

## Making moves matter

### Experimental evidence on incentivising bureaucrats through performance-based transfers



#### In brief

- Many developing countries suffer from low levels of tax collection due to a mix of poor enforcement, tax evasion, and corruption. As a share of GDP, tax revenues are 45% lower in poor countries than in developed countries which has negative ramifications for public services.
- At the same time, governments face constraints in providing incentives to civil servants, such as tax collectors, to perform their jobs well. However, government managers are able to provide incentives through their control of where civil servants are posted as a result of good and bad performances in their roles.
- This brief examines whether a competition, or tournament, for postings could affect tax inspectors' performance in collecting tax revenue using a randomised control trial.
- The researchers find that using postings as an incentive can be an extremely cost-effective way to improve performance and that the promise of performance-based postings substantially raised tax revenues. However, the results also suggest that applying them too often may be counterproductive.

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## Background

The underprovision of public goods is a serious constraint to growth in developing countries. One reason that public goods are so limited in developing countries is the low level of tax revenues, which as a share of GDP are 45% lower in poor countries than in developed countries (Gordon and Li 2009). Although there are many reasons behind the low levels of tax collections in developing countries, poor enforcement, as well as tax evasion and corruption, are believed to play an important role (see, e.g., Fisman and Wei 2004, Yang 2008).

At the same time, governments face constraints in providing incentives to civil servants, such as tax collectors, to perform their jobs well. Pay is often highly controlled by civil service regulations that determine salary through tenure and education level, and promotions may be restricted by seniority-based systems, leaving little to no room for governments to reward employees based on actual performance.

One way government managers can provide incentives, however, is through their control of where civil servants are posted. One often hears anecdotal stories of bad performers being sent to remote and unattractive locations as a punishment, or good performers being sent to an attractive location as a reward for exemplary performance. Yet in spite of the potential for postings to be used as an incentive, in practice, factors other than performance, like personal or political connections or bureaucratic arbitrariness, are used to assign positions in bureaucracies (Iyer and Mani 2012). And even if governments wanted to use postings as a performance incentive for employees, getting employees to reveal their preferences, creating a system to take into account varying preferences and repost employees, and the disruption that may ensue could end up costing the government more than the gains from the improved employee performance.

To test whether governments can leverage the ability to transfer as a performance incentive for civil servants, researchers Adnan Q. Khan (IGC, LSE), Asim I. Khwaja (Harvard University), and Benjamin Olken (MIT), along with the Center for Economic Research in Pakistan (CERP) and partners in the Pakistan Department of Excise and Taxation and the Government of Punjab, conducted a randomised control trial of a system where tax inspectors are posted based on performance with the property tax department of the Province of Punjab, Pakistan's most populous province. Financial support for the project came from IGC and National Science Foundation.

The research team's previous collaboration with the Government of Punjab and the Department of Excise and Taxation on performance pay (see Khan, Khwaja, Olken 2016) provided a foundation to develop, implement, and evaluate this incentive scheme with government partnership to ensure policy relevance and sustainability.

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In Punjab, tax inspectors are posted to pre-defined geographical areas, or “circles,” where they are responsible for assessing existing properties, identifying new properties, and collecting property taxes owed. This role, combined with low wages and minimal performance incentives, may lead to tax inspectors accepting payments from property owners for misrepresenting the value of a property or keeping properties off tax records, ultimately reducing tax revenues collected for the state.

## The study

The researchers examined whether a competition, or tournament, for postings could affect tax inspectors’ performance in collecting tax revenue in two ways. Offering a performance-based choice of posting could encourage inspectors to exert more effort to obtain their preferred posts, resulting in an incentive effect. Sorting inspectors into posts by choice could also affect overall outcomes, which is an allocation effect. If inspectors select posts in which they perform better, offering choice could result in a more efficient allocation than the status quo. On the other hand, if inspectors select posts from where they can better extract rents, an allocation of postings based on the choice of inspectors can have the opposite effect. Therefore, the experiment was designed to assess the impact of the tournament, as well as the separate incentive and allocation effects.

In this experiment, tax inspectors in metropolitan areas in Punjab were randomly assigned to groups of approximately ten tax circles. These groups of ten circles were then assigned to either a control group, where postings for tax inspectors were assigned as usual by the government, or a treatment group, where postings were assigned based on the performance of the tax collector.

At the beginning of the first year of the experiment, tax collectors in the treatment group were informed that at the end of the first year, their posting would be reassigned within their assigned group of circles using a ranking system based on the improvement of tax performance in their own circle. Specifically, if inspectors were the top-ranked inspector in their group of ten circles, they would be posted to their top choice circle in their group in year two. The second-ranked inspector in the group would be posted to their top preference from the remaining circles, and so on. At the end of the year, postings within the group were re-assigned based on the performances and the preferences of the tax inspectors. The scheme was carried out in metropolitan districts so that no tax inspector needed to physically move to a new location given their new posting.

In the second year of the experiment, the groups of circles were re-randomised into treatment and control groups. This re-randomisation took place before tax inspectors in the first year treatment group submitted their posting preferences, which means the preferences submitted by inspectors in the first year reflect their knowledge of whether they would be competing

again for their posting in their second year. This allowed researchers to observe tax performance in tax circles that were part of the treatment in Year 1 and not in Year 2 – did providing incentives to tax collectors just once have a lasting impact on tax performance in these treatment circles? This also allowed researchers to examine the effects of participating in the performance incentive scheme two years in a row.

### Treatment assignment of circles

	Year 2 Control	Year 2 Treatment	Total
Year 1 Control	207	50	257
Year 1 Treatment	72	81	153
(Not included in Year 1 lottery)	96	19	115
<b>Total</b>	<b>375</b>	<b>150</b>	<b>525</b>

## Findings

Using postings as an incentive can be an extremely cost-effective way to improve performance. The promise of performance-based postings substantially raised tax revenues. In circles that were part of the treatment group in Year 1, tax revenues had a 41 percent higher growth rate than in control circles. In Year 2, circles that were part of the treatment group for the first time saw a 30 percent higher growth rate compared to control circles. This reflects an increase in effort based purely on expected future postings.

In a previous property tax experiment conducted by the researchers, tax inspectors and other administrators were paid a performance bonus for increasing tax revenue collected. This study saw nearly two-thirds as large an effect as the performance pay scheme, at almost no cost to the government.

While tournaments as a performance incentive can be effective, applying them too often may be counterproductive. The researchers found that the effects of the postings disappeared in the second year if an inspector was subjected to the tournament two years in a row. This may be because inspectors find it harder to exert effort to respond to the incentive in Year 2 in their new circle – they may not know which properties can be added to the tax record, for example. Alternatively, tax inspectors might simply feel discouragement – after working hard in Year 1 under the scheme, they might be disappointed that they will have to work just as hard again in Year 2 to keep the posting of their choice.

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