

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

By Enrico Tan

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.

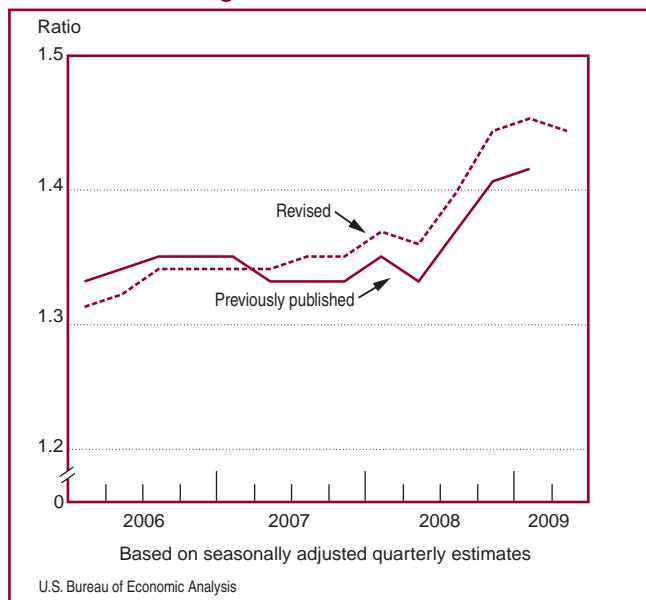
Through the first quarter of 2007, the ratios were revised down (chart 1). The downward revisions were primarily accounted for by upward revisions to merchant wholesale trade sales. For the second quarter of 2007 forward, the ratios were revised up. The upward revisions were primarily accounted for by 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	1.34	1.30	1.27	1.28	1.28	1.31
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.

Table 1B. Real Manufacturing and Trade Inventories, Seasonally Adjusted, End of Period
 [Billions of chained (2005) dollars]

	2006				2007				2008				2009		2009						
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	Jan.	Feb.	March	April	May	June	July p
Manufacturing and trade industries	1,356.5	1,370.4	1,382.4	1,387.5	1,386.5	1,391.3	1,401.1	1,405.8	1,407.7	1,399.2	1,396.5	1,391.8	1,364.5	1,325.8	1,384.0	1,373.6	1,364.5	1,354.4	1,342.1	1,325.8	1,313.9
Manufacturing.....	523.7	529.5	534.3	536.0	535.2	537.2	539.1	541.0	548.6	542.8	535.1	537.1	529.9	520.0	536.2	532.8	529.9	525.9	523.7	520.0	517.7
Durable goods.....	306.4	309.4	313.5	316.0	315.6	313.2	316.2	319.2	318.1	319.8	327.7	321.9	314.2	327.1	325.4	321.9	319.7	317.5	314.2	312.0	
Wood products.....	11.8	12.1	12.1	11.8	11.6	11.3	11.0	10.7	10.2	10.0	9.7	9.8	9.3	9.7	9.7	9.8	9.7	9.5	9.3	9.3	
Nonmetallic mineral products.....	11.7	11.8	12.1	12.1	11.9	11.9	11.9	11.9	11.8	11.8	11.5	11.3	11.8	11.6	11.5	11.4	11.3	11.3	11.2		
Primary metals.....	27.9	27.9	28.9	29.0	28.5	27.8	27.4	26.7	27.3	27.5	26.8	25.9	24.0	26.8	25.9	25.2	24.6	24.0	23.4		
Fabricated metal products.....	40.1	40.2	40.6	41.1	40.9	40.2	39.9	40.3	39.8	39.0	39.2	40.1	39.9	38.5	40.3	39.9	39.0	38.5	37.9		
Machinery.....	40.9	41.4	42.2	43.0	42.9	42.9	43.3	43.8	44.3	43.5	43.4	44.6	43.5	42.2	45.1	44.4	43.5	43.0	42.6	41.3	
Computer and electronic products.....	54.5	54.8	55.0	54.8	54.7	54.2	53.9	54.2	55.7	56.0	56.5	57.6	56.6	55.1	57.1	57.2	56.6	56.5	56.3	55.1	54.7
Electrical equipment, appliances, and components.....	14.5	14.5	14.6	15.0	14.9	14.6	14.5	14.9	14.9	14.7	14.7	14.5	14.0	13.5	14.2	14.1	14.0	13.9	13.7	13.5	
Transportation equipment.....	75.7	77.5	78.1	79.0	80.3	81.2	81.8	84.2	86.0	87.1	88.0	93.8	92.0	92.3	93.1	92.9	92.0	92.4	92.2	92.3	93.2
Furniture and related products.....	9.1	9.1	9.1	9.1	8.9	8.7	8.6	8.5	8.4	8.1	8.0	7.9	7.5	7.0	7.8	7.6	7.5	7.3	7.2	7.0	6.9
Miscellaneous manufacturing.....	20.1	20.2	20.7	21.0	21.0	20.9	21.0	21.3	21.2	21.3	21.2	21.6	22.0	21.7	21.8	22.0	21.8	21.8	21.7	21.4	
Nondurable goods	217.3	220.1	220.8	220.0	219.5	223.5	225.5	224.5	228.9	224.5	225.8	210.3	208.9	206.6	210.0	208.3	208.9	207.1	207.1	206.6	206.5
Food products.....	41.0	41.0	40.4	40.6	39.2	39.3	39.5	38.1	37.6	37.5	37.0	38.2	38.8	38.3	38.4	38.4	38.8	38.7	38.7	38.3	38.6
Beverage and tobacco products.....	13.8	13.7	13.7	13.9	13.8	13.7	13.5	13.5	13.5	13.5	13.5	13.6	13.9	13.9	13.5	13.8	13.9	13.9	13.9	13.9	13.9
Textile mills.....	5.6	5.5	5.6	5.4	5.3	5.2	5.2	5.1	5.2	5.0	5.0	5.0	4.9	4.8	5.0	4.9	4.9	4.8	4.8	4.7	
Textile product mills.....	3.7	3.7	3.8	3.8	3.7	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.0	
Apparel.....	6.8	6.7	6.6	6.8	6.8	7.0	7.1	7.1	7.1	7.0	6.8	6.6	6.4	6.8	6.7	6.6	6.6	6.5	6.4	6.4	
Leather and allied products.....	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	
Paper products.....	18.2	18.1	18.1	18.1	18.0	18.0	18.0	18.0	17.7	17.5	17.3	17.0	16.6	16.6	16.9	16.9	16.6	16.4	16.6	16.7	
Printing and related support activities.....	6.6	6.7	6.8	6.8	6.9	7.0	7.1	7.4	7.3	7.1	6.7	6.8	6.3	6.1	6.4	6.4	6.3	6.1	6.2	6.1	6.1
Petroleum and coal products.....	28.6	30.7	30.2	29.3	30.7	33.2	34.6	35.3	38.4	37.0	32.3	27.6	27.3	28.1	28.0	26.7	27.3	26.8	27.3	28.1	28.4
Chemical products.....	69.5	69.8	71.1	71.1	70.5	71.0	71.0	70.2	70.3	68.7	68.1	67.5	65.9	67.4	67.0	67.5	66.7	66.5	65.9	65.6	
Plastics and rubber products.....	22.1	22.6	22.8	22.6	22.8	23.1	23.3	23.3	23.5	23.3	23.0	22.0	21.4	21.3	22.1	21.9	21.4	21.4	21.3	21.3	
Merchant wholesale trade	360.1	366.0	369.7	370.8	371.4	372.1	375.2	378.2	376.5	377.2	381.1	379.4	371.2	355.4	379.5	375.5	371.2	366.6	362.8	355.4	350.2
Durable goods.....	218.5	223.2	226.2	226.6	227.9	226.4	225.3	227.4	230.3	231.2	236.9	236.9	225.6	213.6	235.6	230.4	225.6	221.0	217.2	213.6	210.1
Nondurable goods.....	141.6	142.8	143.5	144.2	143.6	145.7	149.6	150.5	146.3	146.2	144.9	143.3	145.7	141.7	144.4	145.4	145.7	145.6	145.4	141.7	
Retail trade	472.7	474.8	478.3	480.6	479.7	481.9	486.9	486.4	482.1	478.6	480.0	474.6	462.8	450.0	467.6	464.6	462.8	461.4	455.1	450.0	445.7
Motor vehicle and parts dealers.....	156.3	156.3	156.6	155.6	153.8	154.7	160.6	158.6	159.0	157.6	159.0	158.1	149.2	141.0	152.6	150.7	149.2	149.6	145.1	141.0	138.3
Furniture and home furnishings and electronics and appliance stores.....	28.5	28.7	28.7	28.9	29.6	29.5	30.0	30.5	29.2	29.9	28.2	27.3	27.1	27.9	27.4	27.3	27.3	27.2	27.1	26.8	
Building material and garden equipment and supplies stores.....	51.0	50.9	51.4	51.0	50.8	51.7	50.8	51.1	50.8	50.0	50.4	49.3	50.0	48.3	49.1	49.4	50.0	49.4	48.9	48.3	
Food and beverage stores.....	35.0	35.3	35.4	35.5	35.3	35.6	36.1	36.3	36.3	36.7	36.6	37.1	37.1	36.9	37.0	37.1	37.1	37.1	37.1	37.1	
Clothing and clothing accessories stores.....	40.1	41.0	41.1	42.5	42.4	42.0	41.7	41.6	41.0	40.5	40.4	39.8	38.6	37.6	39.4	39.2	38.6	38.0	37.8	37.2	
General merchandise stores.....	74.8	74.5	76.1	77.0	77.2	77.2	76.5	76.7	75.2	75.0	74.6	73.6	72.7	72.0	72.6	72.3	72.7	72.1	71.8	72.0	71.4
Other retail stores.....	87.1	88.1	88.8	90.0	90.6	91.0	91.3	91.7	90.7	89.8	89.2	89.3	87.4	86.2	88.8	88.3	87.4	87.5	86.5	86.2	85.9

p Preliminary

Note: Estimates in this table are based on the North American Industry Classification System (NAICS). Chained (2005) dollar inventory series are calculated to ensure that the chained (2005) dollar change in inventories for

2005 equals the current-dollar change in inventories for 2005 and that the average of the 2004 and 2005 end-of-year chain-weighted and fixed-weighted inventories are equal. Because the formula for the chain-type quantity indexes uses weights of more than one period, the corresponding chained-dollar estimates are usually not additive.

Table 2B. Real Manufacturing and Trade Sales, Seasonally Adjusted at Monthly Rate
 [Billions of chained (2005) dollars]

	2006				2007				2008				2009		2009						
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	Jan.	Feb.	March	April	May	June	July p
	1,043.8	1,042.1	1,039.6	1,042.0	1,040.9	1,046.0	1,047.8	1,049.3	1,038.5	1,039.9	1,007.3	964.0	938.6	920.4	940.9	942.5	932.4	925.6	919.9	915.6	923.6
Manufacturing and trade industries	404.8	403.9	398.4	392.8	388.7	392.7	392.6	387.6	379.3	381.4	366.9	343.7	329.6	320.3	330.6	330.8	327.3	323.3	318.3	319.2	320.9
Manufacturing.....	210.2	208.5	205.0	204.7	202.2	204.5	205.4	202.2	200.3	196.0	191.6	178.1	164.6	159.6	166.0	165.2	162.5	161.9	157.8	159.0	162.3
Durable goods	10.2	9.4	9.1	9.1	8.5	8.8	8.7	8.4	8.3	8.2	8.1	7.8	7.6	7.8	7.5	7.9	7.8	7.8	7.9	7.8	7.8
Wood products	10.2	9.8	9.6	9.5	9.3	9.2	9.0	8.6	8.3	8.4	8.2	7.4	6.6	6.4	6.8	6.7	6.4	6.4	6.4	6.5	6.6
Nonmetallic mineral products	17.2	16.9	16.9	16.1	16.3	16.1	16.4	16.8	16.5	15.9	15.7	14.2	12.7	11.7	12.9	12.2	11.9	11.6	11.7	12.4	
Primary metals	25.8	25.6	25.2	25.0	25.1	25.2	25.2	24.6	24.1	24.0	23.5	22.3	20.8	20.1	21.0	20.9	20.7	20.2	19.9	20.1	20.3
Fabricated metal products	26.1	26.6	26.4	26.4	24.8	26.4	26.4	26.3	26.5	26.4	26.2	25.0	21.3	20.2	21.8	21.5	20.7	20.0	20.2	20.4	19.8
Machinery	33.4	33.1	33.2	32.5	33.3	33.9	33.8	34.5	35.2	34.9	34.2	32.8	30.5	30.6	31.0	30.4	30.1	30.2	30.5	30.5	32.7
Computer and electronic products	9.5	9.5	9.3	9.2	9.6	9.6	9.5	9.3	9.2	9.2	9.1	8.3	7.5	7.2	7.6	7.6	7.3	7.4	7.2	7.2	7.3
Electrical equipment, appliances, and components	58.6	58.2	56.0	57.8	56.7	56.8	57.7	55.2	54.0	50.9	49.1	44.1	42.1	40.8	42.0	42.0	42.5	42.4	39.7	40.2	40.7
Transportation equipment	7.2	7.2	6.9	6.8	6.7	6.6	6.6	6.4	6.1	6.1	5.8	5.2	4.8	4.6	4.8	4.7	4.6	4.6	4.6	4.5	4.6
Furniture and related products	12.1	12.3	12.5	12.3	12.1	12.2	12.2	12.2	12.3	11.9	11.4	11.1	10.9	11.2	11.0	11.0	10.9	10.9	10.9	11.2	
Nondurable goods	194.6	195.4	193.4	188.2	186.6	188.2	187.4	185.5	179.4	185.0	175.5	165.6	164.6	160.3	164.3	165.2	164.3	161.1	159.9	159.8	158.5
Food products	44.8	44.9	44.4	44.5	43.9	43.6	44.4	44.0	42.9	43.0	42.1	42.4	43.7	43.0	43.1	43.6	44.3	43.6	42.7	42.8	43.2
Beverage and tobacco products	10.2	10.3	10.2	10.2	10.1	10.6	10.7	10.7	10.3	10.6	10.6	10.5	10.0	9.9	10.3	10.2	9.6	10.0	9.7	9.9	9.4
Textile mills	3.3	3.1	3.1	3.0	3.0	2.9	2.9	2.8	2.7	2.6	2.6	2.3	2.1	2.0	2.1	2.0	2.0	2.1	2.0	2.0	2.0
Textile product mills	2.8	2.7	2.6	2.6	2.5	2.5	2.4	2.5	2.3	2.2	2.2	2.1	1.8	1.7	1.6	1.7	1.7	1.6	1.6	1.6	1.6
Apparel	2.6	2.6	2.5	2.5	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.4	2.2	2.1	2.3	2.3	2.1	2.1	2.0	2.1	2.1
Leather and allied products	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Paper products	13.7	13.6	13.3	13.3	13.0	13.0	13.1	12.9	12.8	12.6	12.6	11.7	11.2	11.1	11.2	11.1	11.1	11.0	11.1	11.2	11.3
Printing and related support activities	8.1	8.2	8.1	8.1	8.2	8.1	8.1	8.2	7.8	7.8	7.6	7.2	7.1	7.0	7.2	7.1	7.1	7.1	6.9	6.9	7.0
Petroleum and coal products	39.6	39.6	39.1	36.6	35.9	36.8	36.0	35.1	33.2	37.4	33.4	31.0	32.7	29.4	33.1	31.9	33.1	29.8	29.7	28.8	28.0
Chemical products	52.1	52.8	52.8	50.9	50.8	51.3	50.7	50.5	49.3	49.1	46.5	42.3	41.1	41.0	40.8	41.9	40.7	40.7	41.0	41.3	40.6
Plastics and rubber products	16.9	16.9	16.8	16.4	16.5	16.7	16.6	16.6	16.1	16.1	15.6	14.4	13.4	13.1	13.7	13.4	13.3	13.3	13.5	13.6	
Merchant wholesale trade	309.7	309.9	312.6	314.0	315.2	317.3	317.5	321.1	323.0	323.9	314.8	305.6	294.4	287.5	294.0	296.6	292.6	290.5	288.3	283.9	290.3
Durable goods	156.9	156.4	158.5	161.5	161.7	160.4	160.5	163.7	165.1	166.1	161.0	150.9	139.0	135.1	138.5	141.6	137.0	135.1	134.6	135.5	136.6
Nondurable goods	152.8	153.5	154.2	152.8	153.7	156.9	157.0	157.6	158.2	158.1	154.1	154.0	153.9	151.0	154.0	153.7	152.1	147.2	152.2	147.2	
Retail trade	330.3	328.9	329.1	335.2	337.1	336.5	338.3	341.0	336.0	334.4	324.5	312.9	312.4	309.6	314.2	313.2	310.0	309.0	310.4	309.3	309.5
Motor vehicle and parts dealers	76.9	75.5	76.2	77.6	77.3	76.9	77.5	78.1	74.7	70.5	65.9	59.9	58.9	57.9	60.6	58.7	57.3	57.3	57.8	58.5	59.4
Furniture and home furnishings and electronics and appliance stores	20.5	20.6	21.1	21.5	22.0	21.9	22.4	23.0	22.6	23.0	22.4	21.7	21.8	20.9	22.1	22.3	21.1	21.0	20.9	21.0	21.1
Building material and garden equipment and supplies stores	31.5	30.0	29.4	29.7	29.8	29.3	28.9	28.9	28.4	28.2	27.4	26.3	25.8	25.4	25.9	25.9	25.8	25.4	25.5	25.3	24.9
Food and beverage stores	44.4	44.8	44.8	45.5	45.5	45.2	45.3	45.7	45.6	45.6	45.1	44.4	44.2	44.4	44.3	44.1	44.2	44.2	44.6	44.5	44.5
Clothing and clothing accessories stores	18.6	18.6	18.9	19.2	19.4	19.4	19.6	19.5	19.4	19.5	19.0	18.0	18.4	18.0	18.3	18.7	18.2	18.0	18.2	17.8	17.7
General merchandise stores	48.3	48.5	48.8	49.8	50.8	50.6	51.3	51.9	52.1	52.9	52.3	51.9	52.2	51.5	52.1	52.5	52.0	51.7	51.4	51.3	51.3
Other retail stores	90.2	90.9	89.9	91.9	92.4	93.3	93.4	94.1	93.2	94.7	92.4	90.5	90.7	91.0	90.5	90.8	90.9	91.0	91.5	90.4	90.1

^p Preliminary

Note: Estimates in this table are based on the North American Industry Classification System (NAICS). Chained (2005) dollar sales are calculated as the product of the chain-type quantity index and the 2005 current-dollar

value of the corresponding series, divided by 100. Because the formula for the chain-type quantity indexes uses weights of more than one period, the corresponding chained-dollar estimates are usually not additive.

Table 3B. Real Inventory-Sales Ratios for Manufacturing and Trade, Seasonally Adjusted
 [Ratio, based on chained (2005) dollars]

	2006				2007				2008				2009		2009							
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	Jan.	Feb.	March	April	May	June	July P	
	1.30	1.32	1.33	1.33	1.33	1.33	1.34	1.34	1.36	1.35	1.39	1.44	1.45	1.44	1.47	1.46	1.46	1.46	1.46	1.45	1.42	
Manufacturing	1.29	1.31	1.34	1.37	1.38	1.37	1.37	1.40	1.45	1.42	1.46	1.56	1.61	1.62	1.62	1.61	1.62	1.63	1.65	1.63	1.61	
Durable goods	1.46	1.48	1.53	1.54	1.56	1.53	1.53	1.56	1.59	1.62	1.67	1.84	1.96	1.97	1.97	1.97	1.98	1.98	2.01	1.98	1.92	
Wood products	1.16	1.29	1.34	1.30	1.37	1.29	1.27	1.27	1.22	1.21	1.24	1.25	1.28	1.19	1.28	1.25	1.31	1.23	1.20	1.20	1.20	
Nonmetallic mineral products	1.14	1.20	1.26	1.28	1.29	1.29	1.33	1.38	1.44	1.41	1.43	1.60	1.73	1.76	1.73	1.74	1.79	1.77	1.74	1.74	1.69	
Primary metals	1.62	1.65	1.71	1.80	1.75	1.73	1.67	1.59	1.65	1.71	1.75	1.89	2.05	2.05	2.08	2.05	2.12	2.12	2.13	2.06	1.89	
Fabricated metal products	1.56	1.57	1.61	1.65	1.63	1.59	1.58	1.64	1.65	1.63	1.67	1.80	1.91	1.92	1.92	1.93	1.93	1.95	1.97	1.92	1.87	
Machinery	1.57	1.56	1.60	1.63	1.73	1.63	1.64	1.66	1.67	1.65	1.66	1.78	2.04	2.09	2.07	2.07	2.10	2.15	2.10	2.07	2.09	
Computer and electronic products	1.63	1.66	1.68	1.68	1.64	1.60	1.59	1.57	1.58	1.61	1.65	1.76	1.86	1.80	1.84	1.88	1.86	1.82	1.86	1.81	1.67	
Electrical equipment, appliances, and components	1.54	1.53	1.58	1.63	1.55	1.52	1.53	1.60	1.61	1.60	1.62	1.74	1.87	1.86	1.88	1.86	1.91	1.87	1.92	1.88	1.85	
Transportation equipment	1.29	1.33	1.40	1.37	1.42	1.43	1.42	1.53	1.59	1.71	1.79	2.13	2.18	2.26	2.22	2.21	2.17	2.18	2.32	2.29	2.29	
Furniture and related products	1.26	1.26	1.32	1.34	1.33	1.32	1.31	1.33	1.37	1.34	1.38	1.51	1.58	1.55	1.63	1.58	1.60	1.60	1.58	1.55	1.52	
Miscellaneous manufacturing	1.66	1.64	1.66	1.70	1.74	1.72	1.72	1.75	1.74	1.73	1.79	1.90	1.98	1.99	1.96	1.96	2.00	1.99	2.00	2.00	1.91	
Nondurable goods	1.12	1.13	1.14	1.17	1.18	1.19	1.20	1.21	1.28	1.21	1.23	1.27	1.27	1.29	1.28	1.26	1.27	1.29	1.30	1.29	1.30	
Food products	0.92	0.91	0.91	0.91	0.89	0.90	0.89	0.87	0.88	0.87	0.88	0.90	0.89	0.89	0.89	0.88	0.88	0.89	0.91	0.90	0.89	
Beverage and tobacco products	1.35	1.32	1.35	1.36	1.36	1.30	1.27	1.26	1.32	1.27	1.27	1.30	1.39	1.41	1.31	1.36	1.45	1.39	1.43	1.40	1.48	
Textile mills	1.70	1.76	1.81	1.82	1.75	1.79	1.81	1.83	1.92	1.90	1.94	2.19	2.39	2.34	2.39	2.41	2.42	2.39	2.37	2.36	2.35	
Textile product mills	1.30	1.36	1.43	1.47	1.46	1.46	1.49	1.53	1.61	1.56	1.69	1.87	1.87	1.89	1.86	1.87	1.93	1.90	1.92	1.94	1.90	
Apparel	2.66	2.53	2.65	2.77	2.81	2.92	2.86	2.82	2.83	2.77	2.72	2.85	3.01	3.13	2.99	2.97	3.16	3.14	3.20	3.14	3.10	
Leather and allied products	2.87	3.01	3.14	3.27	3.04	3.11	3.04	3.15	3.31	3.31	3.29	3.39	3.77	4.04	3.99	3.95	3.98	4.09	4.02	4.06	3.89	4.01
Paper products	1.33	1.33	1.37	1.36	1.39	1.39	1.38	1.40	1.38	1.39	1.38	1.45	1.49	1.50	1.51	1.50	1.50	1.50	1.48	1.48	1.48	
Printing and related support activities	0.82	0.82	0.84	0.84	0.85	0.87	0.87	0.91	0.94	0.92	0.89	0.94	0.88	0.87	0.89	0.90	0.88	0.87	0.89	0.89	0.88	
Petroleum and coal products	0.72	0.77	0.77	0.80	0.86	0.90	0.96	1.00	1.16	0.99	0.97	0.89	0.84	0.95	0.85	0.84	0.83	0.90	0.92	0.92	0.91	
Chemical products	1.33	1.32	1.35	1.40	1.39	1.38	1.40	1.39	1.42	1.40	1.46	1.60	1.64	1.61	1.65	1.60	1.66	1.64	1.62	1.60	1.62	
Plastics and rubber products	1.31	1.33	1.36	1.38	1.38	1.38	1.40	1.41	1.46	1.45	1.47	1.53	1.60	1.59	1.68	1.60	1.60	1.60	1.58	1.54	1.54	
Merchant wholesale trade	1.16	1.18	1.18	1.18	1.18	1.17	1.18	1.17	1.17	1.21	1.21	1.24	1.26	1.24	1.29	1.27	1.27	1.26	1.26	1.25	1.21	
Durable goods	1.39	1.43	1.43	1.40	1.41	1.41	1.40	1.39	1.40	1.39	1.47	1.57	1.62	1.58	1.70	1.63	1.65	1.64	1.61	1.58	1.54	
Nondurable goods	0.93	0.93	0.93	0.94	0.93	0.93	0.95	0.96	0.93	0.92	0.94	0.93	0.95	0.94	0.94	0.95	0.95	0.95	0.96	0.96	0.92	
Retail trade	1.43	1.44	1.45	1.43	1.42	1.43	1.44	1.43	1.44	1.43	1.48	1.52	1.48	1.45	1.49	1.48	1.49	1.47	1.46	1.44	1.44	
Motor vehicle and parts dealers	2.03	2.07	2.06	2.01	1.99	2.01	2.07	2.03	2.13	2.23	2.41	2.64	2.53	2.44	2.52	2.57	2.60	2.61	2.51	2.41	2.33	
Furniture and home furnishings and electronics and appliance stores	1.39	1.39	1.36	1.34	1.34	1.35	1.34	1.33	1.29	1.27	1.33	1.30	1.25	1.29	1.26	1.23	1.30	1.30	1.29	1.27		
Building material and garden equipment and supplies stores	1.62	1.70	1.75	1.72	1.70	1.77	1.75	1.77	1.79	1.77	1.84	1.88	1.94	1.90	1.90	1.91	1.94	1.95	1.92	1.90	1.93	
Food and beverage stores	0.79	0.79	0.79	0.78	0.78	0.79	0.80	0.79	0.80	0.81	0.82	0.82	0.84	0.83	0.84	0.84	0.84	0.84	0.84	0.83	0.84	
Clothing and clothing accessories stores	2.16	2.21	2.18	2.22	2.19	2.17	2.13	2.13	2.11	2.08	2.13	2.21	2.10	2.09	2.15	2.10	2.13	2.11	2.08	2.11	2.10	
General merchandise stores	1.55	1.54	1.56	1.55	1.52	1.53	1.49	1.48	1.44	1.42	1.43	1.42	1.39	1.40	1.39	1.38	1.40	1.40	1.40	1.40	1.39	
Other retail stores	0.97	0.97	0.99	0.98	0.98	0.98	0.98	0.98	0.97	0.95	0.97	0.99	0.96	0.95	0.98	0.97	0.96	0.95	0.96	0.95	0.95	

p Preliminary

NOTE. Estimates in this table are based on the North American Industry Classification System (NAICS).

Table 4B. Real Manufacturing Inventories, by Stage of Fabrication, Seasonally Adjusted, End of Period
 [Billions of chained (2005) dollars]

	2006				2007				2008				2009		2009						
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	Jan.	Feb.	March	April	May	June	July P
Materials and supplies																					
Manufacturing	187.7	189.7	192.7	191.8	190.5	190.1	189.8	188.5	188.5	185.6	183.6	182.4	181.0	176.5	182.9	182.4	181.0	178.8	177.8	176.5	175.6
Durable goods	109.8	110.7	112.8	113.5	112.5	111.4	110.1	110.5	110.2	108.7	109.3	111.7	111.6	107.6	112.6	112.8	111.6	110.3	109.0	107.6	105.9
Wood products	5.1	5.3	5.1	5.1	5.0	4.9	4.8	4.6	4.4	4.3	4.3	4.2	4.4	4.1	4.3	4.3	4.4	4.3	4.2	4.1	4.0
Nonmetallic mineral products	4.4	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Primary metals	10.9	10.9	11.5	11.5	11.1	10.7	10.4	10.1	10.1	10.5	11.0	12.0	12.1	11.3	12.3	12.3	12.1	11.9	11.7	11.3	10.8
Fabricated metal products	15.5	15.5	15.4	15.8	15.6	15.1	14.9	15.0	14.7	14.3	14.7	15.2	15.1	14.3	15.4	15.3	15.1	14.8	14.5	14.3	13.9
Machinery	16.0	16.1	16.5	16.8	16.9	16.9	17.1	17.3	17.3	17.1	17.0	17.4	17.9	17.2	18.1	18.1	17.9	17.6	17.5	17.2	16.9
Computer and electronic products	19.2	19.6	20.2	20.1	19.9	20.3	19.7	19.8	20.1	19.5	19.6	19.5	19.5	19.5	19.5	19.5	19.8	19.5	19.4	18.9	18.5
Electrical equipment, appliances, and components	6.1	5.9	5.9	6.1	6.0	5.9	5.8	5.9	6.0	5.9	5.9	5.7	5.6	5.3	5.8	5.6	5.6	5.4	5.3	5.3	5.3
Transportation equipment	21.5	22.0	22.6	22.4	22.2	22.1	21.9	22.3	22.2	21.9	21.6	22.3	21.8	21.7	21.7	22.1	21.8	21.6	21.5	21.7	21.6
Furniture and related products	4.2	4.2	4.2	4.3	4.2	4.3	4.2	4.2	4.2	4.1	4.0	4.0	3.7	3.6	3.9	3.8	3.7	3.7	3.6	3.6	3.6
Miscellaneous manufacturing	6.9	6.9	7.0	7.0	7.1	7.0	7.0	6.9	6.8	6.8	7.2	7.1	7.1	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7.0
Nondurable goods	77.9	79.1	79.9	78.4	77.9	78.6	79.6	77.9	78.3	76.8	74.4	71.1	69.7	69.3	70.7	70.0	69.7	68.9	69.1	69.3	69.9
Food products	13.1	13.2	13.2	13.1	12.5	12.6	12.9	12.1	11.9	11.8	11.4	11.9	12.1	12.1	11.9	12.1	12.2	12.3	12.3	12.3	12.3
Beverage and tobacco products	6.7	6.7	6.7	6.7	6.6	6.6	6.4	6.4	6.4	6.3	6.3	6.3	6.2	6.2	6.3	6.3	6.3	6.3	6.2	6.3	6.3
Textile mills	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6
Textile product mills	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0
Apparel	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Leather and allied products	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Paper products	8.9	8.9	8.8	8.8	8.8	8.7	8.7	8.6	8.5	8.4	8.3	8.1	8.0	8.0	8.2	8.2	8.0	8.0	7.9	8.0	8.1
Printing and related support activities	2.6	2.6	2.6	2.5	2.5	2.6	2.7	2.9	2.9	2.8	2.6	2.6	2.2	2.1	2.4	2.4	2.2	2.2	2.2	2.1	2.2
Petroleum and coal products	9.7	10.4	10.9	9.6	10.1	10.6	11.3	10.7	11.3	11.2	9.8	7.8	7.8	7.5	7.9	7.5	7.8	7.0	7.5	7.5	7.8
Chemical products	21.9	22.0	22.3	22.4	22.2	22.1	21.9	21.7	21.5	20.5	21.2	20.1	19.4	19.4	19.7	19.6	19.4	19.2	19.2	19.4	19.7
Plastics and rubber products	9.5	9.8	9.8	9.7	9.7	9.7	9.8	9.8	9.8	9.6	9.1	8.9	8.7	9.2	9.1	8.9	8.8	8.7	8.7	8.7	8.7
Work-in-process																					
Manufacturing	143.1	145.8	144.9	146.5	147.3	148.9	149.3	153.6	159.2	159.0	159.0	163.5	161.9	161.5	164.1	162.7	161.9	162.1	162.1	161.5	161.4
Durable goods	106.6	107.5	107.4	108.4	108.5	109.2	110.2	113.2	115.9	117.7	119.4	125.3	122.6	122.4	125.1	124.0	122.6	122.8	122.8	122.4	122.5
Wood products	2.3	2.2	2.2	2.2	2.1	2.1	1.9	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.6
Nonmetallic mineral products	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.3	1.4	1.3	1.4	1.3	1.3	1.3	1.3
Primary metals	8.2	8.2	8.4	8.5	8.4	8.4	8.1	8.0	8.2	8.0	7.8	7.2	6.6	6.1	7.0	6.8	6.6	6.3	6.2	6.1	6.1
Fabricated metal products	11.3	11.5	11.7	11.9	11.9	12.0	12.3	12.6	12.5	12.2	12.1	12.4	12.3	11.9	12.5	12.4	12.3	12.3	12.2	11.9	
Machinery	12.0	12.1	12.1	12.3	12.2	12.1	12.2	12.2	12.4	12.1	12.7	13.0	12.0	13.0	12.7	12.3	12.1	12.0	11.8	11.8	
Computer and electronic products	21.4	21.2	20.5	20.1	19.8	19.4	19.6	20.1	21.0	21.9	22.2	23.1	22.7	23.1	23.1	23.1	23.0	23.1	22.7	22.4	22.4
Electrical equipment, appliances, and components	4.9	4.9	5.0	5.1	5.1	5.0	4.9	5.1	5.1	5.0	5.0	4.9	4.8	4.8	4.8	4.8	4.8	4.7	4.7	4.6	4.6
Transportation equipment	39.5	40.2	40.0	40.9	41.8	43.8	44.1	46.4	48.2	50.1	51.4	56.6	55.7	57.4	56.5	56.3	55.7	56.6	56.9	57.4	58.2
Furniture and related products	1.6	1.7	1.7	1.6	1.5	1.5	1.4	1.4	1.4	1.3	1.3	1.4	1.2	1.2	1.4	1.3	1.4	1.3	1.2	1.2	1.2
Miscellaneous manufacturing	4.2	4.2	4.4	4.4	4.3	4.3	4.3	4.3	4.4	4.2	4.2	4.1	4.3	4.3	4.2	4.2	4.2	4.2	4.1	4.1	4.1
Nondurable goods	36.5	38.3	37.5	38.1	38.8	39.6	39.1	40.3	42.9	41.2	39.8	38.6	39.7	39.4	39.4	39.0	39.7	39.7	39.4	39.2	39.2
Food products	5.6	5.6	5.5	5.7	5.5	5.2	5.1	4.9	4.9	4.8	4.7	4.8	4.9	4.7	4.7	4.7	4.9	4.8	4.7	4.7	4.7
Beverage and tobacco products	2.4	2.4	2.3	2.5	2.4	2.3	2.2	2.1	2.0	2.0	2.0	2.0	2.2	2.3	2.1	2.2	2.2	2.3	2.3	2.3	2.3
Textile mills	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8
Textile product mills	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Apparel	1.2	1.1	1.1	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Leather and allied products	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Paper products	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7
Printing and related support activities	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.3	1.2	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Petroleum and coal products	6.5	8.0	6.7	7.2	8.0	9.0	8.7	9.7	9.7	9.7	9.2	7.3	7.3	8.0	9.1	8.3	7.7	8.0	8.3	8.4	9.0
Chemical products	13.4	13.6	14.3	14.0	14.1	14.9	14.6	14.6	14.6	14.6	14.7	15.0	15.0	16.4	15.1	16.2	16.4	16.3	15.5	15.4	15.4
Plastics and rubber products	2.4	2.4	2.4	2.5	2.5	2.6	2.5	2.5	2.5	2.5	2.4	2.3	2.3	2.4	2.4	2.3	2.4	2.3	2.3	2.3	2.4
Finished goods	192.9	194.0	196.6	197.7	197.4	198.2	199.9	198.9	201.0	198.5	192.7	191.5	187.3	182.3	189.5	188.0	187.3	185.4	184.1	182.3	181.0
Durable goods	90.0	91.2	93.3	94.2	94.7	92.9	92.9	93.2	91.8	91.2	90.9	87.7	84.3	89.6	88.6	87.7	86.8	85.8	84.3	83.6	83.6
Wood products	4.4	4.6	4.8	4.6	4.5	4.4	4.3	4.2	3.9	3.8	3.9	3.8	3.8	3.7	3.8	3.7	3.7	3.7	3.7	3.7	3.7
Nonmetallic mineral products	6.0	6.1	6.2	6.3	6.2	6.1	6.1	6.0	6.1	6.1	6.0	6.1	5.9	5.6	6.1	6.0	5.9	5.7	5.7	5.	