

Real Inventories, Sales, and Inventory-Sales Ratios for Manufacturing and Trade, 2006:I–2009:II

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THIS REPORT presents revised estimates of real inventories, sales, and inventory-sales ratios for manufacturing and trade. It presents quarterly estimates for 2006 to the second quarter of 2009 and monthly estimates for January 2009 to July 2009. The inventory-sales ratios are used to assess the likelihood that businesses will add to, or reduce, inventories in response to changes in demand; the variations and trends in these ratios are closely monitored by business cycle analysts and by economic forecasters.

The inventories that are used in computing the inventory-sales ratios are consistent with the change-in-private-inventories component of gross domestic product (GDP). Because GDP is a measure of current values, the estimates of inventories are valued at replacement cost, the current value of the goods held in inventory. Replacement cost is the relevant value for economic decisions relating to inventories and for measuring changes in inventory as part of overall output (or GDP).

The estimates of manufacturing and trade inventories and sales are mainly based on Census Bureau data on inventories and sales. For inventories, the Census Bureau data are based on reports by companies that use a variety of accounting methods. To reduce the effects of the different accounting valuations, the Census Bureau collects the data on inventories on a “pre-last-in-first-out” (pre-LIFO) basis; in effect, companies that use the LIFO accounting method report data on roughly a first-in-first-out basis. BEA uses an inventory valuation adjustment to revalue pre-LIFO inventories to replacement cost; the adjustment is derived from detailed Census Bureau surveys that report the accounting valuation used by an industry and from BEA’s calculation of how long the goods are held in inventory. For retail sales, BEA adjusts the Census Bureau data on retail sales to include sales taxes. For manufacturers and wholesalers, BEA does not adjust the Census Bureau data on shipments and sales.

BEA’s estimates of inventories and sales have been adjusted to remove the effects of price changes, or

inflation. As a result, they are referred to as “real” estimates of inventories and “real” estimates of sales. These real estimates are now valued in chained (2005) dollars.

The inventory estimates for manufacturing, merchant wholesalers, and retailers that are presented in this report were released in NIPA table 5.7.6B as part of the comprehensive revision of the national income and product accounts (NIPAs) in July 2009.¹ The estimates of sales incorporate the Census Bureau series that was available when the comprehensive revision was released.

The revisions to the estimates of inventories and sales primarily reflect the incorporation of the following new and revised source data:

- Newly available and revised Census Bureau data on inventory book values and sales;
- Revised prices and unit labor costs;
- Updated commodity weights (information on commodity inventories within each type of business) and turnover periods (average time that inventories are held by businesses) that are used in calculating inventory prices; and
- Updated commodity distribution of retail sales that is based on final estimates from the 2002 Economic Census of Retail Trade by kind of business and on final estimates of merchandise line sales from the 2002 Economic Census of Retail Trade.

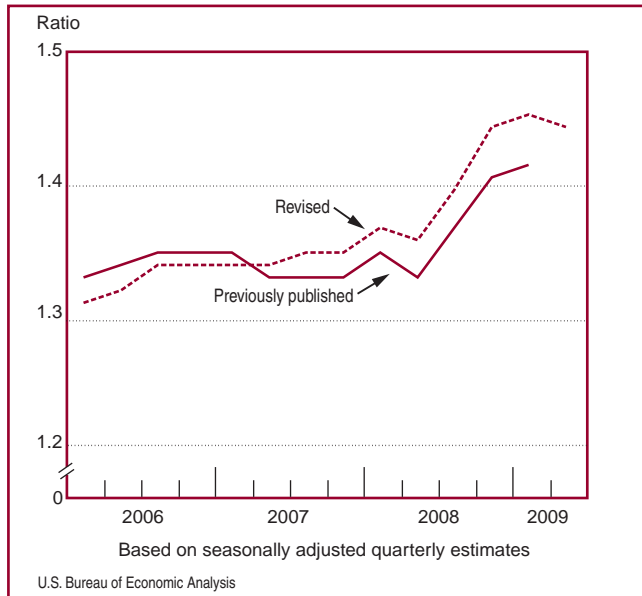
Through the first quarter of 2007, the ratios were revised down (chart 1). The downward revisions were primarily accounted for by upward revisions to merchant wholesale trade sales. For the second quarter of 2007 forward, the ratios were revised up. The upward revisions were primarily accounted for by upward revisions to retail trade inventories and

1. For the details, see Clinton P. McCully and Steven Payson, “Preview of the 2009 Comprehensive Revision of the NIPAs: Statistical Changes,” *SURVEY OF CURRENT BUSINESS* 89 (May 2009): 6–16 and Eugene P. Seskin and Shelly Smith, “Improved Estimates of the National Income and Product Accounts: Results of the 2009 Comprehensive Revision,” *SURVEY* 89 (September 2009): 15–35.

downward revisions to sales.

In table A, the revised inventory-sales ratios for 2003–2008 are compared with BEA inventory to final sales ratios as published in tables 5.7.5B and 5.7.6B and Census Bureau pre-LIFO inventories to sales ratios.

Chart 1. Real Inventory-Sales Ratios for Manufacturing and Trade



The pattern of the current-dollar inventory-sales ratios that are based on pre-LIFO inventories differs from that of the current-dollar ratios that are based on replacement-cost inventories.

For 2003–2006, the real inventory-sales ratios show little change. The real ratios of nonfarm inventories to final sales of goods and structures increase and decrease more than the other real ratios. For 2007, all of the real ratios, except for manufacturing and trade, show a decrease. For 2008, all of the real ratios show an increase. Typically, an inventory-sales ratio reaches its cyclical peak in the middle of a recession, and it also tends to decrease at the start of a recovery as inventories are drawn down.

Tables 1B, 2B, 3B, and 4B present chain-weighted quarterly and monthly statistics. Table 1B presents inventories. Table 2B presents sales. Table 3B presents inventory-sales ratios. Table 4B presents estimates of manufacturing inventories by stage of fabrication. The inventory-sales ratios in table 3B supplement the quarterly current-dollar and real estimates of ratios of inventories to final sales of domestic business, of nonfarm business, and of goods and structures that are presented in NIPA tables 5.7.5B and 5.7.6B and the Census Bureau's monthly inventories, sales, and inventory-sales ratios for manufacturing and trade.

Table A. Alternative Inventory-Sales Ratios: Fourth Quarters 2003–2008

	2003	2004	2005	2006	2007	2008
	Based on current dollars					
Using replacement-cost private inventories (NIPA table 5.7.5B):						
Inventories to final sales of domestic business.....	2.39	2.45	2.48	2.48	2.54	2.52
Nonfarm inventories to final sales of domestic business.....	2.16	2.22	2.25	2.27	2.31	2.30
Nonfarm inventories to final sales of goods and structures.....	3.86	4.01	4.07	4.13	4.27	4.38
Using pre-LIFO inventories (Census Bureau)						
Manufacturing and trade ¹	1.34	1.30	1.27	1.28	1.28	1.31
	Based on chained (2005) dollars					
Using real private inventories (NIPA table 5.7.6B):						
Inventories to final sales of domestic business.....	2.44	2.46	2.45	2.45	2.39	2.44
Nonfarm inventories to final sales of domestic business.....	2.21	2.23	2.23	2.24	2.19	2.24
Nonfarm inventories to final sales of goods and structures.....	3.99	4.04	4.02	4.06	3.98	4.15
Manufacturing and trade.....	1.34	1.34	1.33	1.33	1.34	1.37

1. Inventory book values published by the Census Bureau include last-in, first-out (LIFO) reserve and are valued at current cost. See the Census Bureau release, "Manufacturing and Trade: Inventories and Sales." Note: The fourth quarter ratios are calculated as end-of-quarter inventories divided by quarterly sales at

monthly rates, with the exception of the current-dollar ratios for manufacturing and trade, which are calculated as averages of the monthly ratios published by the Census Bureau.

