Redistribution via VAT and cash transfers: an assessment in four low and middle income countries

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Policy Briefing Note

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Key points

- Reduced rates of VAT and VAT exemptions ("preferential rates") are a common feature of VAT systems in low and middle income countries (LMICs), as in high incomes countries. Some of these are in place for administrative reasons; others are motivated by equity and in some cases economic efficiency. The tax revenue foregone from granting these preferential rates varies across countries but in all cases is significant.

- Preferential VAT rates do reduce poverty – and sometimes substantially – in each of the four countries analysed in our study: Ghana, Ethiopia, Senegal and Zambia. However, the fact that better off households spend more on goods and services subject to preferential rates in absolute terms means that this poverty reduction comes at the cost of a big tax expenditure on high-consumption households.

- Increasingly, cash transfer programmes may provide an alternative means of redistributing to poorer households. Most LMICs now have a cash transfer programme in place, and on the whole these tend to be well targeted towards vulnerable groups. However, targeting mechanisms remain imperfect, and existing cash transfer programmes leave the majority of impoverished households uncovered because of specific eligibility criteria based on demographic or geographic characteristics.

- The poor targeting of preferential rates is highlighted by the fact that even a Universal Basic Income (UBI) – which is completely untargeted – funded by 75% of the revenue raised by a uniform VAT rate (excluding VAT exemptions in place for administrative reasons) is estimated to be more progressive. Our estimates suggest it would allow an increase in consumption for individuals in at least the bottom 40% of the consumption distribution in each of the four countries studied. It would reduce poverty measured at the $1.90 line in three of the four countries considered (Senegal is the exception).

- However, this does not make a UBI funded by a uniform VAT an immediate policy prescription. This work will be extended with additional countries and analytical results to confirm the robustness of the patterns found. More generally, further research is required to better understand other considerations for such a reform. This includes the wider social and economic effects of a UBI – such as impacts on labour market behaviour – and the efficiency case for VAT rate differentiation in contexts with high levels of informal production for some goods and services, but not others.

Introduction

As in many high income countries, VAT systems in low and middle income countries (LMICs) are often characterised by different tax treatments for different types of goods and services. Often, reduced rates of VAT and exemptions ("preferential rates") are granted on equity grounds, for goods and services that are thought to take up a greater proportion of the budgets of poorer households. Given typically limited capacity to redistribute through the direct tax and benefit system, it has been suggested by some economists that such rate differentiation might be the best way for governments to transfer resources to poorer households.[1]

However, empirical evidence on who really benefits from preferential rates is sparse in the LMIC context. Furthermore, with conditional and unconditional cash transfer programmes increasing in number and scale, the possibility of redistributing resources through direct benefits is becoming more realistic.

In this research, we use a consistent methodology to consider these issues in Ethiopia, Ghana, Senegal and Zambia. We use microsimulation models to estimate the impact of preferential VAT rates across the consumption distribution as well as on poverty and VAT revenues. These impacts are compared with existing and hypothetical cash transfer schemes. All results from these models are based on household survey data which can be subject to sampling and measurement errors, and other data which may be a number of years old and whose use in this context requires assumptions. Thus, the precise quantitative results may be subject to significant margins of error. However, the patterns are strong and consistent enough for us to be confident in the qualitative conclusions. This policy brief is based on results from the paper "Redistribution via VAT and cash transfers: an assessment in four low and middle income countries".[2]

What is the impact of reduced rates of VAT and exemptions in the countries we study?

Each of the four countries studied have preferential rates in place. Some are in place for administrative reasons (financial services, public services and accommodation) and others for equity (kerosene, water supply and many foodstuffs) or other reasons. In order to estimate the impact of these latter preferential rates, we consider the counterfactual policy environment whereby all goods and services are subject to the uniform VAT rate except for the administrative cases outlined above, as well as small traders who are not required to register for VAT.

The first thing to note is that the tax revenue foregone from preferential VAT rates – the "tax expenditure" on such rates – is substantial, as shown in Table 1. There are big differences across countries because of the rules of the VAT systems currently in place: the

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[1] Bird, R.M. and P.P. Gendron (2007), 'The VAT in Developing and Transitional Countries' Cambridge University Press, Cambridge.

[2] Phillips, D., R. Warwick, T. Harris, M. Goldman, J. Jellema, G. Inchauste and K. Goraus (2018). Available at: https://www.ifs.org.uk/publications/12867

relative tax expenditure is very large in Senegal, for instance, because the range of food that is VAT exempt is broad.

**Table 1. Revenue cost of preferential VAT rates**

Country	Ethiopia	Ghana	Senegal	Zambia
Cost of exemptions (% of current VAT revenue)	22.8%	34.5%	55.6%	33.5%

Source: Author's calculations using GHATAX, ETHTAX, and CEQ/World Bank fiscal incidence analysis.

Our estimates suggest that poverty is reduced at every poverty line in every country studied by the presence of these preferential rates.[3] In some cases these effects are large; in Senegal, where the relative tax expenditure is highest, the poverty headcount ratio at the lowest international poverty line ($1.90 per capita per day) is reduced by 3.5 percentage points. However, in spite of this, analysis of their distributional impact in Figure 1 indicates that they might be an expensive way of achieving this end, in that much of their benefit accrues to high-consumption households.

Figure 1. The distributional impact of preferential VAT rates
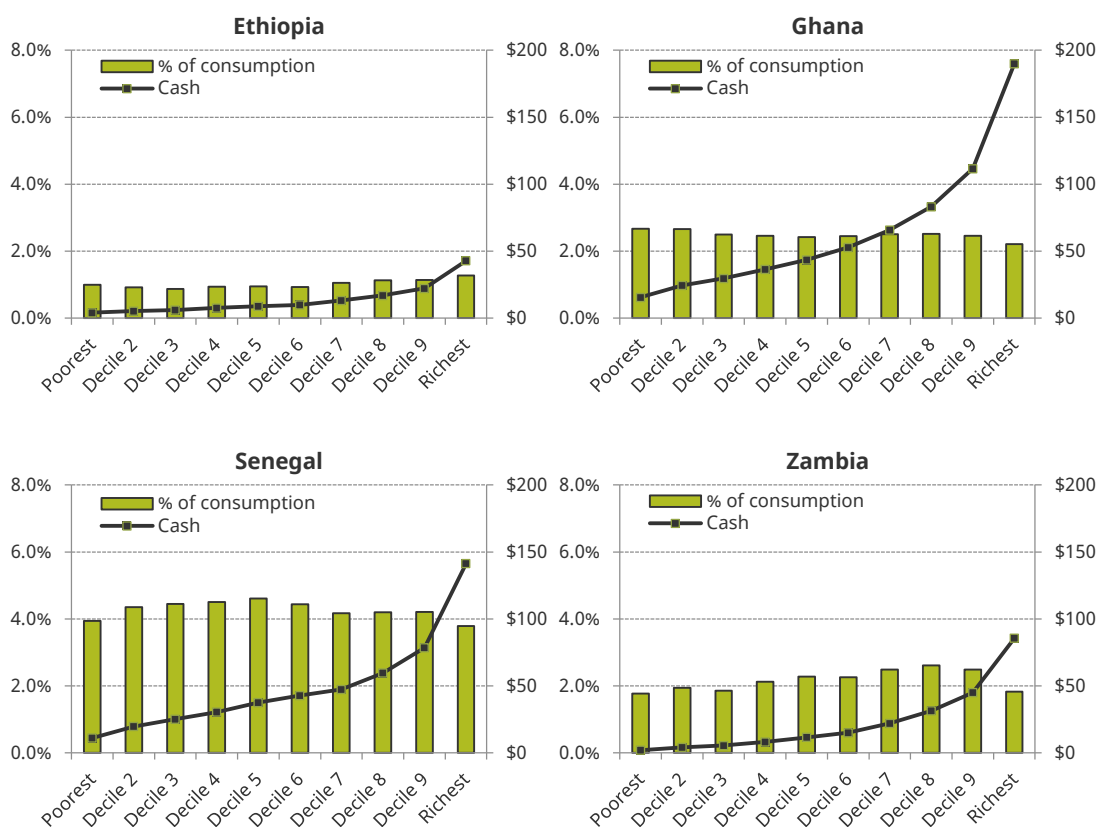
Note: Population deciles ranked by per capita consumption; cash amounts are annual USD 2011 PPP.
Source: Author's calculations using GHATAX, ETHTAX and CEQ/World Bank fiscal incidence analysis.

In only one of the four countries studied (Ghana) are existing preferential rates progressive in proportional terms. An important driver of this perhaps surprising finding –

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[3] Our poverty measures are based on consumption per capita, measured net of indirect taxes and subsidies. Consumption is calculated as: monetary consumption expenditure minus expenditure on durables, plus home production, imputed rents and the user value of durable goods.

given that preferential VAT rates largely apply to goods such as food and medicine – is that monetary expenditure tends to be a relatively more important source of consumption for better off households in these countries on average, whereas lower-consumption households are more likely to consume out of their own production, for instance.

When one considers the distributional pattern in cash terms, the results are striking and consistent across countries. Because high-consumption households spend more on most goods and services in absolute terms, they benefit far more in cash terms than low-consumption households from preferential rates, even if goods such as raw foodstuffs take up a smaller proportion of their total budget. For instance, in Ghana – the country in our sample with the most progressive preferential VAT rates – the per capita cash benefit for the average household in the top consumption decile is almost 12 times that of a household in the bottom decile.

Are alternative means of redistributing resources available?

Although preferential VAT rates appear to be an expensive means of reducing poverty and redistributing to the poor because of the implicit subsidy afforded to high consumption households, resource constraints and the large informal sector have long made redistribution via the direct tax and transfer system difficult in LMICs. However, recent years have seen a proliferation in the number of cash transfer programmes across the world. Generally these are designed as poverty-reducing programmes aimed at the most vulnerable groups of society. They often rely on overseas development assistance for at least part of their funding.

Each of the four countries in this analysis runs at least one conditional or unconditional cash transfer programme. These may provide a more effective means of transferring resources to low-consumption households than through VAT rate differentiation. However, in their current forms, they leave large parts of the population uncovered. This is because they tend to employ eligibility criteria beyond simply being below a certain consumption or income threshold: Ghana's LEAP programme is only available to households whose members fulfil certain demographic criteria, and Senegal's PNBSF programme has an element of geographical targeting, for instance. Furthermore, information constraints mean that the targeting mechanisms employed for these schemes can be subject to large exclusion errors, meaning intended beneficiaries are not reached. As a result, coverage for even the bottom consumption decile group can be low: results from the models used in this analysis suggest coverage for the bottom consumption decile of 9.6% in Ethiopia, 20.9% in Ghana, 43.5% in Senegal and 10.4% in Zambia.

Given the design of existing cash transfer schemes, using them to compensate for a uniform VAT rate would require significant expansion and correctly targeting beneficiaries could represent a considerable challenge for policymakers. For this reason, we consider the potential redistributive power of a Universal Basic Income (UBI) or demogrant – an unconditional cash transfer for every member of the population. This might have both practical and popular appeal, given the lack of targeting required and the fact that the whole population would receive some compensation for higher indirect tax rates. We simulate the impact of implementing a uniform VAT – again leaving out public services,

financial services, accommodation costs and small traders – and using this additional revenue to fund a UBI. To allow for some margin of programme costs or government expenditure elsewhere, 75% of the additional VAT revenue is used to fund UBI payments. Figure 2 plots the net effect of this reform for households across the consumption distribution relative to pre-reform consumption.

It is clear that such a reform more than compensates the poorest deciles of the consumption distribution on average. The size of the net benefit to poor households from this policy scenario is of course directly related to the estimated scale and inequity of tax expenditures on preferential VAT rates in each country: contrast the 1.65% gain in consumption value for the bottom decile in Ethiopia to the 13.43% gain in Zambia. Households towards the top of the distribution lose out from this reform because although they receive the same UBI payment, the benefit they currently enjoy in cash terms from VAT exemptions and reduced rates is so much bigger than poorer households. Thus, they contribute much more to the funding of the UBI in these simulations.

Figure 2. The distributional impact of implementing a uniform VAT and using 75% of the additional revenue to fund a UBI
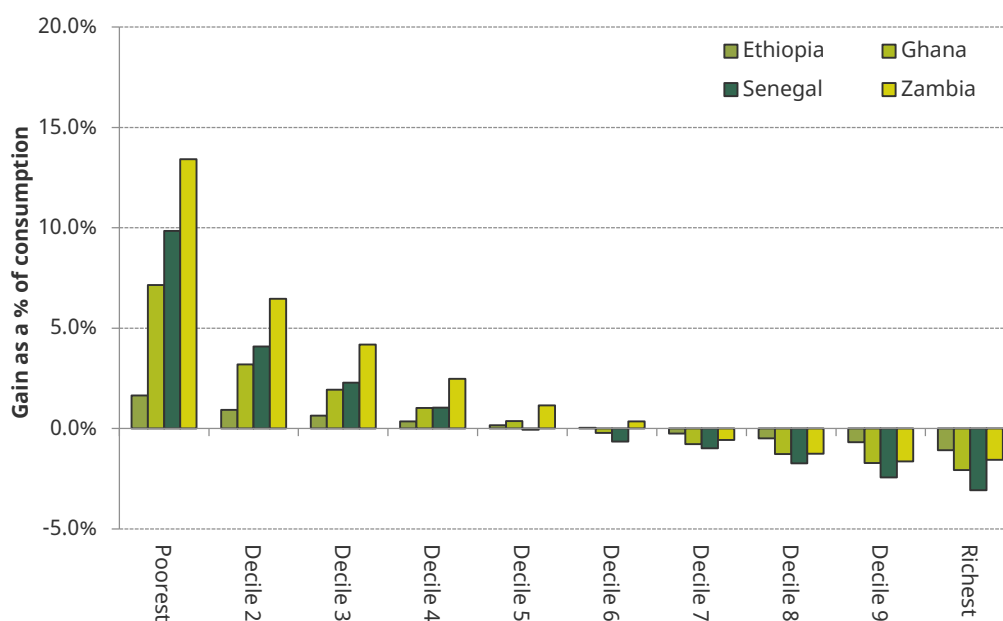
Note: Population deciles ranked by pre-reform per capita consumption; UBI is distributed per capita.
Source: Author's calculations using GHATAX, ETHTAX, and CEQ/World Bank fiscal incidence analysis.

Table 4 indicates that this reform is estimated to reduce most metrics of poverty at the lowest international poverty line, except for the poverty headcount in Senegal. At higher poverty lines, however, poverty headcount rates are generally increased, as households whose consumption is close to these thresholds are towards the middle or upper parts of the consumption distribution in these countries. As shown in Figure 2 these households are estimated to pay more additional VAT than the value of the UBI they receive. The net redistribution to poorer households from this reform also reduces measures of inequality in all countries, as one would expect. Across the four countries analysed, the Gini coefficient is decreased by an average of 0.0064.

Table 2. Marginal contributions to poverty reduction from implementing a uniform VAT and using 75% of the revenue on UBI payments

Poverty line	$1.90 per day		$3.20 per day		$5.50 per day	
Measure	Headcount	Gap	Headcount	Gap	Headcount	Gap
Ethiopia	0.0024	0.0013	-0.0026	0.0008	-0.0020	-0.0007
Ghana	0.0067	0.0033	0.0044	0.0045	-0.0052	0.0024
Senegal	-0.0015	0.0062	-0.0048	0.0009	-0.0039	-0.0030
Zambia	0.0019	0.0088	-0.0041	0.0041	-0.0023	0.0007

Note: A positive number indicates a reduction in poverty; poverty is calculated based on pre- and post-reform consumption; UBI is distributed per capita.
Source: Author's calculations using GHATAX, ETHTAX, and CEQ/World Bank fiscal incidence analysis.

Next steps: does this mean that a uniform rate of VAT and UBI is the answer?

These results indicate that existing preferential rates of VAT are a poor way of targeting low-consumption households. In many cases they appear regressive even in proportional terms. But the conclusions from considering the absolute cash impacts across the consumption distribution are unequivocal: better off households are subsidised substantially more by preferential VAT rates.

Even a completely untargeted UBI funded by 75% of the revenue gain from abolishing preferential rates would allow significant redistribution towards low-consumption households. However, this does not mean that this is an immediate policy recommendation as there are considerations other than equity for such a large policy change. The impacts of a UBI, for instance, on work incentives and labour supply are not yet well understood but are crucial for understanding the full implications of the simulated policy scenario. In addition, there are elements of VAT design in LMICs which require further research. For example, the presence of large (untaxed) informal sectors may strengthen the efficiency case for VAT rate differentiation if sellers of particular goods or services can more easily switch to the informal sector in response to higher taxes: though this research has focused on the distributional argument, such considerations are crucial for the design of VAT.

Nonetheless, the scale of possible redistribution implied by these results is striking. This analysis represents the first stage of a larger research collaboration on this subject and in order to test the wider robustness of these conclusions, we will soon be adding results for Indonesia, Sri Lanka, Tanzania and Vietnam. Furthermore, we will continue to refine methodologies and consider new elements to our analysis, such as the effects of a new cash transfer scheme including some element of targeting.