

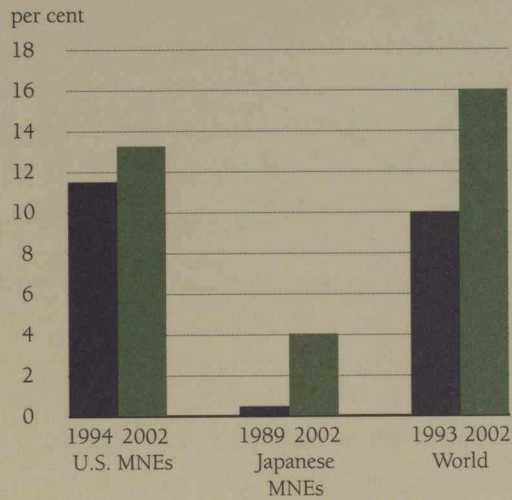
moving these functions to access specialized skills, lower costs or for other reasons.

German multinational enterprises, for example, established more R&D units outside of Germany in the 1990s than in the preceding 50 years combined.³⁵ Multinationals are spending more on R&D in both their home country and abroad, but spending outside of their home country has been increasing twice as fast as spending at home. On average, 16% of all R&D spending by multinational enterprises was spent outside their home country in 2002; this is up from only 10% in 1993. Spending on R&D outside of the U.S. by U.S. multinationals increased from 11.5% in 1994 to 13.3% in 2002. While this change, only 1.8 percentage points, may seem small, it is equivalent to US\$2.9 billion or roughly one-third of total Canadian business sector spending on R&D in that year.

Canada's over-all R&D performance is poor. R&D as a share of GDP in Canada has risen from 1.7% in 1995 to 2.0% in 2006, but still below the OECD average of 2.3%. And, much of this increase has been a result of increased government spending on R&D. In particular, higher-education's share of R&D spending in Canada rose by 10 percentage points to 37% of R&D spending in Canada while the federal government and business sector shares both declined. Taking only business sector spending (removing government as well as quasi government such as health care and universities) Canada's spending as a share of GDP is only 1.0% of GDP, roughly two-thirds of the OECD average and well below top performers such as Finland and Japan (each at 2.4%).

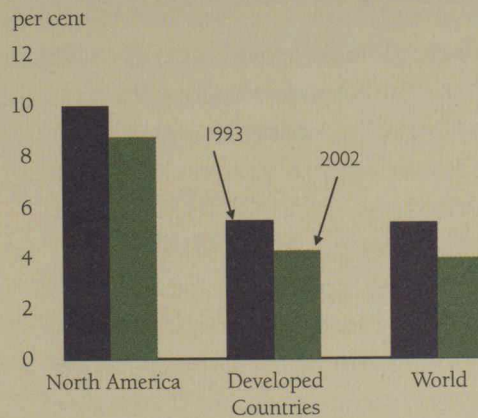
Canadian exports of R&D services grew by 316% between 1990 and 2005 and account for 8% of Canada's commercial service exports. Payments for royalties and license fees exploded by over 3300% since 1990 and accounted for 12% of commercial service exports in 2005. However, while Canada

Foreign Spending on R&D as a Share of Total by MNEs



Source: Foreign Affairs and International Trade Canada calculations based on data from UNCTAD, World Investment Report 2005.

Canada's Share of R&D Expenditures by MNEs Outside of their Home Country



Source: Foreign Affairs and International Trade Canada calculations based on data from UNCTAD, World Investment Report 2005.

maintains a sizable trade surplus in R&D services, the reverse is true for royalties and license fees.

Interestingly though, while two-thirds of Canada's R&D exports were with affiliated companies since 2000, the reverse was true over the 1990s. Thus, while it has been multinational companies undertaking much of the R&D for export more recently, this has not always been the case. Although, it is difficult

35 UNCTAD, World Investment Report 2005.