



*Centre for the Study of Living Standards  
Centre d'étude des niveaux de vie*

## **Support for R&D by Small Firms: Too Much of a Good Thing**

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Government support for R&D performed by small firms is too generous, according to a study released today by the Centre for the Study of Living Standards.

The federal government and most provincial governments subsidize R&D spending because they believe that the knowledge created spills over to the broader economy from the firms that perform the R&D. The size of these spillover benefits is a key determinant of how generous government support should be.

The study, prepared by Myeongwan Kim and John Lester, confirms the existence of substantial spillover benefits from R&D performed in Canada, so governments are on the right track by subsidizing R&D. On the other hand, the current policy of subsidizing R&D performed by small firms at a higher rate than R&D performed by larger firms is not supported by the evidence.

The federal government provides a 15% tax credit for R&D performed by large firms while all small and medium-sized Canadian-controlled private firms performing R&D receive a 35% refundable tax credit. Provincial SR&ED programs reinforce this bias, raising the average small firm subsidy rate to almost 43% and the large firm rate to about 20%. In addition, about 2,000 small firms top up the SR&ED incentive, which is available to all firms performing R&D, with targeted assistance from the Industrial Research Assistance Program (IRAP), raising the subsidy rate to around 60% on average for these firms.

The more favourable treatment of small firms would be justified if they generated greater spillover benefits. But Kim and Lester do not find any evidence to support this proposition. In fact, spillovers generated by small firms are much lower than those generated by larger firms, which suggests that the small firm subsidy rate should be lower than the large firm rate. However, the development of small firms is impeded by several factors, including more

burdensome costs of filing tax returns and applying for R&D support programs, barriers to entry erected by larger firms and tax policies that unintentionally hinder entrepreneurs. Perhaps more importantly, a few small firms are the source of innovations that have large and long-lasting impacts on living standards that are not captured in the spillover analysis. As a result, it would not be prudent to consider only the spillover rate when deciding how much to subsidize R&D performed by small firms.

Kim and Lester find that the all-firm average spillover rate is approximately 30%, which is about 10 percentage points above the small firm spillover rate. Adopting this as a common federal-provincial SR&ED subsidy rate would raise real income in Canada by lowering the small firm rate and increasing the large firm rate closer to their optimal levels. The federal government could achieve the target combined rate on its own by reducing the small firm rate to 20% and raising the large firm rate to 25%. Thousands of small firms would continue to top up the SR&ED benefits with subsidies from IRAP, which could raise the subsidy rate slightly above 40% for these particularly promising firms.

Other findings in the study include:

- R&D performance, and hence spillovers, is highly concentrated. Four industries account for about 90% of total R&D performed in Canada and virtually all the spillovers. These industries are manufacturing; wholesale trade; information and cultural industries; and professional, scientific and technical services.
- Firms less than five years old generate smaller spillovers than other firms.
- The commercial or market rate of return to the firms performing R&D is much lower for small firms than for larger firms – 17% compared to 53%. The high subsidy rate enjoyed by smaller firms contributes to this outcome by reducing the hurdle rate for profitable investment in R&D. The low market rate of return may in turn be contributing to the lower spillovers generated by small firms: projects with low commercial value to the performing firm may not provide much useful knowledge to other firms either.

This study makes use of a unique data set developed in collaboration with the Canadian Centre for Data Development and Economic Research (CDER) at Statistics Canada.

The report is posted at:

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The Centre for the Study of Living Standards (CSLS) is a national, independent, Ottawa-based not-for-profit research organization. Its primary objective is to contribute to a better understanding of trends and determinants of productivity, living standards, and economic well-being in Canada through research.