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VAT and simplified tax schemes: preliminary results

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Executive summary

This briefing note presents preliminary results from a study on value added tax (VAT) and tax compliance in the Indian state of West Bengal. It focuses particularly on the impact of a tax reform that lowered the compliance costs small firms faced when paying their taxes. This is a pressing issue for many governments in low- and middle-income countries, which view widening the tax net as a key priority, but must seek to do so without placing an excessive burden on small firms that are often ill-equipped to comply with complex administrative processes.

In 2013 the West Bengal government implemented a reform that introduced a new form of paying tax – the composite scheme. The two previously-existing schemes under which firms paid tax were regarded as potentially too cumbersome for small firms to comply with. Thus, such firms were given the option of choosing the composite scheme, under which they would only have to pay a lump-sum amount once a year and file a very minimal tax form.

We find that nearly 10,000 firms registered with the tax authorities to pay tax under this new composite scheme. This corresponds to a 6% increase in the number of tax-registered firms, and a 14% increase in the number of small tax-registered firms – the type of firm targeted by the reform. Whilst we cannot tell if these firms existed in the informal sector prior to the reform, qualitative interviews with firms and tax officials suggest that the majority of firms were likely to have been in operation prior to 2013 but not registered with the tax authorities. The reform was therefore successful in achieving its main aim, which was to bring firms into the formal (tax-registered) sector.

Very few firms that were registered to pay tax prior to the reform and eligible to choose to pay tax under the composite scheme chose to do so. This suggests that for the average firm the compliance costs of filing taxes under the pre-reform tax scheme were mostly 'fixed costs': once firms have paid their taxes in one year the compliance costs of paying tax for an extra year are not large enough to induce them to opt for the new composite scheme. The firms that did change scheme, however, paid 14% more tax under the new scheme than they would have paid if they had not changed scheme. This suggests that for some firms the recurring costs of filing taxes under the pre-reform schemes are large.

A simple estimate suggests that revenues collected from firms that join the new scheme are in the 99–127 million Rupees (Rs) range (1.2–1.5 million GBP). This is a negligible increase compared to West Bengal's total revenue receipts from firms, because most of these revenues come from very large firms unaffected by the reform. It is, however, a 114–146% increase in tax revenues collected from small firms compared to the amounts collected from such firms prior to the reform.

1. Introduction

This briefing note presents preliminary evidence regarding the impact of a recent tax policy reform in the state of West Bengal in India, and is joint work with Tushar Nandi (Centre for Training and Research in Public Finance and Policy (CTRPFP), Kolkata). It is part of a wider project on value added tax (VAT) and simplified tax schemes that studies how the combination of VAT and turnover taxes, a ubiquitous characteristic of tax systems in low- and middle-income countries, affects firms' compliance and production behaviour.

The aim of this study is to contribute to the fast-growing body of evidence on public finance in low-income countries by considering how the tax system shapes the production and evasion decisions of private agents in this context.[1] Our focus is on VAT.

VAT is often described in the policy literature as a superior tax system in terms of both revenue and production efficiency.[2] It is thought to be a tax particularly suited for low-income countries as it provides governments with information on transactions from two sources, enhancing their capacity to spot under-reporting of tax liabilities. This theoretical advantage has been influential in shaping tax design; the number of low- and middle-income countries that have adopted VAT has increased from five in the early 1970s to 86 today.[3] There is, however, strikingly little research on the way VAT shapes firms' incentives to comply with the tax system and its impact on the overall efficiency of production networks. Two exceptions are Pomeranz (2015), who provides evidence that the VAT paper trail does improve tax compliance in Chile, and De Paula and Scheinkman (2010), who show theoretically that a VAT system affects firms' choices of trading partners, giving firms an incentive to only trade with firms with the same tax status.[4]

This project aims to go one step further by considering how, by linking firms' decisions along the supply chain, VAT systems affect the overall efficiency of an economy's production network. The tax system incentivises tax (non-) compliant firms to trade with other tax (non-) compliant firms as discussed above. This may, under some conditions, improve the overall revenue efficiency of the tax system but worsens the economic efficiency of production networks, by distorting the supplier–buyer matches.

We also aim to evaluate the impact of one policy that aims to tackle one of the known disadvantages of VAT, particularly salient in low-income countries: the high costs for firms of complying with the tax. In 2013 the government of West Bengal introduced a new tax scheme that allows small firms to opt for lump-sum tax payments and greatly simplified tax forms. This reform, presented in more detail below, is the focus of this briefing note.

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1 See, for example, M. C. Best, A. Brockmeyer, H. J. Kleven, J. Spinnewijn and M. Waseem, 'Production versus revenue efficiency with limited tax capacity: theory and evidence from Pakistan', *Journal of Political Economy*, 2015, 123, 1311–55.

2 L. P. Ebrill, *The Modern VAT*, International Monetary Fund, Washington DC, 2001; M. Keen, 'What do (and don't) we know about the value added tax? A review of Richard M. Bird and Pierre-Pascal Gendron's "The VAT in Developing and Transitional Countries"', *Journal of Economic Literature*, 2009, 47, 159–70.

3 L. Gadenne, 'Three essays on public finance and development', PhD thesis, Paris School of Economics, 2012.

4 D. Pomeranz, 'No taxation without information: deterrence and self-enforcement in the value added tax', *American Economic Review*, 2015, 105, 2539–69; A. De Paula and J. A. Scheinkman, 'Value-added taxes, chain effects, and informality', *American Economic Journal: Macroeconomics*, 2010, 2(4), 195–221.

The project is characterised by the following features:

- It is demand-driven: it results from a collaboration between the West Bengal tax authorities (Directorate of Commercial Taxes), the Centre for Training and Research in Public Finance and Policy (CTRPFP) in Kolkata, and the Institute for Fiscal Studies.

- It leverages data from several high-quality sources, only some of which are included in this preliminary note. We will use a novel administrative dataset that contains the VAT returns of more than 200,000 firms in West Bengal over six years, allowing us to map all supplier–buyer relationships amongst tax-registered firms. This data will be analysed together with firm-level surveys that are available for India over our period of study and contain information on both tax-registered and non-registered firms. Access to this unique combination of datasets will provide the opportunity to study this important issue robustly.

- The context for this analysis (weak enforcement and substantial non-compliance; relatively high compulsory VAT threshold; simplified schemes for small businesses) and issues in question (production efficiency, revenue collection) are relevant in a wide range of low- and middle-income countries, including, for instance, Ghana. Indeed, in its 2017 budget, the Government of Ghana replaced the combined VAT and National Health Insurance Levy (NHIL) rate of 17.5% for 'traders' (both retailers and wholesalers) with a flat-rate turnover tax of 3%.

2. Context: West Bengal's VAT system

West Bengal is an Indian state with 90 million inhabitants, in charge of setting and levying VAT on the sale of non-agricultural commodities. Its GDP per capita, at 1,200 USD, is roughly the same as the all-India average, allowing us to categorise the state as a large lower-middle-income economy. It is also one of the most densely populated states of India, with a population density of 903 per sq. km (national average 380).

In 2010–11, our first year of study, 42% of the state's revenue came from its own tax revenues, of which 60% came from VAT.[5] Like most VAT systems in the world[6] West Bengal's is a 'dual' VAT system: firms whose turnover is above 50 lakh Rs (roughly 60,000 GBP) have to pay the VAT but smaller firms may choose between paying the VAT and paying a 0.25% tax on turnover.[7] Firms that opt for the turnover scheme cannot issue tax receipts for their sales, so VAT-paying firms cannot deduct purchases from firms under the turnover scheme from their tax liability. The main rationale for allowing smaller firms to opt for the turnover scheme is to exempt them from the high compliance costs associated with VAT filing, which may be particularly large in low- and middle-income countries where tax literacy is lower.

Our data-sharing agreement with the West Bengal tax authorities gives us access to all the tax returns of all firms paying tax under either the VAT or the turnover scheme in West Bengal in the fiscal years 2010–11 to 2014–15. At firm level, these data include the list of all purchases and sales to other firms, with the tax ID number of the client/supplier when the client/supplier is registered with the tax authority. This enables us to observe all transactions between firms registered with the tax authority. In addition, we have access to firms' registration information (firm type, location and age), types of commodities sold, and information on which firms were audited by the Directorate of Commercial Taxes.

2013 reform

In 2013 the government implemented a tax reform whose aim was to lower the cost to small firms of complying with the tax system. The government of West Bengal was concerned with the size of the informal sector (understood here to be firms that are eligible to pay tax but not registered with the tax authorities) and believed that some firms were reluctant to bear the compliance costs associated with filing tax returns, and were wary of declaring themselves to the tax authorities for fear of being 'harassed' by tax auditors. (Serious effort to streamline audits and make audit rules less arbitrary had already been made in recent years to improve this situation.[8]) These concerns were confirmed by our qualitative interviews with small and medium-sized firms.

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5 S. Marjit, J. K. Dwibedi and T. Nandi, *Evaluation of State Finances*, Project Report submitted to the State Finance Commission, Government of West Bengal, 2014.

6 M. Keen, 'What do (and don't) we know about the value added tax? A review of Richard M. Bird and Pierre-Pascal Gendron's "The VAT in Developing and Transitional Countries"', *Journal of Economic Literature*, 2009, 47, 159–70.

7 Very small firms with a turnover under 5 lakh Rs (6,000 GBP) do not have to pay taxes.

8 See, for example, B. Kumar and M. Ghosh, 'Improvement in quality of sales tax assessments in West Bengal: a study', *South Asian Journal of Macroeconomics and Public Finance*, 2016, 5, 231–7.

The reform, introduced in the 2013–14 fiscal year, gave small non-manufacturing firms with a turnover below 50 lakh Rs the option to register with the tax authorities under a new 'composite scheme'. The stated objective of the reform was to provide a simpler alternative to the prevailing elaborate tax schemes for smaller businesses, in order to give firms incentives to enter the formal (taxed) sector. Paying tax under the new scheme works as follows: at the start of the fiscal year (April) these firms have to fill in a form declaring their turnover in the previous year and pay one of two lump-sum amounts: 7,000 Rs (85 GBP) if their turnover is below 30 lakh Rs (roughly 36,000 GBP) or 12,000 Rs (145 GBP) if their turnover is between 30 and 50 lakh Rs (roughly 60,000 GBP).

Opting for this scheme instead of the existing turnover or VAT schemes gives firms the following advantages:

i) They do not have to maintain full accounts to be presented to the tax authorities in case of an audit.

ii) They do not have to fill in a lengthy tax return at the end of the fiscal year – they just have to complete one simple tax form at the start of the year.

iii) They are extremely unlikely to be selected for audit and assessment – unlike firms in both existing schemes, which enter the tax authorities' risk-based system of selection for assessment and audit.

iv) Tax officers are unlikely to visit their place of business unless officers have strong suspicions that they are substantially under-declaring their turnover.

Table 1 compares these amounts to the amount of tax small firms have to pay under the pre-existing turnover scheme:[9] we see that the amount of tax to be paid is not necessarily smaller under the new composite scheme than under the pre-existing turnover scheme. This raises the possibility that some firms may choose to switch from the turnover scheme to the composite scheme even if this increases their tax liability, if the decrease in compliance costs more than compensates for the increase in tax.

Table 1. Tax payable under the new composite scheme and under the existing turnover scheme

Taxes payable by small firms (Rupees)		
Turnover of sales in the preceding year	**Taxes under the new composite scheme**	**Taxes under the existing turnover scheme**
Not exceeding 30 lakh Rs	7,000 Rs	0.25% of turnover: 0–7,500 Rs
Exceeding 30 lakh Rs but not exceeding 50 lakh Rs	12,000 Rs	0.25% of turnover: 7,500–12,500 Rs

Source: West Bengal Value Added Tax Act, 2003 (http://www.wbcomtax.nic.in/pdf/VAT-2003.pdf); The Composition Registration Scheme, 2013 (http://wbcomtax.nic.in/Circulars/Trade_Circular_10_2013.pdf).

[9] Amounts payable under the VAT scheme are a function of several characteristics of firms and cannot be summarised by turnover level.

3. Impact of the reform

In collaboration with the Commissioner for Commercial Taxes (CCT) office in Kolkata, we have collected data on firms entering the new scheme and the tax that they paid. More precisely, for each firm that registered to pay tax under the new scheme we know its registration year, its last year of payment, and its last tax payment.

We also have data on all firms paying tax under the two other tax schemes (VAT and turnover tax) since fiscal year 2010–11. This allows us to observe whether firms that join the new scheme were previously paying tax under another scheme. This is crucial here, as the aim of the scheme was to give firms currently not paying tax an incentive to register with the tax authorities. A potential (negative, from the point of view of the government) side-effect of the reform could be that firms previously paying tax under the turnover scheme could decide now to pay tax under the new scheme, which might allow them (see Table 1 above) to pay less tax and to engage in more evasion, as firms in the new scheme are less scrutinised. On the contrary, if the decrease in compliance costs associated with the new scheme is large enough, these firms may be willing to pay tax under the new composite scheme, even if this means that their tax payments increase. With our data we are able to estimate:

i) the extent to which the scheme was successful in bringing firms from the informal sector into the tax base;

ii) the extent to which firms previously registered with the tax authorities found the new composite scheme attractive;

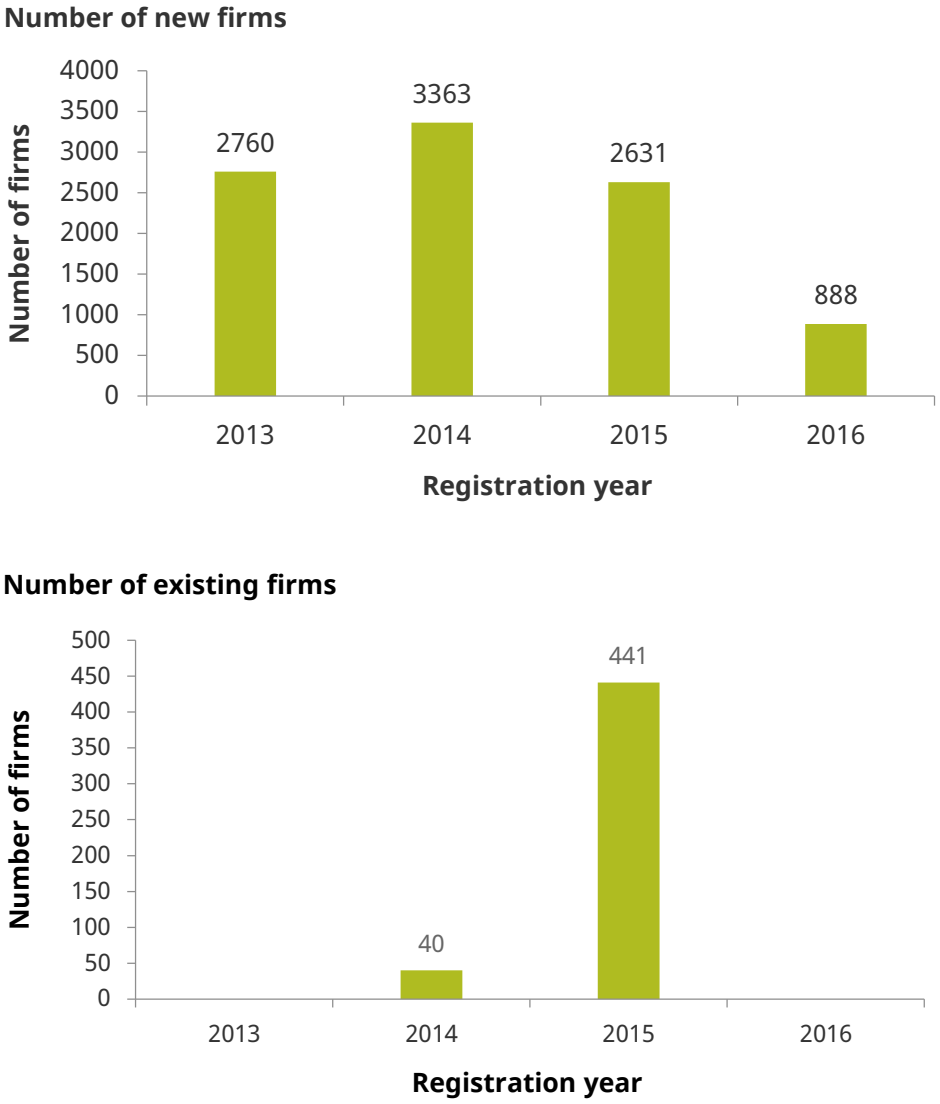
iii) whether this led to foregone tax revenues.

Number of firms enrolled with the tax authorities

Figure 1 presents the number of firms registering under the new scheme, by registration year. The top graph shows the distribution of 'new firms', i.e. firms that were not previously registered with the tax authorities under any scheme. There are 9,642 such firms. We cannot tell if these firms existed in the informal sector prior to the reform but qualitative interviews with firms and tax officials suggest that the majority of them were likely in operation prior to 2013 but not registered with the tax authorities. The bottom graph shows the distribution of firms that had been paying tax prior to joining the new scheme, and there are 481 of them.[10] Of these 481 the majority (82%) were in the turnover scheme prior to joining the new composite scheme. Overall more than 10,000 firms have joined the new composite scheme and 95% of these firms were not registered with the tax authorities beforehand.

[10] We do not yet have data on these firms for fiscal year 2015–16, so we do not know about firms that were paying taxes under the old turnover or VAT scheme but decided to join the new composite scheme in 2016.

Figure 1. Number of firms registering under the new composite scheme, by registration year



Source: Author's own calculations using data provided by the Commissioner for Commercial Taxes in Kolkata and the West Bengal Revenue Authority.

How does this compare to the stock of existing registered firms? There were 148,000 firms paying tax under either the turnover scheme or the VAT scheme in fiscal year 2012–13. Assuming no new firms would have registered under these schemes in the absence of the reform and firms that were registered previously would have remained registered, the reform led to a 6.8% increase in the number of registered firms. In practice, however, the number of firms registered with the tax authorities was increasing even prior to the introduction of the reform. Overall the number of firms in the turnover or VAT scheme increased by 2.5% per year over the period. Assuming the number of registered firms would have increased by 2.5% per year in the absence of the reform, we find that the reform increased the number of registered firms by 6.4% by 2015–16.

Another way of looking at the impact of the reform on the number of registered firms is to note that only non-manufacturing firms with an (annual) turnover of less than 50 lakh Rs

are eligible to join the scheme, and to compare the numbers that joined with the number of firms previously registered that fit these criteria. There were 68,446 such firms in fiscal year 2012–13, and this population was increasing by roughly 1% per year prior to the reform. Assuming this trend would have continued in the absence of the reform, we find that the reform increased the number of registered non-manufacturing firms with a turnover of less than 50 lakh Rs by around 14%.

Overall, these preliminary numbers indicate two things. First, the scheme was successful in getting 'new' firms to register. This suggests that the new composite scheme decreases the compliance cost of paying tax enough to induce marginal firms to register. Second, firms that were already registered did not take a strong interest in the new scheme – less than 1% of the firms that were registered in 2012–13 and were eligible to choose the new scheme did so. This suggests the compliance costs of paying taxes under the VAT or turnover scheme mostly take the form of 'fixed costs': firms that had already paid taxes under these schemes at least once were apparently not very interested in the new scheme.[11]

Note that once registered with the tax authorities, firms under the new composite scheme do not necessarily pay tax every year. We do not have data on firms' tax payments in all years but we know the date of their last tax payments, and see that this is in 2013 for 9% of firms and in 2014 for 32%. A further 32% have last tax payments in 2015, the rest paid taxes in 2016.

Finally, note that some firms may have paid taxes in 2016 after the data were consolidated and given to us; we cannot be certain of what share of firms effectively paid taxes in 2016 but we can say for sure that roughly one-third of firms that had registered under the new scheme up to 2015 did not pay taxes in 2015. This suggests either that firms that join the new composite scheme have a high likelihood of going bankrupt (or finding themselves with a turnover of less than 5 lakh Rs and no longer required to pay taxes) or that these firms still exist but do not necessarily pay taxes. This affects our estimates of revenues gained under the scheme, as discussed below.

Tax payments received

We do not know what taxes were paid by each firm every year. We therefore have to estimate tax revenues collected using, for each firm, three pieces of information: the last amount they paid, their registration year, and the year in which they paid their last amount. The overwhelming majority of firms (96%) paid 7,000 Rs in taxes the last year in which they paid taxes under the new scheme, the rest paid 12,000 Rs. On average firms in our data paid taxes under the new composite scheme for 1.8 years over the period 2013–16. We estimate the tax revenues collected by the new scheme under four scenarios.

Our first scenario assumes that firms always paid the same amount and paid taxes in all the years between their registration year and their year of last payment: a firm that paid 7,000 Rs in 2016 and registered in 2014 will therefore have paid 21,000 Rs over the 3-year period. Under this scenario firms paid 138 million Rs in total under the new scheme.

[11] We cannot rule out the possibility that some of these firms failed to join the new scheme simply because they did not hear about it.

Our second scenario assumes that firms always paid 7,000 Rs in the years between their registration date and their last payment. This leads to a total tax collection under the composite scheme of 135 million Rs.

A third 'optimistic' (but less likely) scenario assumes that firms always paid 12,000 Rs in the years between their registration date and their last payment, which would mean that they paid 179 million Rs in total.

Note, though, that we do not know whether firms paid any tax at all during the years in between their registration year and the year of their last payment.

Our fourth, more pessimistic scenario therefore assumes firms only paid taxes in their registration year and their last year of payment (and assumes they paid the same amount both years). Under this scenario the firms paid 110 million Rs.

To complete the analysis of the tax revenues gained by the tax authorities thanks to the new scheme one needs to take into account the foregone revenues that the 481 firms that were already paying tax prior to joining the new scheme would have paid had they not joined. The most straightforward way to do that is to assume these firms, if they had not joined the new scheme, would have continued paying the same tax as they did prior to joining the new scheme. These firms were actually paying less tax (on average 12% less) prior to joining the scheme than under the new scheme. This suggests these firms were willing to forego some revenue in order to file tax under the new scheme and qualifies somewhat our conclusion above that most of the compliance costs of paying tax under the VAT or turnover scheme are 'fixed costs'. These firms had already paid these fixed costs but nevertheless chose to join the new scheme, despite having to pay more under that scheme. So, for them at least, the recurring (variable) cost of filing tax under the VAT or turnover scheme every year is enough to make them pay more taxes. This suggests that these compliance costs are highly heterogeneous in the population of firms; this implies that it may well be optimal for the tax authorities to offer a variety of tax schemes with different tax and compliance costs.

This analysis indicates that the cost of foregone revenues from firms that changed scheme after the reform is small, less than 11 million Rs. Overall the tax raised by the new composite scheme is in the 99–168 million Rs range. We note that the optimistic scenario above is highly unlikely and prefer to use as bounds the range 99–127 million Rs.

How does this compare to total tax revenues raised from firms in West Bengal in a typical year? Total tax revenues in the last fiscal year prior to the reform (2012–13) were 18,400 million Rs. The total revenues gained thanks to the reform (over three fiscal years) represent a very small share (0.5–0.7%) of that. Overall the reform increased tax revenues by less than 0.2% per year.

Another way of looking at the question is to compare the revenues raised by the new composite scheme to the revenues raised by the turnover scheme – the other 'simplified' tax scheme available to firms after the reform. This scheme raised on average 87 million Rs over the period, so the introduction of the new composite scheme raised the amount of tax paid by firms opting for a 'simplified' tax scheme (either the turnover scheme or the new composite scheme) by 114–146%.

The stark difference between these two scenarios is due to the fact that very few firms are responsible for the vast majority of tax payment amounts in West Bengal (the top 5% of taxpayers pay more than 100% of all tax revenues here, as some firms have negative VAT liabilities), as in all other tax jurisdictions around the world. Overall, our results suggest that introducing new simplified tax schemes is not the right kind of tax reform to implement if tax authorities' aim is solely to increase tax revenues. Tax authorities must juggle with a large variety of objectives, one of which is to ensure that the tax system is perceived as fair. Tax morale is probably affected by taxpayers thinking that other firms like them are not paying their fair share of tax; ensuring that firms eligible to pay tax are indeed paying at least some tax is likely to improve the population's overall satisfaction with the tax system. The 2013 West Bengal reform, by increasing the number of small firms registered with the tax system by 14%, is in that respect a step in the right direction.

Finally, we cannot estimate the medium- and long-run impacts of the reform. It may be that firms once registered with the tax authorities then pay taxes every year (though our preliminary results suggest this is not true for all firms), and the firms that chose to register thanks to the introduction of the composite scheme in 2013 may well grow to be large firms liable to pay VAT and eventually contribute a lot more to the total revenue receipts of the West Bengal government. The challenge here is for the tax authorities to monitor these firms sufficiently to ensure that when they become VAT-liable they indeed start paying VAT and do not simply return to the informal sector.

4. Conclusion and next steps

This briefing note presents preliminary results regarding the impact of a reform that introduced a simplified way of paying tax for small firms in West Bengal through a new composite scheme. We find that the reform was successful in widening the tax net: the number of firms registered to pay tax increased by roughly 6%, the number of small registered firms (those targeted by the reform) by around 14%. This suggests that many small firms that had previously chosen to remain outside the tax net because of the high compliance costs of paying tax were induced to register with the tax authorities by the introduction of a low-compliance-cost tax scheme.

However, the reform had a negligible impact on West Bengal's tax revenues. This can be explained by the fact that most tax revenues are levied from very large firms that are not affected by the reform. We find no evidence that firms used the reform to lower their tax liability: if anything the few firms that were paying tax prior to the reform and chose to join the composite scheme after its creation increased their tax payment as a result. This suggests that some firms faced high costs of complying with the tax system under the pre-reform tax schemes.

Overall, our results indicate that simplifying the steps firms must take to comply with the tax system is a positive move in a low-tax-compliance setting. It will inevitably increase the number of firms paying small amounts to the tax authorities and improve the overall compliance of potential taxpayers (though it may not necessarily increase total tax revenues).

A full cost–benefit analysis of the reform would require data on the costs to the tax authorities of implementing the reform, but we speculate that the dynamic effects of the reform over time may increase the revenue impact for two reasons. Firstly, widening the tax net may increase tax morale in the population as a whole and help make complying with the tax system more of a norm over time. Secondly, if there is path dependency in firms' decision to pay tax (i.e. if firms are more likely to pay tax this year if they paid tax the previous year), the firms that registered with the tax authorities thanks to the reform may eventually end up contributing more to the overall tax receipts of the state as they become bigger and liable to pay more tax under the VAT scheme.

The next stage of this project is to examine how the operation of VAT (for larger firms and those that register voluntarily) alongside the simplified turnover and flat-rate tax affects firms' production decisions and tax compliance.