

Review of sector taxation policies and determining the elasticity of penetration and price of the various telecommunication services in Uganda

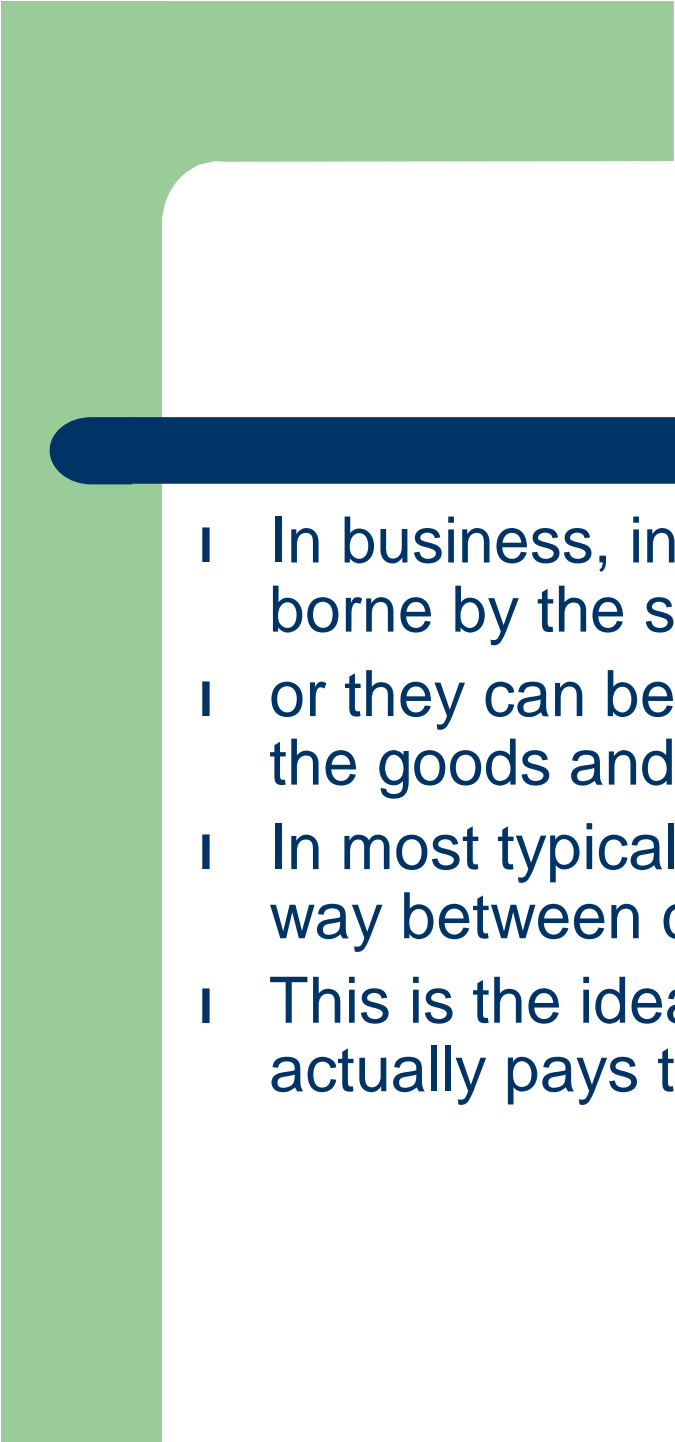

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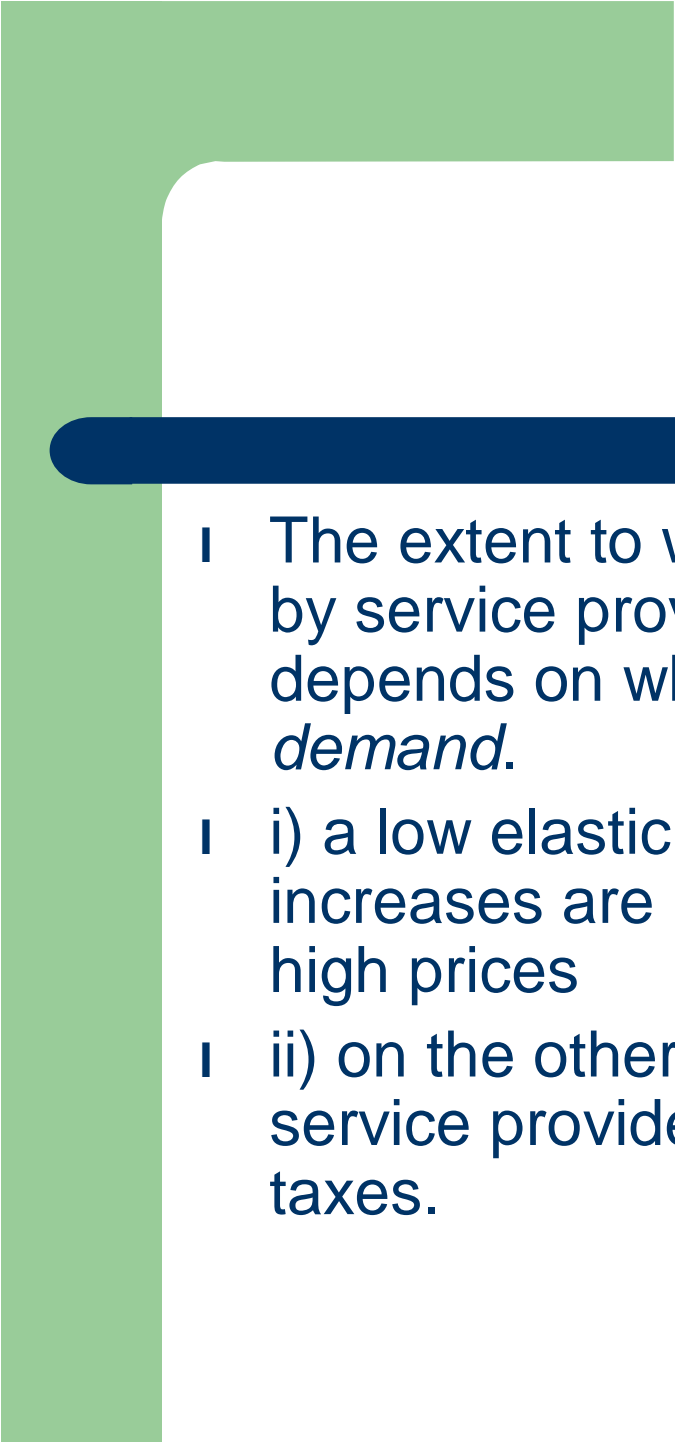

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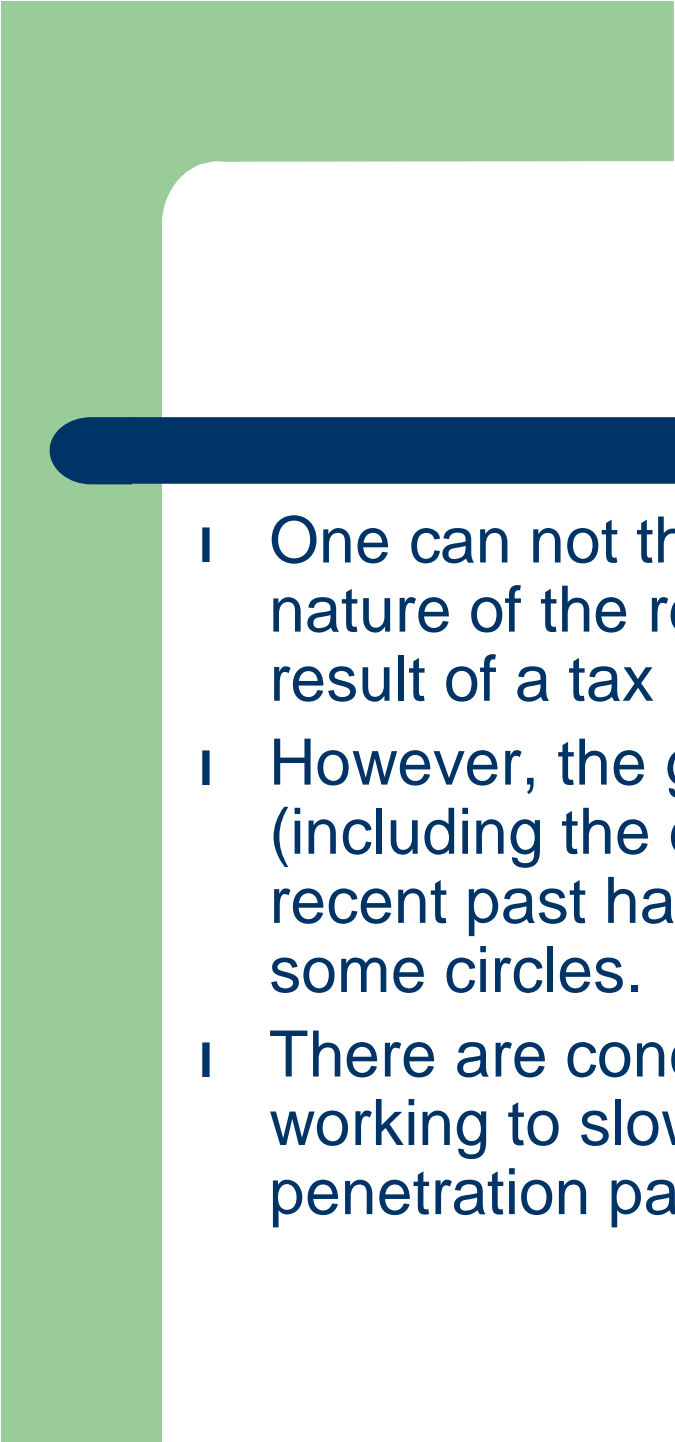



Introduction and Context

- | The telecommunications sector in Uganda is being increasingly looked at as an important source of revenue for the government treasury.
- | At present the usage tax on mobile services is 30 percent (o/w 18 percent is VAT and 12 percent excise duty).
- | Fixed line services attract a 23 percent usage tax (o/w 18 percent is VAT and 5 percent excise duty).

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- | In business, increased taxes can either be wholly borne by the service providers;
 - | or they can be passed on entirely to consumers of the goods and services on which the tax is levied.
 - | In most typical cases, the taxes are shared in some way between consumers and the service providers.
 - | This is the idea of tax incidence it tells us who actually pays the tax.

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- | The extent to which increased taxes can be passed by service providers to the final service price depends on what economists call *elasticity of demand*.
 - | i) a low elasticity implies that most of the tax increases are passed on to consumers in the form of high prices
 - | ii) on the other hand, a high elasticity will mean that service providers are made to bear most of the taxes.

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- | One can not therefore tell before hand the exact nature of the response of demand for services as a result of a tax increase.
 - | However, the general slow down in the sector (including the declining penetration rates) in the recent past has started to cause serious concerns in some circles.
 - | There are concerns that the tax induced tariffs are working to slow down the sectoral demand and penetration patterns.

Objectives of the Study

- I i) review Uganda's tax policy with particular interest to the telecommunication services;
- I ii) assess the impact of tax related price increases on penetration, traffic volume, total turnover and investment;
- I iii) determine the price and penetration elasticities of the various telecommunication services; and,
- I iv) simulate a scenario of how some modest adjustments in tax rates can impact on outcomes in the telecommunications sector.

Key findings by objective

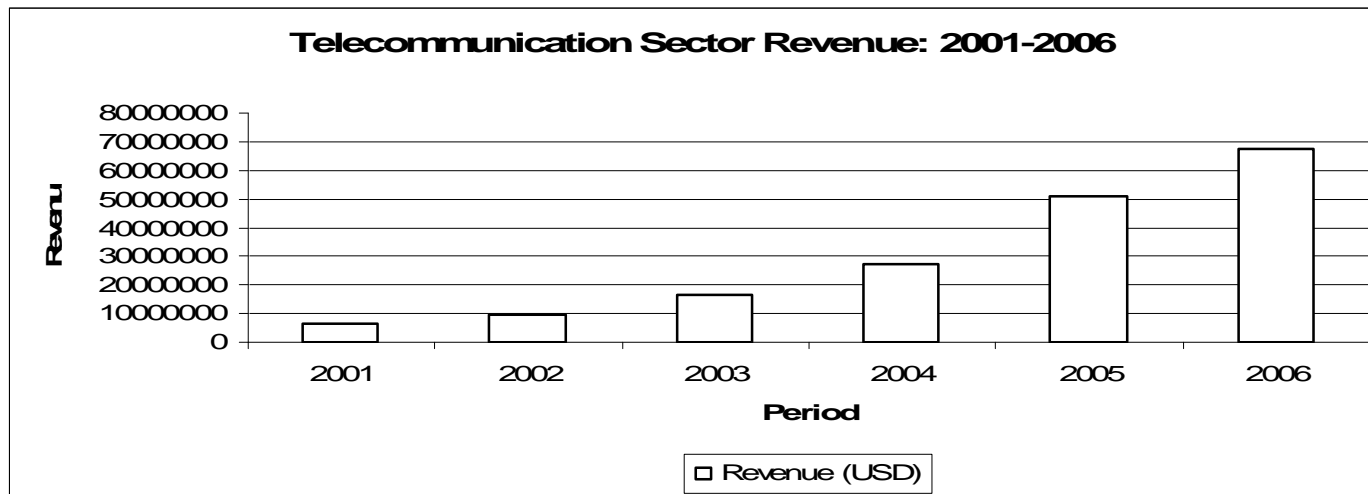
- | Objective 1: the current tax policy
- | The sector is increasingly being relied on as a major source of revenue to Government.
- | Generally Uganda's current sector taxes are very high even by international standards.
- | For instance the current mobile service usage charge of 30 percent makes it the second highest in the world!

Some Key tax handles in the telecommunication sector

- I A summary of the most important taxes and their respective rates is given Table 1.

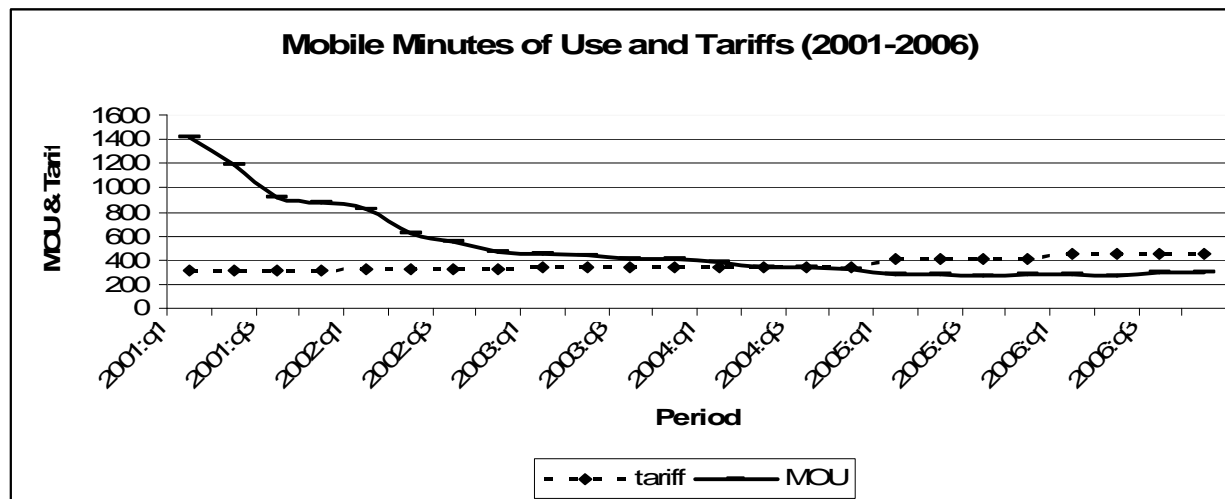
Item Description	Rate
VAT on mobile and fixed line airtime	18 percent
Excise Duty on mobile phone services	12 percent
Excise duty on fixed line services	5 percent
Corporation tax	30 percent
Import duty on mobile phone transmission equipment	0 percent
Import duty on land line transmission equipment	10 percent
Import duty on mobile phone handsets	0 percent
Import duty on fixed line sets	10 percent

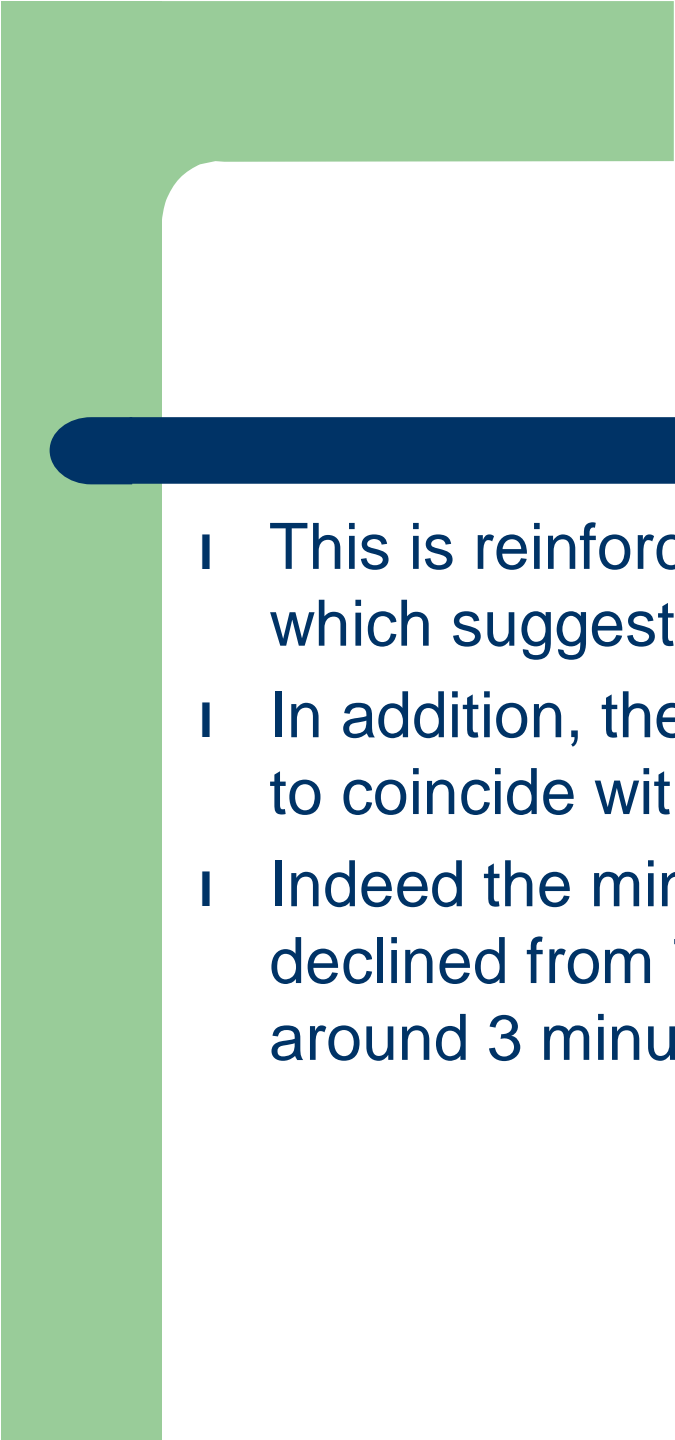

- I That the sector is being increasingly relied on by the tax authorities can quickly be noticed by looking at what it pays as revenue (Fig. 1)

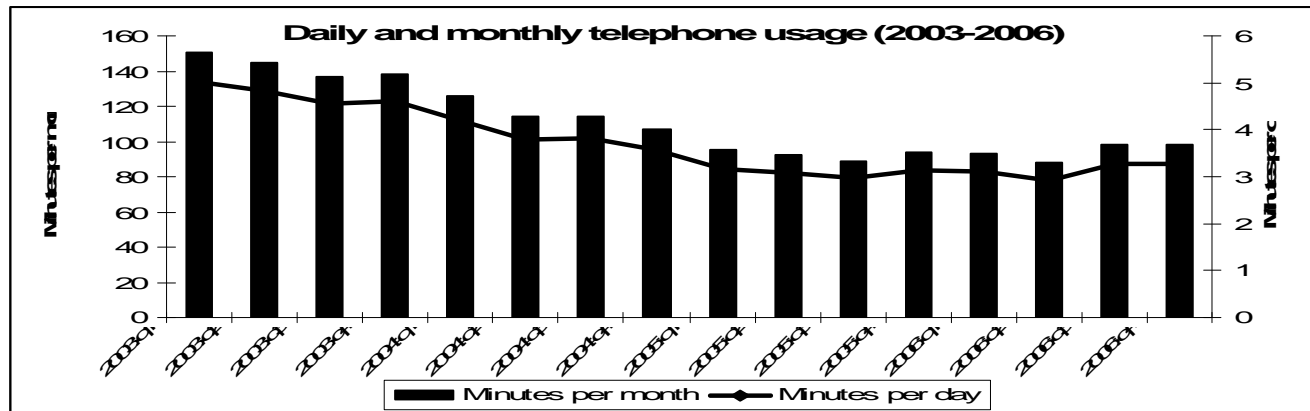


Objective 2: impact of tax induced price increases on telecommunication sector outcomes

- I Proportionate increases in tariffs have been met by more than proportionate reduction in demand for services (measured as minutes of use in this study).





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- | This is reinforced by estimates of the trend growth which suggests declining trends in the sector.
 - | In addition, the period of increased taxes has tended to coincide with a reduction in minutes of use.
 - | Indeed the minutes of use per marginal user have declined from 7 minutes per user per day in 2001 to around 3 minutes in 2006.



- I These trends appear to suggest that the high taxes are being passed on to consumers.

Taxes and Sector Investment

- | High taxes affect investment through a number of channels.
- | They may discourage uptake of services, thereby reducing direct investment by shareholders.
- | They may also reduce profit margins of the operators as they strive not to transfer the tax to consumers.
- | They may also affect the companies' ability to prepare reliable business plans and revenue forecasts, making it difficult to raise funding.

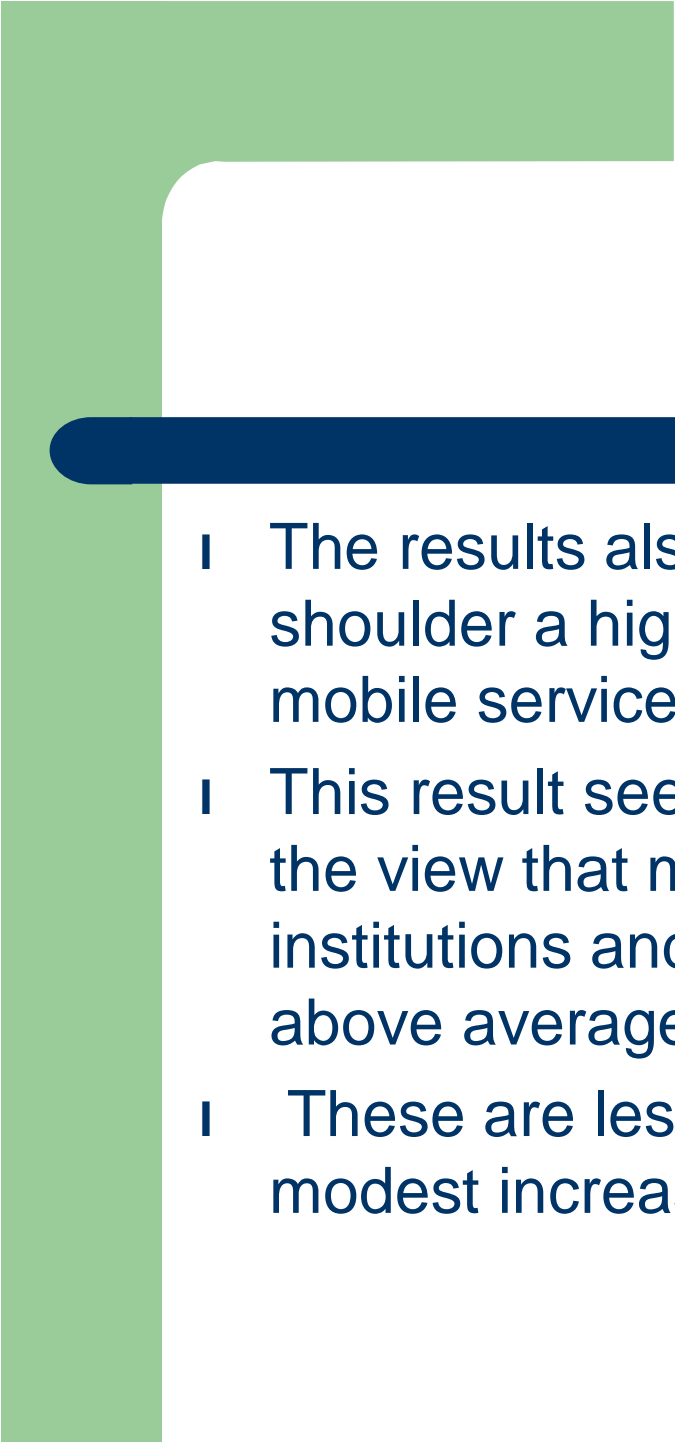

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- | Indeed, our findings suggest that the ratio of investment to revenue has generally been declining with an increase in taxes, with the exception of the year 2004.
 - | The message here appears to suggest the obvious; high taxes discourage investment.
 - | The unfortunate aspect of this trend is that a slow down in sector investment may translate in a slow down in uptake of services and ultimately low tax revenue for the government treasury.
 - | In the overall, high taxes on a narrow base appear to be self defeating in the long run.

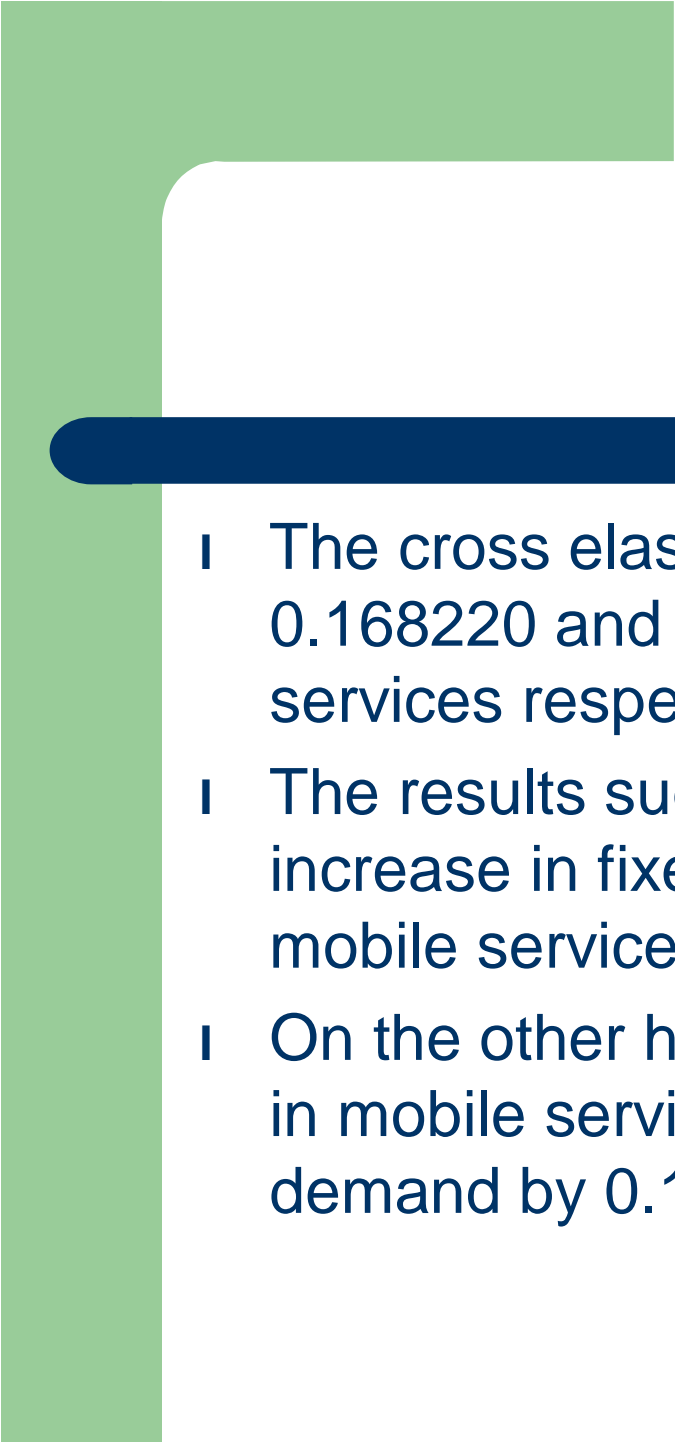

Tax Equity and Efficiency

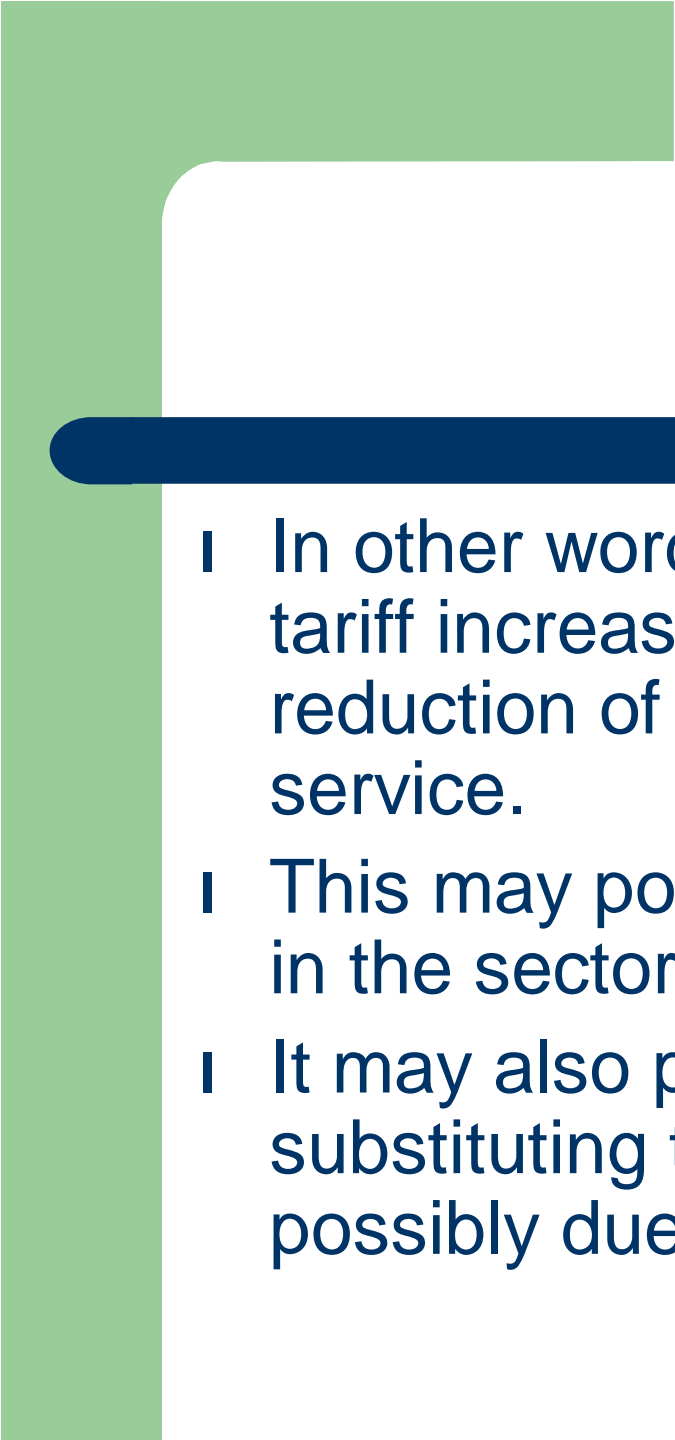

- | An assessment of the present tax system shows that it is both unfair and inefficient.
- | It is deemed unfair because there is nothing to suggest that sector operators and customers in Uganda are getting any special treatment from government to warrant such high taxes.
- | It is also unfair to the poorer and disadvantaged members of society, who incidentally form the majority of the population.
- | It is deemed inefficient because of its apparent discouraging effects.

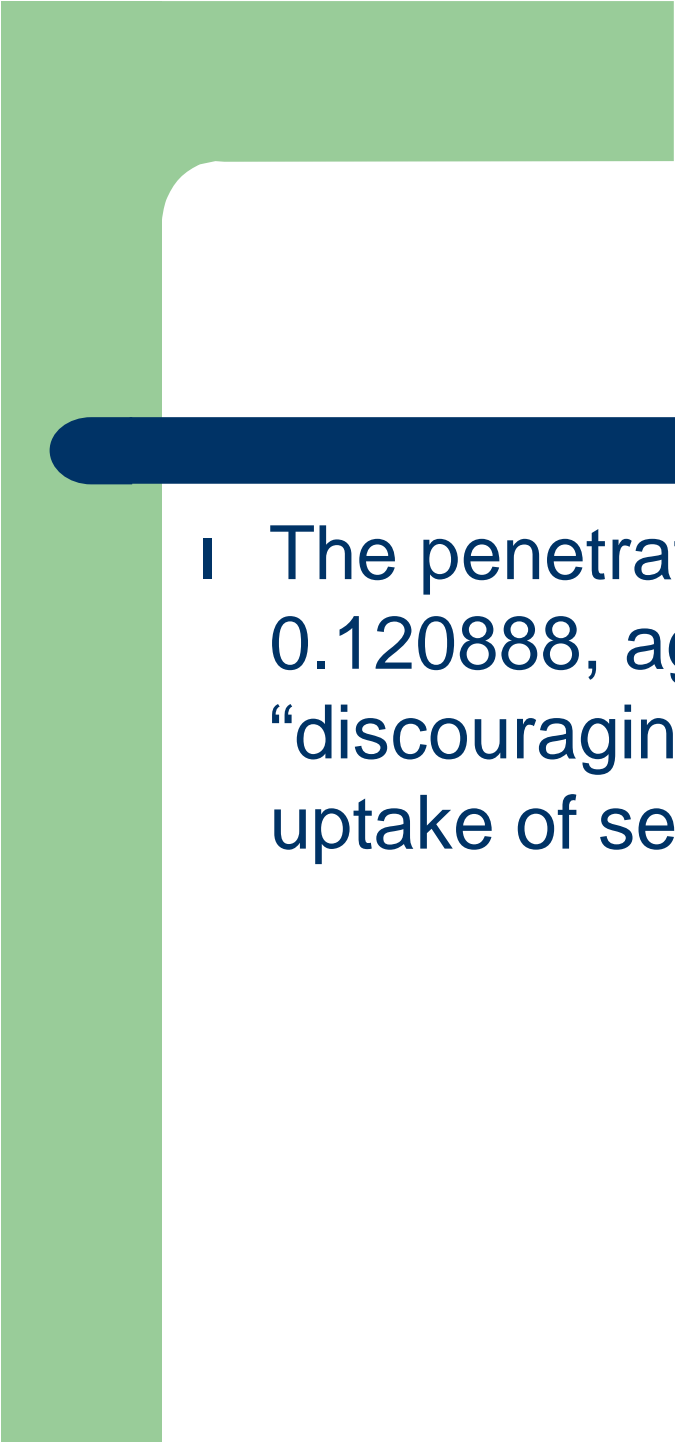

Objective 3: Price and Penetration Elasticities

- I This section uses regression analysis to establish the relationship between tariffs and the demand for services.
- I Three different elasticity estimates are obtained namely own price, cross and penetration.
- I The elasticity estimates are rather low (-0.375192) for mobile phone services and -0.137471 for fixed line services.
- I The low elasticities imply that most of the increases in taxes are borne by consumers.

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- | The results also suggest that fixed line service users should shoulder a higher tax burden when compared to their mobile service counterparts.
 - | This result seems to be plausible if one is to adopt the view that most fixed line users are either institutions and commercial premises or generally above average income residential establishments.
 - | These are less likely to reduce services because of modest increases in tariffs.

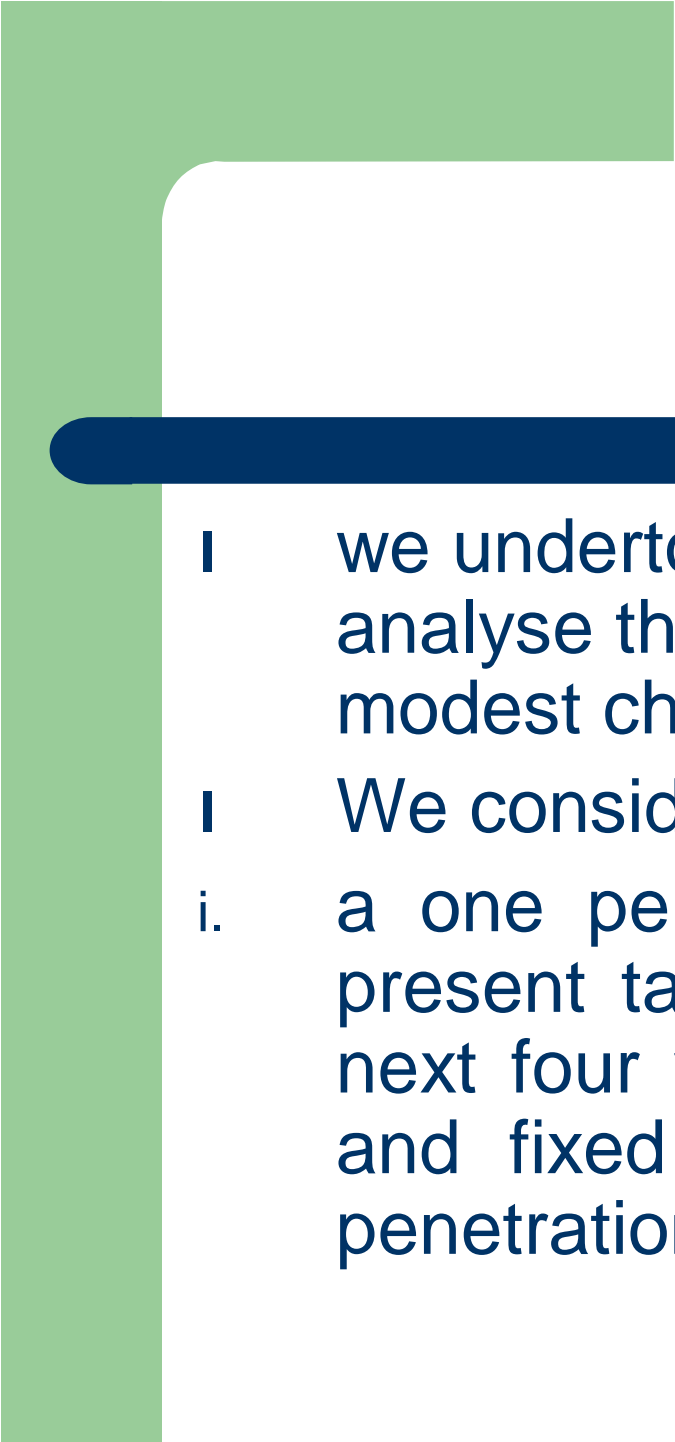

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- I The cross elasticity estimates obtained are - 0.168220 and -0.134480 for the mobile and fixed line services respectively.
 - I The results suggest that a one percentage point increase in fixed line tariffs reduces demand for mobile services by about 0.17 percentage points.
 - I On the other hand a one percentage point increase in mobile services tariffs reduces fixed line services demand by 0.13 percentage points.

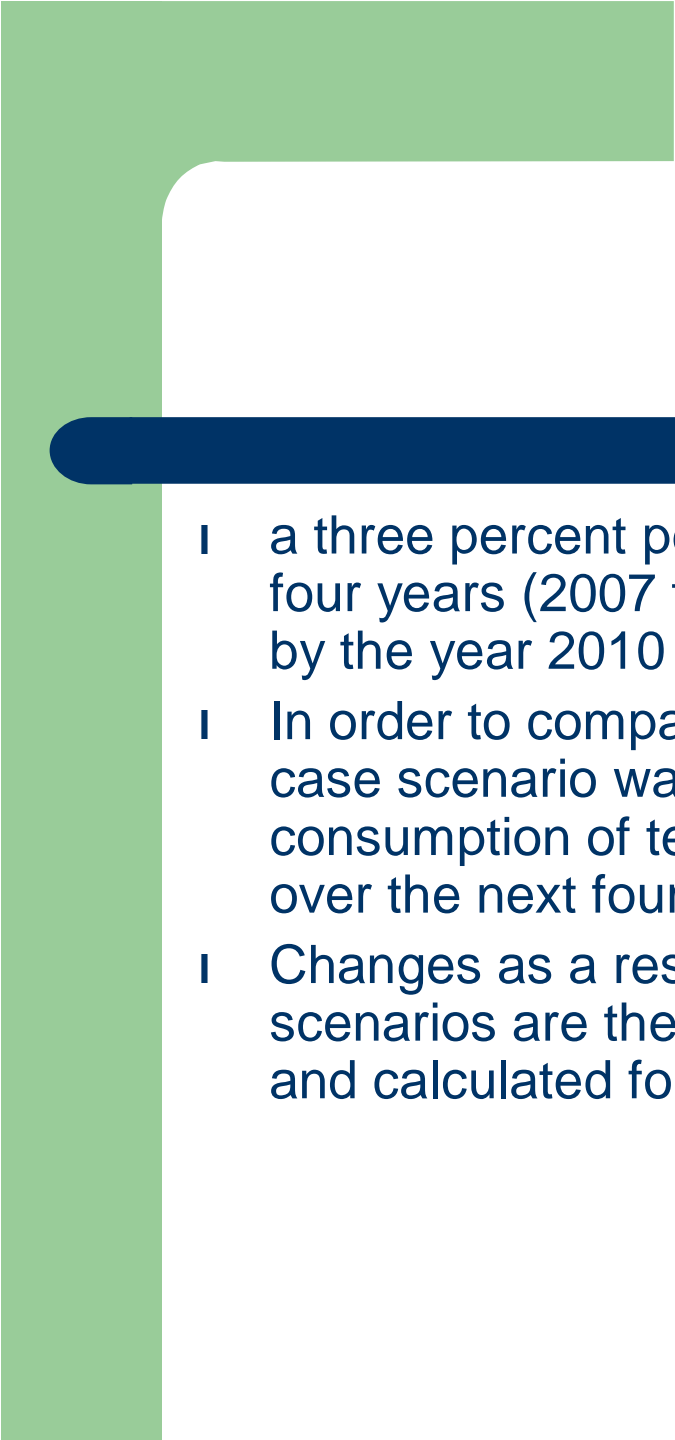

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- | In other words, these results mean that a tariff increase of one service will result in a reduction of demand for the substitute service.
 - | This may point to the overall declining trends in the sector.
 - | It may also point to the “reluctance” of substituting the two services by consumers possibly due to habit formation.

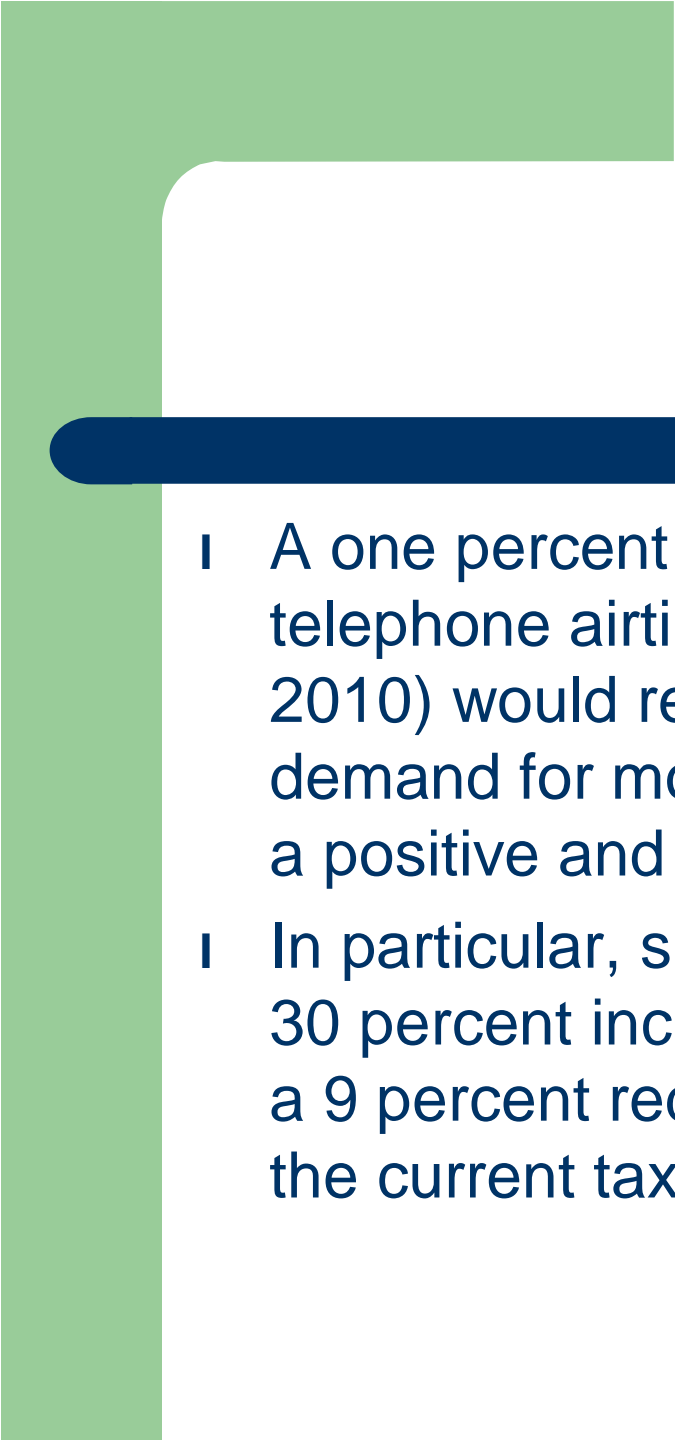

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- I The penetration elasticity estimate is - 0.120888, again pointing to the “discouraging” effects of high taxes on uptake of services.

Simulation Analysis

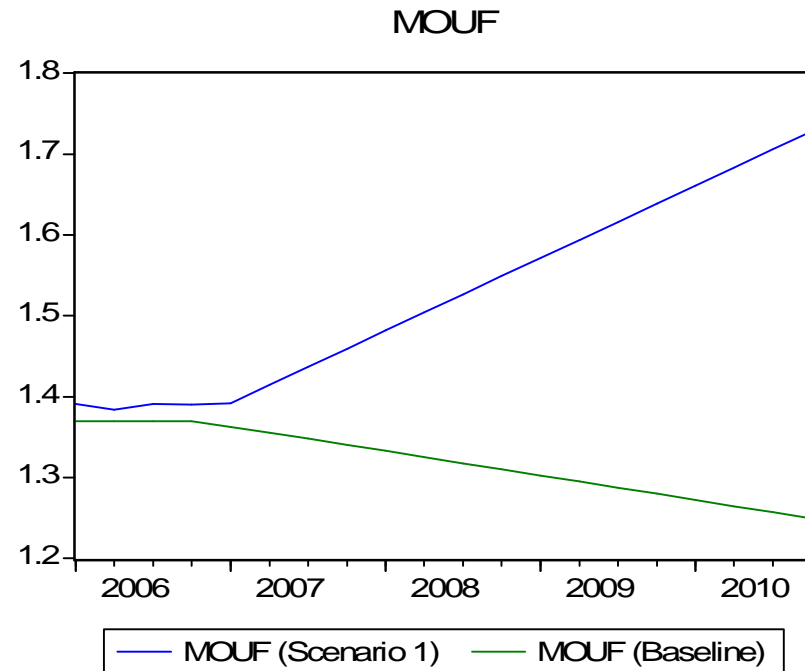
- | The mere fact that taxes can result in distortions and that they can be passed on to consumers should not necessarily mean that they are undesirable.
- | Instead, this should be viewed as part of the cost side of the cost-benefit analysis of any tax system.
- | Indeed, the tax system could be restructured to reduce its costs.

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- I we undertook a simulation exercise to analyse the possible impact of some modest changes in taxes rates.
 - I We consider the following scenarios:
 - i. a one percent per year reduction of the present taxes on phone air time over the next four years (2007 to 2010) for mobile and fixed line services on demand and penetration; and,

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- I a three percent per year reduction of excise duty over the next four years (2007 to 2010), effectively eliminating it (excise duty) by the year 2010 on demand and penetration.
 - I In order to compare the impact of various tax changes, a base case scenario was created, which projects patterns in consumption of telecommunications services and penetration over the next four years (2007 to 2010).
 - I Changes as a result of adjustments in tax rates in the new scenarios are then compared against this base case scenario and calculated for a four year period (2007 to 2010).

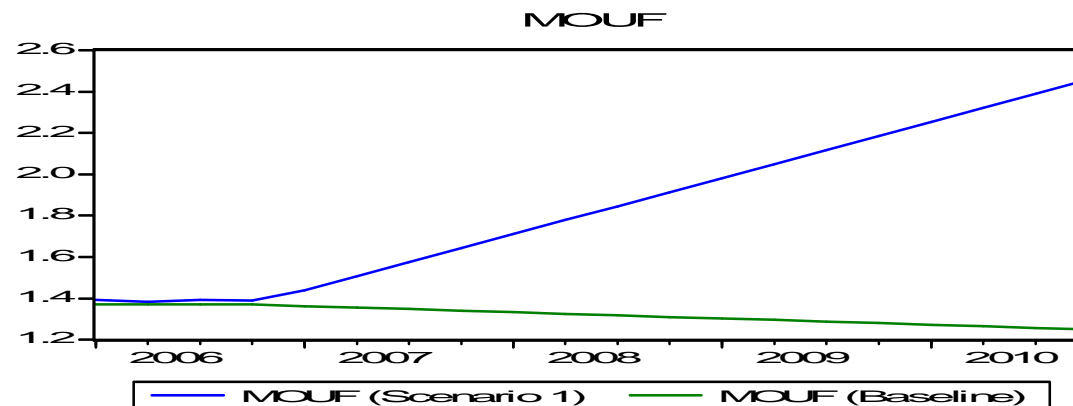
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- I A one percent per year reduction in taxes on telephone airtime over our forecast period (2007 to 2010) would reverse the current declining trend in demand for mobile telecommunications services into a positive and upward trend.
 - I In particular, such a tax policy would translate into a 30 percent increase in minutes of use as opposed to a 9 percent reduction over the same period under the current tax policy.

Impact of a one percent per year reduction in taxes on mobile phone airtime

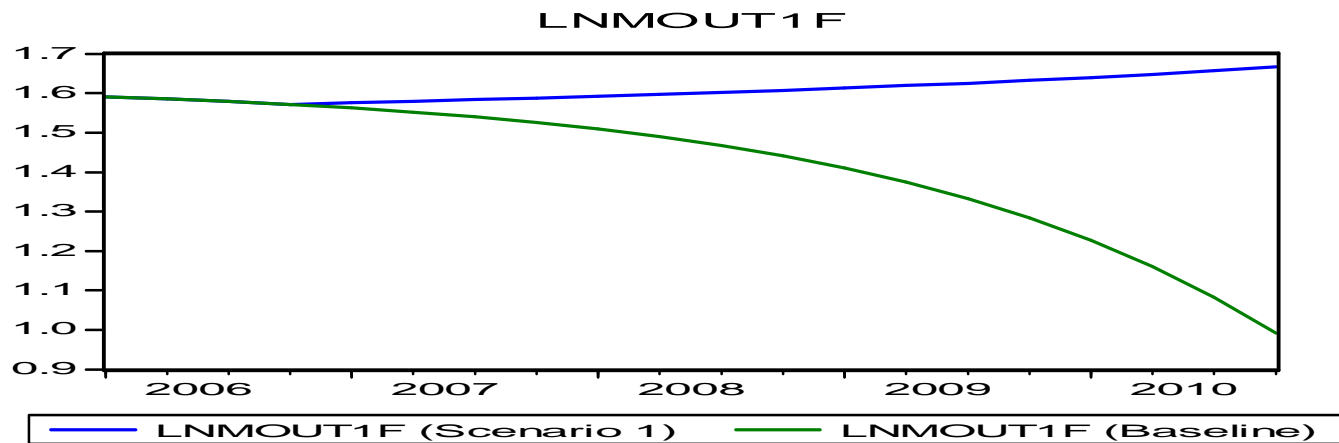


Impact of reduction (and eventual elimination) of excise duty on mobile phone airtime

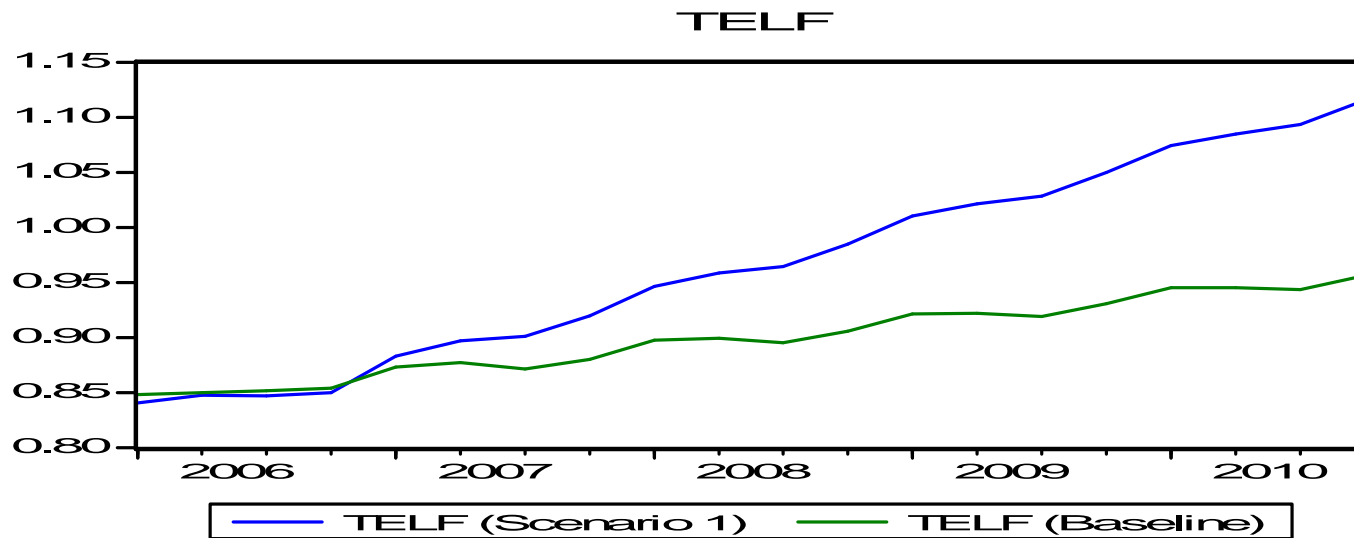
- I A gradual reduction and eventual elimination of excise duty on telephone airtime would result in a 56 percent increase in demand for mobile services over the period 2007 to 2010, compared to a base case reduction of 9 percent over the same period.



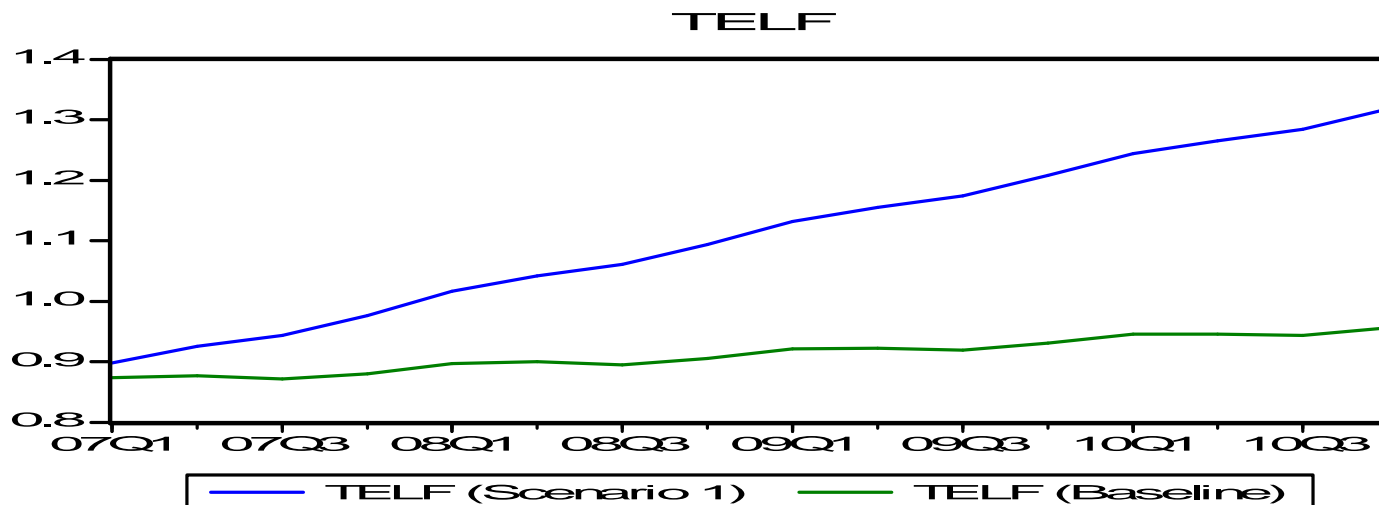
- I A one percent per year reduction in taxes on fixed line telephony airtime over our forecast period (2007 to 2010) would result in 4.24 percent increase in demand for fixed line services as opposed to a 38.4 decline over the same period under the current tax policy

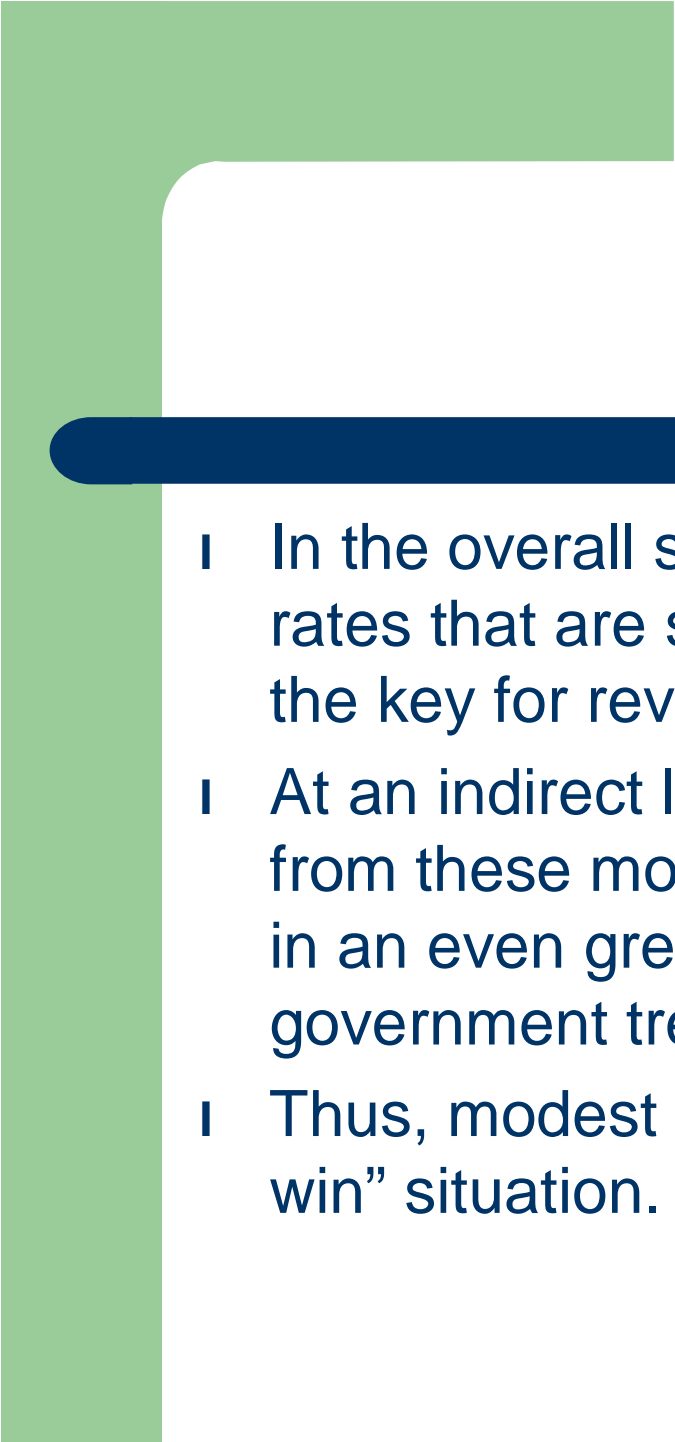



- I A one percent per year reduction in the cost of telephone airtime over our forecast period would result in an increase of penetration levels by 17.3 percent over the 2007 to 2010 period as opposed to a 6.7 percent increase predicted by the base case scenario over the same period



- I On the other hand, a gradual and eventual elimination of excise duty by the year 2010 would result in a 34.3 percent increase in penetration as opposed to a 6.7 percent change predicted by the base case scenario over the same period



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- | In the overall small and modest reductions in tax rates that are stretched over a number of years hold the key for revamping of the sector.
 - | At an indirect level, the increased uptake of services from these modest reductions in taxes should result in an even greater increase in revenue for the government treasury and overall productivity growth.
 - | Thus, modest tax reductions should result in a “win-win” situation.