

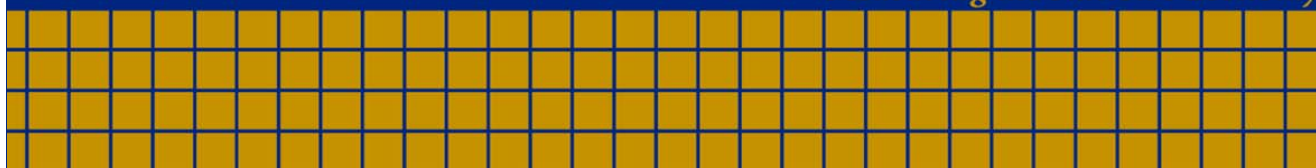
The U.S.R&D Satellite Account: Preliminary Estimates & Future Work

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Measuring the Nation's Economy.



Purpose of R&D Satellite Account

- Treat R&D as investment
 - R&D creates a future stream of benefits
 - Appropriable R&D has the qualities of an economic asset
- Part of BEA program to improve measures of intangibles in national accounts

Measuring intangibles

- Little or no market price information
- Stock market valuation of implicit value of assets provides volatile estimates
- Good data on R&D expenditures collected by the National Science Foundation for over 50 years

Overview of Estimation Method for R&D Stocks

- Sum input costs
- Include a charge for depreciation of fixed assets
- Assign investment to owning sector using funder information
- Deflate nominal investment
- Create capital stocks with perpetual inventory method

Alternative Scenarios

- Adjust for the known characteristics of R&D
 - High rates of return to R&D investment
 - Declining prices of products embodying R&D
 - Ever shorter service lives
- Handout tables 2 and 3



Results of Preliminary R&D Satellite Account: 1959-2002

- Capitalizing R&D increases:
 - Current dollar GDP by 2 ½ percent,
 - Real GDP growth by a tenth of a percentage point.
- R&D investment accounted for 4 ½ percent of growth in real GDP between 1959-2002, and accounted for 6 ½ percent between 1995-2002.
- Gross private domestic investment (in current dollars) is 11 percent higher in 2002.
- Adjusted national savings rate is 16 percent, instead of 14 percent, in 2002.

Agenda for R&D Satellite Accounts

- Work with business and academic experts to improve and expand these first year estimates:
 - Apply more refined economic estimation concepts and methods
 - Develop industry-based estimates of the impact of recognizing R&D as investment
 - Extend the satellite account methodology to BEA's international and regional accounts
 - Incorporate R&D into the I-O Accounts in 2012 and into the NIPAs in 2013



R&D Issues: Conceptual

- Scope of R&D ownership and asset boundary for R&D
- Should spillovers be included, and if so, how?
- Including R&D in the Industry, Regional, and International accounts
- Implementing a full production account, including capital services

R&D Issues: Conceptual & Empirical

- Price indexes: R&D output and inputs
- Rate of Return: depreciation, service life
- Framework to estimate Industry R&D Account
- Incorporation of MNC data on FDI
- Identify overlaps such as software
- Data needs

Schedule

- Feasibility Study of Industry R&D Satellite Account, Spring 2007
- Final R&D Satellite Account, September 2007
- Between 2007-2012, new source data and extensions to other account areas
- Conceptual and methodological issues beyond 2007
- BEA plans to incorporate R&D into the I-O accounts in 2012 and the NIPAs in 2013.



Questions?

- What are your top three priorities on the list of conceptual and empirical issues?
- Are there issues that have not been raised that should be?