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.
- 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?