

Fixed Assets and Consumer Durable Goods for 1997–2010

New statistics on fixed assets and consumer durable goods for 2010 and revised statistics for 1997–2009 are presented in this report. These statistics reflect the annual revision of the national income and product accounts (NIPAs) released on July 29, 2011, the benchmarking of private fixed investment by industry and by type of asset, and the incorporation of a new methodology for ensuring the consistency of the time series estimates for structures across two different classification systems. Revisions to private fixed assets stemming from the incorporation of the NIPA annual revision and the benchmarking of fixed investment begin with the estimates for 1998; revisions to government fixed assets stemming from the incorporation of the NIPA annual revision and the new methodology for ensuring time series consistency begin with estimates for 1997. In cases in which the estimates for the reference year (2005) were revised, the levels of the related index numbers and the chained-dollar estimates for the entire historical period are revised; however, there are no revisions in percent change before 1997.

Benchmarking private fixed investment by industry and by type of asset

Revised estimates of fixed asset account (FAA) private fixed investment by industry and by type of asset reflect benchmarked estimates for 2002. Estimates for private fixed investment by industry and by type of asset were last benchmarked to the 1997 capital flow table, which was produced as part of BEA's benchmark input-output accounts.¹ With the discontinuation of the capital flow table, a new benchmarking process was developed for 2002 that relies heavily upon special tabulations and pub-

1. The FAA benchmark process used for 1997 centered on converting the capital flow table from a "use basis" to an "ownership basis." The new benchmarking process relies heavily on survey-based capital expenditures, which are already reported on an "ownership basis." For more information on the 1997 capital flow table, see "Capital Flow" in "Industry Economic Accounts" at www.bea.gov.

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lished data from the Census Bureau's 2002 and 2003 Annual Capital Expenditures Surveys (ACES), the 2002 and 2003 Information and Communication Technology (ICT) surveys, and the 2002 Economic Census as well as statistics published by the Department of Agriculture and BEA estimates for items not covered by these surveys. These benchmark estimates reflect several important improvements, including the extensive use of capital expenditure survey data, improved industry detail for software, improved statistics for nonemployer establishments, and improved estimates for noncapitalized expenditures.

The benchmarking process consists of four broad steps: (1) establish capital expenditures by industry for total equipment and software and for total structures, (2) develop detailed asset-type shares by industry, (3) balance the results to ensure consistency with FAAs and NIPA asset-type controls, and (4) interpolate benchmark year revisions back to 1997.

Capital expenditures by industry. The first step in the benchmarking FAA fixed investment by industry is to develop benchmark year estimates of capital expenditures by industry for equipment and software and for structures. Estimates are prepared for 63 industries, defined by the North American Industry Classification System (NAICS). The building blocks for these estimates include industry capital expenditures produced by the Census Bureau from the ACES, ICT surveys, and Economic Census publications and BEA reconciliation adjustments. Both for equipment and software and for structures, these unadjusted survey-based statistics underestimate (significantly in some cases) FAA and NIPA private fixed investment statistics prepared by BEA using alternative methods and sources.² As a result, a number of adjustments have been developed and applied to the survey-based statistics to ensure consistency with existing FAA statistics. Adjustments are made for a variety of reasons, such as to include nonemployers and mixed-use (household and business) motor vehicles, to complete the coverage of all industries (for example, the farm industry and pension funds are not covered by ACES), and to include products not capitalized by survey respondents but are

2. FAA private fixed investment is derived from NIPA private fixed investment; however there are some conceptual differences between the two sets of estimates. Reconciliation tables are available on BEA's Web site showing the relationship between these two measures. For more information on estimation of private fixed investment, see "Private Fixed Investment," in *NIPA Handbook: Concepts and Methods* (September 2010); www.bea.gov.

included in the FAA statistics (for example, certain types of software and expensed petroleum exploration-related expenditures).

Finally, it is important to note that ACES and ICT surveys are conducted at the company level, whereas FAA industry statistics reflect establishment-based industries. However, the ACES and ICT surveys collect and reclassify expenditures to secondary industries in which the company has activities, so that the reported statistics are on something closer to an establishment basis. Farm, mining, construction, and manufacturing industries are based on establishment-level source data covered by the Economic Census. The other industries covered by ACES and ICT surveys of sectors—such as utilities, transportation, information, finance, and services—are not completely establishment based, but in most cases, they are acceptably close to an establishment basis. In some cases, explicit adjustments are made to account for this difference. For the industries covered by ACES and ICT surveys, much depends on the assignment of reported activities of multiestablishment companies to the activity-based industries. BEA recently identified data that will enable a more accurate assessment of the effect of company-based versus establishment-based statistics on capital expenditures in the future.

Asset type by industry shares. The second step in the benchmarking process is to develop benchmark year estimates of shares of capital expenditures by detailed asset type and by industry (approximately 75 different asset-type categories). In the year immediately following an Economic Census year (for example, 2003 and 2008), the Census Bureau conducts expanded data collection for ACES; in the expanded survey, ACES collects capital expenditures not only by industry but also by type of asset for each industry.³ Detailed asset-type shares are developed for 2003 using special tabulations of the expanded ACES and the ICT survey, supplemented by other source data to resolve coverage issues. These shares are applied to the 2002 estimates of capital expenditures by industry developed in the first step, and these estimates serve as the basis for the prebalanced estimates of private fixed investment by asset type by industry.⁴ Capital expenditures by asset type from the 2003 ACES and ICT surveys do not always correspond in definition or in expenditure level, with detailed NIPA estimates of private fixed investment—particularly estimates of equipment and software. As a result, some significant adjustments

are required to better align these two sets of estimates.

Balancing industries and asset types. FAA private fixed investment by asset type is not subject to revision in this benchmarking process; instead, it is the asset-type mix and industry totals for FAA private fixed investment by industry that are benchmarked. The third step in the benchmarking process is to force the results from second step to match FAA published asset-type totals; that is, detailed estimates of private fixed investment by asset type and by industry are reconciled with published, unrevised, FAA all-industry private fixed investment by asset type.

Interpolate revisions. In the fourth step, revisions stemming from the 2002 benchmarking process are incorporated gradually by “wedging” back to the previous benchmark year, 1997. “Wedging” revisions back to 1997 distributes the 2002 revisions across the intervening years, creating a gradual transition between benchmark years. Estimates are extrapolated forward from the 2002 benchmark levels, primarily using capital expenditures by industry reported by Census in the ACES survey and in the Annual Survey of Manufacturers (ASM), as well as private fixed investment by asset type as reported in the NIPAs. Balancing, as described above in the third step, is also required for these extrapolated years.

Revisions

There were several notable (offsetting) revisions to private fixed investment by industry, reflecting the improved benchmark estimates. For equipment and software, there were large upward revisions to “Information” (\$31.1 billion), “Finance and insurance” (\$18.8 billion), and “Retail” (\$15.9 billion) that were largely concentrated in the asset-type “software.” These upward revisions were offset by notable downward revisions to “Real estate and rental and leasing services and lessors of intangible assets” (\$17.8 billion), “Wholesale trade” (\$14.1 billion), “Health care and social assistance” (\$12.9 billion), “Transportation and warehousing” (\$9.2 billion), “Professional, scientific, and technical services” (\$8.4 billion), and “Accommodation and food services” (\$7.4 billion). For nonresidential structures, there were notable downward revisions to “Utilities” (\$9.7 billion), “Manufacturing” (\$8.3 billion), and “Management of companies and enterprises” (\$5.5 billion) that were largely offset by less notable upward revisions to a number of industries.

Improved methodology for government-owned structures

The government FAA for structures is comprised of two classification systems based on Census Bureau value put-in-place data. An asset-based classification system is used

3. Beginning with 2012, the Census Bureau plans to conduct their expanded ACES in economic census years.

4. Own-account software is the exception. Estimates for private fixed investment in own-account software are developed at the industry-level, therefore a subsequent industry allocation is not required.

Table 9. Current-Cost Net Stock of Residential Fixed Assets by Type of Owner, Legal Form of Organization, and Tenure Group

[Billions of dollars; yearend estimates]

	Line	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Residential fixed assets	1	8,908.8	9,489.9	10,191.9	10,896.7	11,704.7	12,455.1	13,513.4	15,127.8	16,861.7	18,027.6	18,299.0	18,017.4	17,671.2	17,725.6
By type of owner and legal form of organization:															
Private	2	8,714.4	9,285.5	9,974.6	10,667.7	11,460.9	12,197.7	13,237.7	14,824.8	16,529.9	17,682.0	17,956.2	17,684.5	17,346.0	17,397.1
Corporate	3	86.5	92.6	98.1	104.5	111.3	118.0	125.8	139.0	155.6	168.4	174.4	176.4	175.0	174.8
Noncorporate	4	8,627.9	9,192.9	9,876.5	10,563.2	11,349.6	12,079.7	13,112.0	14,685.8	16,374.3	17,513.6	17,781.7	17,508.0	17,171.0	17,222.3
Sole proprietorships and partnerships	5	758.9	810.1	852.0	896.5	944.2	989.9	1,041.2	1,136.7	1,248.4	1,343.2	1,385.7	1,400.2	1,383.9	1,376.9
Nonprofit institutions	6	125.5	131.6	137.6	144.2	151.8	158.6	167.5	182.8	200.8	213.0	216.8	216.7	213.3	212.3
Households	7	7,743.5	8,251.3	8,886.9	9,522.5	10,253.5	10,931.3	11,903.2	13,366.2	14,925.1	15,957.5	16,179.3	15,891.2	15,573.8	15,633.1
Government	8	194.5	204.4	217.3	229.0	243.8	257.4	275.7	303.0	331.8	345.6	342.8	332.9	325.2	328.5
Federal	9	66.0	68.7	72.2	75.3	79.1	82.5	87.5	95.0	103.1	106.9	105.4	101.7	98.3	98.0
State and local	10	128.5	135.7	145.1	153.8	164.7	174.9	188.2	208.0	228.7	238.7	237.4	231.2	226.8	230.5
By tenure group: ¹															
Owner-occupied	11	6,702.5	7,166.4	7,746.6	8,326.5	8,997.2	9,622.3	10,513.7	11,848.9	13,275.9	14,229.3	14,445.1	14,195.4	13,918.3	13,983.6
Tenant-occupied	12	2,175.9	2,291.7	2,411.5	2,534.5	2,669.1	2,792.4	2,956.0	3,230.8	3,533.4	3,743.2	3,798.0	3,765.8	3,697.1	3,686.2

1. Excludes other residential fixed assets, which consist primarily of dormitories and of fraternity and sorority houses.

Table 10. Chain-Type Quantity Indexes for Net Stock of Residential Fixed Assets by Type of Owner, Legal Form of Organization, and Tenure Group

[Index numbers, 2005=100]

	Line	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Residential fixed assets	1	79.581	81.783	84.130	86.486	88.817	91.323	94.099	97.101	100.000	102.926	104.979	106.070	106.602	107.052
By type of owner and legal form of organization:															
Private	2	79.383	81.602	83.968	86.348	88.699	91.226	94.028	97.063	100.000	102.975	105.056	106.154	106.679	107.108
Corporate	3	82.292	83.813	85.730	88.026	90.212	92.438	94.940	97.504	100.000	102.189	104.018	105.290	105.813	105.933
Noncorporate	4	79.348	81.571	83.941	86.324	88.677	91.208	94.017	97.058	100.000	102.982	105.066	106.162	106.687	107.119
Sole proprietorships and partnerships	5	89.406	90.702	92.262	93.718	95.134	96.545	98.063	99.383	100.000	101.337	102.370	102.852	102.791	102.380
Nonprofit institutions	6	93.882	94.060	94.607	95.447	96.284	97.125	98.199	99.174	100.000	100.868	101.958	103.233	103.621	103.449
Households	7	78.297	80.629	83.095	85.579	88.034	90.683	93.624	96.836	100.000	103.150	105.339	106.487	107.068	107.586
Government	8	89.926	91.350	92.728	93.804	95.100	96.475	97.800	99.021	100.000	100.479	101.129	101.864	102.758	104.323
Federal	9	98.380	98.937	99.233	99.285	99.410	99.540	99.839	99.883	100.000	99.982	100.174	100.507	100.344	100.552
State and local	10	86.118	87.931	89.797	91.334	93.157	95.093	96.881	98.633	100.000	100.703	101.559	102.476	103.843	106.017
By tenure group: ¹															
Owner-occupied	11	76.255	78.824	81.511	84.202	86.902	89.797	92.984	96.490	100.000	103.453	105.850	107.136	107.810	108.425
Tenant-occupied	12	91.867	92.733	93.843	94.967	95.937	97.006	98.252	99.375	100.000	100.973	101.746	102.073	102.073	101.929

1. Excludes other residential fixed assets, which consist primarily of dormitories and of fraternity and sorority houses.

Table 15. Real Net Stock of Fixed Assets and Consumer Durable Goods

[Billions of chained (2005) dollars; yearend estimates]

	Line	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Fixed assets and consumer durable goods	1	32,162.0	33,243.5	34,451.4	35,726.3	36,850.9	37,884.0	38,935.4	40,044.5	41,144.0	42,328.4	43,402.8	44,186.2	44,531.5	44,943.2
Fixed assets.....	2	29,980.0	30,884.4	31,860.4	32,883.2	33,758.4	34,529.1	35,320.8	36,170.6	37,020.8	37,972.5	38,823.5	39,476.3	39,773.3	40,087.7
Private.....	3	23,430.3	24,222.0	25,068.3	25,958.7	26,695.5	27,310.6	27,945.2	28,647.6	29,364.2	30,169.0	30,875.6	31,374.1	31,513.7	31,679.4
Nonresidential.....	4	10,923.6	11,356.5	11,821.3	12,327.1	12,691.3	12,911.8	13,107.5	13,331.7	13,584.3	13,919.6	14,296.6	14,615.1	14,672.6	14,768.7
Equipment and software.....	5	3,409.3	3,644.8	3,915.0	4,204.7	4,391.3	4,505.0	4,607.6	4,740.0	4,906.3	5,112.0	5,308.5	5,424.2	5,372.1	5,428.9
Structures.....	6	7,641.5	7,805.3	7,964.2	8,149.4	8,314.2	8,415.2	8,503.9	8,591.5	8,678.0	8,813.2	8,999.8	9,202.7	9,303.6	9,345.0
Residential.....	7	12,526.6	12,876.7	13,250.1	13,625.6	13,996.6	14,395.4	14,837.6	15,316.4	15,779.9	16,249.4	16,577.8	16,751.0	16,833.9	16,901.5
Government.....	8	6,551.2	6,663.4	6,792.9	6,925.6	7,063.8	7,219.3	7,376.3	7,523.3	7,656.6	7,804.0	7,950.0	8,102.3	8,247.8	8,385.1
Nonresidential.....	9	6,265.8	6,373.5	6,498.5	6,627.6	6,761.5	6,912.6	7,065.4	7,208.5	7,338.7	7,484.5	7,628.1	7,775.5	7,919.6	8,051.8
Equipment and software.....	10	714.5	717.9	726.5	733.6	738.8	749.5	761.5	772.3	796.1	824.1	853.2	891.0	925.5	962.4
Structures.....	11	5,543.2	5,649.9	5,767.4	5,891.0	6,021.2	6,162.3	6,303.6	6,436.2	6,542.5	6,661.1	6,777.1	6,891.9	7,002.6	7,101.4
Residential.....	12	285.9	290.4	294.8	298.2	302.3	306.7	310.9	314.8	317.9	319.4	321.5	323.8	326.7	331.7
Consumer durable goods.....	13	2,381.7	2,531.2	2,725.8	2,941.7	3,157.9	3,389.5	3,626.4	3,873.6	4,123.2	4,365.0	4,603.9	4,743.1	4,793.6	4,900.7
Addenda:															
Private and government fixed assets.....	14	29,980.0	30,884.4	31,860.4	32,883.2	33,758.4	34,529.1	35,320.8	36,170.6	37,020.8	37,972.5	38,823.5	39,476.3	39,773.3	40,087.7
Nonresidential.....	15	17,174.5	17,721.1	18,315.7	18,954.8	19,454.8	19,825.7	20,173.1	20,540.1	20,922.9	21,403.9	21,922.8	22,389.8	22,595.9	22,829.7
Equipment and software.....	16	4,118.9	4,359.6	4,639.6	4,937.1	5,129.9	5,254.4	5,369.0	5,512.3	5,702.4	5,936.1	6,161.7	6,315.4	6,298.2	6,392.4
Structures.....	17	13,184.7	13,455.0	13,731.5	14,040.2	14,335.3	14,577.6	14,807.7	15,027.9	15,220.5	15,474.2	15,776.7	16,093.5	16,306.4	16,449.9
Residential.....	18	12,810.9	13,165.2	13,543.1	13,922.3	14,297.7	14,701.0	15,148.0	15,631.1	16,097.8	16,568.8	16,899.3	17,074.9	17,160.6	17,233.1
Government fixed assets.....	19	6,551.2	6,663.4	6,792.9	6,925.6	7,063.8	7,219.3	7,376.3	7,523.3	7,656.6	7,804.0	7,950.0	8,102.3	8,247.8	8,385.1
Federal.....	20	1,699.1	1,691.5	1,687.4	1,678.8	1,669.5	1,670.4	1,674.8	1,683.8	1,692.8	1,705.8	1,721.0	1,745.6	1,772.5	1,806.1
State and local.....	21	4,840.7	4,962.9	5,098.7	5,242.3	5,391.4	5,547.2	5,700.9	5,839.4	5,963.8	6,097.9	6,227.7	6,354.8	6,473.0	6,577.0

NOTE. Chained (2005) dollar series 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.