumption and production patterns among different population groups (see also the **poverty measurement** chapter). A country-specific version of Table 2 could be completed. Table 2 lists the taxes used to raise revenues, the statutory tax rates and coverage, which groups are affected by the tax, and international evidence about the distributive impact of a particular type of revenue measure.

Table 2: **Domestic Sources of Government Tax Revenues and their Progressivity**

Revenue Source	Share of Total Government Revenue	Average (Statutory) Tax Rate	Which Groups Are Affected?	International evidence about distributive impact
Examples				
Export Duties		*Cashnew nut tax (35 %)*	*Rural small holders, mainly in poor provinces*	*Regressive*
Import Duties				
VAT				
Excise Duties: *Tobacco, Alcohol and Non-Alcoholic Beverages*				
Sales Tax				
Non-petrol Excise Taxes				
Profit Taxes on Firms				
Wage Income Taxes		*Say, 30 %*	*Formal sector employees*	*?*
Kerosene Duties				
Gasoline Tax				
Tourist Visas		*Flat 50$*	*Tourists, and groups relying on tourist income*	*Progressive*
Automobile				
Diesel				
Transportation				
Utility Charges				
Primary School Fees				
University Student Fees				
Medical User Fees				

Statutory tax rates, rather than actual amounts paid, can be used for a simple review. These statutory rates, however, may overstate the burden of the tax on consumption goods, profits and wages due to low collect rates or tax compliance; and substitution away from commodities that are heavily taxed depending on the price elasticity of demand for the taxed commodity (see option 3 below).

2. Cross-tabulations. Using household survey data, simple cross-tabulations of consumption patterns and income sources of different income deciles using household survey data can shed light on the distributive impact of alternative revenue services. Even without knowing how household and firm purchases will shift as a result of the imposition of a tax, it is possible to use recent household data containing information on the sub-sector in which the poor work, which goods and services they purchase, etc. to inform country-level analysis of the likely economic incidence of the tax. It may lead to the conclusion that levying taxes on consumption goods that are overwhelmingly consumed by the urban and rural poor--and for which there are no close substitutes--would likely have negative distributional impacts. The **poverty data and measurement** chapter provides further guidance on this technique.

3. Price elasticity of demand analysis. It is better, if possible, to take into account how consumers or producers will change their behavior once a tax has been imposed when inferring the economic incidence of a tax from household data. What would happen if the government levied a tax on a commodity for which demand is highly price elastic—for example, an excise tax on cashew nuts? It is likely that the tax will affect the tax base, e.g. the number of producers who sell cashnew nuts in the formal markets might shrink, and demand for the commodity itself, e.g. demand would fall thereby further affecting the incomes of cashew nut producers. This type of analysis requires the estimation of demand systems for different goods and services in order to obtain estimates of the own and cross-price elasticites of demand from which welfare losses from taxes can be calculated. (See Deaton 1997, Chapter 5.)

Concentration Curves. A graphical illustration of the distributive effect of different taxes across a continuum of households ranked by consumption expenditures can be constructed. This method uses household income or expenditure data to construct the concentration curves for various taxes, and compares the relative progressivity of different taxes in the economy using statistical dominance tests, which are described below in greater detail.

The data needs for constructing Tax Concentration Curves are:

- A household survey with information on total household expenditures or income, and information on the consumption of specific goods being taxed;
- Detailed information about statutory tax rates for different types of taxes. This is used to calculate the loss in purchasing power experienced by those people who bear the economic incidence of the tax;
- General knowledge about the economic incidence of a tax (i.e. the extent to which the burden is passed on) sufficient to underpin the assumptions of the analysis; and
- Consumer price index (ideally on a regional basis) to adjust household expenditure estimates for regional differences in price levels;

To compute the concentration curve for a given tax, one can follow these steps:

1. Compute total household expenditures for each household in the survey;
2. Calculate the amount of the tax paid by each household based on that household's consumption of that good and the statutory tax rate, and direct tax payments on profits or wages. The assumption is that those who bear the economic burden of the tax will face a percentage price increase equal to the tax rate;
3. Sort the households from the poorest to the wealthiest based on the total household expenditure variable calculated above;
4. In a separate column calculate the *cumulative* proportion of taxes paid and *cumulative* proportion of total expenditures as you move from the poorest to the richest household;
5. Plot the cumulative proportion of taxes paid (along the y-axis) against the cumulative proportion of households (ranked from poorest to richest along the x-axis). This can be easily done using Excel spreadsheet software. The resulting graph will resemble Figure 1 below; and
6. Graph the Lorenz curve for household expenditures, which is simply a plot of the cumulative proportion of total expenditures (along the y-axis) against the cumulative proportion of households (ranked from poorest to richest along the x-axis). The Lorenz curve can be a benchmark against which to judge whether a particular tax is progressive or regressive.

Table 3: Format of Spreadsheet for Tax Incidence Analysis

A	B	C	D	E	F	G
Household ID	Total Household Expenditures (ranked from poorest to wealthiest)	Cumulative Proportion of Expenditures	Total Consumption of good X	Statutory Tax Rate Good X 1/	Total Tax Payments Good X	Cumulative Proportion of Taxes Paid
3353	20	0	2	0.05		0.00
266	23		5	0.05		0.01
2773	25		3	0.05		
3885						
4877						
2777	20,000	100	9	0.05		100

Notes: 1/ Some goods may be subject to an import duty as well as a VAT tax. This double taxation of some consumption goods should be taken into account when calculating total tax payments.

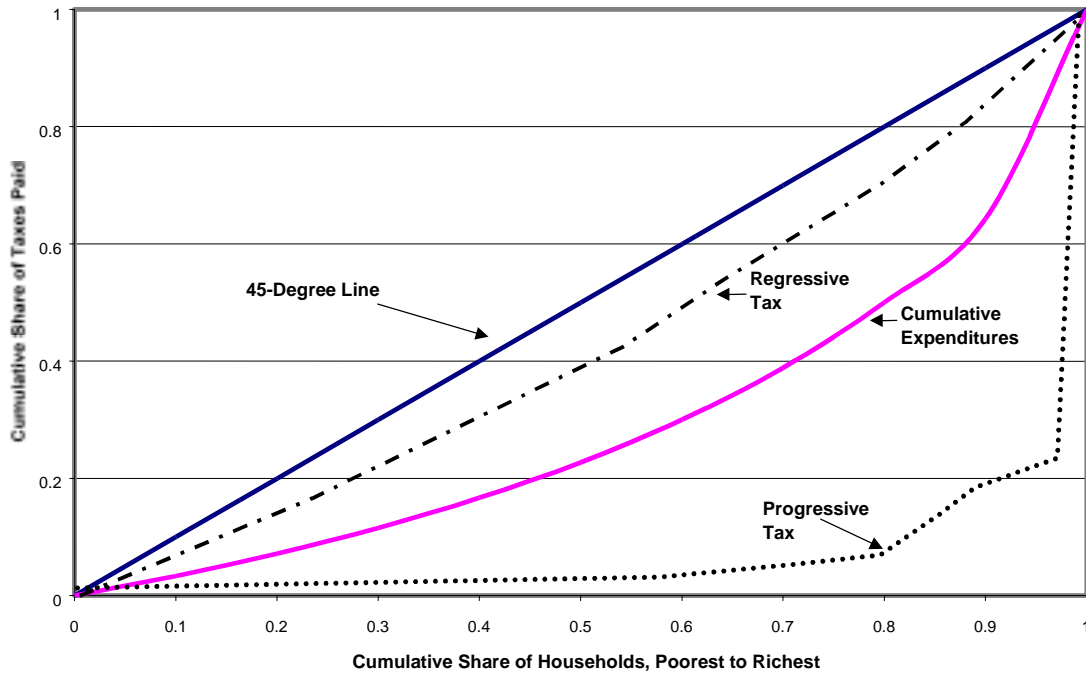**Figure 1: Regressive and Progressive Taxes**

Figure 1 shows a hypothetical plot of tax payments against cumulative household expenditures, and the associated Lorenz curve for total household expenditures. The 45-degree line of perfect equality is a benchmark where expenditures or tax payments are equal across households. The Lorenz curve for household expenditures falls below the 45-degree line, which means total expenditures, are not distributed equally across households, as expected. The larger the gap between the 45 degree line and the Lorenz curve for household expenditures widens, the greater is the inequality in welfare implied by the distribution of household expenditures.

The concentration curve for a given tax is more progressive as it approaches the lower right hand corner of the box. If the concentration curve for a tax is below the Lorenz curve for household expenditures, wealthier households are paying a larger share of the tax relative to their expenditures, and the tax is considered progressive. Exactly the opposite is true if the tax

concentration curve is located *above* the expenditure Lorenz curve. In the above example, the wealthiest 10 percent of households are paying 80 percent of the progressive tax.

As a summary measure, a "progressivity coefficient" equal to the area between the expenditure Lorenz curve and the tax concentration curve can be calculated. Positive values indicate a progressive tax, and vice-versa for negative values (Younger 1993).

One can also estimate the implicit tax burden on a specific commodity (say an agricultural crop) associated with an overvalued exchange rate. This requires making an assumption about the size of the implicit tax due to overvaluation. For example, half of the difference between the official and parallel exchange rates times the international price minus a reasonable marketing margin for domestic and international transport and processing could be taken to be the size of the tax (Younger 1993).

The result of this analysis have to be interpreted with care, for several reasons, including where combining concentration curves for different taxes (for example, to calculate the combined incidence of gasoline, petroleum and diesel taxes) may cause to concentration curve to be biased if assumptions about per unit taxes levied on each of the individual goods are wrong. In this case, the actual taxes are added across commodities and a ratio is not used to derive the concentration curve. For example:

> Suppose that we undervalue by 50 percent the taxes that households pay for alcohol consumption…problems would arise if we added the tax on alcohol to the tax on tobacco and check the incidence of the two together. Because the estimated alcohol tax is too low, its weight in the composite commodity comprising alcohol and tobacco is also too low, and the concentration curve for the two together, which is a weighted average of the individual curves, will be weighted too little by the concentration curve for alcohol and too much by the curve for tobacco (Younger, Sahn, Haggblade and Dorosh 311).

If the profile of household spending patterns that emerges from the household survey differs from reality (due to underreporting of consumption among different income groups) then the estimated tax burden across income groups will be biased.

Comparing the estimated tax payments calculated from the sample (simply by summing up total estimated tax payments for the good in question) with actual tax revenues reported by the government is a good way to roughly check the accuracy of the results. It is likely that estimates of tax payments from the household survey will *underestimate* the amount of taxes the government actually collected.

Revenues from certain taxes may be **underestimated** in calculations based on household surveys due to either under-reporting of consumption or the absence of relevant questions in the household survey instrument (especially relating to firm expenditures). The following tax payments are likely to be underestimated using household surveys:

- Income taxes due to the under-reporting of income by households;
- Profit taxes due to the lack of coverage of firms in the survey, and under-sampling of wealthy households;
- Petroleum taxes due to the lack of coverage of firms in the survey; and

- Excise taxes due to compliance and measurement problems, especially in economies where the informal sector is large.

Technical Note 5. Spending Incidence Analysis

This note borrows from Sahn and Younger, "Dominance Testing of social Sector Expenditures and Taxes in Africa," IMF WP/99/172, Washington, DC: IMF 1999.

How much of the benefits of public spending accrue to households at the bottom end of the expenditure distribution? Examining the incidence of public expenditures helps to answer this crucial question using information about household utilization of publicly financed health and education services, or consumption of publicly subsidized goods.

Public spending on a certain service or category is *progressive* if poorer households derive a proportionately larger share of the benefits than do wealthy households (as evidence by utilization rates, etc) relative to the overall distribution of expenditures (or income) as measured by the Lorenz curve. Spending on a certain service is *regressive* if the poor do not derive benefits from the service provided, or if wealthier households derive a proportionately larger share of the benefits. Spending is said to be *neutral* if the benefit shares among the different income groups is equal to the group's income or expenditure shares.

Data needs for spending incidence analysis include:
1. A representative household survey with information on household expenditures or income;
2. Consumer price index (ideally on a regional basis) to adjust household expenditure estimates for regional differences in price levels;
3. Binary indicators of utilization of publicly funded services (such as enrolment in primary, secondary or tertiary school) for each household in the sample;
4. *Optional*: Data on per unit subsidy provided by the government for the relevant service *or* government budget data by sector and level of service from which one can calculate the per capita public expenditure on a given service, ideally in small geographic areas.

The data steps necessary to compute the spending concentration curve are similar to those described in the tax incidence analysis section above:

1. Compute per capita household expenditures (or income) for each household in the survey;
2. Obtain indicators for households' utilization of publicly funded services in the appropriate sector (e.g. primary, secondary and tertiary attendance);
3. Sort the households from the poorest to the wealthiest based on the per capita household expenditures (or income) variable;
4. Plot the cumulative proportion of spending on a certain level of service along the y-axis against the cumulative proportion of households (ranked from poorest to richest along the x-axis). This can be most easily accomplished using Excel spreadsheet software. The resulting graph will resemble Figure 1 below. The series will be referred to as the concentration curve for public spending; and
5. Plot the Lorenz curve for household expenditures, which is simply a plot of the cumulative proportion of total household expenditures (along the y-axis) against the cumulative proportion of households (ranked from poorest to richest along the x-axis). The Lorenz curve can be a benchmark against which to judge whether a particular tax is progressive or regressive.

Table 1: Example Spreadsheet Set-Up for Spending Incidence Analysis

A	B	C *Lorenz Curve for expenditures*	D	E	F	G
Household ID	Total Household Expenditures (ranked from poorest to wealthiest) in local currency	Cumulative Proportion of Expenditures	Binary Variable Indicating Utilization of Primary Schooling	Per Capita Public Spending on Primary Education (in local currency)	Benefits from Spending on Primary Education	Cumulative Proportion of Benefits for person j= (sum 1-row(j)) (sum col e)
3353	20	0	1	1.5	1.5	0.001
266	23		1	1.5	1.5	0.002
2773	25		1	1.5	1.5	0.005
3885			0	1.5	0	
4877				1.5		
2777	20,000	100	0	1.5	0	1.000

A binary indicator of service utilization can be used as a measure of the benefits derived from public spending on the service being analyzed. However, using a binary indicator as the basis of such a benefit calculation will not adjust for likely differences in the quality of public services and facilities in poor vs. rich areas (Sahn and Younger 6), and may cause bias in estimated concentration curves (as the binary indicator would overestimate the benefits derived by the poor from low quality service).

Alternatively, a combined indicator that reflects the underlying value of the service provided (such as the unit cost of the subsidy for health and education services or per capita public expenditures for a given level of service) may be used to calculate the benefit series. Data on per unit subsidies is often lacking, or if available, may not be as reliable as other data sources due to the inherent difficulty of measuring the cost of service delivery. Therefore, if government budget data by sector and level of service is available, it can be used to calculate per capita government expenditure for a given service (by dividing total government expenditures by the approximate number of people utilizing the service in question) and to estimate the benefits derived from spending among different expenditure groups.

Figure 1: Concentration Curve for Public Spending: An Example
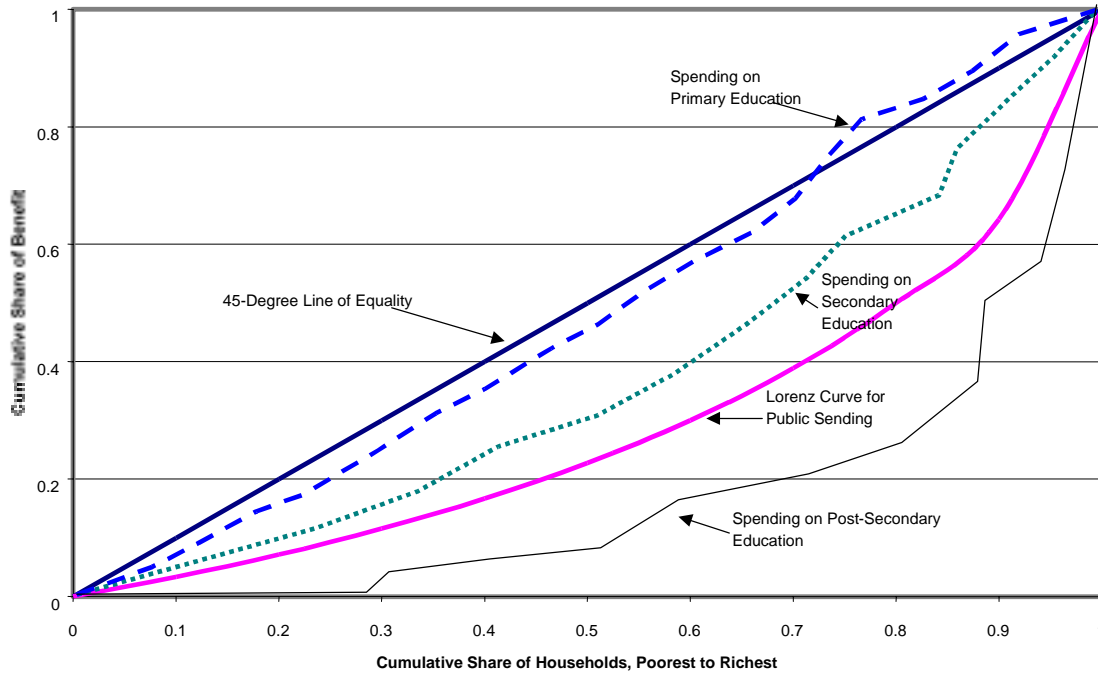
The above figure is an example of spending distributions and an associated Lorenz curve for household expenditures (see TN4 regarding interpretation). The concentration curve for spending on a public service is more progressive as it approaches the 45-degree line of perfect equality. If the concentration curve for spending is below that of the Lorenz curve for household expenditures, wealthier households are deriving a disproportionately larger share of the benefits relative to their expenditures (as shown in the example of spending on tertiary education above). If the concentration curve for a particular spending item is above the Lorenz curve for household expenditures, a disproportionate share of the benefits are accruing to the poor, and spending on this item is considered progressive.

In this example, spending on primary education is found to be progressive; the concentration curve for primary education appears above the 45-degree line, which suggests that a large share of the benefits from public spending on primary education accrue to poorer households.

Potential Sources of Bias

Using binary indicators of service utilization as the sole basis of constructing the benefit may bias the concentration curve. If the poor have access to lower quality health and education services, for example, a binary indicator of utilization will cause the benefit estimates to overstate the share of benefits accruing to the poor.

Concentration curves for public spending are calculated as ratios, and therefore any errors in the assumptions about the per unit subsidies or per capita public spending do not matter as long as the error is consistent across households.

While graphical analysis of welfare distributions derived from public spending data is an easy way to examine the extent to which different services are progressive or regressive, because

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the underlying household data is taken from a survey, each point estimate along the concentration curve has an associated standard error. Hence, graphical analysis is insufficient to statistically establish that public spending on a certain service is progressive or regressive. Statistical dominance tests can be used to statistically test the hypothesis of whether one tax is "better" than another, or to test public spending over the expenditure Lorenz curve. By calculating the standard errors associated with each point on the concentration curve, one can test the null hypothesis of dominance along a selected confidence interval. However, using statistical dominance tests will not be possible in many countries, and graphical analysis of concentration curves can provide a good first approximation of the extent to which tax and spending measures are progressive.

Technical Note 6: Average and Marginal Benefit Incidence Analysis

This note borrows from Lanjouw, P. and M. Ravallion, "Benefit incidence and the timing of program capture," World Bank Policy Research Working Paper 1956, Washington, DC: World Bank, 1998.

What was described in Technical Note 5 was the **average benefit incidence** of public expenditures. **Marginal benefit incidence** measures the incremental increase in the share of expenditures going to a given quintile with a change in spending on the program.

Marginal benefit incidence analysis is useful for examining the distribution of marginal benefits from program expansion across different income groups. Recent research indicates that there is often early capture of public programs by the non-poor (due to a political constraint, for example that restricts any adverse welfare impacts on the non-poor in the short-run), but that the poor will benefit disproportionately more from an expansion of the existing program. For example, the rich may demand short-term payoffs from paying taxes to cover a social program's start-up costs, and only once the program has expanded (and the marginal costs of program expansion have been lowered) will it be politically feasible for the government to concentrate services in poor, remote areas (Ravallion and Lanjouw 8).

Ravallion and Lanjouw provide an example of marginal benefit calculations based on quintile-specific participation rates public works schemes; primary school programs among children aged 5-9 years; means tested rural credit scheme; and food rationing scheme, in India.

Data requirements for marginal participation analysis are the same as for average participation analysis (e.g. a data set with a measure of total household expenditures, regional consumer price index data to adjust household expenditures for regional price differences, and binary indicators of participation in publicly funded programs). However, in order to identify the marginal impacts of program spending, the programs subject to the analysis should have inter-regional differences in program scale in terms of financing and the number of participants.

Average and Marginal Participation Calculations can begin with the following steps:

1. Calculate total household expenditures for each household in the survey, and adjust this measure for regional price differences using a regional consumer price index.
2. Rank the sample household by consumption expenditure (income) per person adjusted for cost of living differences across geographic zones. The zones can be as small as you like (provincial, district, region, township, etc.), depending on the level at which the household dataset is representative of the larger population.
3. Calculate the average participation rate for a given quintile, for example, of consumption per person in the program. The average participation rate is simply the number of participating households (individuals) in a given quintile divided by the total number of households (individuals) in that quintile.

The *average odds-ratio* of participation is given by the ratio of the quintile-specific average participation rate to the overall average participation rate (e.g. the quintile average participation rate divided by the population average participation rate).

In order to calculate the average odds-ratio of participation, one should do the following:

1. Calculate the average participation rate for a given quintile, for example, of consumption per person in the program.
2. Calculate the average participation rate for the entire population.
3. Calculate the average odds of participation, as defined above.

The *marginal odds-ratio* of participation (MOP) is defined as the incremental increase in the quintile-specific participation rate associated with an aggregate change in the program participation rate. It is simply the instrumental variables regression coefficient of the quintile specific participation rate for a given region on the "leave-out mean" participation rate. The "leave-out mean" participation rate is calculated for each quintile and region, and is the average region participation rate for a given quintile, excluding that region's participation rate for the specific quintile (which is being used as the dependent variable in the regression). Using the "leave out mean" will ensure that the correlation of the regressor and error term is zero in expectation, a necessary condition for the instrumental variables estimate to be unbiased.

Note that this technique requires estimation of quintile specific regressions across regions—there will be a set of five regression coefficients (one for each of the five quintiles). Implicitly, one is allowing differences in program participation rates across regions to identify the effects of increases in program spending on participation rates among the poor.

This technique is equivalent to regressing the quintile specific participation rate on the leave-out mean. However, the econometric technique is an instrumental variables regression in which the leave out mean is the instrument (e.g. an exogenous variable that is not correlated with the error term but is correlated with the variable it is instrumenting—the average state participation rate).

Ravallion and Lanjouw use data from India to analyze the average and marginal benefit incidence of public spending on various programs. Some of their results are presented in Tables 2-5. Using the standard average benefit incidence analysis, one might conclude Table 2 that extra spending on primary schooling would mildly favor higher income groups. The average odds of enrollment is significantly lower among the bottom quintiles than the top two quintiles. Note also that there are significant differences in the average odds of enrollment between boys and girls at the bottom quintile, but that the gender-based differences diminish as the consumption measure rises.

Table 2: Average Primary School Enrollment in Rural India

Quintile	Boys		Girls		Total	
	Enrollment Rate (%)	Average odds of enrollment (mean=1.0)	Enrollment rate (%)	Average odds of enrollment (mean=1.0)	Enrollment rate (%)	Average odds of enrollment (mean=1.0)
Poorest	42.6	0.75	31.6	0.66	37.2	0.71
2nd	63.4	0.93	43.1	0.91	48.6	0.90
3rd	60.5	1.07	50.3	1.06	55.8	1.08
4th	66.1	1.16	58.6	1.26	62.6	1.21
5th	69.9	1.23	65.2	1.38	67.7	1.31

Note: Average primary school enrollment rates are as a percentage of children aged 5-9, and the odds of enrollment, defined as the ratio of the quintile-specific enrollment rate to the mean rate, based on the 1993-94 National Sample Survey (NSS). Source: Ravallion and Lanjouw 24.

Marginal benefit analysis, however, yields quite different results, and suggests that the poor would disproportionately benefit from marginal increases in program expansion. Ravallion and Lanjouw explain that "while the average odds of participation in Table 2 suggest that the share of the total subsidy going to the poorest quintile is only 14% (0.71 times one fifth) the marginal odds in Table 3 imply that the poorest quintile would obtain about 22% of an increase in the total subsidy going to primary education" (Ravallion and Lanjouw 14-15).

Table 3: Marginal Odds of Primary School Enrollment

Quintile	Boys	Girls	Total
Poorest	1.09 (6.90)	1.08 (9.65)	1.10 (8.99)
2nd	0.91 (6.05)	0.91 (6.99)	0.97 (7.92)
3rd	0.92 (5.85)	0.84 (6.54)	0.87 (7.65)
4th	0.66 (4.10)	0.66 (4.28)	0.67 (4.77)
5th	0.53 (4.08)	0.70 (5.53)	0.67 (5.69)

Notes: The instrumental variables estimate of the regression coefficient of the quintile-specific primary school enrollment rates across regions on the average rate by state for that program is, based on the 1993-94 NSS. The leave-out mean state enrollment rate is the instrument for the actual mean. T-ratios in parentheses. Source: Ravallion and Lanjouw 25.

Tables 4 and 5 show that the average and marginal odds of participation lead to different conclusions about the extent to which an average increase in spending on these programs will benefit the poor.

Table 4: Average Participation rates for India's main anti-poverty programs in rural areas

Quintile	Public Works Programs		Integrated Rural Development Program		Public Distribution System	
	Participation Rate (%)	Average odds of participation (mean=1.0)	Participation rate (%)	Average odds of participation (mean=1.0)	Participation rate (%)	Average odds of participation (mean=1.0)
Poorest	5.0	1.23	6.5	1.03	69.5	0.92
2nd	4.6	1.13	7.1	1.13	76.7	1.01
3rd	4.2	1.04	6.4	1.03	77.9	1.03
4th	3.5	0.86	6.0	0.96	78.1	1.00
5th	3.4	0.83	5.6	0.89	76.1	1.00

Note: Average participation rates and the odds of participation are defined as the ratio of the quintile-specific participation rate to the mean participation rates for each program, based on the 1993-94 NSS.
Source: Ravallion and Lanjouw 26.

Table 5: Marginal Odds of participation for India's anti-poverty programs

Quintile	Public Works Programs	Integrated Rural Development Programs	Public Distribution System
Poorest	1.16 (3.27)	1.11 (15.49)	1.06 (8.14)
2nd	0.93 (3.64)	1.28 (17.73)	0.99 (7.26)
3rd	0.80 (2.98)	1.21 (23.52)	0.91 (6.88)
4th	0.92 (4.32)	0.96 (19.09)	0.86 (7.16)
5th	0.55 (3.29)	0.39 (8.06)	0.81 (6.27)

Notes: The instrumental variables estimate of the regression coefficient of the quintile-specific program participation rates across regions on the average participation rate by state for that program, based on the 1993-94 NSS. The leave-out mean state participation rate is the instrument for the actual mean. T-ratios in the parentheses.
Source: Ravallion and Lanjouw 27.

Public Spending Case Studies

CS 1: Implementation of the MTEF in Ghana
CS 1: Implementation of the MTEF in Uganda

Case Study 1: Implementation of the MTEF in Ghana

This note is based on M. Holmes, "Ghana: Issues in MTEF" Unpublished manuscript, World Bank, 2000.

The Government of Ghana introduced its MTEF in 1998 in order to enhance budgetary performance, as one component of a broader Public Financial Management Reform Program (PUFMARP) that sought to improve the links between policy making, planning and budgeting systems and processes at the district and sector levels, in central agencies.

Prior to the adoption of the MTEF, the Ghanaian budgeting system was characterized by:
- Weak explicit links between the annual budget, and longer term plans and policy priorities, like Vision 2020 and the Medium Term Development Plan;
- Tenuous links between national budget allocations, and actual spending;
- Recurrent and Development Budgets were prepared independently of each other;
- Use of incremental recurrent budgeting;
- A Development Budget largely driven by individual donor financed projects, and increasingly encompassed donor funded recurrent expenditure;
- Minimal links between resources and results during budget formulation and in budget documentation presented to Parliament;
- There were minimal links between the previous year's budget disbursements and the next year's budget allocations; and
- A detailed line item classification with a bias toward input control.

Shortly after the initial pilot, coverage was extended to all Ministries, Departments and Agencies (MDAs) thus reducing the possibility that the traditional budget process would run parallel to the MTEF.

Achievements during the first year of implementation included the following:

- Steps toward eliminating the barrier between recurrent and development expenditure, including the elimination of the Public Investment Program;
- The number of budget items was reduced from 9 to 4 (and the expansion from 1 to the same 4 items in the case of subvented agencies) and an initial linkage of non-salary and investment items to objectives and outputs made;
- All MDAs were required to develop mission statements, thus encouraging an outcome orientation within the budget process and budget allocations were influenced by the content of MDA strategic plans;
- A greater emphasis on the reliable and accurate costing of activities and policies in the budget;
- The first steps to merging various sources of funding (domestic tax and non-tax revenue and donor funding) in the budget were taken ; and

- The original budget ceilings given to MDAs were largely adhered to during the budget formulation process

The budget formulation phase in the first year of the MTEF successfully initiated a shift from the traditional incremental but fragmented annual budgeting exercise to one which has more of a performance focus; a more medium term perspective; and integrates decisions on recurrent and capital expenditure and sources of funding. The MTEF could also potentially support the current approach to sector deconcentration (devolution of authority within central government sector ministries to district level) by making more transparent the links between resources and performance at lower levels of government.

A second year review noted, however, that the initial progress, while underpinned by wide spread support in the public sector, was largely technical in nature and the real test would be in the following years. By the end of 2000 (the third year of implementation) assessing progress is more complicated. Even allowing for adverse macro-economic events and political change, there have been major gaps in implementation.   There is nonetheless strong commitment to the principles underpinning the MTEF which is a credit to the initial strategy for engaging both central agency and line ministry staff in the process.

1.3 Factors that contributed to the initial success of the MTEF

Because the initial pilot approach was expanded early on, the MTEF approach to budget preparation became "the only game in town" (in the words of one commentator explaining the successful implementation of South Africa's MTEF). In other words, during the first year of implementation, the MTEF process became the budget process.

Other lessons that may be important in sustaining the MTEF as a framework for budget preparation in other countries, include:
- The MTEF approach was introduced to managers and developed by them using workshops built around action learning not traditional training, consultants worked to facilitate, not lead, the process. Key Ghanaian officials, including a number of the potential losers from the introduction of the MTEF became facilitators of the process and members of the MTEF Central Implementation Team;
- Ghanaians official are responsible for Public Expenditure Reviews, which has enhanced the sense of domestic ownership of the problems in budgeting and public sector performance more generally, and the solutions to these problems devised under the MTEF;
- The output of the first MTEF has been incorporated into other government processes. For example, MTEF targets have been included in the performance agreements of Chief Directors and the MTEF made redundant and replaced the annual action plan for implementing the Medium Term Development Plan;
- There was a relatively good fit between existing sector approaches in, for example, the Health, Education and Roads sectors, and that of the MTEF. Hence the adoption of a national MTEF covering the operations of the entire government facilitated the realization of existing sector strategies that utilized a forward-looking approach to budgeting;
- There was very strong leadership at the Ministerial and Chief Director levels; and
- Donor approaches in the country were broadly supportive of the MTEF approach.

Despite the significant progress made, there are nonetheless weaknesses in Ghana's MTEF that continue to undermine the efficiency and effectiveness of public spending. These relate to the need for fiscal discipline and predictable budgets, reliable costing of programs, aid management and performance orientation. Due to the fact that these weaknesses are likely to arise in other countries as they implement MTEFs, they are worthy of consideration.

- **Fiscal Discipline and Predictable Budgets.** The achievement of aggregate fiscal discipline and increased predictability in the flow of budgeted resources to MDAs and front line ministries are key determinants of the success of the MTEF. As of the end of 2000 (the second full year of the MTEF) the record on the flow of budgeted funds has been poor and is straining the credibility of the MTEF. Measures to improve predictability in resources flows are set out in the chapter **(p.*)**

Increasing the predictability of policy is crucial to enhancing the credibility of the government's expenditure plans. In particular, once the policies and expenditure plans that underpin the MTEF are determined through the annual budget (MTEF) process they should be sustained through the period of budget execution. If it is necessary to reduce expenditure during budget implementation for macroeconomic reasons, budget priorities must be protected and the rules for changing allocations must be clear. An improvement in predictability of budget allocations provides a necessary but not sufficient condition for ministries, departments and agencies to practice fiscal discipline, live within their sector spending ceilings, and avoid the generation of arrears.

- **Costing Policies and Programs.** A related challenge, which requires guidance from the central agencies and sustained effort across government, is to improve the accuracy of cost estimates for policies and programs will help to ensure that budget priorities, budget allocations and sectoral spending levels are properly aligned.   As discussed in section 4 of the chapter, the first step is to create the awareness of costs and then to undertake estimation of the full costs of policies and programs.

- **Aid Management.** There is scope to increase the extent to which the MTEF is used to manage external assistance. The widespread support for the MTEF process among donors in Ghana has facilitated a shift among donors to a more sector-oriented financing approach, and a move away from individual projects. Even where donors are still project focused, such as in the roads sector, the focus on the sector strategy as the basis for projects is important. In order to use an aggregate spending ceiling that incorporates external funding on the same basis as domestic funding, it will be necessary for donors to provide credible estimates of aid flows for the coming budget year and also for the timeframe of the MTEF.

- **Performance Orientation.** This is important for the overall value of the MTEF to be achieved, yet the most institutionally difficult change to manage. While some progress has been made in this regard, greater emphasis needs to be placed on increasing the efficiency and effectiveness of resource use through performance incentives. Performance incentives can be adopted at the agency level—whereby sector allocations will correlate with the conclusions of ex-post monitoring of spending efficiency and effectiveness—and also within agencies by better aligning authority and accountability when making resource and personnel management decisions.

Other keys issues that have emerged include:
- The links between development planning, including the updating of the poverty reduction strategy, and resource and implementation constraints remain weak. The lack of linkage here is a key factor in the subsequent problems with funding predictability.
- The respective roles of MOF and the MDAs, and the flow of information between, MDAs, MOF and the Parliament and public need to be clarified (an initial lesson is how quickly there can be a data overload);
- The MTEF and the Government's Decentralization strategy need to be more effectively linked.

The final lesson perhaps is that the MTEF is not a panacea for all the resource management problems of a country. It is a framework that can discipline and make more transparent the trade offs involved in resource allocation decisions.

CASE STUDY 2: Uganda's Medium-Term Expenditure Framework

Until 1992/93, budgeting in Uganda had traditionally focused on the annual budget and was not embedded within a rolling macroeconomic framework. Changes in expenditure allocations were often made by incremental adjustments to the previous year's budget, rather than by reviewing all allocations in light of the government's spending priorities and prevailing macroeconomic conditions. Such incremental budgeting also meant that there were few mechanisms to ensure that resource allocations (including donor funds) reflected national priorities or were aligned with actual budget disbursements from previous years. Due to the inadequacies in the actual budget formulation process, important decisions about trade-offs were made during budget execution by budget administrators and technicians rather than by those charged with policy formulation, namely elected politicians in the Cabinet or Parliament.

The development of Uganda's MTEF took place in stages, beginning in 1993 with the formulation of a macroeconomic framework from which the aggregate spending constraint was derived. This development was combined with the selective use of a medium-term budgeting approach to plan for the financing of the wage bill and road sector investments, the latter of which was regarded as the highest priority sector.

During the second phase of MTEF development, which began in 1996/97, the macroeconomic framework has continued to provide the basis for determining overall expenditure levels. This has, however, been accompanied by comprehensive sector allocations which are linked specifically to sectoral policy objectives.

The MTEF has provided an important instrument for improved macroeconomic stability. By setting out future limits on aggregate expenditure consistent with low inflation and other macroeconomic objectives, the MTEF has helped sector ministries formulate more realistic budget proposals and has helped the government bring expectations of future financing in line

with resource availability. In addition, the development of sustainable aggregate expenditure ceilings over the medium term has provided a fiscal framework to cost and appraise key policy changes at the sector level.

Ensuring adherence to the aggregate expenditure ceiling has been achieved using a system of cash-flow management under which expenditures are controlled by monthly releases made by the Ministry of Finance, Planning and Economic Development in the light of actual and projected budgetary resources and the prevailing macroeconomic conditions.

The MTEF approach to budgeting in Uganda has a few key **advantages** over the traditional annual budget process it replaced. These include:
- The MTEF forces policy makers to focus on the overall budget and to make strategic choices regarding resource allocation early on during the preparation of the budget document rather than during actual budget execution;
- The MTEF has enabled policy makers in Cabinet and Parliament to make strategic choices about budgetary allocations. It has therefore increased the political ownership of the budget; and
- The MTEF provides opportunities to increase the clarity and focus of donor financing plans, and to make donor support consistent with the government's strategic objectives. In addition, the MTEF has allowed the government and donors to rely upon the budget framework as the basis for sector planning and the design of future donor support.

Although the implementation of the MTEF has significantly improved the quality of fiscal analysis at the sector level, there are still weaknesses and sources of instability in the MTEF budgeting framework, including:

- Resource envelopes are subject to considerable instability due to fluctuations in tax revenues, and volatility in aid disbursements.

- Line ministries have not adhered to hard budget constraints at the sector or program level. Consequently, powerful ministries or agencies sometimes overspend their MTEF ceilings. Given that the overall level of expenditure is effectively subject to a hard budget constraint, overspending in one sector implies spending cuts in another. Therefore poor budget discipline undermines the predictability of resource flows to sectors, leads to the ad-hoc reallocation away from certain sectors where expenditures cuts are politically feasible, and thereby undermines the credibility of MTEF as a tool for medium term budgetary planning. This process in turn weakens incentives for, and undermines commitments to, sector planning.

- Instabilities in the MTEF and the lack of adherence to hard budget constraints by line ministries means that budget allocations and actual outturns are poorly matched. In Uganda, an index of budget deviation is used to estimate how closely budget outturns match actual allocations. The index of budget deviation is defined as the sum of the absolute value of all budget shortfalls and overspending by vote, expressed as a percentage of the total budget; this index has remained in excess of 25% for non-wage recurrent budget in recent years.

- Most donors do not provide firm medium term commitments of financial assistance, which makes it difficult to plan expenditures over the medium run given the importance of external aid in the government budget. In addition, external shocks sometimes necessitate expenditure cuts, such as the coffee price boom of 1993/94, in order to avoid excessive money growth or a very sharp appreciation of the exchange rate.

- When expenditure cuts are made relative to the MTEF ceilings, they disproportionately affect a relatively small part of the budget due to the fact that many expenditure items (such as salaries) are downwardly rigid. Expenditure cuts may also be difficult to implement due to the fact that an item may be a statutory expenditure, politically important, or subject to donor conditionalities as to the minimum level of spending required for co financing or external support.

- Weaknesses in sector planning, including a lack of clarity on sector objectives and weak integration of recurrent and development expenditure plans are various causes of the poor budget discipline discussed above. These weaknesses arise due to weak capacity within many sector ministries to formulate coherent programs within hard budget constraints. There are also acute weaknesses in the capacity of district administrations to undertake budgetary planning and management.

- The quantitative content of Sector Budget Framework Papers, which are prepared annually by line ministries and designed to feed into the government's Budget Framework Paper, is very low, especially in the area of program costing. The usefulness of these Sector Budget Framework Papers as budgetary planning tools could be significantly enhanced improving the quality of cost estimates for sectoral programs, and developing performance indicators to monitor the achievement of sector priorities and targets. Due to the fact that monitoring capacity is weak at the sector level, it will be necessary to establish monitoring systems at the sector programs and project level, and develop staff accounting skills, in order to improve the quality of SBFPs.

Lessons Learned

Strengthening the MTEF will require addressing key capacity constraints at the sectoral and district levels for planning, monitoring and evaluation of expenditure programs. These constraints relate to institutional coordination as well as staff skills and resources. Lessons learned from the implementation of the MTEF in Uganda imply that the most effective ways of encouraging capacity building is to increase responsibility and ownership.

The Ugandan experience also highlights the fact that it is politically and institutional challenging to impose hard sectoral budget constraints. However, making these budget constraints hard is a key determinant of ensuring that the MTEF is credible and leads to budget disbursements that reflect public priorities.

Ultimately, the MTEF in Uganda has provided a key instrument for achieving macroeconomic stability, improving expenditure analysis to ensure budget allocations and disbursements are consistent with public priorities, and improving cost analysis and policy appraisal during the budgeting process.

Source: E. Tumusiime-Mutebile, Permanent Secretary to the Treasury of Uganda, "Uganda's Experience with the Medium Term Expenditure Framework," Unpublished manuscript, 1999.