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Why Can Modern Governments Tax So Much?

An Agency Model of Firms as Fiscal Intermediaries

In brief

- In advanced economies, most taxes are collected through third-party institutions, such as private or public employers, banks, investment funds and pension funds. It is known in tax law literature that tax enforcement is excellent when such third-party reporting is in place, and enforcement is weak when such reporting is not in place.

- This paper sets out a simple model providing a micro-foundation for the success of third-party reporting, whereby the government is trying to extract tax revenue from individual income earners, who are employed and paid by firms. This model can be adapted to cases where clients invest savings and recieve capital income.

- Although firms and employees could collude to report smaller incomes to government than those actually earned, breakdowns occur due to random shocks such as conflicts between employers and employees, moral concerns of a new employee, an employee mistakenly showing the true business records to tax inspectors or whistle-blowing.

- It is the combination of a large number of informed employees and the existance of business records evidence which makes third-party tax enforcement successful.

- The authors embed their micro model into a simple macroeconomic growth model where size and complexity of firms grows with technological progress. In the early stages, firms are small and untaxable. In the middle stages, firms become large enough that firms start becoming taxable. In the latest stage, firms become so large that even under the first-best tax rate, firms choose to remain in the formal sector and pay taxes.

- This theoretical framework can account for the historical growth in government and the stability of government size since 1970s in the richest economies.

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Background

The size of governments has expanded dramatically over the 20th century. A central element of this expansion has been the ability of governments to extract a substantial fraction of national products through taxation without destroying economic growth. In all advanced economies, most taxes are collected through third-party institutions such as private or public employers, banks, investment funds, and pension funds. These "firms" report taxable income such as compensation paid to employees or capital income paid to clients directly to tax authorities, and therefore act as a third party between households and the government.

It is widely known in the tax law literature and among tax practitioners that tax enforcement is excellent whenever such third-party reporting is in place, and that enforcement is weak—even in the most advanced economies—when such third-party reporting is not in place, as in the case of small family businesses. Therefore, as a first approximation, tax enforcement is successful if and only if third-party reporting covers a large fraction of taxable income. For example, the most recent US Tax Compliance Measurement Study (Internal Revenue Service, 2006) shows that individual income tax evasion rates are 53.9% when there is "little or no" information reporting, but that the evasion rate is less than 5% when there is substantial information reporting.

In spite of its central importance, the theoretical literature on tax evasion has not devoted much attention to the issue of third-party reporting or tried to explain why such a system is successful. Indeed, most of the modern literature on tax evasion follows on the seminal study by Allingham and Sandmo (1972), which focuses on a situation with no third-party reporting, i.e. on the case where enforcement is never successful in practice and which covers a minor part of taxation in advanced economies. The Allingham-Sandmo model generates a key puzzle: why are compliance rates so high in developed countries given that audit rates and penalties for tax evasion are generally very low?

A Simple Microeconomic Model

Our paper sets out a simple model providing a micro-foundation for the success of third- party reporting. In this model, the government is trying to extract tax revenue from individual income earners, who are employed and paid by firms. The firm acts as a third party that reports income on behalf of individuals. Although we focus on the case where individuals are employees of a firm, the model can easily be applied to a situation where individuals are clients investing their savings and receiving capital income from a financial institution, or where shareholders receive profits from a firm. When a firm is large and complex, using detailed business records—such as accounting books, details of purchases and sales, or payroll accounts listing individual wages and salaries—is extremely valuable for productivity. Such records are widely used within the firm and hence many employees know about them.

In principle, the firm and its employees could collude to report smaller incomes—salaries and profits—to the government than those actually earned. Under perfect

information and commitment between the firm and individuals, there would be no reason for breaking the collusion. In practice, breakdowns can occur because of random shocks such as conflicts between employees and the employer, moral concerns of a newly hired employee, or an employee mistakenly showing the true business records to tax inspectors. Breakdowns can also occur as a result of rational whistle-blowing if the government provides rewards to whistleblowers and firms cannot make employees commit not to whistle-blow ex ante. In our model, we assume that each employee has the option of reporting cheating to the government by divulging the true business records to the government. When a firm has many employees, breakdowns of collusion will occur with a high probability. Critically, it is the combination of a large number of informed employees and the existence of business records evidence, which makes third-party tax enforcement successful.

Embedding into a Simple Macroeconomic Model

The second part of the paper embeds our micro model into a simple macroeconomic growth model where the size and complexity of firms grows with technological progress. The model is constructed such that, in the absence of enforcement problems, taxes are non-distortionary and should be set to finance the first-best level of public goods. Moreover, the first-best level of public goods is constant over time, and so the first-best tax rate is constant along the path of economic growth. In the presence of tax enforcement constraints, there are three regimes over the process of development. In the earliest stage, firms are very small and untaxable, and therefore the government raises no tax revenue and supplies no public goods. In the middle stage, firm size is large enough that firms start becoming taxable provided that the tax rate is not too high. In that stage, the enforcement constraint is binding, and the tax rate and public goods provision are below the first-best level but growing over time. In the latest stage, firms have become so large that, even under the first-best tax rate, firms choose to remain in the formal sector and pay taxes. The government imposes the first-best tax rate and government size relative to output is optimal and stable over time. We present macro evidence that is consistent with this tax enforcement theory of government growth.

Our theoretical framework can account for the historical growth in government size over the last century and the stability of government size since the 1970s in the richest economies. The theoretical story does not rely on demand for public goods effects or political economy effects. Our theory shows that technological progress and economic growth leads to large and complex firms, which can then be easily taxed. Therefore, our theory shows that capitalism—in the sense of the emergence of large and complex firms using rigorous accounting—is a necessary condition for the rise of large welfare state governments, which fund public programs such as welfare programs, social insurance programs, retirement benefits and education. This can be seen as a Marxist theory in minor mode: rather than leading to revolution and communism, capitalism, by relaxing the tax enforcement constraint, breads large welfare states.

About the authors

Henrik Kleven is Research Programme Director for the IGC's States programme. He is a Professor of Economics at the LSE, Editor of the Journal of Public Economics, Director of the Public Economics Programs at the Centre for Economic Policy Research and the Suntory and Toyota International Centres for Economics and Related Disciplines. Kleven's research combines empirical evidence and economic theory to show ways of designing more effective government policies. His work on tax and transfer policy has had policy impact in both developed and developing countries.

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