

## Taking Account...

### Vertical Production Networks in MNCs

In recent decades, growth in world trade has been driven largely by the rapid growth of trade in intermediate inputs, which are the goods and services used to produce final goods and services. Most of this trade is between parent companies and foreign affiliates of multinational companies (MNCs) that have established global vertical production networks. The MNCs use these networks to spread the activities they perform (such as input production, assembly, and research and development) across different locations.

Though most foreign direct investment is still oriented toward traditional horizontal production operations, vertical production networks are becoming more common. For example, Canada and Mexico—both partners with the United States in the North American Free Trade Agreement (NAFTA)—have automobile production facilities with extensive intrafirm links with their U.S. counterparts. In other countries, such as Brazil, auto production facilities are characterized by relatively light intrafirm trade.

What accounts for the variation? In an article published in the November 2005 *The Review of Economics and Statistics*, Gordon H. Hanson, of the Uni-

versity of California, San Diego; Matthew J. Slaughter, of the Tuck Business School at Dartmouth College (and currently of the Council of Economic Advisors); and Raymond J. Mataloni, an economist at BEA, examined relevant issues and concluded the following:

- MNCs tend to focus foreign affiliate operations on processing imported intermediate inputs in countries with lower trade costs, such as tariffs.
- The location of foreign operations in vertical production networks is sensitive to other aspects of the host country's business environment. In particular, foreign affiliates' demand for imported inputs tends to be higher in countries with trade friendly policies (such as export processing zones) and in countries with lower corporate tax rates.
- The location of foreign operations in vertical production networks is also sensitive to labor costs. Foreign affiliates tend to process imported intermediate inputs in countries with relatively low wages for lower skilled workers.

The analysis of firm-level data reported in this study was conducted at BEA using data collected in BEA surveys of U.S. MNCs. The work was done

under arrangements that maintained legal confidentiality requirements.

### Prototype Satellite Account for Household Production

The Bureau of Labor Statistics' American Time Use Survey (ATUS) offers a comprehensive time series of labor time use in the United States, a critical input for nonmarket and market production. In keeping with BEA's long-term interest in nonmarket accounts, BEA economists J. Steven Landefeld and Cindy M. Vojtech and former BEA Chief Economist Barbara Fraumeni used the ATUS data to update earlier satellite account estimates of household production.

Their paper highlights how information from ATUS—which measures the amount of time spent doing various activities, including paid work, childcare, volunteering, commuting, and socializing—can add to economists' understanding of such issues as the impact on overall economic growth of increasing women's labor force participation, household production's role in investment and other spending, and the role of household production over the business cycle.

The paper is available by clicking "Papers and Working Papers" on the BEA home page at <[www.bea.gov](http://www.bea.gov)>.