

terms of bilateral trade in intermediate inputs seems to have slowed in the post-2000 period compared to the 1990s, while integration with fast-growing Asian economies seems primarily to involve Canada imported inputs from China while selling raw materials to China.

Figure 1. Summary of Empirical Evidence on GVCs

Author(s)	Region	Time Period	Conclusions
Feenstra & Hanson (1997)	U.S.	1972, 1979, 1990	Imported inputs as a share of intermediate goods imports more than doubles
Campa and Goldberg (1997)	U.S., Japan, Canada, U.K.	1974-1995	Increase in imported inputs as a share of mfg. output for Canada, U.S. & U.K.
Feenstra (1998)	U.S., Japan, Canada, U.K.	1974, 1984, 1993	Importance of GVCs varies across countries and industries. Canada is more integrated compared to others
Hummels, Ishii & Yi (2001)	Major OECD countries	1970-1990	Imported inputs as a share of total exports increased by about 30% for most countries
Conference Board (2008)	North America	1990-2006	North American GVCs expanded in 1990s and then expansion stalled
Feenstra & Jensen (2009)	U.S.	1980-2006 various years	Imported intermediate inputs as a share of total inputs more than doubled

2.2 Relocation of R&D Activities

There is a limited amount of evidence available on the relocation of R&D activities, and most of it is fragmentary based upon surveys carried out at specific points in time. Cantwell (1995) shows that in the 1930s, the largest European and U.S. firms carried out only about 7 percent of their total R&D at locations abroad; however, this figure has steadily risen since the 1960s. Kuemmerle (1999) shows that in 1965 the 32 MNCs studied in his paper carried out 6.2% of their R&D efforts outside the home country boundaries, whereas in 1995, the corresponding figure was 25.8 percent. Asakawa and Som (2008) discuss the growing number of Western and Japanese firms that have been launching R&D operations in China and India. Other surveys provide essentially similar information.

In a recent survey overview, Huggins, Deminbag and Jankova (2007) discuss how R&D strategies and international location decisions have changed substantially in the direction of greater decentralization and cross-border knowledge interdependence. The extent of this process is evidenced by MNEs across all industry sectors allocating an increasing proportion of their R&D abroad. The authors claim that of those products that move in international commerce, R&D-intensive goods are the fastest growing segment.