

“The Relationship between Tax Payments and MNE’s Patenting Activities and Implications for Real Economic Activity: Evidence from the Netherlands”

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In this paper, the authors study the behavior of business enterprises located in the Netherlands to determine the extent to which firms engaged in innovative activities are able to reduce their income taxes by taking advantage of related tax incentives, and whether the local economic activity requirements of these incentives prevent a mismatch between where production occurs and where income is reported. This is an important issue for national accounts because the intellectual property (IP)-related profits of multinational enterprises (MNEs) can be shifted to lower-tax jurisdictions. It is also important in the context of the Organization for Economic Cooperation and Development’s (OECD) Base Erosion and Profit Shifting (BEPS) initiative, which seeks to align taxation with real economic activity.

The Netherlands has become a favorite location for foreign direct investment by MNEs around the world for many reasons, only some of which are tax related. According to the OECD, foreign firms in the Netherlands account for 15-20% of employment and 25-30% of private nonfarm business value added. A study of MNE behavior in the Netherlands can thus provide useful insights about how global innovative activity affects national accounts. Two innovation-related tax incentives figure prominently in the study. One is an Innovation Box (IB) that provides for a significantly lower statutory tax rate (5% vs. 25%) on profits from the use of IP, requiring that the IP be self-produced rather than acquired. The other incentive is a type of R&D tax credit known by its Dutch acronym as WBSO. For this provision, firms need to certify the employment and wages of research and development (R&D) staff.

The paper offers an interesting perspective on the impact of globalization on national accounts. Whereas most of the conference papers focus on the institutional framework and the accounting concepts underlying aggregate measures of economic activity, this paper uses a micro-econometric approach to obtain insights into activities that affect national accounts aggregates. Specifically, the authors estimate a reduced form regression equation using the Netherlands effective tax rate (ETR) as the dependent variable to be explained by a variety of indicators related to tax liability, including measures of innovative activity. Three such measures were featured: (1) number of patents filed, (2) number of patent forward citations (proxy for patent quality), and (3) R&D expenditures per employee.

Other independent variables suggested by previous studies include total assets, rate of return on assets, tangible capital, intangible capital, leverage, foreign-source income, and foreign ownership.

The sample consists of an unbalanced panel of enterprises located in the Netherlands--both domestic and foreign owned--that applied for a patent at any time during 2000-2010 and that also reported R&D expenditures in selected surveys. Patent data were obtained by matching enterprises from the Netherlands General Business Register (GBR) with a database from the European Patent Office. A total of 1,192 firms yielded 4,166 firm-year observations. These firms were then matched with the GBR to obtain tax and financial data. This work clearly represents an impressive database-building endeavor. However, the construction of the ultimate sample, particularly combining the R&D data with the patent application subsample, was not entirely clear. A better understanding of the relationships among these subgroups and their overall relationship to the larger Netherlands economy would have been helpful.

Under the authors' preferred model with industry and year fixed effects, each of the three lagged innovation-related measures has a significant positive relationship with a reduced Dutch ETR, although the patent forward citation measure is significant only when patent applications are dropped from the equation. However, these patent measures (unlike R&D expenditures) are skewed and highly concentrated among a small number of very large firms. This raises the possibility that the results may be driven by a relatively small subsample. Moreover, in the absence of a structural model, it is difficult to disentangle the various channels for reducing taxes. As a result, the impact on taxes of innovative activities broadly defined may actually be understated. The authors may want to consider using firm fixed effects as a way to account for firm-specific unobservable factors. Another option is to include more measures of firm size, such as sales or employment, to help isolate the impact of very large firms.

In order to tie the performance of tax-reducing innovative activities to local economic activity, the authors compare the labor productivity of firms that utilized the IB or the WBSO tax credit with all other firms over the period 2011-2015. The rationale is that higher labor productivity implies a greater impact on the local economy. Calculated as value added per employee at the two-digit sector level, the authors find that firms that used both tax incentives had higher average labor productivity in 16 of 21 sectors. One possibility, though, is that the results simply reflect the greater capital intensity of these firms, given that they are larger with more assets and most likely have significant intangible assets. Other measures that might be more closely connected to local economic activity include gross output labor productivity, which reflects the use of intermediate inputs in production, and compensation as a share of value added, which relates more directly to employment and household income.

The authors' major conclusion is that the Netherlands' innovation-related tax incentives, while clearly reducing taxes for innovative firms, most likely have little if any impact on national accounts due to the local economic activity requirements and higher labor productivity. This implies no geographic separation of innovative activity and its associated income. However, it is not entirely clear if the direct tax incentives are the only channel for innovative firms to reduce taxes. Tax savings can be achieved either directly via the specific incentives or indirectly by the strategic location of patents and other IP in low-tax countries. The indirect channel allows firms that do not qualify for the direct tax benefits to still shift income and reduce taxes, especially if their home tax rates are higher, such as for the affiliates of U.S. MNEs through 2017.

According to the OECD, the Netherlands has a relatively large share (about 40%) of shifted patents. These are patents for which the inventor country is the Netherlands but the actual applicant, such as the affiliate of an MNE, is located in a different country. Even if the patent itself is not assigned to a different country, licensing and other rights for use of the patent may be located elsewhere. As a result, firms in the Netherlands that do not necessarily meet the local activity requirements of the direct tax incentives could still pay lower taxes by strategic location of patents and patent rights in countries with lower statutory rates than the Netherlands.

Whether or not this is an issue depends partly on how the foreign affiliates of Dutch MNEs are treated in the business register. If such affiliates are fully consolidated in the enterprise statistics, then shifted patents may not be an issue. In the U.S., for example, foreign affiliate data are not included in enterprise statistics developed from business registers. Fully consolidated statistics for the Netherlands would presumably reflect both foreign affiliate income and the Dutch taxes paid on that income. If not, then the impact on the ETR is uncertain. More information about the Dutch tax system, especially the treatment of MNEs and foreign source income, would be helpful.

Another potentially significant issue is the degree of strictness in the local economic activity requirements of the innovation tax incentives. The WBSO tax credit requires certification of R&D personnel employed on approved projects and their related compensation. The IB requires that the qualifying IP was produced by the taxpayer rather than simply purchased. However, for both provisions it is not clear how much of the underlying R&D was necessarily performed in the Netherlands versus contracted to affiliated parties in other countries. Along these lines, the Netherlands recently revised

the criteria for its IB regime to be more consistent with the “nexus” requirements of the OECD’s BEPS Action Plan 5, including limitations on outsourcing of R&D to related parties.

One of the robustness checks reported differences in the results for domestic vs. foreign-owned firms. For domestic firms, the patent variable--but not the R&D expenditures variable--was significantly negative, while the opposite result was obtained for foreign firms. Given the more stringent local activity requirements for the R&D tax credit, domestic firms may be reducing taxes by locating patents in lower-tax countries without necessarily conducting activities in the Netherlands. Foreign firms may be engaged in R&D activities in the Netherlands but their patents and related income may be located in other countries. Because these possibilities have important implications for the national accounts, the authors are encouraged to more closely examine the results for foreign and domestic firms separately.