Taking Account

Schultz, Okubo Discuss R&D Satellite Account

In 2006, the Bureau of Economic Analysis (BEA) plans to publish a preliminary research and development satellite account (R&DSA) with funding from the National Science Foundation. The goal is to provide a framework that will capture the economic effects of investment in R&D on the national income and product accounts (NIPAs).

Toward this goal, BEA aims to develop a method of estimating returns to R&D investment. Previous research by BEA Associate Director for Industry Economics Sumiye Okubo and former BEA Chief Economist Barbara Fraumeni established a framework for capitalizing R&D spending in the NIPAs.

However, providing a specific method of estimating returns was beyond the scope of that research. Instead, the authors assumed, based on empirical studies, that gross private returns were 25 percent and that total social returns, which include so-called spillover effects, were 50 percent.

In a study presented this month at a conference sponsored by the National Bureau of Economic Research's Program on Technological Progress and Productivity Measurement, Okubo and BEA economist Laura I. Schultz detailed a conceptual approach to estimating gross private returns. The study also applied the authors' proposed approach to spillovers, the value of research to entities that did not originate the research. (A measure of spillovers, however, will not be part of the preliminary R&DSA.)

After considering four methods of calculating returns, Schultz and Okubo determined that an approach pioneered by Jeffrey Bernstein and M. Ishaq Nadiri was most suitable for BEA's proposed R&D account.

Schultz and Okubo then designed a model that measures the impact of multiple sources of R&D on an industry's productivity by building on Bernstein and Nadiri's original cost function in three ways. First, they added the price of materials to the cost function. Second, they included foreign R&D stock as a source of spillovers. Third, they added a time variable to help account for exogenous technological changes.

In addition, Schultz and Okubo's model will be based on an expanded data set that includes nine additional industries and extends the time series by 16 years.

Moyer, Guo Discuss Source Data, Prices in China

Two BEA economists delivered presentations at a seminar in November in Xiamen, China. The seminar was sponsored by the Chinese National Bureau of Statistics and the Organization for Economic Cooperation and Development.

Brian Moyer and Jiemin Guo discussed the use of Economic Census data in preparing the NIPAs and BEA's approach to measuring quantity and price changes in the NIPAs.

Updated Fixed Asset Estimates Now Available

Revised tables of fixed assets are now available on BEA's Web site.

These tables present detailed estimates of net stocks, depreciation, and investment by type and by industry for private residential and nonresidential fixed assets.

To access these interactive tables, go to <www.bea.gov/bea/dn/FA2004/index.asp>.

Study of Oil Prices Based on BEA Input-Output Data

In the October 2005 issue of *Business Economics*, published by the National Association for Business Economics, economics professors Lawrence R. Klein, Vijaya G. Duggal, and Cynthia Saltzman published a study of oil price changes and their direct and indirect effects on the rate of inflation economy-wide. BEA provided the data for the study from its input-output tables.