

Is Productivity for Real?

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Measure of Business Sector Output

- Issues in measuring output:
 - Offshore outsourcing and imports / exports.
 - Measuring technology—computers, software, etc.
- Measure could be improved—and BEA is working to do so.
- The U.S. is ahead of other countries on the accuracy of our statistics.
- General picture of strong U.S. productivity growth is correct and is not likely to be revised away.



What Is Business Sector Output?

- What is GDP?
 - Value of goods and services produced in U.S.
 - If purchased, valued at final market prices.
 - For non-market production, valued at cost of production.
 - Avoids double counting by excluding intermediate inputs.
- What is business sector output?
 - GDP excluding non-market output (services produced by government, nonprofits, owner-occupied housing).



Three measures of GDP

GDP can be measured 3 ways that are conceptually identical:

1. Sum of industry value added
 - *Output minus intermediate inputs*
2. Sum of final expenditures
 - *consumption + private investment + government spending + exports – imports (C + I + G + X – M)*
3. Sum of income from current production
 - *Employee compensation + taxes on production + business earnings + depreciation*



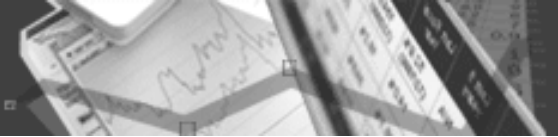
Offshore Outsourcing and Imports

- If imports are correctly measured, outsourced production is removed from GDP, business sector output.
- Principal data sources for imports:
 - For goods, Census Bureau tabulation of import documents.
 - For services, BEA quarterly or annual surveys.
 - Price indexes are used for deflation.



Issues in Measuring Imports

- Low-valued imports may not be captured.
- New importers may be missed from services surveys.
- Price indexes used for deflation may not adequately capture the cost savings that result from offshore outsourcing.
- These problems suggest imports may be understated, implying output may be overstated.
- But, do offsetting problems affect exports, output?
- Any bias likely to be small.



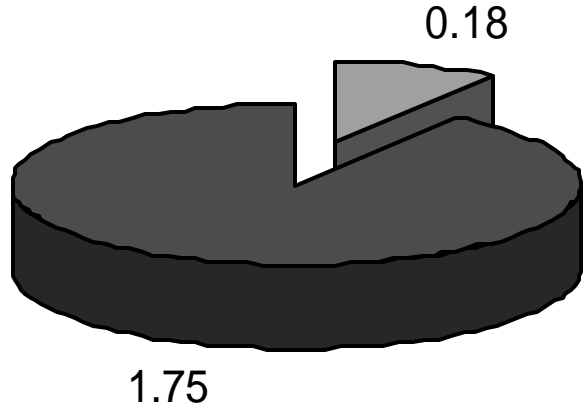
Issues in Measuring Technology Output

- To what extent is U.S. growth boosted by output of computers, software, and other high tech equipment?
- Do “hedonic” techniques for measuring computer prices make U.S. GDP non-comparable to other countries?

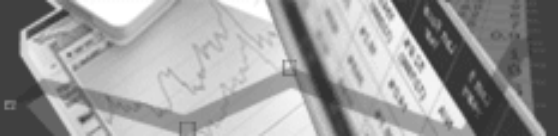


Contributions to GDP Growth, 2000-2003

**Contributions to GDP growth (1.9% per year),
percentage points: 2000-2003**

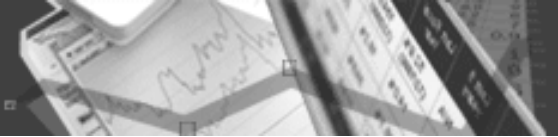


- Final sales of computers
- Other goods and services



High-Tech Equipment and Software

- Contribution of high-tech equipment and software is correctly weighted by using chain-type indexes.
- Some observers have overstated the role of computers by citing *chained dollar estimates* rather than *contributions to percent change*.
- Countries that do not use hedonic methods to adjust computer prices for quality also do not use chain-type indexes—offsetting biases.
- OECD study concludes that GDP measures of developed countries are comparable.

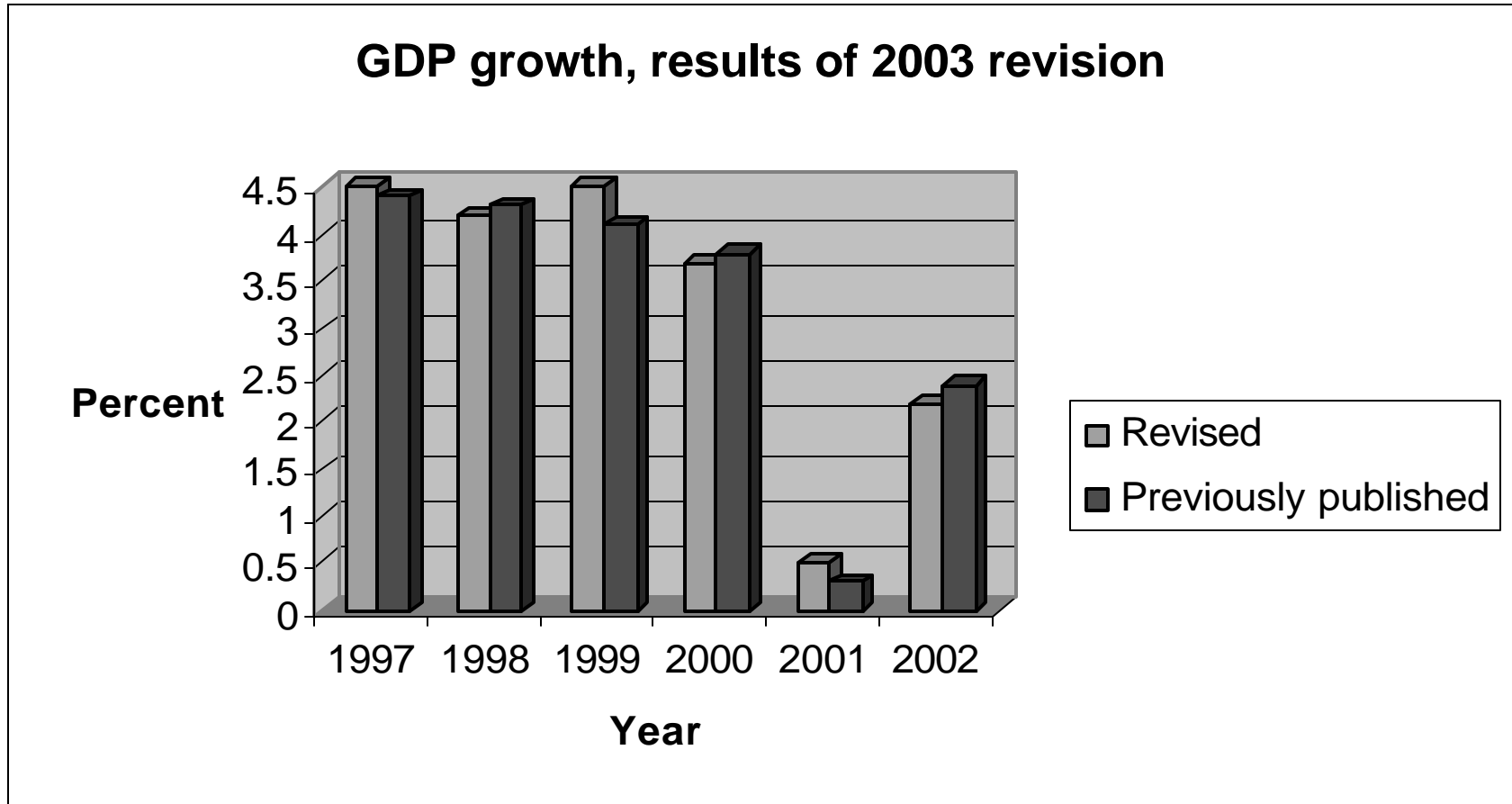


GDP Revisions

- Early estimates of GDP generally get the overall picture right.
- Typical revisions to annual GDP growth rates are modest— 0.6 percentage point or less.
- Historically, annual GDP growth rates have more often been revised up than down.
- Results of recent 2003 comprehensive GDP revision were modest revisions



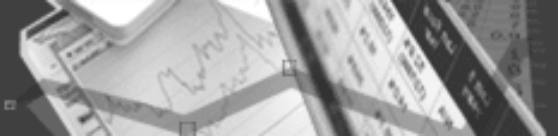
GDP Revisions





Addressing Data Shortcomings

- BEA has prepared a strategic plan, with detailed goals for filling data gaps and improving the national accounts. The plan is updated annually.
- The 2003 comprehensive revision included a number of major improvements, especially to measuring financial services.
- BEA works with Census, BLS, and other federal agencies to continually improve source data.
- BEA is working with international organizations to improve the international standards.



Is Productivity for Real?

- GDP and business sector output measures are imperfect, but any biases are likely small and offsetting.
- BEA is working to improve the measures.
- General picture of strong U.S. productivity growth since 1995 (with acceleration since 2000) is not likely to be revised away.