Intelligence MEMOS

From: Benoit Dostie

To: Canada's Ministers of Finance

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Re: **UNPEELING THE OUTCOMES OF PAYROLL TAXES**

Payroll taxes are taxes levied on employers based on their aggregate payroll. They are paid directly by the employer and directly tied to employing a worker. Hence, these taxes are different from other payroll taxes such as employment insurance, health and safety at work, disability and pension contributions, whose costs are generally shared between the firm and the worker and vary according to the employee's salary.

Payroll taxes, including social contributions, collect approximately 25 percent of total tax revenue in OECD countries. In Canada, payroll taxes continue to be a significant component of corporate taxation in many provinces.

In theory, the impact of a tax imposed on firms is uncertain. It can be passed on to consumers, paid by employees or borne by shareholders. A tax passed on to consumers could make the firm's products less competitive in the marketplace. A tax paid by employees may have a negative impact on the quality of the workforce hired by the firm as well as on its employment level. A tax borne by shareholders through lower profits may decrease future investment opportunities.

Therefore, the impact of payroll taxes is an important empirical question. Unfortunately, the empirical literature is limited. This is mostly due to the lack of relevant data at the company level and the lack of clear identification strategies, because these taxes tend not to vary greatly within a country and across time.

Our research uses the Canadian Employer-Employee Dynamic Database (CEEDD) from 2001 to 2011 to analyze the impact of payroll taxes on firms' wages, employment levels, productivity and profits. The CEEDD is a longitudinally linked employer-employee data set based on the worker and firm tax records. As is the case with most administrative data, the CEEDD has a paucity of demographic variables, but the longitudinal and linked nature of the data allows us to take into account unobserved worker and firm heterogeneity, addressing some concerns about causation.

We start by estimating a very general wage growth equation, attempting to identify the impact of payroll taxes by exploiting geographical and time variations in tax rates as well as variations in how the tax applies based on a firm's payroll. We move on by examining more closely a natural experiment in how the payroll tax applied in Manitoba between 2007 and 2008. During that period, Manitoba effectively lowered the payroll tax rate for medium-sized firms by changing the threshold at which firms start to pay the payroll tax. Hence, ours is the first study to look at the impact of payroll taxes exploiting a natural experiment with administrative linked employer-employee tax data.

In virtually all specifications, we find no impact of payroll taxes on firms' levels of employment, productivity and profits, but we find significant and meaningful impacts on average wages (payroll divided by the number of employees). The results from worker-level regressions, including both firm and worker fixed effects, yield similar conclusions, implying that payroll taxes are passed almost entirely to workers in the form of lower wages.

This indicates that lowering payroll taxes should not be expected to yield gains in employment levels or that, conversely, unemployment problems cannot be blamed on those taxes and that those taxes do not lead to major labour market inefficiencies. However, payroll taxes should certainly be taken into account in determining the amount of fiscal charges shouldered by workers.

Benoit Dostie is a professor of applied economics at HEC Montréal and academic director of the Quebec inter-University Centre for Social Statistics.

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