

**ECONOMIC AND PRIVATE SECTOR  
PROFESSIONAL EVIDENCE AND APPLIED KNOWLEDGE SERVICES**

TOPIC GUIDE

**Economics Topic Guide:  
Taxation and Revenue**

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## Acknowledgement

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# 1 BACKGROUND

- What do we know about tax systems and revenue performance in developing countries?
- What are the challenges for developing countries in reforming their tax systems?
- What is the scope of this topic guide?

## 1.1 Introduction and Definitions

- 1.1.1. The purpose of this topic guide is to provide an overview of taxation and other revenue and their role in the economy. In particular, it summarises relevant economic concepts, analytical tools and other issues in the area of taxation in developing countries.
- 1.1.2. Revenue refers to all income that a government receives from collecting taxes, social security contributions and other fees and charges. A tax is defined as a financial charge or other levy imposed upon a taxpayer (an individual or legal entity) by a state, or the functional equivalent of a state. Taxes that are covered in this guide include **direct taxes** on income and wealth, such as personal and corporate income taxes and property tax, and **indirect taxes** collected on consumption, such as Value Added Tax (VAT), excise duties and taxes on international trade (customs and export taxes). Non-tax revenues can include fees and charges paid for public services, or licensing or one-off revenues, such as proceeds from privatisation. Other fees on economic rents, such as royalties, are considered in the context of extractive industries.
- 1.1.3. Section 1 introduces the objectives and significance of taxation and revenue and provides some context on the performance of revenues across low- and middle-income countries compared to high-income countries. It also provides a summary of tax trends and challenges facing developing countries, and a glossary of tax terms.

## 1.2 Tax and Revenue: The problem, the story so far, opportunities

- 1.2.1. The core purpose of taxation is **revenue mobilisation**, providing resources for National Budgets and forming an important part of macroeconomic management. Economic theory has focused on the need to 'optimise' the system through balancing **efficiency** and **equity**, including understanding the impacts on production and consumption as well as (re)distribution and welfare. As a tool for **behavioural change**, taxes and tax reliefs have also been used to influence investment decisions, labour supply, consumption patterns and positive and negative economic spill-overs (externalities), and ultimately, the promotion of economic growth and development. The tax system and its administration also play an important role in **state-building and governance**, as a principle form of 'social contract' between the state and citizens who can, as taxpayers, exert accountability on the state as a consequence.

### *Global Trends in Revenue Performance*

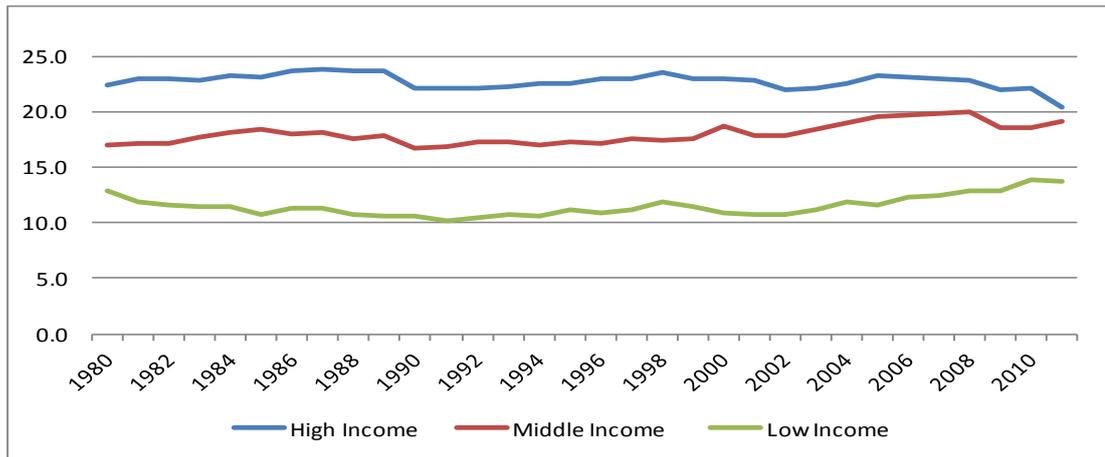
- 1.2.2. Domestic revenue forms an important part of a developing country's public financing. It is more stable and predictable than Overseas Development Assistance (ODA) and necessary for a country to be self-sufficient. Domestic revenue flows are, on average, already much larger than ODA, with aid worth less than 10% of collected taxes in Africa as a whole. Nonetheless, in one quarter of African countries ODA exceeds tax collections<sup>1</sup>, with these more likely to be non-resource-rich countries. This analysis also suggests that the countries making most progress towards replacing aid with tax revenues have tended to be those benefiting disproportionately from rising energy and commodity prices.
- 1.2.3. Tax revenue as a percentage of GDP varies greatly by country around an average of 19% globally<sup>2</sup>. Broadly, these data also indicate that countries with higher GDP tend to have higher tax

<sup>1</sup> *Africa Economic Outlook 2010, Part 2: Public Resource Mobilisation and Aid in Africa*, AfDB/OECD (2010).

<sup>2</sup> According to [IMF data](#) for 2010, from *Revenue Data for IMF Member Countries, as of 2011*, (unpublished).

to GDP ratios, demonstrating that higher income is associated with more than proportionately higher tax revenue; on average, high-income countries have tax revenue as a percentage of GDP of around 22%, compared to 18% in middle-income countries and 14% in low-income countries. Amongst high-income countries, the highest tax-to-GDP ratio is in Denmark (around 47%) and the lowest is in Kuwait (around 0.8%), reflecting its ability to keep taxes low due to strong oil revenues. Long-term average performance of tax revenue as a share of GDP in low-income countries has been largely stagnant, although most have shown some improvement in more recent years. On average, resource-rich countries have made the most progress, rising from 10% in the mid-1990s to around 17% in 2008. Non-resource-rich countries also made some progress, with the average tax revenues increasing from 10% to 15% over the same period<sup>3</sup>.

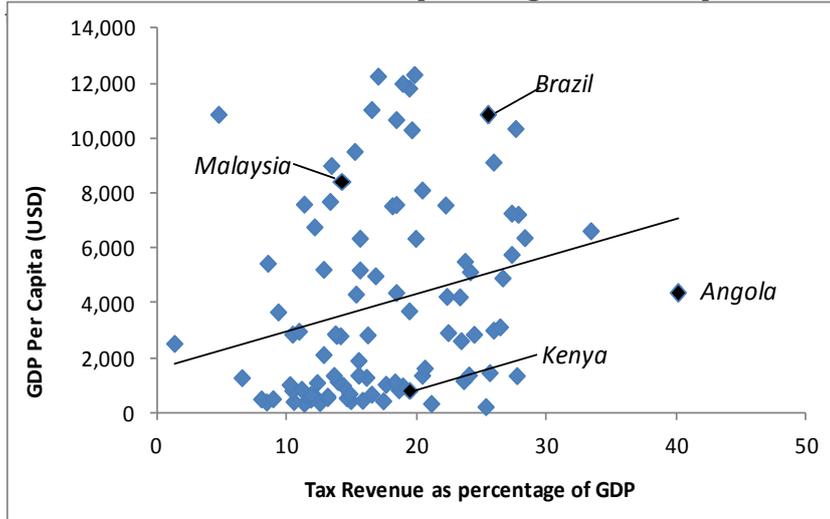
**Chart 1.1: Cross-country Trends in Tax Revenue, % of GDP, 1980-2011**



Source: Revenue Data for IMF Member Countries, 2011

1.2.4. Many low-income countries have a tax-to-GDP ratio of less than 15%, This could be due to low tax potential, such as a limited taxable economic activity, or low tax effort due to policy choice, non-compliance or administrative capacity constraints. These factors are discussed in section 2.2.10. are low income countries that perform relatively better, , such as those highlighted in Chart 1.2.

**Chart 1.2: Total Tax Revenue as a percentage of GDP compared**



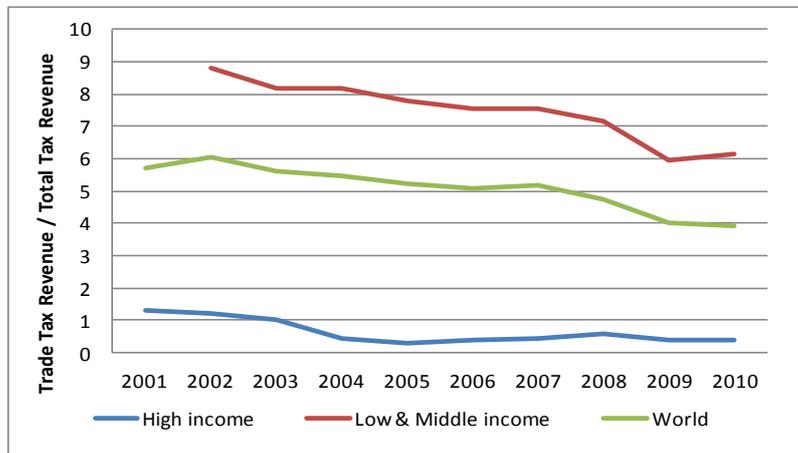
Some low-income countries have relatively high tax-to-GDP ratios due to resource tax revenues (e.g. Angola) or relatively efficient tax administration (e.g. Kenya, Brazil) whereas some middle-income countries have lower tax-to-GDP ratios (e.g. Malaysia) which reflect a more tax-friendly policy choice.

Source: IMF 2010, countries with GDP per capita under \$12,476 (World Bank threshold)

<sup>3</sup> IMF FAD (2011), Revenue Mobilization in Developing Countries

- 1.2.5. While overall tax revenues have remained broadly constant, the shares of revenue coming from different types of taxes have shifted away from border trade taxes towards domestically levied taxes on goods and services (sales taxes). Low-income countries tend to have a higher dependence on trade taxes, and a smaller proportion of revenue from income and consumption taxes, compared to high income countries<sup>4</sup>.

**Chart 1.3: Declining Trade Tax Revenues as Share of Total Revenue**



A broader trend shows that trade taxes have been declining as a proportion of total revenues, with all income groups indicating some level of shift away from trade taxes and into income and consumption taxes (IMF, 2011).

Source: IMF, *Government Finance Statistics Yearbook and data files (2011)*

- 1.2.6. Other indicators of the taxpaying experience are captured in surveys such as ‘Doing Business’,<sup>5</sup> which compares the total tax rate, time spent complying with tax procedures and the number of payments required through the year, across 176 countries. The ‘easiest’ countries in which to pay taxes are in the Middle East (UAE ranks number 1, followed by Qatar and Saudi Arabia), most likely reflecting the low tax regimes in those countries, while countries in Sub-Saharan Africa are among the ‘hardest’ (Central African Republic, Republic of Congo, Guinea and Chad are all in the bottom 5), reflecting higher total tax rates as well as a greater administrative burden to comply.

### 1.3 Taxation in Developing Countries – Stylised Facts

- ❖ **Trade liberalisation has led to a decline in revenues from trade** (trade taxes as a share of total revenues and GDP).<sup>6</sup>
- ❖ **Resource-rich countries tend to collect more revenue as a share of GDP, but revenues are more volatile.** Sub-Saharan African countries that are resource rich have performed better in tax collections compared to non-resource-rich countries, but revenues are more volatile from year to year (Keen and Mansour, 2010). By strengthening the management of these revenues, there are huge opportunities for investment in development and growth.<sup>7</sup>
- ❖ **Developing countries have an informal sector representing an average of around 40%, perhaps up to 60% in some**<sup>8</sup>. Informal sectors feature many small informal traders that may not be efficient to bring into the tax net (since the cost of collection is high and revenue potential limited (although there are broader governance benefits). There is also an issue of

<sup>4</sup> IMF WP/05/112, [Tax Revenue and \(or?\) Trade Liberalization](#), Thomas Baunsgaard and Michael Keen

<sup>5</sup> [‘Doing Business 2013’](#), World Bank/IFC (2013).

<sup>6</sup> Keen and Mansour (2010), Revenue Mobilisation in Sub-Saharan Africa: Challenges from Globalisation I – Trade Reform, Development Policy Review, Vol. 28, No. 5, pp. 553-571, September 2010.

<sup>7</sup> See for example Paul Collier (2010), [The Political Economy of Natural Resources](#), social research Vol 77 : No 4 : Winter 2010.

<sup>8</sup> Schneider, Buehn, and Montenegro (2010), [Shadow Economies all over the World: New Estimates for 162 Countries from 1999 to 2007](#).

non-compliant entities (the 'hard to tax', companies that are evading taxes and should be brought into the tax net.<sup>9</sup>

- ❖ **In many low-income countries, the majority of revenue is collected from a narrow tax base, sometimes due to limited range of taxable economic activities.. There is therefore dependence on few taxpayers, often multinationals, that can exacerbate the revenue challenge by pursuing 'aggressive tax planning' to minimise their tax liability; in some cases, large companies can abuse a lack of capacity in revenue authorities, for example, through transfer pricing abuse (IMF, 2011).**
- ❖ **Developing and developed countries face huge challenges in taxing multinationals and international citizens.** Estimates of tax revenue losses from evasion and avoidance in developing countries are limited by a lack of data and methodological shortcomings, but some estimates are significant<sup>10</sup>.
- ❖ **Countries use incentives to attract investment but may be unnecessarily giving up revenue.** Evidence suggests that investors are influenced more by economic fundamentals such as market size, infrastructure and skills, and only marginally by tax incentives (IFC investor surveys).
- ❖ **Compliance costs are high in low-income countries.** There are lengthy processes, frequent tax payments, bribes and corruption (IMF 2011; Doing Business 2012).
- ❖ **Administrations are often under-resourced; resources aren't effectively targeted on areas of greatest impact and mid-level management is weak.** Domestic and customs coordination is weak, which is especially important for VAT. Weak administration, governance and corruption tend to be associated with low revenue collections (IMF, 2011).
- ❖ **Evidence on the effect of aid on tax revenues is inconclusive.** Tax revenue is a more stable and sustainable resource flow than aid.. While a disincentive effect of aid on revenue may be expected (and was supported by some early studies), recent evidence does not support that conclusion, and in some cases, points towards higher tax revenue following support for revenue mobilisation.
- ❖ **Of all regions, Africa has the highest total tax rates borne by business at 57.4% of profit on average, but has reduced the most since 2004, from 70%, partly due to introducing VAT. This is likely to have a beneficial effect on attracting investment.<sup>11</sup>**
- ❖ **Fragile states are less able to expand tax revenue as a percentage of GDP and any gains are more difficult to sustain.<sup>12</sup> Tax administration tends to collapse if conflict reduces state control of territory or reduces productive activity<sup>13</sup> After conflicts, as economies are rebuilt, there can be good progress in developing effective tax systems, e.g. Liberia, which expanded from 10.6% of GDP in 2003 to 21.3% in 2011, and Mozambique, which increased from 10.5% of GDP in 1994 to around 17.7% in 2011<sup>14</sup>.**

<sup>9</sup> IMF, 2011, [Revenue Mobilization in Developing Countries](#), Fiscal Affairs Department.

<sup>10</sup> See Section 3 'International Taxation' e.g. Torvik, 2009 in [Commission on Capital Flight from Developing Countries](#), 2009: *Tax Havens and Development*.

<sup>11</sup> [Paying Taxes 2013](#): Total tax rate is a composite measure including corporate income tax, employment taxes, social contributions, indirect taxes, property taxes and smaller taxes e.g. environmental tax.

<sup>12</sup> IMF Working Paper 108/12 (2012), [Mobilizing Revenue in Sub-Saharan Africa: Empirical Norms and Key Determinants](#)

<sup>13</sup> [African Economic Outlook \(2010\)](#)

<sup>14</sup> IMF Revenue Data, 2011: Total Tax Revenue as a percentage of GDP

## 1.4 Glossary of Tax Terms

<b>Buoyancy of Tax</b>	The ability of a tax or tax system to increase at an equal or faster rate than its base (usually GDP)
<b>CITPROD</b>	Indicates how well corporate income tax (CIT) does in terms of producing revenue, given the prevailing tax rate. It is calculated by dividing total corporate income tax revenues by GDP, and then dividing this by the general corporate income tax rate (AfDB, 2011)
<b>Compliance Costs</b>	The expenditure of time or money to conform to government requirements. For taxes this could include registration, filing returns, keeping records etc
<b>Consumption Tax, e.g. VAT</b>	Tax on goods and services transactions. From the perspective of the buyer, it is a tax on the purchase price. From that of the seller, it is a tax only on the value added to a product, material, or service by this stage of its manufacture or distribution. Manufacturers remit to the government the difference between these two amounts, and retain the rest for themselves to offset the taxes they had previously paid on the inputs
<b>Corporate Tax</b>	Tax on the income or capital of corporate entities. Generally, this tax is imposed on net profits or net taxable income
<b>Double Tax Avoidance Agreement</b>	A legal agreement that may be negotiated and ratified by two or more states to prevent double taxation (and risk of tax evasion), by agreeing procedures and criteria allocating taxing rights e.g. to the state in which income was derived or at headquarter level
<b>Excise duty</b>	A domestic tax on the sale, or production for sale, of specific goods. Excises can be applied to imported goods as well as domestic goods, but are distinguished from customs duties, which are taxes on importation
<b>Neutral Tax</b>	Tax that does not create incentives that cause individuals or firms to shift their economic choices, such as to choose among different goods, inputs, locations, etc
<b>Personal Income tax</b>	A charge imposed by governments on the annual gains of a person derived through work, business pursuits, investments, property dealings, and other sources determined in accordance with the tax law; may be subject to certain deductions or allowances
<b>PITPROD</b>	Attempts to provide an indication of how well the personal income tax (PIT) in a country does in terms of producing revenue. It is calculated by taking the actual revenue collected as a percentage of GDP, divided by the weighted average PIT rate (AfDB, 2011)
<b>Presumptive tax</b>	A form of assessing tax liability using indirect methods such as estimating (or presuming) the appropriate income on which tax should be levied. Presumptive methods of taxation are thought to be effective in reducing tax avoidance, particularly among informal business where there is a lack of transparency relating to income
<b>Profit Shifting</b>	Allocation of income and expenses between related corporations or branches of the same legal entity (e.g. by using transfer pricing) in order to reduce the overall tax liability of the group or corporation (moneycontrol.com)
<b>Progressive Tax</b>	A tax that takes a larger percentage from the income of high-income earners than it does from low-income individuals (investopedia.com 2013)
<b>Ramsey Problem</b>	The Ramsey Problem, or Ramsey-Boiteux pricing, is a policy rule concerning what price a monopolist should set in order to maximise social welfare, subject to a constraint on profit. A closely related problem arises in relation to optimal taxation of commodities
<b>Regressive Tax</b>	A tax that takes a larger percentage from low-income people than from high-income people. A regressive tax is generally a tax that is applied uniformly. This means that it hits lower-income individuals harder, depending on their relative level of consumption (investopedia.com 2013)
<b>Revenue</b>	Income that a government receives. Government revenue includes all amounts of money (i.e. taxes and/or fees) received from sources outside the government entity
<b>Tax</b>	A financial charge or other levy imposed upon a taxpayer (an individual or legal entity) by a state, or the functional equivalent of a state, such that failure to pay is punishable by law
<b>Tax Allowance</b>	E.g. personal allowance: The level above which [income] tax is levied on an individual's annual income
<b>Tax Assessment</b>	Most taxes are based on the principle that the receiver of taxes (Revenue Authority) has the right to assess the tax liability, and demand the assessed amount from the taxpayer (businessdictionary.com, 2013)
<b>Tax Avoidance</b>	The legal usage of the tax regime to one's own advantage, to reduce the amount of tax that is payable by means that are within the law
<b>Tax Base</b>	Measure upon which the assessment or determination of tax liability is based. For example, taxable income is the tax base for income tax and assessed value is the tax base for property

	taxes (businessdictionary.com, 2013)
<b>Tax Effort</b>	Actual tax revenue as a percentage of estimated potential tax revenue (AfDB, 2011)
<b>Tax Evasion</b>	Efforts by individuals, corporations, trusts and other entities to evade taxes by illegal means. Tax evasion usually entails taxpayers deliberately misrepresenting or concealing the true state of their affairs to the tax authorities to reduce their tax liability
<b>Tax Expenditure</b>	A tax expenditure program is government spending through the tax code, by allowing exemptions, deductions or credits to select groups or specific activities
<b>Tax Gap</b>	The difference between estimated potential tax revenue and actual tax revenue (AfDB, 2011)
<b>Tax Haven</b>	A state, country or territory where certain taxes are levied at a low rate or not at all. Individuals and/or corporate entities can find it attractive to establish shell subsidiaries, or move themselves to benefit. Other definitions include countries that lack effective exchange of tax information with foreign tax authorities, or have an extensive network of tax treaties, or no requirement for a substantive local presence
<b>Tax Holiday</b>	A temporary reduction or elimination of a tax (a tax expenditure)
<b>Tax Incidence</b>	The analysis of the effect of a particular tax on the distribution of economic welfare. Tax incidence is said to "fall" upon the group that ultimately bears the burden of the tax.
<b>Tax Refund</b>	A tax refund or tax rebate is a refund on taxes when the tax liability is less than the taxes paid. Taxpayers can often get a tax refund on their income tax if the tax they owe is less than the sum of the total amount of the withholding taxes and estimated taxes that they paid, plus the refundable tax credits that they claim. (Tax refunds are money given back at the end of the financial year.)
<b>Tax Shelter</b>	Any method of reducing taxable income resulting in a reduction of the payments to tax collecting entities, including state and federal governments
<b>Tax Treaty</b>	A formal agreement between countries on tax treatment (for example, Double Tax Avoidance Agreements)
<b>Tax Wedge</b>	The deviation from equilibrium price/quantity as a result of a taxation, which results in consumers paying more, and suppliers receiving less
<b>Taxable Income</b>	The base upon which an income tax system imposes tax. Generally, it includes some or all items of income and is reduced by expenses and other deductions
<b>VATCGR</b>	This is a measure of how well the value added tax (VAT) produces revenue for the government. It is computed by dividing VAT revenues by total private consumption in the economy, and then dividing this by the VAT rate (AfDB, 2011)
<b>Withholding Tax</b>	A government requirement for the payer of an item of income to withhold or deduct tax from the payment, and pay that tax to the government. Withholding tax usually applies to employment income, but also on payments of interest or dividends.

Source: "Domestic Resource Mobilisation for Poverty Reduction in East Africa: Lessons for Tax Policy and Administration" African Development Bank (2011) and Wikipedia, 2013

## 2 CONCEPTS

### Section Overview

*This section provides a summary of key economic concepts and definitions relating to the revenue function. Starting with principles of tax design, an overview of Optimal Tax Theory is provided. This includes the taxation of producers and consumers, and impacts on equity, revenue mobilisation and behaviour change, and covers what relevance the theory has in practice. The section then explores the links between revenue and growth, covering tax implications of growth theory, tax effort and the role of tax in good governance. Finally, an overview of considerations relating to typical taxes in developing countries is provided.*

### Key points

- ✓ Design of a tax system needs to consider the trade-offs between society's preferences and objectives e.g. efficiency, equity, behaviour, compliance
- ✓ Neutral, simple and stable systems may help minimise costs to efficiency, encourage compliance and limit behaviour change
- ✓ Individual taxes have aspects of their design and administration that are desirable, but overall impact should be considered as part of the tax *system* as a whole
- ✓ Contribution of economic activity to government revenue, measured by tax 'effort', is a reflection of government or society's preferences for size of government and welfare spending versus efficiency and reducing distortions as well as both the effectiveness of tax system design and administration

### 2.1 Economic Theory of Taxation – Principles of Tax System Design

2.1.1. The economic principles that determine the best design of a tax system is typically known as the theory of '**Optimal Taxation**'; it is concerned with maximising social welfare subject to constraints such as requiring a certain amount of revenue and seeking to balance equity and efficiency considerations. Minimising compliance and administration costs, and addressing market failure generate further principles of good design (e.g. **simplicity** and **stability**). As these objectives are not all mutually compatible, the optimal design must reach a balance of trade-offs. Some suggested guides to this theory include Mankiw et al. (2009)<sup>15</sup> and Stiglitz (2000, Economics of the Public Sector, 3rd Edition).

#### ***The Theory of optimal Taxation***

- 2.1.2. The theory of optimal taxation is important to the practitioner, as the body of theory points to strong results regarding the appropriate choice of revenue instruments and the appropriate pattern of rate schedules. Furthermore, these results have been widely used, for example, by the IMF and the World Bank, in support of specific prescriptions on tax reform in both developed and developing countries.
- 2.1.3. The key objective of a tax system is to raise revenue for the provision of public goods. Important considerations in the design of a tax system are:
- Equity (variously interpreted);
  - Administrative Efficiency (minimum cost);
  - Neutrality
  - Simplicity

<sup>15</sup> Mankiw, Gregory; Matthew Weinzierl and Danny Yagan (2009), [Optimal Taxation in Theory and Practice](#), NBER (15071).

- Universality
  - Economic Efficiency (minimising distortions and disincentives from taxation).
- 2.1.4. Optimal tax theory uses utility maximisation as the basis for analysis. Alternative tax instruments or schedules are examined and their implications derived under varying assumptions on the form of the utility function, consumer preferences and the derivation of a social welfare function. The choice of utility, rather than income, as the maximand is driven by the need to examine disincentive effects of taxation, for example, on leisure.
- 2.1.5. Optimal tax theory has produced results in several major areas – (i) **income taxation**, both linear (i.e. with a constant marginal tax rate) and non-linear, (ii) **indirect taxation** (commodities), and (iii) **taxation of intermediate goods**. The main results and their applicability in the context of developing countries are summarised below.
- 2.1.6. ***Optimal Income Taxation: Linear and Non-Linear Schedules***
- 2.1.7. Some of the principal findings of optimal tax theory are:
- **When labour supply is very elastic, income tax is less effective** implying top marginal income tax rates should decline and marginal income tax schedules flatten, i.e. a high elasticity means that the net revenue gain of a tax (e.g. on income) is either small or negative, so a tax increase is less likely to increase social welfare; and
  - **Where income inequality is high, a redistributive tax can be welfare enhancing.** Where there are greater existing income differences between the (relatively poor) gainers and the (relatively rich) losers for the tax change, welfare gains are larger.
  - **Capital income tax should be zero.**

**Theoretical Finding (1): The optimal income tax schedule is approximately linear.**

- 2.1.8. Mirrlees (1971) examined the optimal setting of tax rates for taxpayers on different levels of income and asked under what circumstances is it desirable to raise the rate of taxation on one income group, to achieve benefits from reduced inequality through improved tax allowances for those at low income. An important element of his approach was to recognise that individuals have different levels of ability to earn income, which is unobserved by the 'social planner', such that if high ability is taxed, individuals will be discouraged from making the effort to earn that income.
- 2.1.9. Mirrlees's surprising finding is that under a wide range of assumptions, the social-welfare optimising marginal tax rate declines with income. However, the rate of decline is modest and the optimal income tax schedule can be approximated fairly well by a tax system with a constant marginal rate of tax – i.e. a linear income tax schedule (constant marginal tax rate).
- 2.1.10. This finding is important because it implies that there is no fundamental conflict between optimality (in the income tax schedule) and administrative convenience. Linear income tax can, in fact, achieve significant redistribution, especially where accompanied by personal tax allowances which constitute a significant fraction of average income. However many OECD countries have progressive income tax schedules with higher tax rates at higher income levels.
- 2.1.11. **Theoretical Finding (2): 'Non-Welfarist'<sup>16</sup> analysis of optimal income tax schedules suggests that relatively high marginal rates of tax at the lower end of the spectrum are required.** This reflects the practical policy debate, which concentrates more on use of income

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<sup>16</sup> The previous results are all derived using a "welfarist" approach - an approach based on analysis of social benefits measured through an assumed social welfare function which aggregates individual utilities, themselves assumed to depend on consumption and leisure. However, the practical policy debate concentrates more on use of income (especially income in the hands of the poor) as the key variable for measuring impact on social welfare. On this basis some researchers have taken a "nonwelfarist" approach, and derived rather different results.

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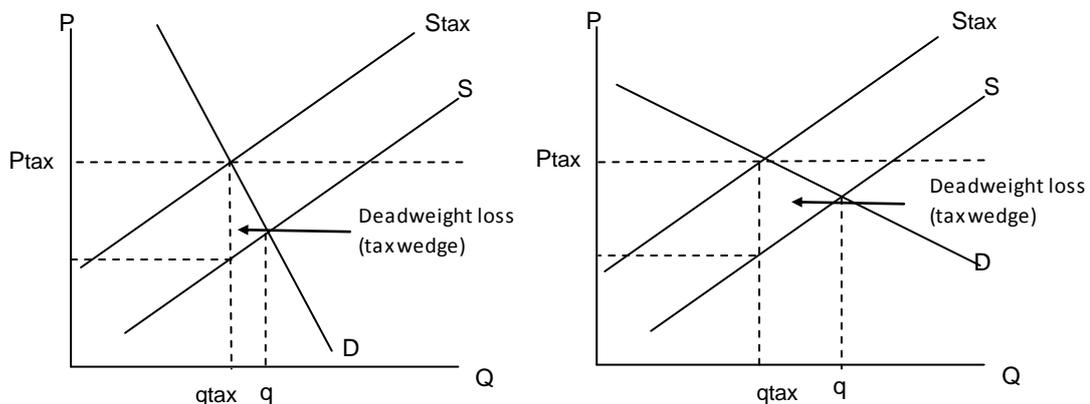
- 2.1.12. Kanbur, Keen and Tuomala (1994) analysed optimal income tax schedules using a non-welfarist objective function. In their model, alternative income tax schedules are judged using a welfare function based on post-tax income alone (i.e. excluding a valuation for leisure). Their main conclusion is that optimally redistributing income tax systems requires quite high (50-60%) marginal rates of tax at the lower end of the income spectrum. Charging higher marginal rates at lower income levels can be combined with lump-sum transfers to those 'low ability' individuals, while at the same time preventing higher ability individuals being tempted to work less (Mankiw, 2009).
- 2.1.13. A number of studies have found variations in the pattern of optimal marginal rates, based on the pattern of labour supply elasticity,<sup>17</sup> but their findings tend to support the idea that elasticity increases with income, implying that optimal marginal rates at high incomes are lower. This yields the conclusion that, for some parameter values, the revenue effect of raising the tax rate is negative, depending on the compensated elasticity of labour supply at that level. Differences in income inequality can generate a wide range of optimal marginal income tax rates.

**Optimal Indirect Taxation: Commodity Taxes**

**Commodity taxes should be uniform.**

- 2.1.14. A substantial amount of literature examines the issue of optimal commodity taxes, starting from the studies of Ramsey in the 1920s, based on the original 'Ramsey Problem'. The literature concentrates on identifying the pattern of commodity tax rates that minimises the distortionary cost (arising from distortions in consumption) while achieving a set revenue target.
- 2.1.15. *Early studies indicated a golden rule: Optimal commodity taxes would have the characteristic that they would produce equal proportional reductions in the consumption of each good.* The rationale for this finding is clear: a set of taxes which leaves consumers consuming an unchanged bundle of goods (unchanged apart from the overall size of the bundle which must be reduced as tax is imposed) is in some sense un-distorting (i.e. it creates no incentive to alter choices between goods). The tax rates necessary to achieve equi-proportional consumption changes will depend on the price and cross-price elasticity of the goods considered. This leads to the **Inverse elasticity rule**: that tax rates should be inversely proportional to their elasticity of demand. Goods for which demand is inelastic should have a high tax rate, as changing their prices does not create much distortion.<sup>18</sup>

Chart 2.1: Efficiency (deadweight) loss of tax under (a) inelastic and (b) elastic demand



- 2.1.16. Diamond and Mirrlees address the implications of inequality for optimal commodity taxation and show that the introduction of distributional considerations alters the equal proportional

<sup>17</sup> E.g. [Feldstein \(1995\)](#) and [Gruber and Saez \(2002\)](#).  
<sup>18</sup> [The Encyclopedia of Taxation and Tax Policy](#), William M. Gentry.

reductions rule substantially. The most significant alteration is also intuitively obvious. ***It is welfare-maximising to ensure that goods consumed particularly heavily by the poor experience a lower-than-average proportional reduction in demand as a result of the tax.***

- 2.1.17. The optimal tax rate on a good should depend not only on its price elasticity of demand, but also on its income elasticity (percentage change in budget share of a good in respect to a given proportionate change in income). Consumption of many staple goods ("necessities") is not responsive to changes in either price or income. For these goods the efficiency and distributional arguments run in opposite directions; efficiency points to relatively high taxation of goods with low price elasticity, but distributional arguments favour low taxation for goods with low income elasticity. This consideration tends to undermine the arguments in favour of differential commodity taxation based on economic efficiency, and has been widely used in support of uniform-rated indirect tax systems.
- 2.1.18. ***A uniform sales tax, accompanied by a uniform payment to all households, is equivalent to a linear income tax with a suitably chosen exemption level and marginal rate*** (apart from the impact on savings). This means that if uniform sales taxes are optimal, the decision on the proportion of revenue to raise from income tax and sales tax needs be based only on administrative considerations (and possible effects on savings), not on the redistributive differences between the two types of instruments, ... ***but direct payments are a more efficient redistributive instrument than differential sale taxes. Non-uniform sales taxes should only be used on efficiency grounds***, unless for distributional goals when there are practical obstacles to the use of direct redistributive payments. This is because if all goods are normal (in the sense that consumption rises with household income) the poor will always benefit more by an increase in uniform payment than by the same amount of money being used to reduce ***the sales tax on a particular good; the reduction of sales tax will benefit the rich more, because***, given normality, they buy more of the good.<sup>19</sup> In any case, taxes can also fund redistribution, so an apparently regressive tax (e.g. a uniform VAT) can still have a progressive effect.
- 2.1.19. Administrative considerations also tend to favour uniform rated commodity tax structures, as costs of both administration and compliance are much lower in this case. However, apart from efficiency and distributive grounds, *differentials* in sales or excise taxes are widely adopted in respect of particular goods such as alcohol, tobacco and petrol, goods displaying either demerit characteristics, or very low price elasticity of demand.

### ***Optimal Taxation of Intermediate Goods: Production Efficiency***

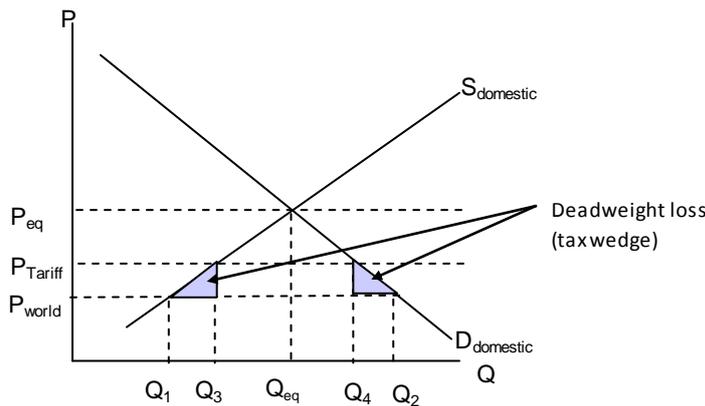
#### **Commodity taxes should only be assessed on final goods**

- 2.1.20. Diamond and Mirrlees also addressed issues of production efficiency. While taxes on the supply factors of production or the consumption of final goods might address income distribution concerns, they also distort production and consumption, which is costly.
- 2.1.21. Turnover taxes, which typically create cascading rates<sup>20</sup> on processed products, are less efficient than VAT or final sales tax, as they distort inputs to production, e.g. by artificially creating incentives for vertical integration. This result rules out taxes that have differential effects across sectors, or those which distort the allocation of factor inputs, and therefore affect productive efficiency.

<sup>19</sup> See theoretical framework in Atkinson and Stiglitz (1980). This is extended by Deaton and Stern (1986) to the situation where different demographic groups have different preference patterns, where redistribution between groups is still most efficiently achieved by the use of direct payments to households, providing (i) each demographic group can receive an optimally set payment (uniform within the group, but differing between groups) and (ii) weak separability of demand preferences.

<sup>20</sup> Taxes applied at each stage of production without any deduction for tax paid at earlier stages.

Chart 2.2: Efficiency loss of Trade Tariff



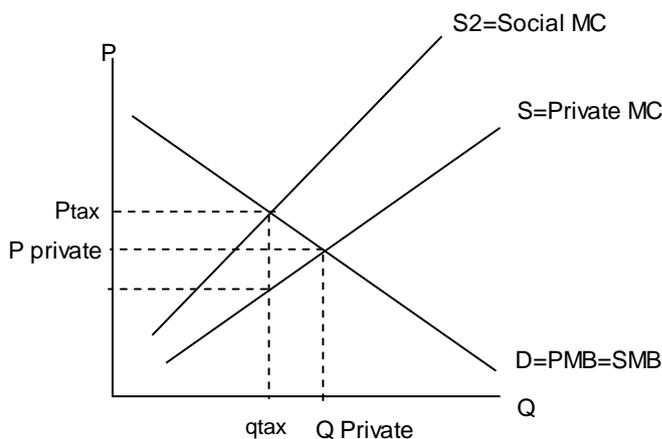
The argument outlined above extends to foreign trade: countries with no monopoly in foreign trade should treat international trade conceptually, as a production activity, and should not introduce distortionary taxes. Given the need for revenue, this finding has been translated into a widespread recommendation of low-rated uniform tariffs on external trade; or better, the replacement of trade taxes by taxes on domestic sales.

- 2.1.22. Chart 2.2 illustrates the deadweight loss from a tariff imposed by a small country. With free trade the price is  $P_{world}$  (compared to  $P_{eq}$  under autarky), and the unmet domestic demand ( $Q_2$  minus  $Q_1$ ) is met from imports. With a tariff, the price is artificially increased to  $P_{tariff}$ . Consumers lose some consumer surplus as they are forced to reduce demand to  $Q_4$ , when there are suppliers willing to supply at the world price. Some producer surplus is also lost due to the relatively high cost of domestic production to replace lower-cost imports that would otherwise have been available at the world price.
- 2.1.23. The theoretical literature has provided the intellectual underpinnings for major directions in tax reform, not only in developing countries, but also more generally. For example, tax advice in favour of simple (preferably uniform) income tax structures and in favour of modestly rated and uniform indirect tax instruments.

**Taxes to Address Market Failures: Internalising Externalities**

- 2.1.24. Taxation can also help address market failures. Where production or consumption of a good creates a negative externality, a tax on it can be welfare-enhancing. Pigouvian taxes seek to reduce negative 'spill-overs' to society from economic activity, such as pollution, anti-social behaviour, environmental degradation, or smoking. These are not captured in the relative prices, and hence, the full cost to society exceeds the private cost to the individuals or firm. A tax (or subsidy in case of positive externality) can correct this externality.

Chart 2.3: Tax to tackle Externality



The optimal tax in the presence of a spill-over aims to 'internalise' the externality by capturing the marginal social cost within individual private decisions. That is, the optimal tax will shift the marginal private cost to balance the marginal social cost of the externality with the marginal benefit to society. Revenue raised can be used to subsidise those bearing the social cost. Similarly, positive spill-overs can be encouraged by rewarding the benefit to society with a credit or subsidy.

- 2.1.25. These taxes have the disadvantages that if demand is inelastic then higher taxes will not change behaviour significantly (although taxes would generate higher revenue), and the tax may be regressive.

**Optimal Tax Design and 'Rules of Thumb':**

Efficiency:	Uniform rates for similar activities (neutrality); tax goods with low elasticity of demand for capturing social cost and raising revenue
Equity:	Progressive tax implies constant/uniform marginal rates
Market Failure:	'Internalising' externalities
Practical:	Minimise admin and compliance costs (simplicity, stability)
'Optimal':	Trade-off between efficiency and equity in theory against practical issues of administration, political and institutional motives

Based on IFS (Mirrlees et al.), 2011

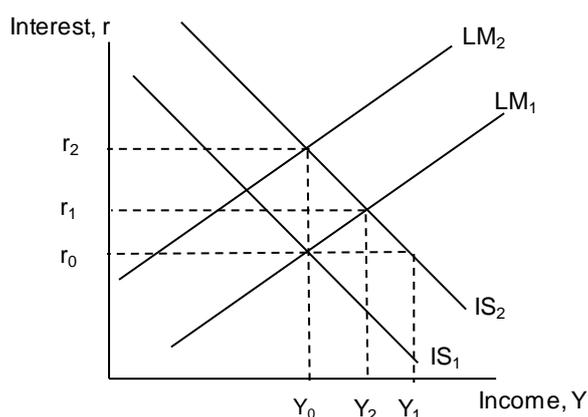
## 2.2 Links between Taxation, Revenue and Growth

- 2.2.1. There are a number of ways in which taxation, revenue and growth are linked: **(i) taxation can affect growth** through its impact on efficiency, equity and addressing market failure, and as a tool for behaviour change to increase growth-enhancing investment; **(ii) growth feeds through to revenue** through buoyancy of the tax system, and **(iii) good financial and economic governance and strong institutions are important to collect tax revenue efficiently and to manage** the revenues raised to finance growth-enhancing investment and public services

### (i) The Impacts of Taxation on Growth

- 2.2.2. In so far as tax facilitates public spending, the implications on growth can be considered using standard macroeconomic models. An increase in government spending initially has a positive impact on output through the multiplier effect. However, as income increases, the transactions' demand for money (with fixed money supply) puts upward pressure on interest rates, which could have a crowding-out effect on private investment.<sup>21</sup>

Chart 2.4: Macroeconomic impacts of Public Spending



In an IS-LM model, government spending is represented by a shift outwards in the IS curve, increasing output from  $Y_0$  to  $Y_1$ , but raising interest rates from  $r_0$  to  $r_1$ . There could be a further crowding-out effect, if the economy is at near-full employment with a fixed money supply, as pressure on prices causes a shift in real money supply, which causes a further increase in interest rates, represented by a shift of the LM curve from  $LM_1$  to  $LM_2$ . **The short-run positive multiplier is offset by the reduction in private investment.**

- 2.2.3. Financing of government expenditure can have different impacts on the crowding-out effect. Financing from borrowing (e.g. issuing bonds) can cause further upward pressure on interest rates, which is cumulative for as long as the deficit exists. The cumulative effect of rising interest rates on private investment may eventually offset the one-off positive effect of government

<sup>21</sup> For a discussion of tax and spend impacts through macroeconomic models, see for example, *Controversies in Macroeconomics*, Chrystal and Price (1994).

spending. Financing from taxes has a positive effect on income because of the multiplier effect, but with fixed money supply, raises interest rates, which also has some crowding-out effect.

#### **Ricardian Equivalence: How Financing Through Tax Cuts or Loans Might be Irrelevant**

Tax and spend decisions now affect future taxes, as any deficit financed by borrowing will ultimately have to be repaid. The concept of Ricardian Equivalence (Barro, 1979) says that “*shifts between debt and tax finance for a given amount of public expenditure would have no first-order effect on the real interest rate, volume of private investment, etc*”. That is because, in principle, rational taxpayers set aside the present value of the future rises in tax that are necessary to finance the interest on bonds issued, which is exactly equivalent to the initial tax cut or borrowing. However, this theory has received a number of criticisms:<sup>22</sup> (i) the strong rationality assumptions have been widely challenged; (ii) evidence suggests some tax cuts are spent and not saved, perhaps because of liquidity constraints or lack of rational choice; (iii) taxpayers do not necessarily understand fully the implications of government financing on their future liabilities; (iv) current taxpayers may not value the consumption of future taxpayers the same as they value their own; and (v) the impact of government spending may be positive if invested in capital formation, leading to growth that yields more tax collections in future.

- 2.2.4. Ultimately, the net effect is determined by the nature of spending and whether it is capable of preventing long-run crowding out by expanding the underlying growth potential of the economy. In an Aggregate Supply and Demand model, this would be represented by a shift to the right of the long-run aggregate supply curve. The reduction in output of the private sector could be offset by public sector expansion, if the rate of return on public investment exceeds the interest on bonds issued to finance spending or the efficiency costs of taxation. This is unlikely if, for example, spending is used to subsidise inefficient enterprises or ‘prestige’ investments, such as a national airline, that are less productive. This is where spending that generates positive externalities and capital formation can have beneficial effects, e.g. education spending for human capital formation or infrastructure spending that facilitates private capital investment.
- 2.2.5. Tax implications for growth vary according to alternative models of economic growth. The **neoclassical** (Solow-Swan) model and the Heckscher-Ohlin trade model, based on gains from trade in comparative advantage, emphasise the negative impacts of tax on efficiency, and thus, the (short-term) welfare gains from reducing tax rates as incentives for investment in capital and labour supply, as well as gains from trade liberalisation through reduced tariffs. There is no role for tax in influencing the long-term growth path implied in these models, apart from the ‘catch up’ between low- and high-income countries implied by factor price equalisation.
- 2.2.6. In contrast, **endogenous growth** models that advocate investment in technology, R&D and transmission of knowledge through trade imply that tax could be an instrument in a growth-orientated development strategy. For example, a (temporary and well-designed) protective infant industry tariff could facilitate learning-by-doing capability development or dynamic economies of scale that enable countries to develop added value in the level of sophistication of their exports to a level that can successfully compete once the tariff is removed.

#### **Box 2.1: Reducing Dependence on Trade Taxes**

With further trade liberalisation and regional integration still moving ahead among low-income countries, the trend in reducing tariffs and declining trade tax revenues is likely to continue further. Despite the potential efficiency and welfare gains that might be achieved from trade liberalisation, the loss in revenue poses a threat to development by limiting available resources for financing investment. Replacing lost revenues has not been as effective in low-income countries as in middle-income countries (Keen and Mansour, 2010). Attempts to replace trade tax revenues have typically included increasing consumption taxes, such as excises and/or VAT. However, in countries with compliance challenges, raising already relatively high rates of domestic consumption tax might lead to deterioration in compliance. Evidence from IMF case studies in 2005 suggested that using a range of

<sup>22</sup> See for example, [Krugman \(2011\)](#)

tax instruments to collect revenues is more successful. A further option might be to remove unnecessary tax exemptions.

Further challenges in the collection of trade taxes in low-income countries include weak administrative capacity to implement customs reforms that align with international conventions (e.g. Kyoto Convention)<sup>23</sup> and difficulty in controlling rent-seeking in customs, which is exacerbated by introducing new regimes and differential treatment of intra-regional transactions as part of regional integration policy (IMF, 2011).

- 2.2.7. **Empirically, the evidence on the impact of tax on growth is also mixed.** Some key findings are highlighted below:
- ❖ A review of 26 studies (covering mostly high-income countries) showed that the majority of studies found a negative impact of tax on growth, even controlling for the potential positive impact of public spending;<sup>24</sup>
  - ❖ There is a differential impact by type of tax: corporate and personal income taxes (taxes on factors of production) had the most significant negative effects, due to impact on incentives to invest, while consumption and property tax (which are more akin to un-distorting lump sum taxes) had least impact;<sup>25</sup>
  - ❖ Composition of taxes impacts on growth, but also on inequality,<sup>26</sup> i.e. shifting from income taxes to property or consumption taxes tended to have a strong positive association with growth, but with increased inequality; and
  - ❖ Spending cuts are less damaging than tax increases, due to disincentive effects of tax increases.<sup>27</sup>

**(ii) The Impact of Growth on Revenues**

- 2.2.8. **Buoyancy and elasticity** of the tax system measure how well growth feeds through to revenues. These are measures of the responsiveness of the tax system to GDP growth.<sup>28</sup> Tax systems tend to be more buoyant when taxes are linked to high growth sectors, cover a broad base of activities, with limited use of differential rates, and have regular (or built-in) adjustments for inflation.
- 2.2.9. **The economic structure** affects the taxable base of a country. For example, large agricultural sectors are difficult to tax, politically and practically. A large manufacturing base has potential to yield revenues from a number of taxes across a range of activities, including import duties, VAT, excises, or profit and income taxes.
- 2.2.10. The **'tax capacity'** is the revenue that a country's economic, social, institutional and demographic characteristics should yield in principle, excluding the effect of political decisions about how much to tax.<sup>29</sup> Political economy plays an important role in determining what is taxable, reflected in the regime that is set out in tax laws, including rates and thresholds, exemptions and allowances. The **tax 'potential'** is a measure of the revenue collection possible within the country's tax law. Tax administration efficacy and efficiency determines whether what is taxable is actually collected. The ratio between the actual revenue collected and the estimated tax 'capacity' is called **Tax Effort**. Measures of tax capacity, tax potential and tax effort can be defined

<sup>23</sup> The International Convention on the Simplification and Harmonization of Customs procedures ([revised Kyoto Convention](#) or RKC, 2006).

<sup>24</sup> December 18, 2012 No. 207, William McBride, [What Is the Evidence on Taxes and Growth?](#)

<sup>25</sup> Åsa Johansson, Christopher Heady, Jens Arnold, Bert Brys, Cyrille Schwellnus, & Laura Vartia, [Tax and economic growth](#), OECD Economics Department Working Papers No. 620 (2008).

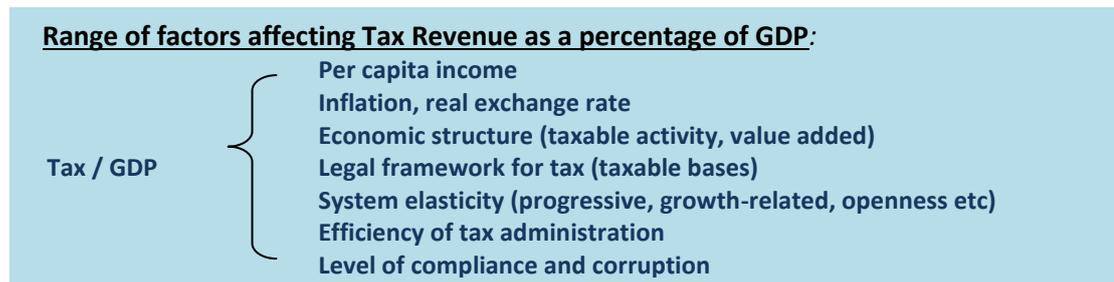
<sup>26</sup> IMF (2012) WP/12/257, [Tax Composition and Growth: A broad Cross-Country Perspective](#)

<sup>27</sup> International Monetary Fund, [Will it hurt? Macroeconomic effects of fiscal consolidation](#), in World Economic Outlook: Recovery, Risk and Rebalancing (2010).

<sup>28</sup> See e.g. [Shome, 1988](#): "Elasticity of a tax with respect to GDP = Elasticity of the tax with respect to its appropriate base x elasticity of the base with respect to GDP".

<sup>29</sup> Definitions according to Fenochetto and Pessino, 2010, [Determining Countries' Tax Effort](#), Hacienda Pública Española/Revista de Economía Pública, Vol.195.

and tested. All of the above are captured in the revenue-to-GDP ratio of a country, which is a commonly used indicator of tax performance.<sup>30</sup>



Based on Ghura, 1998 (IMF)<sup>1</sup>

2.2.11. Pessino and Fenochietto (2010) adjusted the tax-to-GDP ratio to control for factors such as the level of development, degree of openness, ease of tax collection and education to estimate how close countries are to their tax capacity. The findings include:

- ❖ Countries with higher GDP per capita and expenditure on education tend to be near their tax capacity i.e. most of Europe is above 80%, with Sweden at 98%, with average tax-to-GDP ratios of around 40%<sup>31</sup>
- ❖ Some countries with low levels of income may have reached their maximum tax effort, e.g. Kenya, Ghana, and the Gambia, while other low-income countries have potential to expand revenues, perhaps by reducing inefficiencies, broadening the tax base and tackling corruption.
- ❖ Countries with a large agriculture sector and unequal income distribution tend to be more constrained in their tax collection
- ❖ Countries that are far from their capacity are likely to be suffering from a high level of evasion and/or have a high level of tax exemptions
- ❖ The low level of development and administrative capacity of some countries mean that their potential is limited to around 20% of GDP

2.2.12. On the whole, low ratios tend to imply either low potential or low effort (or both). Even where capacity is limited, there is often some room for improvement if a country is not achieving its potential. Tax effort is not necessarily lowest in low-income countries. For example, Ghana and Zambia are estimated to be operating at about 70% of their potential. This compares to Singapore, which has a high tax capacity of 55-65%, but is only operating at a tax effort of 19-23%, which reflects a deliberate low tax policy choice. Most low-income countries in Sub-Saharan Africa have been able to expand their tax-to-GDP ratios by ½-2 percentage points of GDP in the short to medium term, and by about 2-3½ percentage points of GDP over the longer term (five to 10 years).<sup>32</sup>

**(iii) The Role of Good Financial Governance in Tax and Revenue<sup>33</sup> – links to growth**

2.2.13. Governance of tax policy, administration and spending of government revenue is important to growth in a number of ways, including:

<sup>30</sup> These measures are sometimes difficult to compare across countries. For example, some countries include all government revenue including tax, non-tax (public sector fees and licenses) and even local government revenue, while others simply measure domestic tax. The base is usually nominal GDP at market prices, but this should also be checked carefully, before making comparisons. The IMF collects data across countries using a consistent methodology although it includes grants (see e.g. World Economic Outlook). The World Bank collect tax/GDP and revenue/GDP in the World Development Indicators).

<sup>31</sup> Eurostat 2008

<sup>32</sup> Classification of LICs according to IMF Working Paper 108/12 (2012), [Mobilizing Revenue in Sub-Saharan Africa: Empirical Norms and Key Determinants](#)

<sup>33</sup> See [Citizen-State Relations: Improving Governance through Tax Reform](#), OECD 2010.

- **Management of differential tax rates:** to ensure that any incentives are growth-enhancing and not undermining tax revenue collection;
- **Effective spending and management of government revenue:** appropriate selection and appraisal of investment projects, transparency and accountability, value for money and effective spending execution. The effect on compliance can be self-reinforcing, as voluntary compliance is likely to be higher where there is trust in the state;<sup>34</sup>
- **Accountability between citizens and the state** is established through the tax system. It is therefore important to establish a broad base of tax to enhance representation and effectiveness of the accountability relationship. This could be achieved through local revenue collection. A broad-based tax system has incentives for growth, in that the potential to collect revenues expands as the economy grows (through a range of profit taxes, incomes, consumption etc.), encouraging governments to spend revenues on growth-oriented investments to generate more revenue;
- **Hypothecation** (ear-marking) of taxes has a role in accountability and can encourage compliance, by establishing a link between revenue collection and spending, e.g. road-user charges to finance road maintenance. While hypothecation can be uncontroversial in some areas, e.g. social security contributions, resource funds, and allocation of specific revenues to certain levels of government, it does not allow efficient allocation of resources to meet policy and investment priorities;
- **Assessment and collection of revenue:** Businesses can benefit from formalisation (for example, through gaining access to capital for investment). An effective revenue authority can encourage businesses to formalise by making registration for tax simpler, tackling corruption and strengthening prevention of leaks through tax avoidance, levelling the playing field. .

#### (iv) The impact of aid on tax

- 2.2.14. While aid might be expected to reduce incentives to collect tax, the evidence on this is inconclusive. While results of early studies reported that aid discourages tax collection across countries, more recent studies have generally found that aid has been associated with a negligible, or even positive, effect on levels of tax collection. In the past 15 to 20 years, low-income aid recipients have managed to increase tax ratios,<sup>35</sup> which suggests that in many aid-recipient countries the policies associated with aid have supported increasing tax/GDP ratios. There is also evidence that this link between aid and increased tax ratios may be related to aspects of good governance, including greater efforts at mobilising revenues.<sup>36</sup>
- 2.2.15. Even if aid does not lead to lower levels of tax collection, it could reduce the potential for tax bargaining between governments and citizens who pay tax, through its impact on levels of tax reliance. **This implies that: (1) donors should support tax collection efforts in recipient countries; and (2) recipient governments should have a transparent and inclusive revenue and expenditure process and guard against aid dependence.**

## 2.3 Typical Taxes in Developing Countries: Selected Issues

### *Indirect Taxes: Value Added Tax (VAT)*

- 2.3.1. Since the introduction of VAT in Europe in the 1950s it has become widespread across the world, due to its relative efficiency in collection. Reforms led by the IMF in many low-income countries

<sup>34</sup> National Tax Journal Vol 51 no. 3 (September 1998) pp. 485-91, [On Voluntary Compliance, Voluntary Taxes and Social Capital](#), Joel Slemrod.

<sup>35</sup> Clist and Morrissey (2011), *Aid and Tax Revenue: Signs of a positive effect since the 1980s*.

<sup>36</sup> Brun, Chambas and Guerineau 2009; and IMF Working Paper WP12/186 (2012) [Foreign Aid and Revenue: Still a Crowding Out Effect?](#)

since the 1970s, has in many cases abolished retail or turnover sales taxes in favour of VAT. Around eighty percent of countries in Sub-Saharan Africa now have a VAT, and it typically raises about 25% of all tax revenue<sup>37</sup>. A VAT is a form of consumption tax. From the perspective of the buyer, it is a tax on the purchase price. From that of the seller, it is a tax only on the value added to a product, material or service. Manufacturers remit to the government the difference between the VAT they receive from sales and the VAT they've paid on inputs.<sup>38</sup>

- 2.3.2. VAT should be broad based to maximise revenue with minimum distortion. According to optimal taxation theory, VAT is well suited to the principles of taxing only final goods at uniform rates. The impact of a change in the uniform rate of VAT on consumption and revenue will depend on the aggregate effect of price and cross-price elasticity of demand.<sup>39</sup> The redistributive impact would depend on the relative consumption patterns of VAT-able goods. In practice however, differential rates or exemptions have been used by authorities to mitigate the regressive effect of VAT (rather than a lump-sum transfer to the poor), or to address concerns that certain items are not appropriate to tax, or simply for administrative simplicity.

#### **VAT Incidence**

Studies have assessed the distribution of VAT based on consumption patterns, assuming that VAT is passed on fully to consumers. These have shown that VAT is regressive, but that the regressive effects can be mitigated to an extent, for example, through zero-rating key items such as foods and other necessities. Studies of such systems indicate, on balance, that they are mostly neutral and can even have pro-poor effects where smaller traders are excluded (IMF, 2011). However, these studies mostly exclude the potentially progressive redistributive effects of spending that VAT finances e.g. conditional cash transfers, which can create a progressive overall package..

- 2.3.3. **Zero-rating** an item means the final purchase price will be free of VAT, but still allows the manufacturer an opportunity to offset the input VAT.
- 2.3.4. **VAT-exempt** means that there can be no refunds on input VAT. There is always a (modest) effective tax rate on exempt items. Small businesses below the VAT registration threshold, or those producing exempt goods, have the incentive to self-supply, to ensure that their inputs do not incur irrecoverable VAT which could have negative impacts on *productive efficiency*. Small businesses may register voluntarily, as long as the compliance costs of participating in the VAT system are not too high.
- 2.3.5. While VAT has compliance incentives built in (i.e. where to offset input VAT, a buyer requires a full invoice from a seller, reducing the incentive to under-report), there are several fraud and evasion opportunities that can arise in the VAT system, such as:
- Under-reporting sales or faking input invoices;
  - False claims that outputs are zero-rated (e.g. fake export invoices);
  - Falsely using differential rates/exemptions;
  - Carousel fraud: traders import zero-rated goods, sell onward charging VAT, and disappear without remitting the VAT. VAT and goods are passed around between companies and jurisdictions, causing loss to authorities;
  - Using transfer pricing to transfer value addition of a link in the supply chain to a country with a low VAT rate.

<sup>37</sup> Keen (2012) [Taxation and Development – Again](#), IMF Working Paper (WP/12/220).

<sup>38</sup> [HMRC](#)

<sup>39</sup> Price elasticity of demand is the percentage change in the quantity demanded in response to a given percentage change in the price; Cross-price elasticity of demand is the percentage change in the quantity demanded in response to a given percentage change in the price of another good (Perloff, 2008, *Microeconomics: Theory and Applications with Calculus*).

- 2.3.6. While analysis suggests that countries with VAT raise more revenue,<sup>40</sup> developing countries need to consider distributional impacts, their administrative capacity, compliance costs (especially to small firms) and potential for abuse when introducing differential rates and setting thresholds.

*Typical factors affecting administration and compliance costs of VAT in practice*

Administration	Compliance
<p>Positive:</p> <ul style="list-style-type: none"> <li>➤ Can be based on (low cost) Self assessment</li> <li>➤ Self-enforcing elements i.e. accurate invoicing required by purchaser for input VAT credit</li> <li>➤ Facilitates good record keeping, helpful for income tax administration</li> </ul> <p>Negative:</p> <ul style="list-style-type: none"> <li>➤ Requires effective refunds management</li> <li>➤ Assessment of liabilities (input-output) can be complex (especially if several exemptions) – can be reduced using more efficient processes e.g. electronic VAT registers</li> <li>➤ Requires good record keeping (sales, supplies)</li> <li>➤ Tax expenditure analysis needed if differential rates are offered</li> <li>➤ Costs increase with lower VAT threshold and the number of differential rates;</li> </ul>	<p>Positive:</p> <ul style="list-style-type: none"> <li>➤ Incentives to comply e.g. buyer demands full invoice to offset input VAT against liability</li> <li>➤ Incentive for small firms to register voluntarily to claim input VAT</li> </ul> <p>Negative:</p> <ul style="list-style-type: none"> <li>➤ Exemptions can create inefficient incentive to self-supply to avoid input VAT</li> <li>➤ Requires good record keeping and regular returns/remittance</li> </ul>

**Indirect Taxes: Excises**

- 2.3.7. Excise taxes should be targeted on a few goods where consumption entails negative externalities, such as cigarettes, alcohol or fuels, which usually have inelastic demand. Taxes may be intended to reduce consumption of the good but inelastic demand also means demand may not change much while revenue from the tax can be high. A weakness of excise taxes in developing countries is that they cover too broad a range of goods, often for revenue reasons<sup>41</sup>. It is also possible to apply excise to luxury goods, where the uniform VAT rate is not considered sufficient.<sup>42</sup>

2.3.8. **Indirect taxes: Ad valorem or specific.**<sup>43</sup>

**Ad Valorem Tax:** This tax is a percentage of market price, so it causes a (leftward) rotation of the supply curve, as the tax amount increases with price. A useful tax for items that are subject to price peaks, but sensitive to price volatility.

**Specific Tax:** This is a per-unit tax, it shifts the supply curve in parallel to the left, as the tax amount is the same at all price levels. Specific taxes are usually simpler to administer and useful for smoothing revenue for goods with volatile prices.

- 2.3.9. Empirical evidence suggests that the two types of tax perform equally well in efficiency terms under perfect competition. However, under imperfect competition on the supply side (e.g. monopoly or oligopoly), for a given specific tax, there is an ad valorem tax that can raise the same

<sup>40</sup> Keen and Lockwood, 2010, *The Value-Added Tax: Its Causes and Consequences*, Journal of Development Economics, Vol. 92 (July), pp. 138-51.

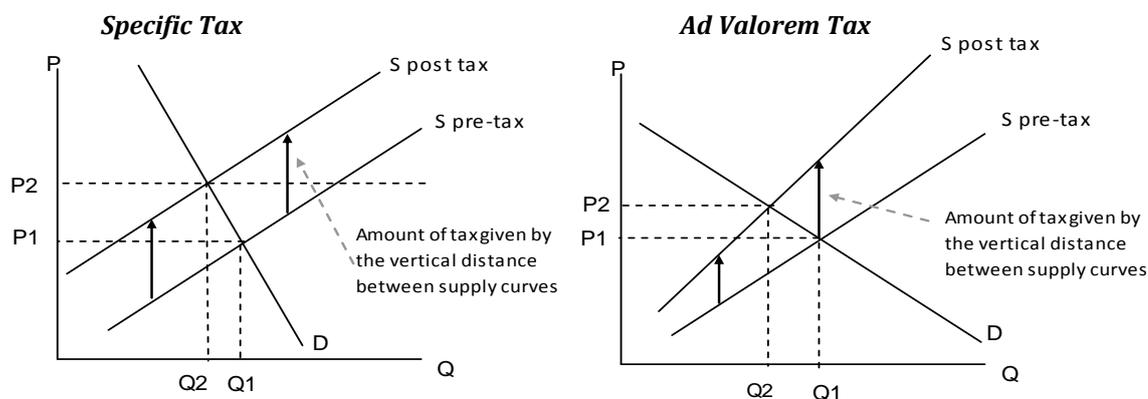
<sup>41</sup> Tanzi and Zee, 2001, Tax Policy for Developing Countries, Economic Issues No27.

<sup>42</sup> IMF, 1995, *Tax Policy Handbook*, edited by Parthasarathi Shome.

<sup>43</sup> See Michael Keen, Fiscal Studies (1998) vol. 19, no. 1, pp. 1–37, *The Balance between Specific and Ad Valorem Taxation*, for a general comparison of the two types.

revenue, but with a greater equilibrium output and welfare.<sup>44</sup> On the other hand, studies have demonstrated that the opposite is true under monopoly.<sup>45</sup>

Chart 2.4: Comparison of Specific and Ad Valorem Tax



- 2.3.10. In practice, administration of excise taxes is relatively simple, based at importation or on production. It is often concentrated, and therefore difficult to evade and efficient to assess and collect (IMF, 2011). However, challenges tend to be posed by attempts to evade through either smuggling or illicit (usually small-scale) production that undercuts excisable production.

#### Excise Incidence

Like VAT, studies are typically based on an assumption of full forward shifting (where the customer is assumed to pay the full incidence of the tax), but tend to yield a progressive incidence pattern. Notable exceptions are tobacco and cheap liquor, which usually have a regressive incidence pattern because of relatively heavier consumption by the poor. Some excises such as motor fuel taxes combine aspects of taxing luxury consumption (ability to pay) with taxes on the use of public services (user charges)<sup>46</sup>.

#### Direct Taxes: Personal Income Tax

- 2.3.11. As discussed previously, the optimal marginal income tax rate depends on the relationship between tax and output (given by hours of labour worked). Thus, the impact of a tax change depends on the pattern of ability to earn and elasticity of labour supply. If labour supply is elastic, an income tax increase will have a stronger effect on reducing labour supply, incomes and therefore revenues from the tax, as illustrated in Chart 2.5 below.<sup>47</sup>
- 2.3.12. In practice, IMF found in member countries that final withholding taxes for wage income have proven successful in curtailing revenue leakage<sup>48</sup>. For individuals, payroll taxes (e.g. Pay As You Earn) are often used, which are remitted by employers on behalf of employees as a percentage of wages. These include income taxes and social security contributions (which may comprise an employer and employee contribution).

<sup>44</sup> See for example, Delipalla, S. and Keen, M. (1992), [The comparison between ad valorem and specific taxation under imperfect competition](#). Journal of Public Economics 49, 351–367.

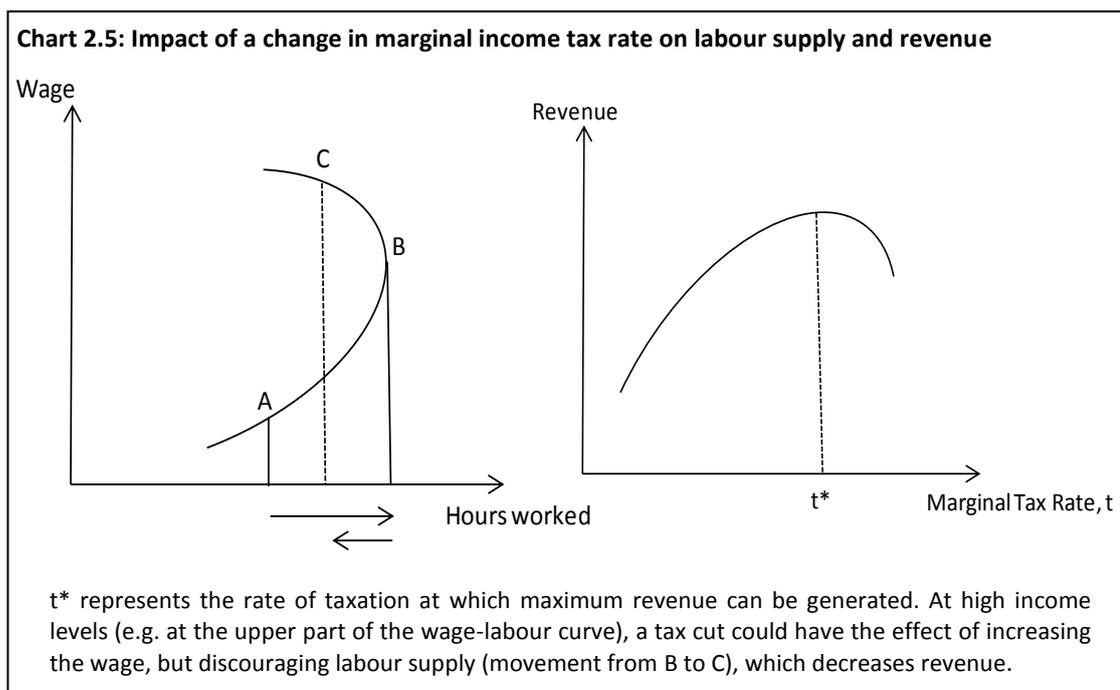
<sup>45</sup> Hamilton, 1999, [The comparative efficiency of ad valorem and specific taxes under monopoly and monopsony](#)

<sup>46</sup> Shah and Whalley, 1001, The Redistributive Impact of Taxation in Developing Countries.

<sup>47</sup> Commonly referred to as the Laffer Curve, associated with Arthur Laffer – diagram from Microeconomics (5th Edition), Jeffrey M. Perloff.

<sup>48</sup> IMF Pamphlet Series No.49, [Guidelines for Fiscal Adjustment](#) (1995)

- 2.3.13. Some rules of thumb for setting income tax rates include establishing a basic personal income tax allowance, which should be set high enough to exclude the very poor from paying tax, but exemptions and deductions should be limited. Sufficient progressivity can be achieved with only a few income tax brackets, which should be adjusted periodically to account for high inflation to avoid the tendency for 'bracket creep'. Supply-side considerations argue for keeping rates as low as possible. Ideally, income taxes should be levied on a globalised income tax base (including all forms of income). However, it is often administratively necessary to establish schedular taxes i.e. taxes levied separately on different sources of income.



#### **Incidence of Personal Income Tax:**

Most, or all, developing country incidence studies assume that PIT incidence falls on the individuals who pay these taxes; and they show that personal income tax is broadly progressive.<sup>49</sup> Nonetheless, on the whole, they ignore complications stemming from tax evasion, which limits the effectiveness of the tax, transfers and redistributive effects of income taxes.<sup>50</sup>

- 2.3.14. **Key point to note: while personal income taxes form a significant proportion of tax revenues in high-income countries (around 9-11% of GDP), developing countries raise only around 1-3% of GDP from personal income tax.**<sup>51</sup>

#### ***Direct Taxes: Corporate Income Tax***

- 2.3.15. CIT is a tax on net income or profits of some types of corporations (i.e. total income minus some allowable deductions, such as depreciation and expenses). A tax on profits should ideally be levied at a single rate comparable to the top marginal rate of personal income tax. This minimises the likelihood of tax-induced shifts between personal income, partnerships and corporations. Developing countries are more prone to having different rates for different sectors than

<sup>49</sup> E.g. Chu, K.-Y., Davoodi, H. and Gupta, S. (2000). *Income Distribution and Tax, and Government Social Spending Policies in Developing Countries*, Research Paper 214, World Institute for Development Economics Research.

<sup>50</sup> Zolt, Eric M. and Bird, Richard M., *Redistribution via Taxation: The Limited Role of the Personal Income Tax in Developing Countries*. UCLA Law Review, Vol. 52, 2005; UCLA School of Law, Law-Econ Research Paper No. 05-22.

<sup>51</sup> Peter, Buttrick and Duncan (2010), *Global Reform of Personal Income Taxation, 1981-2005: Evidence from 189 Countries*, National Tax Journal, Vol. 63, pp.447-78.

industrial countries. The effects of a change in the rate of tax, or in the treatment of deductions against profits, can have incentive or disincentive effects on the operation of the business. These incentive effects are discussed further in Section 3.5.

- 2.3.16. In practice, profit taxes require assessment of 'taxable income', based on turnover and any allowable deductions to cover costs. In optimal tax terms, deductions, allowances and credits are best applied neutrally across sectors and assets to foster efficiency. Nonetheless, tax incentives (such as investment allowances and, in particular, tax holidays) are sometimes used to stimulate certain sectors. Incentives should normally be limited in terms of coverage and duration. A minimum profits tax, based on gross assets, may be used in some circumstances to promote compliance and equity.
- 2.3.17. There are challenges in the administration of CIT, including defining and measuring income and the taxable base. This requires methods of valuing assets (e.g. by cost, market value, replacement value), treatment of inflation and treatment over time (e.g. when income is accrued or how assets depreciate).

#### **Incidence of Corporate Income Tax**

The shifting assumption commonly used in studies on the incidence of corporate taxes in developing countries is that 50% of the tax is passed on to consumers and 50% is borne by capital owners. Under these assumptions, the usual incidence finding is a regressive incidence profile for countries in the lowest income brackets, a near-flat incidence profile for the middle groups and a progressive-incidence profile for the higher-income groups.<sup>52</sup>

- 2.3.18. Taxing international income poses a significant challenge to developing countries (see Section 3 for further explanation of this issue), due to the sensitivity of business decisions and flows of costs and income, which can often be adjusted across borders through tax planning. See Keen and Mansour 2010b for a review.
- 2.3.19. Overall rates of taxation on corporations have reduced in developing countries to bring them more in line with international standards. This has not caused a decline in revenues, however, and collections from corporations in developing countries have been expanding (IMF, 2011). The use of incentives has become much more common, however, particularly in Sub-Saharan Africa, despite evidence suggesting that the decision to invest is based largely on the country's overall investment climate rather than incentives offered (see, for example, Klem and Van Parys, 2009) (see Section 3 for a discussion of investment incentives).

#### ***Trade Taxes: Export and Customs Duties***

- 2.3.20. Import tariffs reduce efficiency, and hence, should normally be eliminated or set at a low level. There should also be a low dispersion of rates to reduce arbitrary and excessive effective rates of protection. Duty drawback or suspension schemes are needed to relieve exporters of the anti-export bias caused by customs duties on inputs. The more difficult it is to administer such schemes, the more important it is to maintain a low tariff rate. Exemptions from customs duties should be clearly defined and motivated to avoid abuse. A low across-the-board tariff is often used for revenue reasons in countries where other (and preferable) taxes may prove difficult to administer.

#### **Incidence of Customs and Export Tax**

Import duties are usually assumed to be fully passed on to consumers of imported goods, with a regressive or proportional incidence outcome the standard result. Most developing country incidence studies ignore the implications of quotas and import licensing for the shifting assumptions used.

Most incidence studies of export taxes assume that the tax incidence falls on the producer-exporter group, and, correspondingly, derive a progressive incidence pattern as these are in the higher income ranges (Shah and Whalley, 1990).

<sup>52</sup> Shah and Whalley (1990) [An alternative view of tax incidence analysis for developing countries](#)

- 2.3.21. Export taxes should generally be avoided, as they tend to cause resources to move from the export sector toward less efficient uses, thus compromising growth objectives. However, they can sometimes be used on a limited basis to reach hard-to-tax activities (common in the agriculture sector) as a temporary substitute for income taxation, and to absorb one-time windfall gains, for example, from devaluation or from exceptional movements in world commodity prices.

#### **WTO Compliance of Incentives:**

Three types of agreements relate to investment incentives, such as the use of taxes or subsidies. First, the 1995 Agreement on Trade Related Investment Measures (TRIMS) made the imposition of investment-related performance measures, such as local content or export requirements, actionable. However, while developed countries were expected to stop the use of TRIMS by 1995, developing countries had until 2000 (unless they notified any TRIMS). These could then be used until 2007. Least developed countries have until 2020.

Second, there are two sets of rules on the use of incentives for exports aiming to reduce trade distortion. The agreement on subsidies and countervailing measures (SCM) makes the use of subsidies on industrial products (and thus investment incentives) actionable under certain circumstances. The SCM uses a traffic light approach: **Red Prohibited** subsidies (de jure); **Green Non-actionable** (on the basis of policy rationale, e.g. general R&D subsidies); **Amber Actionable** (only when adverse effect is proven, 'serious prejudice'). The agreement does not affect least developed countries or low-income countries with a GNP per capita of less than US\$1,000.

Third, the Agreement on Agriculture covers the use of subsidies (including by developed countries) in agriculture. It uses a box approach for subsidies:

**Amber box:** reduction requirements for trade distorting subs, but de minimis provision

**Green box:** minimal trade distorting (e.g. for economic, social and environmental reasons)

**Blue box:** reduction commitment to certain level (without need to prove adverse effects)

There are much higher ceilings (10% rather than 5%) for developing countries (even if they were able to subsidise their agricultural exports).

Agriculture has often been argued to be over-taxed, due to export taxes, price controls, over-valued exchange rates<sup>53</sup>. The impact of agricultural subsidies in developed countries also adds a significant burden of taxation on the agriculture sector in developing countries. This has led to reforms to break down the burden of tax on agriculture, while the trend towards trade liberalisation has largely eliminated export taxes.

#### **Fragile States: Selection of Tax Instruments**

Due to capacity constraints in the area of revenue reform, the sequencing of reforms may require policies that are not 'first best' i.e. early emphasis is likely to be on easily administered border taxes, followed by broader income tax reforms, reduction in customs tariffs, and the eventual introduction of VAT.<sup>54</sup> For example, in Mozambique, after the end of the civil war in 1992, initial efforts focused on simplifying tariffs and overhauling customs administration, then on reforming domestic indirect taxes, replacing cascading taxes with VAT and selective excises, and strengthening the domestic tax administration; and finally on direct taxes and the creation of a revenue authority (IMF, 2011).

<sup>53</sup> Keen (2012) *Taxation and Development – Again*, IMF Working Paper (WP/12/220)

<sup>54</sup> IMF (2008) *The Fund's Engagement in Fragile States and Post-Conflict Countries—A Review of Experience—Issues and Options*

### 3 KEY ISSUES

- A briefing on current policy issues and debates
- To help you develop: (i) policy or programs; (ii) briefing; (iii) terms of reference for specific work

#### Key points

- ✓ Efficiency of tax administration can be improved through risk-based targeting of resources as well as better information management and internal organisation
- ✓ Tackling 'Informality' requires better detection/identification, registration, audit and enforcement, but administrative costs can outweigh benefits
- ✓ Local-sourced revenues, for example, property tax, can facilitate better local accountability, flexible decision-making and better local service delivery, but they limit 'optimal' use of revenues throughout the economy
- ✓ Extractive industries tax regimes need to balance capture of economic rent with attracting productive investment, which can yield huge opportunities for development and growth as long as revenues are managed effectively
- ✓ International taxation needs to be strengthened in developing countries for better detection, monitoring, enforcement and management of incentives

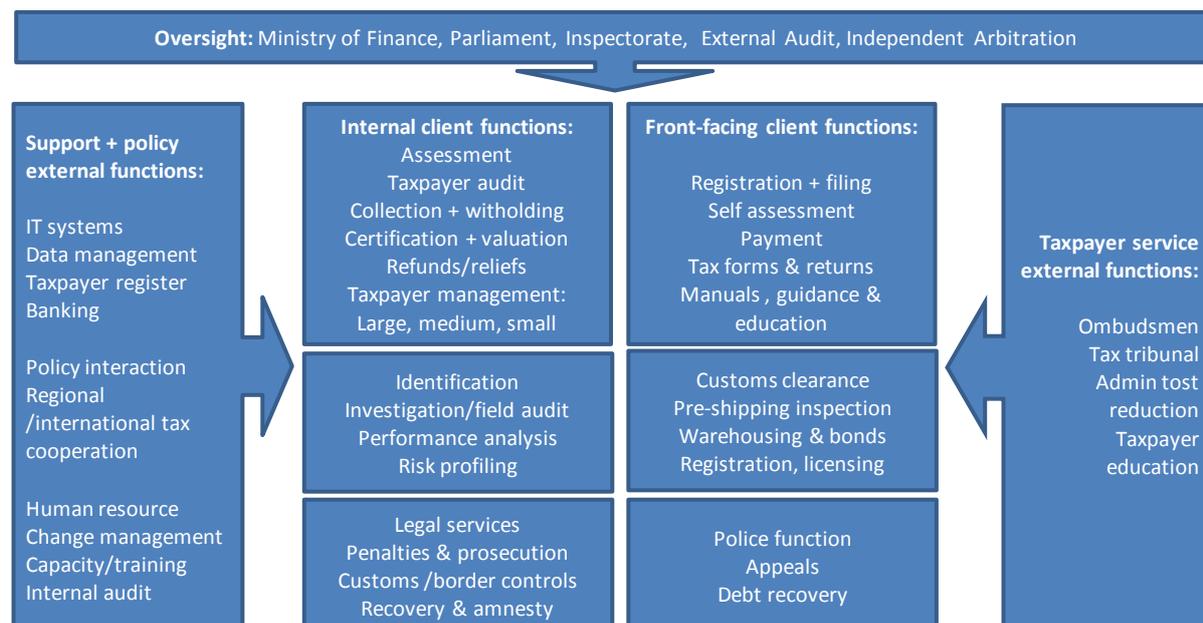
#### Section Overview

*This section examines key issues that developing countries often confront when trying to collect tax revenue, namely: how to improve the efficiency of tax administration (Section 3.1); addressing 'informality' and taxation of small enterprises (Section 3.2); finding the appropriate balance and design of revenue collection between central and local government levels (Section 3.3); taxing extractive industries (Section 3.4); and addressing international aspects of taxation, including managing investment incentives and tax competition (Section 3.5),.*

### 3.1 Revenue Administration

- 3.1.1. Tax administrations in developing countries are often under-resourced, misallocated and suffer from weak mid-level management, compounded by high compliance costs, due to lengthy processes, bribes and inefficient operations (IMF, 2011). Weak coordination with financial and other public institutions that provide useful third party data to verify tax returns is also a feature of low-income countries that have not yet established effective information architecture, such as land registries.
- 3.1.2. Typical functions of a tax administration are illustrated in the diagram below. The range of functions that affect efficiency of administration and compliance costs include procedures for filing and assessment, detection and monitoring of taxpayers, enforcement activities, as well as more indirect functions such as customer service and taxpayer education, effective oversight (e.g. external audit) and effectiveness of internal controls, IT and management.
- 3.1.3. Diagnostic tests and indicators of administration performance can identify areas for improvement, such as the cost of collection, arrears recovery, revenue impact of audits and investigation and taxpayer perceptions. Some key measures are set out in Annex II.

## Example Range of Functions of Revenue Administration



Based on World Bank Tax Administration Functions ([www.worldbank.org](http://www.worldbank.org))

### Typical Revenue Administration Reforms

- 3.1.4. The move towards creation of (quasi) independent Revenue Authorities with well-paid tax collectors was a broad attempt to avoid corruption and political interference. The results have been mixed, as the potential gains from collusion and corruption are sometimes larger than salaries, and weak internal controls may persist. The Uganda Revenue Authority has undergone significant organisational restructuring, management, systems investment and capacity building, yet Uganda's tax-to-GDP ratio has remained the lowest in the East African region, stagnating at around 12-13%, indicating that there are still a number of likely administrative and policy challenges<sup>55</sup>.
- 3.1.5. Governments of developing countries have a strong incentive to shift the tax base towards those who are more easily taxed, which often includes public sector workers and large private firms. This practice can be anti-competitive and, in the case of the public sector, it can create unfairness and labour supply disincentives. If more profitable firms are 'penalised' with a higher tax burden, this can also create productivity disincentives (Keen 2012).
- 3.1.6. In low-income countries, the largest 1% of companies typically remit at least 75% of taxes, requiring significant controls and dedicated resources. Large Taxpayer Offices (LTOs) are therefore now operating in most Anglophone African countries. Whilst the most effective reform will vary according to country context, some key options for improving efficiency and effectiveness of the administration include:<sup>56</sup>
- Automating 'client' services (e.g. online registrations, filing and payment) which make it easier to pay tax and separate the taxpayer from tax collector, thereby reducing opportunities for corruption
  - Organisational restructuring, culture and pay reform to reduce corruption and strengthen professionalism;
  - Risk profiling and dedicated taxpayer focus to allocate resources more efficiently;

<sup>55</sup> Keen (2012) *Taxation and Development – Again*, IMF Working Paper (WP/12/220)

<sup>56</sup> See for example: Jit. B. Gill, 2003, *The Nuts and Bolts of Revenue Administration Reform*

- IT systems and data management to facilitate monitoring and analysis of taxpayers;
- Specific governance-related synergies e.g. strengthening related institutions to support accountability and good financial governance.

### **Fragile States: Tax Administration Reform**

Tax administration and policy reform has had a positive effect on revenue in fragile states, with the average fragile state collecting 13% of its GDP from taxes in 2009, compared to 9% in 2000.<sup>57</sup> Effective post-conflict tax systems can strengthen governmental legitimacy, accountability and administrative capacity. However, large informal economies within fragile states threaten to undermine revenue reform efforts. Furthermore, one quarter of fragile states are mineral or fuel dependent, which can add further disincentives to collect tax revenues (discussed in section 3.4).

## **3.2 Informality and Taxing Small Enterprises**

### **Nature of 'Informality' versus Non-Compliance**

- 3.2.1. Low tax effort in developing countries is often attributed to a large informal sector, which is estimated to represent around 40% of GDP on average in low-income countries<sup>58</sup>.
- 3.2.2. Informality is often thought to refer to unregistered micro and small businesses whose profits are not taxed; individuals working for such enterprises are not taxed on their wages.<sup>59</sup> These enterprises may still be subject to some small taxes, such as public sector fees and licenses, or the indirect taxes they incur through their purchases. Indeed, most micro enterprises are likely to contribute little potential revenue and may be costly to tax and therefore remain below most tax thresholds, such as VAT and income tax. Similarly, very low wage earners are unlikely to be cost-effective to income tax revenues.
- 3.2.3. The extent to which it pays to bring small enterprises into the tax base is determined by the balance of net costs of bringing them into the tax system (compliance and administrative costs, net of any productive efficiency gain) against the revenue foregone by excluding them (Keen, 2012). While there may be wider benefits from bringing small, informal traders into the tax system (outlined in Section 2) through improved accountability, there are likely to be greater net benefits from focusing on the 'hard-to-tax' (non-compliant entities). According to the IMF (2011), many established professionals are evading taxes through informality. That is, rather than simply informality, the issue is one of *non-compliance*.

#### **Informality is described by Keen (2012) as the 'Hard-to-tax':**

- "Ghosts": liable for tax, but unregistered – require identification and registration; and
- "Icebergs": registered but under-paying – require audit and enforcement

- 3.2.4. Keen suggests that "Icebergs" are more prevalent than "Ghosts" in developing countries. The lack of information and technical administrative infrastructure enables them to get away with under-payment. For example, approximately 50% of firms in Uganda were failing to pay anything at all for at least one tax for which they had a liability (Gauthier and Reinnika, 2001). There are few estimates of non-compliance, but VAT 'gaps' (the difference between actual and estimated potential collections) have been estimated at 50–60% in Indonesia and Mozambique, compared to 13% in the United Kingdom (IMF, 2011).

<sup>57</sup> Refers to World Bank/IMF Indicators 'Tax as a percentage of GDP', calculated by author of OECD (2012) [Fragile States Report 2013: Resource flows and trends in a shifting world](#)

<sup>58</sup> Schneider, Buehn, and Montenegro (2010), [Shadow Economies all over the World: New Estimates for 162 Countries from 1999 to 2007](#).

<sup>59</sup> International Development Committee - Fourth Report: [Tax in Developing Countries: Increasing Resources for Development](#)

- 3.2.5. From the perspective of the small business, incentives to either comply with or evade taxes are affected by their assessment of the ‘gamble’ of getting caught against the tax and compliance cost avoided.
- 3.2.6. **Strategies for tackling informality** can therefore be based around adjusting these incentives to comply, for example, by reducing the cost of compliance, simplifying and/or reducing the tax rate, increasing penalties and strengthening enforcement (and therefore the probability of getting caught). Using revenues well (strong public financial management) can also incentivise payment of tax. The diagram above highlights some typical strategies.

*Example strategies for tackling informality*

<p><b>Reducing Compliance Cost:</b>                      Self assessment                      Simplified tax regime                      Taxpayer education                      Small Taxpayer Office</p>	<p><b>Incentives:</b>                      Tax amnesty                      Tax relief                      Access to credit/marketing etc.                      VAT refund/offset</p>
<p><b>Increasing Penalties:</b>                      Revise laws                      Strengthen prosecution                      Interest on unpaid tax                      ‘Name and shame’</p>	<p><b>Strengthening Enforcement:</b>                      Field audits                      Intelligence information                      Risk profiling of taxpayers                      Analysis of gaps/risks</p>

### 3.3 Central versus Local Taxation

- 3.3.1. Local taxation is a broadly under-developed aspect of revenue mobilisation in developing countries and receives less international support than national taxation. Some typical local taxes include local service tax, hotel tax, property and land tax, rent/rates and royalties (for example, on local industry such as mining, forestry or fishing) and other (relatively minor) specific levies, licensing or service fees and charges.
- 3.3.2. Experience suggests, however, that there are few taxes that are ideal candidates for local taxation. The importance of local taxation also depends on what services local authorities are supposed to provide. Many locally-charged service fees, licenses and specific taxes have limited revenue potential, low buoyancy, and a relatively high net collection cost which is not conducive to investment in enforcement. The economic structure of localities is also likely to vary widely, meaning that their tax bases and revenue generation potential are also subject to huge variation. For example, municipalities with a broad range of industry, services, leisure facilities, trading centres and tourist attractions will have a solid basis for a range of taxes, compared to a remote, rural district with few visitors and a significant population engaged in subsistence agriculture. For example, in Nigeria, Lagos has been by far the most successful state in generating internal revenues.

*Comparison of Central and Local Revenue Collection<sup>60</sup>*

Central Taxes	Local Taxes
<ul style="list-style-type: none"> <li>• Economies of scale/efficient collection</li> <li>• Effective monitoring and enforcement</li> <li>• Consolidation of taxpayer registers</li> <li>• Uniform treatment of taxpayers</li> <li>• Cross-border and inter-district coordination</li> </ul> <p><u>Administration:</u> Usually single authority responsible for assessment and collection,</p>	<ul style="list-style-type: none"> <li>• Strengthens local accountability</li> <li>• Knowledge of, and flexibility to adapt to local conditions</li> <li>• Provides revenue for local service delivery</li> <li>• Limited local tax base/economic activity</li> <li>• Weaker administration capacity</li> </ul> <p><u>Administration:</u> Varied e.g.                      ➤ National authority for central and local</p>

<sup>60</sup> For measurement of progress on fiscal decentralisation, see also OECD Fiscal Federalism Studies, [Measuring Fiscal Decentralisation: Concepts and Policies](#), (2013), co-publisher Korea Institute of Public Finance.

centrally determined policy/rates	<ul style="list-style-type: none"> <li>➤ National authority collects some local taxes, with varied local rates, set centrally</li> <li>➤ Central collection with local rate-setting</li> <li>➤ Local collection and rate-setting</li> </ul>
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**Property and Land Taxation**

- 3.3.3. Property and land taxes are considered to be relatively effective local taxes, but these tend to be underutilised in developing countries; property taxes represent around 6.7% of total revenues in OECD countries, compared to 2.4% in larger developing and transition countries.<sup>61</sup>
- 3.3.4. The advantages of property tax are that it is based on a clear, visible measure of wealth, and should be unavoidable. It also has low compliance cost for the taxpayer and is relatively simple to collect. It does, however, require some assessment of value and record of ownership, such as a land registry. Assessment of value may require estimation, due to the low frequency of transactions that reveal the market value.

**Incidence of Property Tax**

For owner-occupied residential, commercial and industrial properties, the usual shifting assumption is that the tax burden falls directly on capital owners. For rental properties some of the burden could be passed on to tenants. In general, property taxes on owner-occupied property are found to have a progressive incidence pattern, whereas the rented properties component of the tax is regressive (Shah and Whalley, 1990). All available studies ignore tax capitalisation effects, whereby the imposition of a property tax leads to a fall in the market value of the asset. With tax capitalisation effects included, a properly administered property tax is even more progressive than it appears under traditional assumptions.

**3.4 Taxation of Extractive Industries**

- 3.4.1. With 3.5 billion people living in countries with oil, gas and minerals,<sup>62</sup> the management of these resources and effective assessment, collection and management of revenues offers significant potential to contribute to development.

*Illustration of types of taxes and tax bases that can be applied to extractive industries*

Type of Tax	Tax Base	Issues
Bonuses	On start or completion	Maximum bonus would be the present value of economic rent (if it can be calculated)
(Surface) Rent	Acreage/Km <sup>2</sup>	Generates revenue from start of exploration
Royalty	Gross revenue (% of production unit value)	Can be highly distorting, but risk-free to government. Preferred if administration is weak
Income (profit) tax	Taxable income	More efficient and flexible
Special resource tax	Taxable income ('super profits' after cost recovery)	Typical of concessionary systems and/or Rate-of-Return trigger arrangements
Windfall tax	Excess profit	Captures economic rent from price spike
Withholding tax	Net income, e.g. dividends or supply contracts	Simple regime and administration. Can reduce evasion from flows overseas

Source: Based on Johnston, 1994<sup>63</sup>

<sup>61</sup> Bird, Richard (1999), [Rethinking Subnational Taxes: A New Look at Tax Assignment](#), IMF WP/99/165.

<sup>62</sup> EITI Factsheet, 2012.

**Considerations in the Design of Extractive Industries Fiscal Regimes**

- 3.4.2. The design of tax regimes for extractive industries is, in terms of economic principles, based on capturing an attractive share of the **economic rent** (or excess profit)<sup>64</sup>. That is, a share of the net of resource sales revenues minus costs (including exploration, development and production costs, operating costs and an appropriate allocation of the profit for that extractive industry).
- 3.4.3. The fiscal system has to take account of the risk involved in exploration, which may sometimes yield no commercially viable deposits. Exploration companies can spread their risk through diversification.. Companies and governments don't have full information on the resource endowment until after exploration. The system therefore has to consider the level of risk taken by the government and by the company.

*Objectives of an Extractive Industry Fiscal Regime*

Government Objectives	Contractor Objectives
<ul style="list-style-type: none"> <li>• To capture economic rent from state resource</li> <li>• Revenue collection (preferably immediate)</li> <li>• Stream of income over time (facilitate inter-temporal shift of benefit across generations)</li> <li>• Ease of administration</li> <li>• Value addition to local industry</li> <li>• To attract productive investment</li> </ul>	<ul style="list-style-type: none"> <li>• Cost recovery from initial investment in exploration and development</li> <li>• High rate of return</li> <li>• Low (but more importantly, predictable) tax rate</li> <li>• Tax payment preferably later/after cost recovery</li> <li>• High probability of success</li> </ul> <p>⇒ Expressed as <b>Expected Value<sup>65</sup> (EV)</b> of investment</p>

- 3.4.4. A balance needs to be struck between designing a fiscal system that captures the most rent for governments, and one that attracts the most productive investment, taking into account the risks and level of investment involved. There are also trade-offs around the timing of revenue and whether the tax system captures rents if prices rise. For example, royalty income can be collected before any profit is made, but royalties less likely to capture a share of price rise windfalls. The most common types of fiscal systems are outlined below:
  - **Concessionary Systems:** (e.g. Norway, UK) Resource is owned by private company and subject to tax and royalties;
  - **Production Sharing (Contractual) Systems:** (e.g. Indonesia) Resource is state-owned and the state licenses companies to undertake exploration/development and extraction. Companies bear all costs and government and companies agree on the share of production or product revenues each will receive in return for production;
  - **Service Contract Systems:** (e.g. Venezuela) Resource is state-owned and the state licenses companies to undertake exploration/development and extraction. Company bears the costs and is paid a fee for its undertakings – either based on its profits (risk-sharing) or on its activities (risk borne by the state);
  - **Joint Ventures:** Development and production costs are apportioned between both parties for a share in the return;
  - **Rate of Return (RoR):** (e.g. Papua New Guinea) Triggers an additional tax rate once an activity reaches a minimum rate of return. Government portion increases in line with the profitability of production and as the system becomes more progressive/flexible, which benefits both industry and Government.

<sup>63</sup> Johnston, Daniel (1994), *International Petroleum Fiscal Systems and Production Sharing Contracts*.

<sup>64</sup> See for example, IMF WP/01/139, *A Primer on Mineral Taxation*, Thomas Baunsgaard (2001)

<sup>65</sup> According to Johnston (1994),  $EV = (\text{Reward} \times \text{Success probability}) - [\text{Risk capital} \times (1 - \text{Success probability})]$ .

- 3.4.5. Contract arrangements can allow developing country governments to negotiate favourable terms that can facilitate development and value addition to the industry, such as technology transfer or local capacity building.<sup>66</sup> Contracts can also control the pace and nature of extraction.
- 3.4.6. However, contractual relationships can be subject to information asymmetry, where the contract is agreed between a highly specialised company and a government with limited expertise, which could cause the state to get a sub-optimal deal. In this case, transparency of contracts, work plans, costs and revenues can be beneficial for governments to learn from international best practice and negotiate better terms. Experience of OPEC renegotiations showed that sharing of experiences led to better outcomes for all parties (Likosky, 2009). Transparency initiatives, such as the **Extractive Industries Transparency Initiative (EITI)** and the **African Initiative on Mining, Environment and Society (AIMES)** aim to encourage information disclosure to address this market failure, and support community participation and effective industry oversight.

#### ***Strengthening Revenue Management and Institutions***

- 3.4.7. Taxing extractive industries can have wider implications for governance and economic performance, as a result of the management (or mismanagement) of revenues, often referred to as a 'resource curse'<sup>67</sup>. While the economic risks have been widely discussed in the literature relating to *Dutch Disease*<sup>68</sup>, the potentially more significant impacts are likely to be political. Issues that have led to mismanagement of resource revenues in developing countries include weak accountability and public financial management, which has opened opportunities for corruption and misuse of funds. Resources give governments a source of revenue that is not dependent on taxing its citizens – weakening the incentive to build and uphold a strong social contract<sup>69</sup>. Some examples of successful management of revenues have emerged through experience, such as the use of tight fiscal rules in Norway's oil sector and Botswana's diamond industry. Key aspects of good practice in revenue management include:<sup>70</sup>
- Transparency, accountability of assessment, collection and management (spending, saving etc) – importance of using existing credible institutions e.g. national budget, central bank;
  - Fiscal rules – spending *versus* saving and expenditure smoothing to manage price fluctuations through banking arrangements; and
  - Investment rules, e.g. selection of infrastructure projects and appraisal.

#### **Fragile States: Natural Resource Revenues**

Almost one-quarter of fragile states are dependent on revenues from minerals or fuel. These resource-rich countries are often able to generate significant revenues, but their tax effort is often relatively low, especially in oil-producing countries such as Nigeria and Sudan. Since 2008, the tax rate has increased fastest in low-income, resource poor and non-African fragile countries, while it has decreased in resource-rich fragile countries.<sup>66</sup>

Natural resources can also provide jobs and growth. In the Democratic Republic of Congo (DRC), 20 million livelihoods depend on the mining sector. However, an estimated 90% of gold is smuggled out of DRC, and little domestic revenues are derived from minerals<sup>66</sup>.

In Liberia, tax revenue was increased through focus on customs, then administrative reform and policy issues, including a fiscal framework for natural resources. Further reforms were then similar to other low-income countries, such as a common external tariff and the replacement of sales tax by VAT. Revenue from natural resources is threatened, however, by a number of special concessions in the mining sector, and by problems in enforcing land rental under forestry contracts<sup>66</sup>.

<sup>66</sup> Likosky, Michael (2009), *Contracting and regulatory issues in the oil and gas and metallic minerals industries*.

<sup>67</sup> Collier, Paul (2010), *The Political Economy of Natural Resources*, Social Research Vol.77: No.4, Winter 2010.

<sup>68</sup> That is, that as resource revenue enters the country, the real exchange rate appreciates and so the competitiveness of other export sectors declines

<sup>69</sup> OECD (2012) *Fragile States Report 2013: Resource flows and trends in a shifting world*

<sup>70</sup> See World Bank/IMF (2011) *Extractive Industries: Legal & Fiscal Regimes, Revenue, Management, & Good Governance*, for a review of experience and practical principles.

### 3.5 International Taxation

3.5.1. More than 60% of world trade now takes place within multinational corporations.<sup>71</sup> Combined with the high level of mobility of capital, and differential rates of corporation tax across countries there is scope for tax avoidance through tax planning by multinational corporations, and even (illegal) tax evasion. This poses an enormous challenge to developing countries in designing policy that recognises the sensitivity of cross-border business decisions and transactions, but protects their taxing rights.

#### ***Impact of Corporation Tax Changes in an International Context: 'Profit Shifting'***

3.5.2. For companies, tax policy influences:<sup>72</sup>

- **Real activity** (investment, location of physical presence, production and assets)
- **Allocation of income** (from goods and service delivery, from intangible assets, e.g. royalties, dividends)
- **Allocation of costs** (operational expenses, financing and debt allocation)

3.5.3. Tax changes, particularly taxes on corporate profits, can have a number of (distorting) incentive and disincentive effects on allocations of these income and cost flows, which is sometimes referred to as cross-border 'profit-shifting'. The impacts may be many, but can be crudely summarised as follows:

- **An increase in corporate tax** (a) encourages debt (through loan financing of assets) to be shifted inwards from overseas 'sister' or 'parent' companies (reducing tax liability), (b) reduces FDI, and (c) reduces the tax base by reducing flows of income inward and increasing costs outward;
- **A reduction in corporate tax** (as well as the opposite of above) encourages inward flow of intangible assets (e.g. patent ownership), which generates income streams, but inward investment flows could be speculative – more likely those that have low non-tax cost of shifting e.g. intangibles; and
- **An increase in tax on foreign income** may (at the margin) promote relocation of headquarters (and exemptions bring in headquarters), which receive dividends from profits overseas, and interest.

#### **Box 3.1: Transfer Pricing 'Abuse'**

Transfer pricing refers to "the price that is charged by one part of a group for products and services it provides to another part of the same group, in order to calculate each division's profit and loss separately."<sup>73</sup> This is normal business practice. However, because the pricing of asset transfers between entities can affect the taxable income of each entity, commercially unrealistic prices could be used to artificially reduce profit and therefore the tax bill (transfer 'mispricing').

In practice, determining what is a realistic price is not always easy. Tax authorities can assess the transfer pricing of intra-group transactions and, if they can demonstrate convincingly that they are unrealistic, they can make adjustments to reflect a more realistic price, when the **economic substance differs from the form** or where the transaction was not deemed to be at **arm's length**,<sup>74</sup> e.g. a subsidiary producer sells products at an artificially low price to a holding company in a low tax jurisdiction, which sells on at an artificially high price to the parent company located in the retail market where the final goods are sold. This has the effect of reducing the taxable income in the producing state and the final goods market state, and maximising the profit in the low-tax state.

<sup>71</sup> Deloitte (2009), [Transfer Pricing: Unravelling the Opportunities and Risks](#)

<sup>72</sup> Based on Harry Huizinga, [Profit Shifting Activities in Europe](#), Brussels Tax Forum (2009).

<sup>73</sup> [Investorwords.com](#)

<sup>74</sup> According to [OECD \(2007\)](#) this valuation principle is commonly applied to commercial and financial transactions between related companies. It says that transactions should be valued as if they had been carried out between unrelated parties, each acting in his own best interest.

3.5.4. The effects described above could put pressure on countries to lower tax rates in order to lure and boost investment (this has been referred to by the IMF and others as a race to the bottom). There hasn't been evidence of this in standard tax systems but there has been in special regimes and holidays.

3.5.5. **Some considerations in international tax are:**

- **Avoidance of double tax** (on corporations' cross-border activity);
- **Attracting investment for growth**
- **Protection of rights to tax profits** from income and expenses derived in that country.

***Double Taxation and Role of Tax Treaties***

3.5.6. **Double Taxation** occurs when an economic activity is taxed in two countries on the same income (Juridical Double Taxation), or more than one taxpayer (e.g. a subsidiary and parent company) is taxed on the same income (Economic Double Taxation).

3.5.7. A **Tax Treaty**<sup>75</sup> may be negotiated and ratified by two or more states to prevent double taxation (and risk of tax evasion) by agreeing procedures and criteria allocating taxing rights, e.g. to the state in which income was derived or at headquarter level.<sup>76</sup> **Treaty Shopping** involves the improper use of a DTA, "where a person who is not entitled to the benefits of a tax treaty makes use of an individual or of a legal person in order to obtain those treaty benefits that are not available directly".<sup>77</sup> For example, a holding company in a low-tax country with a good network of treaties is established specifically to receive income that is accessed from another country (with a connecting treaty).

***Protecting Revenues and Taxing Rights***

3.5.8. Anti-avoidance Rules and Information Exchange can be an effective tool for protection of revenues to combat cross-border tax evasion and avoidance. Many countries have adopted the arms-length principle in their tax laws and some have separate transfer pricing regulations. Other strategies can include requiring resident subsidiaries to remit withholding tax on income paid to foreign companies, e.g. dividends, or imposing debt-equity financing limits to prevent excessive debt-shifting. Many developing countries have only made limited use of information exchange agreements, perhaps because of lack of awareness or because they can be burdensome to apply in order to access relevant information. Transparency could also be encouraged in future through regulations requiring the publication of annual audited accounts of main corporations.<sup>78</sup>

***Investment Incentives and Tax Competition***

3.5.9. A range of tax incentives (tax holidays, reduced rates, credits or allowances, accelerated depreciation, special low-tax zones or total exemptions against certain taxes) have been applied throughout the developing world to encourage new investment in an area or sector by reducing the cost. The intention may be to increase investment and economic activity or it could be politically driven. The number of low-income countries offering tax holidays has doubled since the 1980s (Keen and Mansour, 2010).

3.5.10. Literature suggests that tax incentives are less important in attracting foreign direct investment (FDI) than economic fundamentals such as good education and infrastructure and other factors

<sup>75</sup> The [OECD model convention](#) (and accompanying commentary) provides a typical treaty structure that has been broadly adopted by OECD countries. The UN Model Convention (1980 and 2001) has been adopted in some cases by developing countries, as it provides some alternative clauses to the OECD model that aim to strengthen the taxation rights of developing country authorities.

<sup>76</sup> The benefits of a treaty can only be applied to an individual case if that activity would normally be liable to tax under domestic law. If so, then the treaty helps determine which jurisdiction has the right to tax, based on the tax rates under domestic law, and if any sharing of taxing rights should be applied.

<sup>77</sup> IBFD International Tax Glossary 5<sup>th</sup> edition.

<sup>78</sup> See *Practical Guide on Exchange of Information for Developing Countries* (2012), OECD & ATAF.

that affect investment climate.<sup>79</sup> Incentives may have an effect on location choice on the margin. Hines (1996)<sup>80</sup> reviews a number of studies and finds that taxation arrangements (including fiscal incentives) do influence FDI, R&D activity, exports and location choices. These incentives tend to be most important for ‘foot-loose’, export-oriented investment, deciding where to locate among countries where other aspects of the business climate are similar and favourable.<sup>81</sup> A number of pros and cons on incentives are summarised in Table 3.1.

Table 3.1: Pros and Cons of Investment Incentives

Type of tax incentives	Pros	Cons
Tax holidays	Benefits begin when company starts, while low corporate taxes take time	Offer short-term benefits Tends to attract foot-loose investors Favour new over expansion of existing investment (although distinction often difficult), and over investors with long-lived depreciable capital
Write-offs of investment expenditure	Promote new investment	Limitations for projects with long gestation periods Require well-developed accounting systems and implementing agencies
Low effective corporate tax	Signaling effect of low corporate taxes used by small countries such as Hong Kong, Lebanon, Mauritius	Reduces tax revenue in short run
Eliminate all investment taxes	Tax havens have attracted significant levels of investment	Attracts unsustainable investors, with few economic benefits Needs to rely on consumption and employment taxes

Source: Morisset (2003); Morisset and Pirnia (2003)<sup>82</sup>

- 3.5.11. In some cases, fiscal regimes have successfully attracted multinationals when set in an overall development strategy. For instance, Singapore’s Pioneer Industries Ordinance of 1959 helped develop ‘new’ products, which focused on attracting employment-generating multinationals. Singapore was flexible enough to shift the focus after wages rose and labour was upgraded, towards targeting capital intensive projects in the 1980s and knowledge intensive sectors in the 1990s.
- 3.5.12. The African Tax Administration Forum (ATAF) encourages greater cooperation and regional groupings to rationalise investment incentives, and recommends policy makers design incentives that are well targeted and meet a minimum rate, to avoid harmful tax competition.<sup>83</sup> Tax expenditure budgeting is also encouraged to improve policy makers’ understanding of the net impacts of incentives<sup>84</sup> and to increase transparency and accountability, to ensure that policies achieve value for money (Tax Justice Network, 2012).

<sup>79</sup> See for example, IFC Investor Motivations Surveys, Tax Justice Network, 2012 and James, S. (2009) [Tax and Non-Tax Incentives and Investments: Evidence and Policy Implications](#), FIAS, The World Bank Group.

<sup>80</sup> Hines, J.R. (1996), [Tax Policy and the activities of Multinational Corporations](#), NBER working paper 5589.

<sup>81</sup> Bergsman, J. (1999), [Advice on taxation and tax incentives for Foreign Direct Investment](#), mimeo FIAS; UNCTAD (1996), [World Investment Report 1996](#), UNCTAD, Geneva; and Oman, C. (2000), [Policy Competition for Foreign Direct Investment: A Study of Competition among Governments to Attract FDI](#), OECD Development Centre, Paris.

<sup>82</sup> Morisset, J. (2003), [Tax incentives](#), *Briefing Note in the series on Public Policy for the private sector*, February 2003, 253; and Morisset, J. and N. Pirnia (2003), [How Tax policy and Incentives Affect Foreign Direct Investment](#), World Bank Discussion Paper, World Bank.

<sup>83</sup> ATAF (2012), [Presentation to ICTD Meeting](#)

<sup>84</sup> Estimates of revenue loss from tax exemptions vary. For example, the budgetary cost of preferential treatments is estimated to range between 0.5 and 6% of GDP in Latin America (For a summary of evidence, see IMF Working Paper WP12/186 (2012) [Foreign Aid and Revenue: Still a Crowding Out Effect?](#))

- 3.5.13. Developing countries face a significant administrative challenge in building the capacity required to review their tax systems, laws and procedures to ensure that the risks of leakage are minimised. For example, determining realistic market pricing requires good public market information, capacity in analysing markets and business functions, financial accounts and understanding of international practice.

## 4 SUPPORTING TAX REFORM

- Lessons from country programmes and donor interventions in the area of tax
- To help you develop: policy or programs and related performance frameworks in the area of tax

### Key points

- ✓ Aid interventions in revenue can support revenue mobilisation for growth, improve tax system design and administrative effectiveness, and strengthen governance and compliance
- ✓ The best aid modalities for revenue depend on country circumstances, but should aim to align with government interests and facilitate effective planning and implementation of activities under an evidence-based tax reform strategy
- ✓ Identifying areas for further reform requires country-specific diagnostic assessment: broad areas for developing countries identified internationally (e.g. IMF) include, for example property taxation for local revenues, strengthening expenditure management, and effective taxation of extractive industries and multinationals

### Section Overview

*This section summarises the typical reforms that have taken place across developing countries, and draws out lessons from development partner practice on which reforms have been successful, or not, and the pros and cons of different aid modalities. A summary of the key areas of tax policy and administration that have potential to yield further improvements in developing country revenue performance are drawn out, and suggested diagnostic and analytical tools are provided for taking forward intervention programs and projects.*

### 4.1 Typical Reforms and Development Assistance: Lessons and Challenges

- 4.1.1 The need for development partner resources in support of the revenue function is recognised on the basis that existing taxation systems in many developing countries do not generate sufficient revenue, can stifle growth and investment, and suffer weak administration and governance. Interventions in revenue can therefore be justified on the basis of several specific lines of argument, such as:
- **Sub-optimality of revenue for growth and recovery:** countries with unsustainable budget deficits (which could be the result of conflict, economic mismanagement, or simply huge development spending needs) have a need to correct fiscal imbalances if economic growth is to be sustained. Domestic revenue mobilisation is the only sustainable alternative to aid.
  - **Optimisation of Tax Policies:** Poor understanding of tax policy issues can lead to a mismatch between the objectives (e.g. efficiency, behavioural changes) and instruments of taxation. Given the complexities of the analysis required in areas such as tax incidence and the effects of taxation on investment incentives, such mismatches can easily arise. Aid intervention can support improved tax policy capacity and assist in the identification and elimination of specific inappropriate or counter-productive tax instruments; and
  - **Governance and compliance:** Many developing countries have a gap between legal taxation liabilities and actual collections, partly due to widespread tax evasion. Evasion and non-compliance undermine the theoretical basis for the choice and design of tax instruments and sometimes reflect an underlying weakness in institutions and governance (e.g. in the area of expenditure management and service delivery). Intervention can be justified in support of

increased transparency, accountability and strengthening governance synergies, leading to improved compliance.

4.1.2 The IMF has extensive experience in offering technical assistance in revenue and tax reforms through its widespread engagement in **financial programming**,<sup>85</sup> of which tax revenue forms a key part in low-income countries. As part of its lending facilities and, more recently, the IMF Policy Support Instrument,<sup>86</sup> typical IMF interventions have supported revenue administration reform; separate focus on large taxpayers; risk assessment focus; limiting rent seeking opportunities; simplification and coherence of tax laws; low and broad-based VAT and income taxes; avoiding unnecessary exemptions; strengthening regional cooperation in managing business and excise taxes; and promoting use of natural resource taxes and fees for productive investment.

**Aid Modalities for Taxation: Experience and Effectiveness**

4.1.3 In addition to IMF modalities (typically short-term and long-term Technical Assistance), more development partners are offering support to improve tax and revenue. Experience among donors has yielded several common themes for good design of revenue support.<sup>87</sup> In particular, the importance of **country ownership, leadership and customisation** of reform to suit specific country contexts. Political will is crucial for a tax reform programme to succeed. Supporting governance synergies are also beneficial to improving overall citizen attitudes on governance and promoting good financial management and accountability. A summary of the pros and cons of different aid modalities is provided in Table 4.1.

Table 4.1: Pros and Cons of Aid Modalities for Tax and Revenue

Aid Modality	'Fit' with Aid Effectiveness* principles	Pros	Cons	Design recommendations
<b>General Budget Support</b>	Unified framework aligned with country priorities; joint accountability	Good fit with aid effectiveness	to	Prioritise revenue in Dialogue and PAF; use variable tranches linked to revenue; provide accompanying revenue support
<b>Sector Budget Support</b>	As with GBS, with central government prioritised	Coordination, if linked to revenue/PFM		Use variable tranches or 'cash-on-delivery'
<b>Basket (Pooled, designated funds)</b>	Harmonised planning monitoring	Aligned to tax reform	Less aligned to government systems	Include governance elements e.g. taxpayer information
<b>Other multi-donor e.g. Trust Funds</b>	Donor Coordination	Useful if no budget support	Less effective management/planning	Use of multiple project activities; Joint projects with Parliament or CSOs
<b>Bilateral Programmes/ Projects</b>	Demand-driven to align with country priorities	Simplified negotiations, reduced fiduciary risk	Transactions costs, coordination problems	Include non-tax governance agencies; include tax objectives in other projects
<b>South-South support</b>	Support peer networking of officials	Low-cost, high-value	Limited absorptive capacity	Maximise harmonisation, minimise transaction costs, timely disbursement
<b>In-kind support (TA)</b>	Demand-driven, supports peer learning + expert mentoring	Flexible implementation	Less aligned to government systems	Long-term resident advisors; training programmes

Source: Based on OECD DAC, 2012, *Aid Modalities for Strengthening Tax Systems*

<sup>85</sup> IMF (2008) *Financial Programming and Policies*

<sup>86</sup> Factsheet, *The Policy Support Instrument*, September 30, 2012.

<sup>87</sup> OECD DAC (2012), *Tax and Development - Aid Modalities for Strengthening Tax Systems*

- 4.1.4 In order to mitigate the potential disincentive effect of aid on domestic revenues, revenue impacts should be considered in broader aid programs and conditionalities, such as budget support frameworks and other significant grant-funded programs. The use of structural benchmarks, variable performance tranches or cash-on-demand incentives linked to revenue performance, as well as a strong prioritisation of revenue issues through high-level dialogue has been shown to reduce negative impacts and even yield positive benefits to revenue mobilisation efforts.<sup>88</sup>
- 4.1.5 It is important that development partners' support is coordinated and a number of coordinating committees, organisations and forums have emerged for discussing revenue strategies at the international level, such as the **OECD Task Force on Tax and Development**, the **International Centre for Tax and Development**, the **International Tax Compact** and the **UN Committee of Experts on International Cooperation in Tax Matters**.

## 4.2 Focus for Future Interventions

- 4.2.1 The literature reviewing experience of tax and revenue reforms in low-income countries highlights a number of aspects that remain weak and could benefit from support, for example:<sup>89</sup>
- Development of local revenue systems, e.g. property tax;
  - Strengthening good governance as a prerequisite for successful revenue institutions;
  - Strengthening audit capacity, particularly in natural resources and international taxation;
  - Adoption of international tax standards and modernisation of tax administrations;
  - Technical assistance and incentives for tax collectors;
  - Eliminating ineffective exemptions and replacing lost revenues from trade liberalisation;
  - Strengthening optimal (broad-based, simplified) income and profit tax design;
  - Strengthening capacity for taxation of cross-border activities and extractive industries;
  - Strengthening the global regulatory environment, e.g. information exchange agreements; and
  - Research on the links between tax and governance and effectiveness of aid modalities.

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<sup>88</sup> IMF Working Paper WP12/186 (2012) [Foreign Aid and Revenue: Still a Crowding Out Effect?](#)

<sup>89</sup> See IMF (2011), Keen (2012), [Taxation and Development – Again](#), IMF Working Paper (WP/12/220) and International Development Committee - Fourth Report: [Tax in Developing Countries: Increasing Resources for Development](#)

## Annex I: Tax and Revenue - International Institutions and Networks

Institution	Role in Tax & Revenue	Data and Studies
<a href="#">African Tax Administration Forum</a>	A platform to promote and facilitate mutual co-operation among African Tax Administrations (and other relevant and interested stakeholders) with the aim of improving the efficacy of their tax legislation and administrations.	<a href="#">Publications</a>
<a href="#">African Tax Institute</a>	Provides training, research, and technical assistance in the areas of tax policy and tax administration on the African continent.	<a href="#">Publications</a>
<a href="#">ESRC/HMRC/HMT Tax Administration Research Centre</a>	The Centre has received substantial funding from the ESRC, HMRC, and HMT to undertake research on tax administration to strengthen the theoretical and empirical understanding of tax operations and policies. The Centre undertakes a range of activities including the organisation of workshops, conferences, and training programmes. An important role of the Centre is to build capacity for future tax research so it provides scholarships for PhD students and hosts a large number of affiliated students.	<a href="#">Research</a>
<a href="#">European Commission</a>	Aims to manage, defend and develop the customs union, tackle tax obstacles that currently prevent individuals and companies from operating freely across borders, respond effectively to the international challenges associated with customs and tax policies, facilitate better co-operation between Member States to combat tax and customs fraud and open dialogue with stakeholders.	<a href="#">Online databases</a>
<a href="#">Extractive Industries Transparency Initiative (EITI)</a>	Global forum and standard on transparency in extractive industries	<a href="#">Publications</a>
<a href="#">IBFD</a>	Centre of expertise on tax, specialising in cross-border taxation. Tax 'portal' provides a hub for tax research, cross-border tax news, events, training and tax-related products and services.	<a href="#">Tax Portal</a>
<a href="#">International Centre for Tax and Development</a>	Exploring the links between taxation and good governance in developing countries with a regional focus on Anglophone and Francophone Africa to contribute to debate about taxation and enable tax policy to be shaped with reference to evidence based research within developing countries and internationally; promoting accountable and responsive government, building state capacity and the state-citizen social contract and to encourage pro-poor equitable development.	<a href="#">Publications</a>
<a href="#">International Monetary Fund (IMF)</a>	Through its Fiscal Affairs Department and Regional Technical Assistance Centres, IMF provides TA and training to member countries in a wide range of areas, including tax policy and administration to help improve the design and implementation of members' economic policies. The IMF has also given advice to countries that have had to reestablish government institutions following severe civil unrest or war.	<a href="#">Data and Statistics</a>
<a href="#">International Tax and Investment Center</a>	ITIC is an independent nonprofit research and education foundation, acting as a clearinghouse for information on best practices in taxation and investment policy, and training center to improve the investment climates of transition and developing countries. Serves as a neutral forum for discussion and resolution of problems in tax and investment policy - through forums, "hands-on" working sessions, and special relationships with tax officials, lawmakers, academic experts, industry experts and professionals.	<a href="#">Publications</a>
<a href="#">International Tax Compact</a>	Strengthening international cooperation with developing and transition countries with the objective of enhancing domestic resource mobilisation. The ITC aims to promote effective, fair and efficient tax systems and combat tax evasion and inappropriate tax practices on a global scale.	<a href="#">Studies</a>

## Economics Topic Guide: Taxation and Revenue (Annex)

Institution	Role in Tax & Revenue	Data and Studies
<a href="#">International Tax Dialogue</a>	Collaborative arrangement involving the EC, IDB, IMF, OECD, World Bank Group and CIAT to encourage and facilitate discussion of tax matters among national tax officials, international organisations, and a range of other key stakeholders. The ITD Secretariat is currently hosted by the OECD.	
<a href="#">OECD Committee on Development Assistance (OECD DAC)</a>	Defines and monitors global standards in key areas of development	<a href="#">OECD Aid Statistics</a>
<a href="#">OECD Committee on Fiscal Affairs (OECD CFA)/Centre for tax policy and administration</a>	<p>Promoting dialogue between tax administrations and identifying good tax administration practices through Forum on Tax Administration and implements OECD's tax policy agenda. Key areas of interest include:</p> <ul style="list-style-type: none"> <li>▪ Aggressive tax planning</li> <li>▪ Consumption Tax</li> <li>▪ Dispute resolution</li> <li>▪ Exchange of information</li> <li>▪ Global relations in taxation</li> <li>▪ Tax administration</li> <li>▪ Tax policy analysis</li> <li>▪ Tax treaties</li> <li>▪ Tax and crime</li> <li>▪ Transfer Pricing</li> </ul>	<a href="#">OECD Tax Database</a>
<a href="#">OECD Task Force on Tax and Development</a>	OECD and developing countries, international and regional organisations, civil society and business, it aims to advise the OECD Committees in delivering a Tax and Development Programme to improve the enabling environment for developing countries to collect taxes fairly and effectively	<a href="#">OECD Statistics</a>
<a href="#">Tax Justice Network</a>	Promotes transparency, tax compliance and level playing field in international finance and opposes secrecy, tax evasion, tax avoidance, loopholes and distortions in tax and regulation, and the abuses that flow from them. Concerned with tax havens (or 'secrecy jurisdictions').	<a href="#">Resources</a>
<a href="#">The World Bank: Tax Policy and Administration</a>	Provides TA, guidance, tools, research and data on topics including: The Institutional Framework of Tax Policy; Designing Tax Structures; The Institutional Framework of Tax Administration; Evaluating Tax Policy and Administration; and Customs Policy Administration	<a href="#">Data and Research</a>
<a href="#">UN Committee of Experts on International Cooperation in Tax Matters</a>	<p><u>Responsibilities:</u></p> <p>(i) Keeping under review and updating <i>UN Model Double Taxation Convention between Developed and Developing Countries</i> and the <i>Manual for the Negotiation of Bilateral Tax Treaties between Developed and Developing Countries</i>.</p> <p>(ii) Enhancing and promoting international tax cooperation among national tax authorities</p> <p>(ii) Making recommendations on capacity-building and the provision of technical assistance to developing countries and transition economies</p>	

## Annex II: Tax System Diagnostic Tools

### **PEFA**

The Public Expenditure and Financial Accountability (PEFA) Framework is an assessment of a country's PFM systems performance against established international standards and best practice. The assessments are undertaken by independent assessors and then the results are moderated and verified by the PEFA Secretariat. Assessments can be used to plan reforms and monitor performance over time. The 31 indicators include specific indicators relating to tax systems and practices:

- PI-3 Aggregate revenue outturn compared to original approved budget;
- PI-13 Transparency of taxpayer obligations and liabilities;
- PI-14 Effectiveness of measures for taxpayer registration and tax assessment; and
- PI-15 Effectiveness of collection of tax payments.

Each indicator is given a score of A to D, based on a set of measurement criteria and conditions that represent a scale of performance achievement.

### **Tax Administration Diagnostic Tool**

A tax version of PEFA is under development by the IMF and several other donors with an interest in tax. The anticipated release date is Spring 2014. The IMF has undertaken complementary work in data gathering and tax gap analysis (RA-FIT and RA-GAP).

### **EU Fiscal Blueprints**

EU Fiscal Blueprints<sup>90</sup> are a self-assessment tool for revenue administrations to compare operational capacity against EU best practice. These frameworks help to establish consistent data across countries for comparison and learning, but are also useful country-specific tools for identifying individual needs for targeting investments and interventions to achieve measurable improvements.

### **Example Performance Indicators for Revenue Administration**

Measure of Administration	Purpose & Issues
Revenue / GDP	Indicator of overall performance, but also influenced by policy regime, economic performance etc
Actual revenue / Forecast revenue	Indicator of ability to met targets, but also influenced by forecasting accuracy, political pressure etc
Revenue Gap	Indicator of non-compliance - measures collections against <i>potential</i> (if this can be estimated)
Tax paid voluntarily / Total collected	Indicator of effectiveness of enforcement and taxpaying culture (could also include number of filers / total taxpayers)
Additional collection / Audits	Indicator of effectiveness of tax audit in yielding new revenue
Arrears recovered / Stock of arrears	Indicator of effectiveness of arrears management, recovery
Recurrent admin budget / Total Revenue collections	Indicator of cost of compliance
Taxpayer Perceptions	Indicator of integrity, fairness, customer service etc

Based on [Jit B. S. Gill \(2003\)](#)

<sup>90</sup> EC (2007), [Fiscal Blueprints: A path to a robust, modern and efficient tax administration](#)

### **Measuring Revenue Progress in Fragile States**

The New Deal for Fragile States<sup>91</sup> is an international initiative, which includes participation from countries such as Afghanistan, Democratic Republic of Congo, Sierra Leone and Timor Leste. It has a peace and state building goal called “Revenues and Services” (No. 5). On dimension 5.1 “Revenues”, the following possible indicators were put forward to gauge progress :

- State control/monopoly over tax, customs and fee collection
- Tax revenue as share of total revenues
- Tax effort
- Perception of tax collection and fairness
- Capacity of tax administration

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<sup>91</sup> For more information see [International Dialogue on Peacebuilding and Statebuilding Working Group on Indicators, Progress Report on Fragility Assessments and Indicators](#), 4 December 2012, pages 16-17.

## Annex III: Tools for Tax and Revenue Support Project Appraisal (incl. Revenue Forecasting & Modelling Techniques)<sup>92</sup>

### Estimating the Impact of a Tax Change

Key considerations in estimating the impact of a tax change include:

- Estimating the elasticities and likely impact on behaviour from a tax change e.g. “*shifts in the timing of transactions and income recognition, shifts between business sectors and entity form, shifts in portfolio holdings, shifts in consumption, and tax planning and avoidance strategies*”<sup>93</sup>;
- Estimating the (re)distributive effect i.e. the tax incidence;
- Estimating impact on administration and compliance costs;
- Likely impacts on growth due to influence investment, labour supply and consumption; and
- Wider benefits to society, such as health impacts of tax on cigarettes.

Estimating the tax incidence may vary widely between taxes as there are several features that can affect the direct impact on tax payers, such as (for income taxes) the personal allowances, rate structure and progressivity, and types of permissible expenditure off-set. In general, DFID economists will not have the time or resources to undertake detailed studies of tax incidence, but the key factors determining the likely direction of tax burden has a bearing on the desirability of alternative tax instruments. Taxes induce changes in relative prices; elasticities of supply and demand determine who bears the tax. **If supply is completely inelastic or demand completely elastic, the tax is borne by producers; if supply is completely elastic or demand completely inelastic, the tax is borne by consumers.**

Differences in economic structure of national economies are reflected in wide variation in the relative importance of different types of tax instrument and hence in the appropriate focus for incidence analysis<sup>94</sup>. In addition, many developing countries include specific features which differentiate them from developed countries and have a substantial effect on the measurement of the incidence of major tax instruments. For example, where countries have quotas on trade, pervasive informal markets, widespread tax evasion, corruption in the revenue collection process, rural-urban migration and credit-rationing, the results of incidence analysis based simply on assumption regarding market supply and demand elasticities may not be accurate. One study has shown that incorporating these features can sometimes reverse the incidence pattern of taxes<sup>96</sup>.

### Cost-Benefit Analysis of a Tax and Revenue Support Project

In designing the programme or project, the intervention logic should form a clear link between inputs, activities, outputs, outcomes and impacts and the overarching goals of the programme. Typical indicators for assessing the performance of administration are included in Annex II and an example logic framework (logframe) is attached for reference (Annex V). In the case of tax projects, example indicators can be selected from the various assessment tools outlined above to represent the specific expected impact from the proposed activities.

As part of the appraisal, assessment of the expected costs and benefits can be undertaken, based on the logframe outputs and indicators<sup>95</sup>. **There are three common types of benefits** that can be accrued from revenue support projects:

- **Increased revenue collections:** Additional tax collection is a transfer from the private to public sector, rather than a net benefit to society, unless there is greater benefit associated with public spending (for example, Little and Mirrlees suggest a 20-40% premium for public over private income). Increased revenue mobilisation lowers the cost of public debt financing. Additional revenue

<sup>92</sup> Information on an evaluation of DFID’s Revenue Projects (2001) can be found here:

[www.dfid.gov.uk/aboutdfid/performance/files/ev636.pdf](http://www.dfid.gov.uk/aboutdfid/performance/files/ev636.pdf)

<sup>93</sup> [Joint Committee Revenue Estimation Process](#)

<sup>94</sup> Shah and Whalley (1990), [An alternative view of tax incidence analysis for developing countries](#)

<sup>95</sup> Guidance on cost benefit analysis can be found in the [Treasury Green Book](#) and DFID’s [How To Note on Economic Appraisal](#).

could be raised from projects that improves compliance, bring new taxpayers into the 'net', reduce under-payment, improve debt or arrears management or introduces new tax measures.

- **Administration cost saving:** As measured, for example, by operational cost of the revenue authority compared to total revenue collections. Savings could be made by introducing streamlined processes, improving skills/productivity of staff or reducing the requirements for documentation and filing. Improved intelligence capability through data management or analytical capability can reduce costs of audit and investigation;
- **Compliance cost saving:** Usually measured in terms of time (of paying taxes) and/or money. Savings could be made by speeding up processes or reducing the frequency of transactions required. Reducing the complexity of the regime or documentation required can save costs in training or hiring accountants/consultants. Reduced fees or reduced likelihood of paying a bribe can also reduce compliance costs

Revenue reform can also produce wider benefits, for example, competitiveness in trade facilitation from improved customs clearance times, strengthened governance and accountability, formalization of business accounting practice or an IT system that facilitates opportunities to interface with other systems.

**Estimated costs** include the cost of financing the project itself, and additional compliance or administration costs incurred either by the revenue authority or taxpayers, for example, when introducing new taxpayers to system, or time required to read new guidelines/laws and/or attend training in how to comply with a change in the system. An additional cost may be incurred initially, but it may lead to savings in future if the new process is more efficient in the long-run. A 'bottom up' approach could be used, based on estimation of the number of taxpayers likely to be affected and their characteristics, to derive individual or average unit impact aggregated over the expected population.

A '**Counterfactual**' can be estimated using baseline measures, historic trends, and forecasts

Comparative benchmarks could come from international reviews, comparator country studies or in-country examples of experience from similar reforms or interventions. **The cost-benefit stream over time** requires consideration of, for example, whether there are one-off benefits achieved within the first year or whether the full benefits are achieved after a system reaches capacity. Alternatively, there could be a tail-off after a number of years due to diminishing marginal benefits, as the 'quick wins' are used up.

### **Revenue Forecasting and Modelling Techniques**<sup>96</sup>

Many low-income countries do not have sufficient capacity to undertake detailed micro-simulation and dynamic modelling of tax policy proposals and revenue forecasting. Typical techniques (used in about 85% of low income countries) include subjective assessments and simple extrapolation techniques, with only a few countries (about 13%) using econometric techniques, which require a wealth of reliable and relatively detailed data<sup>97</sup>. Effective revenue policy making requires capability in forecasting and modelling, for activities such as <sup>98</sup>:

- Assessing the revenue impact of policy changes and tax expenditures;
- Appraisal of revenue impact of economic shocks;
- Measurement of tax capacity and tax effort;
- Performance measurement of the revenue administration agency;
- Periodical monitoring of revenue collection e.g. quarterly, monthly or daily.

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<sup>96</sup> The UK's Office for Budget Responsibility has provided explanations as to how it approaches the issue of forecasting the UK's tax receipts. See Chapter 2 ("Forecasting Receipts") of the publication: [Briefing Paper 1, Forecasting the Public Finances](#), January 2011

<sup>97</sup> IMF (2005) [Revenue Forecasting—How is it done? Results from a Survey of Low-Income Countries](#), IMF Working Paper (WP/05/24)

<sup>98</sup> World Bank, 2007

Revenue forecasting and modelling techniques can be done at the macro or micro level<sup>99</sup>. Macro level forecasting is based on national accounts data, revenue time series and other macro-level determinants. Micro-level forecasting is based on actual (usually sample) detailed taxpayer data and/or surveys at household or business level and allows analysis of the distributional and behavioural impacts. Typical techniques include:

- **Time series models:** simple trend analysis (tax revenue is a function of previous years' revenue) or autoregressive models (corrects for auto or serial correlation). These techniques are useful for forecasting fees, levies or other 'non-economic' charges or for 'in-year' projections (which can be seasonally adjusted);
- **Effective tax rates:** Constant ETR is actual revenue divided by the tax base. Forecast revenue is derived from forecast tax base in any year. This method is simple and fast, but constant ETR does not allow for any behaviour or compliance change;
- **Elasticity of a tax:** *Percentage change in revenue collected for a given percentage change in the base* (such as GDP) can be estimated from revenue series, adjusted for tax policy changes. Forecast tax bases generate forecast revenue;
- **Econometric modelling:** Estimation of mathematical relationships between the tax variable to be forecast and its determinants is used to derive coefficients that can be used for forecasting. A common (and surprisingly accurate) method for generating high level revenue forecasts using GDP;
- **Micro-simulation:** sample data is run through a computer model of a tax and uses adjustment parameters (tax rates, thresholds) and key relationships. This is useful for forecasting individual taxes, distributional effects and taxes that have more complex structures e.g. progressive income taxes; and
- **Qualitative methods:** expert judgements and experience, as well as consensus forecasting can also be valuable approaches, at least for 'sense-checking' mathematical methods.

Effects of behaviour change can be included if estimates of the price and income elasticities of demand and supply can be made. For taxes on goods, for example, the price elasticity of demand determines the impact of the tax on demand for that good, and the substitution effect has an impact on spending on other goods. 'Second round' effects arising from changes in taxable income induced by the behavioural response, may also have an impact on many other goods.

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<sup>99</sup> Guides to various popular techniques for forecasting can be found in, for example, Jenkins, Kuo and Shukla (2000), [Tax Analysis and Revenue Forecasting](#)

## Annex IV: DFID Priority Countries' Revenue Performance

Country	Tax Revenue (as a % of GDP)	GDP (£, billion)	Impact of Increasing Tax Take by 1% of GDP (£, million)	DFID Budget Support FY2011/12 (£, million)	ODA (as a % of GNI)	Country Classificatio n	Fragil e State	Extractiv e Industry
Afghanistan	9.1	11.4	114.2	-	45.8	LIC	Yes	Yes
Bangladesh	8.6 <sup>a</sup>	71.0	710.0	-	1.3	LIC	Yes	No
Burma	3 <sup>b</sup>	28.3	283.1	-	-	LIC	Yes	No
Democratic Republic of Congo	13.7	11.0	110.4	-	27.8	LIC	Yes	Yes
Ethiopia	9.8	19.8	197.8	132.8	11.9	LIC	Yes	No
Ghana	13.4	20.1	200.7	48.0	5.5	MIC	No	Yes
India	9.7	1,139.2	11,391.6	49.0	0.2	MIC	No	No
Kenya	19.5	21.2	212.4	-	5.2	LIC	Yes	No
Kyrgyzstan	15.0	3.7	36.9	-	8.3	LIC	No	Yes
Liberia	17 <sup>b</sup>	1.0	9.6	-	176.8	LIC	Yes	Yes
Malawi	20.8 <sup>b</sup>	3.5	35.0	41.0	20.6	LIC	Yes	No
Mozambique	17.5 <sup>b</sup>	7.8	78.4	69.4	20.8	LIC	No	Yes
Nepal	13.4	11.8	118.3	-	5.2	LIC	Yes	No
Nigeria	7 <sup>c</sup>	152.2	1,521.9	-	1.2	MIC	Yes	Yes
Occupied Palestinian Territories	19.1 <sup>d</sup>	5.2	52.0	-	-	MIC	Yes	No
Pakistan	10.0	131.1	1,310.9	38.0	1.7	MIC	Yes	No
Rwanda	13.1 <sup>b</sup>	3.9	39.5	58.3	18.5	LIC	Yes	No
Sierra Leone	12.5	1.8	18.2	12.5	24.9	LIC	Yes	Yes
Somalia	3 <sup>e</sup>	-	-	-	-	LIC	Yes	No
South Africa	26.0	254.9	2,548.5	-	0.3	MIC	No	Yes
Sudan	6.7 <sup>f</sup>	39.9	399.1	-	3.7	LIC	Yes	Yes

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South Sudan	0.2 <sup>g</sup>	10.9	108.9	-	3.7	LIC	Yes	Yes
Tajikistan	18 <sup>b</sup>	4.1	40.7	-	7.7	LIC	Yes	No
Tanzania	15.1 <sup>b</sup>	14.9	148.7	80.0	12.9	LIC	No	Yes
Uganda	12.0	10.9	108.7	25.0	10.3	LIC	Yes	Yes
Yemen	6.6 <sup>h</sup>	21.1	210.5	-	2.2	LIC	Yes	Yes
Zambia	16.6	12.0	119.8	12.5	6.4	LIC	No	Yes
Zimbabwe	27.9 <sup>b</sup>	5.9	59.0	-	10.6	LIC	Yes	Yes

Tax to GDP ratios and from World Bank WDI for 2010, except where stated otherwise.

a: 2009

b: IMF article IV data

c: Non-oil revenue only, oil revenue provides an additional 16.3% GDP (IMF article IV)

d: 2011 figure reported by DFID country office

e: very approximate figure from DFID country office as no official GDP or tax figures

f: Non-oil revenue only, oil revenue provides an additional 11.3% GDP (IMF article IV)

g: Very approximate, non-oil revenue only, oil revenue provides an additional 8.8% GDP (IMF article IV).

h: reported by DFID country office, hydrocarbons provide additional 16.5% GDP.

DFID Budget Support figures taken from the latest DFID Annual Report

ODA / GNI information taken from the OECD DAC Aid Statistics at mostly from FY2010/11

## Annex V: Example DFID Revenue Support Logframe

PROJECT NAME	Bangladesh: Tax Administration Capacity and Taxpayer Services (TACTS)						
<b>GOAL</b>	<b>Goal Indicator 1</b>		<b>Baseline:</b> FY 2009/10	<b>Milestone 1:</b> FY 2012/13	<b>Milestone 2:</b> FY 2013/14	<b>Target: Nov</b> FY 2015/16	Complementary comprehensive reforms in tax policy and tax administration are undertaken
To enable the Government of Bangladesh (GOB) to strengthen the weak domestic revenue position	Increase tax to GDP ratio from 9% in FY2009 to 12% in FY2014	<b>Planned</b>	9.00%	11.00%	11.40%	12.00%	
		<b>Achieved</b>					
	<b>Source</b>						Increase tax to GDP ratio from 9% in FY2009 and comply with the annual Government of Bangladesh (GoB) targets.
	National Board of Revenue (NBR).						
	<b>Goal Indicator 2</b>		<b>Baseline:</b> FY 2009/10	<b>Milestone 1:</b> FY 2012/13	<b>Milestone 2:</b> FY 2013/14	<b>Target: Nov</b> FY 2015/16	
	Total tax collection is increased by 25% annually on the average for the next 4 years		<b>Planned</b>	18.11%	25.00%	25.00%	25.00%
<b>Achieved</b>							
<b>Source</b>							
Data provided by NBR							
<b>PURPOSE</b>	<b>Purpose Indicator 1</b>		<b>Baseline:</b> FY 2007/08	<b>Milestone 1:</b> FY 2012/13	<b>Milestone 2:</b> FY 2013/14	<b>Target: Nov</b> FY 2015/16	<b>Assumptions</b>
To increase efficiency, widen the tax base and promote transparency and trust in the revenue administration system, feeding into increased public revenue collection	Increase in number of registered taxpayers to at least 4 million by 2015 by adding at least 250,000 new taxpayers starting from 2010-11	<b>Planned</b>	2.2 million	3.75 million	4.0 million	4.30 million	Political stability and limited shocks (eg. natural disasters) to private sector activity and economic growth which would directly impact on government revenue
		<b>Achieved</b>					
	<b>Source</b>						Complementary reforms in wider areas of tax administration and tax policy are undertaken. To effectively manage taxpayer services NBR needs to establish a directorate to oversee the implementation of taxpayers service programmes at field level on continuous basis.
	Data provided by NBR						
	<b>Purpose Indicator 2</b>		<b>Baseline:</b> 2009/10	<b>Milestone 1:</b> FY 2011/12	<b>Milestone 2:</b> FYs 2012/13, 2013/14	<b>Target: Nov</b> FY 2015/16	
	Taxpayer surveys conducted showing increased taxpayer satisfaction.		<b>Planned</b>	Poor		Average	Good
<b>Achieved</b>							
<b>Source</b>							
Survey conducted by TACTS							
<b>INPUTS (£)</b>	<b>DFID (£)</b>		<b>Govt (£)</b>	<b>Other (£)</b>	<b>Total (£)</b>	<b>DFID SHARE (%)</b>	
	7 million		Nil	Nil	7 million	100%	
<b>INPUTS (HR)</b>	<b>DFID (FTEs)</b>						

OUTPUT 1	Output Indicator 1.1		Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	Assumption	
Increased efficiency, professionalism and effectiveness of Large Taxpayer Units of income tax, with sustainable systems and processes implemented leading to increased tax revenue	Providing training on features of selected business industries e.g. Banking, Telecom, Insurance and on complex business functions like Transfer Pricing	Planned	Nil	33% annually of LTU IT	33% annually of LTU IT	33% annually of LTU IT	Limited turnover of LTU management and lower level staff	
		Achieved						
		Source						
	Output Indicator 1.2		Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	NBR agrees to accommodate the ICT manpower in its annual budget	
	Supporting ICT intervention for better functioning of LTU	Planned	Nil	Conceptualised	Piloted	Full Use		
		Achieved						
IMPACT WEIGHTING (%)			Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16		
25%		Planned						
		Achieved						
		Source						<b>RISK RATING</b>
								Medium
INPUTS (£)	DFID (£)		Govt (£)	Other (£)	Total (£)	DFID SHARE (%)		
	2 million		Nil	Nil	2 million	100%		
INPUTS (HR)	DFID (FTEs)							

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OUTPUT 2	Output Indicator 2.1		Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	Assumptions
LTU like business processes replicated, through a phased roll-out to selected income tax across Bangladesh	New functional offices rolled out	Planned	None	1 Roll-out	2 Roll-out	2 Roll-out	Full NBR Board backing and oversight in implementation
		Achieved					
		Source					
		NBR					
IMPACT WEIGHTING (%)			Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	No resistance from tax zone Commissioners to take on reform agenda
20%		Planned					RISK RATING
		Achieved					
		Source					High
INPUTS (£)	DFID (£)		Govt (£)	Other (£)	Total (£)	DFID SHARE (%)	
	1.5 million		Nil	Nil	1.5 million	100%	
INPUTS (HR)	DFID (FTEs)						
OUTPUT 3	Output Indicator 3.1		Baseline: FY 2010/11	Milestone 1: 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	Assumptions
More taxpayers brought into the tax net through better utilisation of CSZ data	Potential new taxpayers identified by Central Survey Zone (CSZ) measured as percentage of registered TIN numbers	Planned	9.06%	10%	15%	20%	Willingness of NBR officials to use the system
		Achieved					
		Source					
		Central Survey Zone					
IMPACT WEIGHTING (%)							RISK RATING
10%							Medium
INPUTS (£)	DFID (£)		Govt (£)	Other (£)	Total (£)	DFID SHARE (%)	
	1.0 million		Nil	Nil	1.0 million	100%	
INPUTS (HR)	DFID (FTEs)						

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OUTPUT 4	Output Indicator 4.1		Baseline: FY 2009/10	Milestone 1: FY 2010/11	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	Assumptions	
The public receive more professional and efficient taxpayer services	Supporting the advocacy of education, awareness of taxpayer services, implementing Taxpayer Information and Service Centres (TISC) through various programmes eg.supporting Tax fairs, creating awareness by billboard hosting, holding seminars and workshops	Planned		Supporting 2 Programs (TISC, advocacy, awareness)	Supporting 2 Programs (TISC, advocacy, awareness)	Supporting 2 Programs (TISC, advocacy, awareness)	Change in NBR to a taxpayer service culture will depend upon the factors such as comprehensive BPR and ICT interventions to get effectively embedded in all parts of the organisation.  Taxpayer Service is an continuous effort. NBR needs to establish a Directorate for handling the implementation of taxpayer service	
		Achieved		Achieved				
		Source						
<b>IMPACT WEIGHTING (%)</b>		Source					<b>RISK RATING</b>	
20%							Medium	
<b>INPUTS (£)</b>	<b>DFID (£)</b>		<b>Govt (£)</b>	<b>Other (£)</b>	<b>Total (£)</b>	<b>DFID SHARE (%)</b>		
	1.0 million		Nil	Nil	1.0 million	100%		
<b>INPUTS (HR)</b>	<b>DFID (FTEs)</b>							

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OUTPUT 5	Output Indicator 5.1		Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	Assumptions	
Tax payment enforcement improved through a strengthened Central Intelligence Cell (CIC) that is better able to detect and investigate tax evasion cases and prosecute through the legal system	Supporting ICT intervention / establishing modern tools for capacity strengthening	Planned	Nil				Political commitment to anti-corruption and rooting out tax evasion	
		Achieved						
		Source						
		Need a source.						
		Output Indicator 5.2		Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	Staffing requirements for CIC approved and met in view of the competing staff requirements from other Government Departments including other functions of NBR
	Actual collection from detected revenue in tax evasion cases.	Planned	Taka 56 Crore	175 Crore	225 Crore	300 Crore		
		Achieved						
	Source						Prosecutions are processed	
	NBR							
	IMPACT WEIGHTING (%)			Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	
15%		Planned						
		Achieved						
		Source						RISK RATING
						Medium		
INPUTS (£)	DFID (£)		Govt (£)	Other (£)	Total (£)	DFID SHARE (%)		
	1.0 million		Nil	Nil	1.0 million		100%	
INPUTS (HR)	DFID (FTEs)							

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OUTPUT 6	Output Indicator 6.1		Baseline: FY 2009/10	Milestone 1: 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	Assumptions
Internal Audit functioning in selected offices and piloted in selected tax zones	Internal audit piloted in selected departments and tax zones	Planned		Audit at LTU completed	Audit at CIC or a zone completed	Audit at selected Zones completed	Overall success of NBR-wide internal audit function will depend on policy decision to create and finance an internal audit unit under supervision of the Chairman
		Achieved					
Source							
	Output Indicator 6.2		Baseline: FY 2009/10	Milestone 1: 2011/12	Milestone 1: 2012/13	Target: Nov FY 2015/16	
	Build an overall awareness and understanding of Internal Audit in NBR; focused training for selected NBR staff	Planned		Creation of Internal Audit Manual and Training Course and imparting Internal Audit Training for selected NBR staff	Training for selected NBR staff	Ongoing professional training for selected NBR staff	
		Achieved					
Source							
IMPACT WEIGHTING (%)			Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 1: 2012/13	Target: Nov FY 2015/16	
5%		Planned					
		Achieved					
Source							<b>RISK RATING</b>
							Medium
INPUTS (£)	DFID (£)		Govt (£)	Other (£)	Total (£)	DFID SHARE (%)	
	0.5 million		Nil	Nil	0.5 million	100%	
INPUTS (HR)	DFID (FTEs)						

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OUTPUT 7	Output Indicator 7.1		Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	Assumptions
Taxpayer appeals procedures strengthened	Draft legislation reviewing appeals procedures approved.	Planned	Nil	Accomplished			New elected government / Ministry of Finance/ parliamentary committee does not disagree substantially to the policy of appeal strengthening and parliamentary legislative process facilitates the enactment without any major objection/ impediment
		Achieved					
		Source					
	Output Indicator 7.2		Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	
	Basic legal training conducted to enable officials to represent NBR in appeals cases	Planned	Not Applicable	1 training	1 training		
		Achieved					
Source							
IMPACT WEIGHTING (%)			Baseline: FY 2009/10	Milestone 1: FY 2012/13	Milestone 2: FY 2013/14	Target: Nov FY 2015/16	MOF administrative procedures approve/ facilitate operationalisation of tax tribunals quickly and without much hassle
5%		Planned					
		Achieved					
		Source					
							<b>RISK RATING</b>
							Medium
INPUTS (£)	DFID (£)		Govt (£)	Other (£)	Total (£)	DFID SHARE (%)	
	0.5 million		Nil	Nil	0.5 million	100%	
INPUTS (HR)	DFID (FTEs)						