

BEA BRIEFING

GDP for American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the U.S. Virgin Islands

New Statistics for 2008–2009 and Revised Statistics for 2002–2007

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SINCE 2009, the Bureau of Economic Analysis (BEA) has been working on a project to produce estimates of gross domestic product (GDP) for American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), Guam, and the U.S. Virgin Islands. These estimates are developed collaboratively with the Department of the Interior's Office of Insular Affairs (OIA) and with staff from each of the territorial governments.¹ The OIA provides funding for this project and facilitates interactions between BEA and the territorial governments.

The purpose of this ongoing project is to provide data users with a comprehensive, objective measure of economic activity for these four U.S. territories. BEA produces estimates of U.S. GDP as part of its national income and product accounts (NIPAs); however, these estimates cover only the 50 states and the District of Columbia. Transactions with the territories are classified as transactions with the "rest-of-the-world." Before this work began, official estimates of GDP for these four territories did not exist. The absence of an unbiased, consistent measure of economic activity made it difficult for policymakers to assess the impacts of their decisions on growth and for businesses and governments to make informed economic and financial planning decisions.

GDP measures the value of final goods and services produced by an economy (in this case, the economies of the four territories) in a given period. The first official estimates of GDP for American Samoa, the CNMI, Guam, and the U.S. Virgin Islands were released by BEA in 2010. The estimates covered the period 2002 to 2007.²

1. OIA is the federal agency that manages the federal government's relations with the governments of American Samoa, the CNMI, Guam, and the U.S. Virgin Islands. It works with these territories to encourage economic development, transparency of government, financial stability, and accountability.

2. See Aya Hamano, Nicole M. Mayerhauser, Clinton P. McCully, Carol E. Moylan, and Marc Rubin, "GDP for American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and the U.S. Virgin Islands," *SURVEY OF CURRENT BUSINESS* 90 (September 2010): 34–41.

This year, BEA released estimates of GDP for 2008 and 2009.³ These estimates show that the economies of American Samoa, the CNMI, and the U.S. Virgin Islands contracted in both 2008 and 2009. Real GDP for the United States (excluding the territories) also contracted in both years.⁴ In contrast, Guam's economy grew modestly during both years. Chart 1 shows the changes in real GDP for the four territories and for the United States.

Other highlights of the estimates include the following:

- Government spending played a large role in the economies of all four territories. In current dollars, government spending accounted for over 25 percent of GDP in 2009 in each of the four territories. In Guam, which has a large federal government presence, government spending was particularly notable, accounting for over 60 percent of GDP in 2009. The majority of this spending was by the federal government. In American Samoa, the CNMI, and the U.S. Virgin Islands, the majority of government spending was spending by the territorial government.
- The tourism industry played a significant role in the economies of the CNMI, Guam, and the U.S. Virgin Islands; spending by tourists accounted for the majority of exports of services. In 2009, the tourism industry—as measured by real spending by tourists—contracted in all three territories. In Guam, the tourism industry also contracted in 2008.⁵
- In 2008–2009, manufacturing continued to be a major industry in American Samoa and in the U.S.

3. BEA released these estimates during separate visits to the four territories that took place between May and July of 2011. Individual news releases for each of the territories are available on BEA's Web site at www.bea.gov/national/gdp_territory.htm.

4. Before the release of the 2011 NIPA annual revision, the BEA estimates showed real GDP for the United States decreasing in 2009 after remaining unchanged in 2008.

5. The travel and tourism industry in the United States—as measured by the real output of goods and services sold directly to visitors—also contracted in 2008 and 2009. See Steven L. Zemanek, "U.S. Travel and Tourism Satellite Accounts for 2007–2010," *SURVEY* 91 (June 2011): 29–42.

Virgin Islands. In American Samoa, tuna canning was the primary manufacturing activity, and in the U.S. Virgin Islands, oil refining was the primary manufacturing activity.⁶

- In 2008, prices paid by consumers for goods and services rose significantly in each territory. The personal consumption expenditures (PCE) price index rose 7.2 percent in American Samoa, 6.3 percent in the CNMI, 5.5 percent in Guam, and 9.7 percent in the U.S. Virgin Islands. These increases were the largest for each of the territories for the period from 2002 to 2009 and reflected global increases in energy prices.

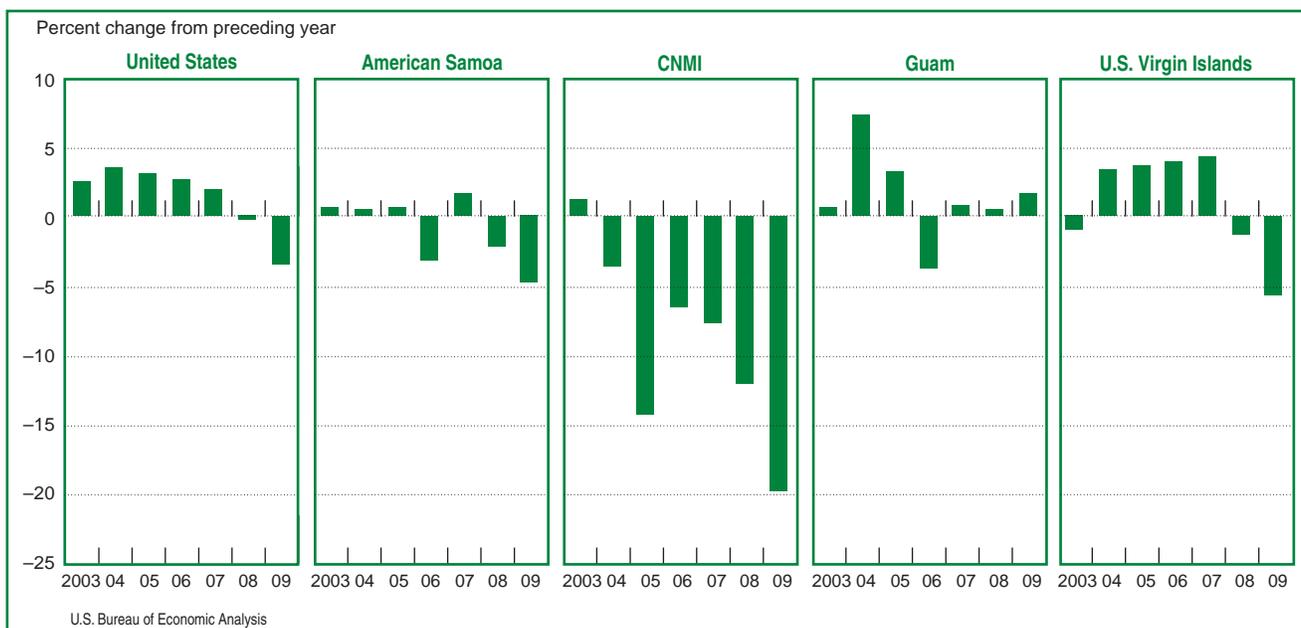
The estimates of GDP for 2008 and 2009 for each

6. Previously, in the CNMI economy, garment manufacturing was a major industry. However, this industry declined rapidly from 2005–2009.

territory are presented in further detail in this article. The accompanying tables show estimates of GDP and its major components, including consumer spending, private fixed investment, private inventory investment, net exports of goods and services, and government spending.⁷ Revised estimates for 2002–2007 are also shown; these estimates incorporated improved source data and methodologies. The methods used to derive the estimates of GDP and its components for all four territories are summarized in the appendix “Summary of Methodologies.”

7. Private inventory investment for the CNMI and Guam is assumed to be negligible, so it is not shown in the tables. “Consumer spending” refers to “personal consumption expenditures,” “inventory investment” refers to “change in private inventories,” and “government spending” refers to “government consumption expenditures and gross investment.”

Chart 1. Real GDP for the United States and Four U.S. Territories in 2003–2009



American Samoa

American Samoa's economy contracted in 2008 and in 2009. Real GDP decreased 4.7 percent in 2009 after decreasing 2.1 percent in 2008, primarily reflecting activities associated with the tuna canning industry (table 1). The larger decline in 2009 reflected the closure of one of the two canneries in the territory.

In 2008 and 2009, American Samoa's economy continued to be highly dependent on the tuna canning industry. Cannery exports accounted for the vast majority of total exports of goods and services. Imports associated with the canneries (including landed fish, tin plates, and petroleum products used in the tuna canning process) accounted for a large portion of total imports. Tin plates accounted for a significant portion of inventories held by private business.

In 2008, the largest contributor to the decrease in real GDP was private inventory investment, which declined. In 2009, the largest contributor to the decrease in real GDP was exports of goods, primarily of canned tuna, which declined sharply. The decline in exports of goods was partly offset by a decline in imports of cannery inputs.⁸ Exports of goods fell over 20 percent and imports of goods fell 12 percent, reflecting the closure of the cannery.

Government spending contributed significantly to the economy in 2008–2009. In 2008, it was the only positive contributor to economic growth, partly offsetting a decline in private inventory investment. In 2009, an increase in government spending partly offset the large decline in exports of goods that was described above. Most of the growth in government spending in 2008–2009 was from the territorial government, which continued to be the largest single employer in the territory.

Improvements to the estimates for 2002–2007 include the following:

- An improved price measure for imports of landed fish that was based on market prices of albacore and skipjack tuna and the volume of each used in canned tuna production
- Improved price measures for imports and for inventory investment for tin plates that better reflect changes in market prices of tin-plated rolled steel
- Improved source data for government spending, including federal military compensation and territorial government construction spending

The pattern of growth in the revised estimates is similar to that of the previously published estimates. In both the revised estimates and the previously published estimates, real GDP increased in all years except 2006, and the overall growth over the period was low.

8. Imports are a subtraction in the calculation of GDP.

Table 1. Highlights of GDP Growth, American Samoa

Percent Change From Preceding Year in Real GDP							
	2003	2004	2005	2006	2007	2008	2009
Gross domestic product (GDP).....	0.6	0.5	0.7	-3.1	1.7	-2.1	-4.7
Personal consumption expenditures....	2.5	4.9	-0.4	-0.6	-1.0	-0.4	-0.3
Private fixed investment.....	0.7	32.0	14.1	-6.0	3.3	-0.3	-14.4
Change in private inventories.....							
Net exports of goods and services.....							
Exports.....	-2.2	-16.0	4.6	-6.6	1.2	-0.8	-21.1
Goods.....	-2.3	-16.7	5.4	-6.8	1.8	-0.6	-22.2
Services.....	-0.6	-2.7	-8.6	-3.2	-10.2	-4.5	5.3
Imports.....	3.9	-15.6	-1.4	-4.7	-3.7	0.5	-11.5
Goods.....	3.3	-16.5	0.0	-5.4	-3.7	0.2	-12.0
Services.....	8.2	-8.7	-11.2	1.7	-4.0	3.0	-6.4
Government consumption expenditures and gross investment	2.5	-4.3	-3.2	-4.4	-4.3	7.3	7.6
Federal.....	85.1	22.7	-14.2	-26.0	-13.1	17.1	36.2
Territorial.....	-1.3	-6.7	-1.8	-2.0	-3.6	6.5	5.1
Addendum:							
Previously published GDP.....	1.5	0.7	2.1	-2.9	0.5		

Percent Change From Preceding Year in Price Indexes							
	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	1.6	-3.2	0.3	2.5	3.3	8.0	21.8
Personal consumption expenditures....	3.8	2.6	3.6	2.5	2.7	7.2	0.1

Real GDP								
[Millions of chained (2005) dollars]								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	539	542	545	548	531	540	529	504
Personal consumption expenditures....	341	350	367	365	363	359	358	357
Private fixed investment.....	14	14	18	21	20	20	20	17
Change in private inventories.....	6	31	13	-6	-3	-7	-23	-10
Net exports of goods and services.....	-91	-130	-112	-81	-88	-61	-68	-106
Exports.....	590	577	485	507	474	479	475	375
Goods.....	560	547	456	480	448	456	453	352
Services.....	31	30	30	27	26	23	22	24
Imports.....	681	707	597	589	561	541	543	481
Goods.....	608	629	525	525	496	478	479	421
Services.....	73	79	72	64	65	63	64	60
Government consumption expenditures and gross investment	263	270	258	250	239	228	245	264
Federal.....	13	23	29	24	18	16	18	25
Territorial.....	249	246	229	225	221	213	227	238
Addenda:								
Population (thousands) ¹	60.8	62.6	64.1	65.5	66.9	68.2	69.2	70.1
Per capita real GDP (chained dollars) ..	8,865	8,658	8,502	8,366	7,937	7,918	7,645	7,190

GDP								
[Millions of dollars]								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	546	558	543	548	545	572	605	703
Personal consumption expenditures....	309	329	354	365	372	379	404	403
Private fixed investment.....	12	12	17	21	20	21	20	17
Change in private inventories.....	5	28	13	-6	-3	-8	-35	-10
Net exports of goods and services.....	-18	-60	-91	-81	-95	-65	-53	-1
Exports.....	527	522	470	507	504	512	647	536
Goods.....	503	495	442	480	477	488	621	510
Services.....	25	27	28	27	26	24	25	27
Imports.....	545	582	560	589	598	577	700	537
Goods.....	487	513	493	525	532	515	630	476
Services.....	58	69	68	64	66	62	70	61
Government consumption expenditures and gross investment	238	249	250	250	250	245	269	293
Federal.....	10	20	26	24	19	18	21	29
Territorial.....	227	229	224	225	231	228	247	264

Contributions to Percent Change in Real GDP							
	2003	2004	2005	2006	2007	2008	2009
Percent change:							
Gross domestic product.....	0.6	0.5	0.7	-3.1	1.7	-2.1	-4.7
Percentage points:							
Personal consumption expenditures....	1.42	2.99	-0.25	-0.42	-0.69	-0.27	-0.13
Private fixed investment.....	0.02	0.74	0.46	-0.23	0.12	-0.01	-0.43
Change in private inventories.....	4.03	-3.25	-3.56	0.73	-0.84	-3.52	2.42
Net exports of goods and services.....	-6.00	2.07	5.47	-1.15	5.08	-1.30	-9.62
Exports.....	-2.13	-15.80	4.04	-6.25	1.07	-0.79	-20.84
Goods.....	-2.10	-15.66	4.49	-6.10	1.57	-0.60	-21.04
Services.....	-0.03	-0.14	-0.46	-0.16	-0.49	-0.19	0.20
Imports.....	-3.87	17.86	1.44	5.11	4.01	-0.50	11.22
Goods.....	-2.95	16.72	0.00	5.30	3.54	-0.17	10.58
Services.....	-0.91	1.14	1.43	-0.19	0.47	-0.33	0.65
Government consumption expenditures and gross investment	1.10	-2.03	-1.48	-2.03	-1.97	3.03	3.05
Federal.....	1.64	0.87	-0.72	-1.18	-0.47	0.51	1.14
Territorial.....	-0.54	-2.89	-0.76	-0.85	-1.50	2.52	1.91

NOTE: Detail may not add to total because of rounding.

For 2002–2007, the revised estimates of real GDP increased at an average annual rate of 0.1 percent; in the previously published estimates, real GDP increased 0.4 percent.

Commonwealth of the Northern Mariana Islands

Economic activity in the CNMI declined sharply in 2008 and in 2009. Real GDP decreased 19.8 percent in 2009 after decreasing 12.1 percent in 2008, reflecting decreases in exports and in consumer spending (table 2).

Exports of goods fell over 60 percent in 2008 and over 80 percent in 2009. The fall in both years reflected the continued decline of the CNMI's garment manufacturing industry. The last garment factory closed during the first quarter of 2009. Since 2005, exports of goods (primarily garments) has declined; the steepest declines were in 2008 and in 2009.

In 2009, the decrease in exports was also due to a significant decline in exports of services that reflected a decrease in the number of visitors to the islands.⁹ Despite this decline, tourism services were the territory's only significant export in 2009.

Decreases in real consumer spending in 2008 and 2009 also negatively impacted economic growth, most notably in 2009. In 2009, real consumer spending fell 12.8 percent after decreasing 0.9 percent in 2008.

Improvements to the estimates for 2002–2007 include the following:

- Revisions to the CNMI Consumer Price Index from the CNMI Department of Commerce that resulted in significant revisions to real consumer spending¹⁰
- Additional information on exports and imports from the Commonwealth Ports Authority, including greater detail and higher frequency data
- Updated territorial government spending that reflected more detailed information on government component units reported in audited annual financial statements

In both the revised estimates and the previously published estimates, real GDP decreased in all years except in 2003. The revised estimates show a steeper decline over the period than the previously published estimates. For 2002–2007, the revised estimates of real GDP declined at an average annual rate of 6.3 percent; in the previously published estimates, real GDP declined 4.2 percent.

9. Tourism services make up the majority of exports of services for the CNMI.

10. The CNMI Consumer Price Index was used to adjust the components of consumer spending for price change.

Table 2. Highlights of GDP Growth, CNMI

Percent Change From Preceding Year in Real GDP							
	2003	2004	2005	2006	2007	2008	2009
Gross domestic product (GDP)	1.2	-3.6	-14.3	-6.5	-7.7	-12.1	-19.8
Personal consumption expenditures	4.4	-3.7	-12.0	4.5	-3.5	-0.9	-12.8
Private fixed investment	-0.2	70.4	-5.5	-15.7	-31.7	9.4	2.5
Net exports of goods and services							
Exports	-4.3	8.8	-19.5	-20.4	-28.8	-43.0	-40.1
Goods	-4.8	3.7	-20.6	-23.2	-35.8	-64.8	-83.4
Services	-2.6	27.8	-16.3	-12.6	-12.2	2.4	-10.6
Imports	-4.0	14.2	-14.2	-12.8	-26.0	-27.6	-13.2
Goods	-4.7	13.4	-14.7	-12.5	-25.8	-28.5	-11.6
Services	0.1	19.0	-10.9	-15.2	-27.2	-22.4	-22.2
Government consumption expenditures and gross investment	1.5	-4.8	-2.9	-1.4	-9.0	-6.1	-3.2
Federal	10.0	-23.2	17.1	-18.3	-12.0	20.2	29.5
Territorial	1.1	-3.9	-3.6	-0.6	-8.9	-7.1	-4.8
Addendum:							
Previously published GDP	2.2	-1.4	-11.0	-6.3	-3.8

Percent Change From Preceding Year in Price Indexes							
	2003	2004	2005	2006	2007	2008	2009
Gross domestic product	-4.5	0.8	-0.1	-0.5	2.3	11.6	5.3
Personal consumption expenditures	-3.4	4.6	4.3	6.2	3.8	6.3	1.1

Real GDP								
[Millions of chained (2005) dollars]								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product	1,175	1,189	1,146	982	919	848	746	598
Personal consumption expenditures	567	592	570	502	525	506	502	438
Private fixed investment	25	25	43	41	34	23	26	26
Net exports of goods and services	188	177	146	66	-11	-29	-100	-166
Exports	1,086	1,039	1,131	910	725	516	294	176
Goods	853	812	842	668	513	330	116	19
Services	232	226	289	242	212	186	190	170
Imports	898	862	984	845	736	545	394	342
Goods	789	752	854	728	637	473	338	299
Services	110	110	131	117	99	72	56	43
Government consumption expenditures and gross investment	398	404	385	374	368	335	315	305
Federal	17	18	14	17	14	12	14	19
Territorial	381	386	371	357	355	324	301	286
Addenda:								
Population (thousands) ¹	74.4	76.6	78.9	70.6	60.7	58.6	55.2	51.5
Per capita real GDP (chained dollars) ..	15,793	15,522	14,525	13,909	15,140	14,471	13,514	11,612

1. Source: U.S. Census Bureau, International Database.

GDP								
[Millions of dollars]								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product	1,222	1,181	1,148	982	914	863	847	716
Personal consumption expenditures	538	543	547	502	557	558	588	518
Private fixed investment	24	24	42	41	35	24	27	27
Net exports of goods and services	293	255	190	66	-42	-72	-111	-169
Exports	1,077	1,030	1,128	910	729	526	376	219
Goods	848	810	842	668	514	333	172	23
Services	229	220	286	242	215	192	205	196
Imports	784	775	938	845	771	597	488	387
Goods	675	667	808	728	665	514	419	332
Services	109	108	130	117	106	83	69	56
Government consumption expenditures and gross investment	367	358	369	374	364	353	344	339
Federal	14	16	13	17	14	13	16	21
Territorial	353	342	355	357	350	339	327	317

NOTE: Detail may not add to total because of rounding.

Contributions to Percent Change in Real GDP							
	2003	2004	2005	2006	2007	2008	2009
Percent change:							
Gross domestic product	1.2	-3.6	-14.3	-6.5	-7.7	-12.1	-19.8
Percentage points:							
Personal consumption expenditures	1.95	-1.72	-5.83	2.35	-2.15	-0.54	-8.89
Private fixed investment	0.00	1.45	-0.20	-0.66	-1.21	0.25	0.08
Net exports of goods and services	-1.21	-1.84	-7.33	-7.62	-0.67	-9.42	-9.65
Exports	-3.91	7.70	-19.19	-18.96	-22.86	-28.13	-16.87
Goods	-3.42	2.50	-15.11	-15.81	-19.99	-28.64	-14.23
Services	-0.50	5.20	-4.08	-3.14	-2.87	0.51	-2.64
Imports	2.70	-9.54	11.86	11.33	22.20	18.71	7.22
Goods	2.71	-7.81	10.61	9.45	18.95	16.64	5.39
Services	-0.01	-1.73	1.24	1.88	3.25	2.07	1.83
Government consumption expenditures and gross investment	0.45	-1.50	-0.94	-0.54	-3.65	-2.34	-1.30
Federal	0.12	-0.33	0.20	-0.32	-0.19	0.29	0.56
Territorial	0.32	-1.17	-1.14	-0.22	-3.46	-2.63	-1.87

Guam

Guam's economy grew in 2008 and in 2009. Real GDP increased 1.7 percent in 2009 after increasing 0.5 percent in 2008 (table 3). The largest contributor to the economic growth in both years was federal government spending, which increased. The majority of this spending was by the Department of Defense. Federal spending increased in 2008 and in 2009; the increases in both years largely reflected increases in construction spending and in compensation of employees.

The federal government has a larger presence in Guam than in the other three territories. In current dollars, federal government spending accounted for over 40 percent of Guam's GDP in 2009. In contrast, it accounted for less than 5 percent of GDP in American Samoa, the CNMI, and the U.S. Virgin Islands.

Economic growth was negatively affected by the continued weakening of the tourism industry. Tourism services make up the majority of Guam's exports of services. Real exports of services fell 9.0 percent in 2009 after falling 12.1 percent in 2008. These declines reflected decreases in the number of visitors to Guam. The tourism industry in Guam is highly dependent on visitors from Asia, particularly visitors from Japan and Korea. Together, these two markets accounted for almost 90 percent of total air arrivals in Guam in 2008 and 2009.¹¹

Improvements to the estimates for 2002–2007 include the following:

- An improved methodology for measuring petroleum imports that incorporated information on liquid fuel tax revenue from Guam's Territorial Highway Fund
- Improved source data for estimating federal government spending, including military compensation
- Updated territorial government spending that reflected restated revenues and expenses as reported in audited annual financial statements

The overall growth in the revised estimates is similar to that of the previously published estimates. For 2002–2007, the revised estimates of real GDP increased at an average annual rate of 1.6 percent; in the previously published estimates, real GDP increased 1.8 percent. In both the revised estimates and the previously published estimates, real GDP growth peaked in 2004 and significantly contracted in 2006.

11. See Guam Visitors Bureau, *FY 2008 Guam Visitor Arrivals, FY 2009 Guam Visitor Arrivals*, and *FY 2010 Guam Visitor Arrivals*.

Table 3. Highlights of GDP Growth, Guam

Percent Change From Preceding Year in Real GDP							
	2003	2004	2005	2006	2007	2008	2009
Gross domestic product (GDP).....	0.7	7.3	3.2	-3.8	0.8	0.5	1.7
Personal consumption expenditures....	-8.2	7.2	5.6	-1.2	1.8	0.0	-1.5
Private fixed investment.....	19.0	-13.1	-10.2	7.2	29.0	14.1	-4.1
Net exports of goods and services.....							
Exports.....	-13.2	24.1	4.4	-8.5	-3.8	-9.9	-10.9
Goods.....	-3.7	-6.4	-9.0	6.7	34.8	3.2	-21.0
Services.....	-14.4	28.5	5.8	-9.9	-7.9	-12.1	-9.0
Imports.....	-9.5	3.9	4.1	1.9	8.3	-1.6	-1.4
Goods.....	-10.6	3.6	3.5	3.0	6.9	-2.3	-0.6
Services.....	2.0	6.1	9.9	-7.3	20.9	4.6	-7.9
Government consumption expenditures and gross investment	7.7	1.6	1.7	-1.1	5.6	1.6	7.1
Federal.....	13.3	3.5	0.4	-3.2	7.5	4.3	9.3
Territorial.....	-0.6	-1.7	3.9	2.5	2.5	-3.1	3.0
Addendum:							
Previously published GDP.....	-0.2	8.1	4.2	-3.4	0.7		

Percent Change From Preceding Year in Price Indexes							
	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	2.9	0.8	4.4	4.0	2.6	2.2	3.7
Personal consumption expenditures....	1.2	1.0	3.7	4.1	2.8	5.5	1.1

Real GDP								
[Millions of chained (2005) dollars]								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	3,589	3,615	3,879	4,003	3,850	3,879	3,899	3,966
Personal consumption expenditures....	2,490	2,286	2,450	2,588	2,557	2,603	2,602	2,563
Private fixed investment.....	156	185	161	145	155	200	228	219
Net exports of goods and services.....	-1,041	-970	-874	-908	-1,016	-1,194	-1,237	-1,285
Exports.....	763	662	822	858	785	755	680	606
Goods.....	86	82	77	70	75	101	104	82
Services.....	677	580	745	788	710	654	575	523
Imports.....	1,804	1,632	1,696	1,766	1,800	1,949	1,918	1,891
Goods.....	1,648	1,472	1,526	1,579	1,627	1,740	1,699	1,690
Services.....	157	160	170	187	173	209	219	202
Government consumption expenditures and gross investment	1,959	2,110	2,143	2,179	2,154	2,275	2,310	2,474
Federal.....	1,175	1,332	1,379	1,385	1,341	1,442	1,503	1,643
Territorial.....	782	777	764	794	813	833	808	831
Addenda:								
Population (thousands) ¹	161.1	163.6	166.1	168.6	171.0	173.5	175.9	177.9
Per capita real GDP (chained dollars) ..	22,278	22,097	23,353	23,743	22,515	22,357	22,166	22,293

1. Source: 2008 Guam Statistical Yearbook; U.S. Census Bureau, International Database.

GDP								
[Millions of dollars]								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	3,314	3,435	3,717	4,003	4,004	4,141	4,255	4,491
Personal consumption expenditures....	2,348	2,182	2,362	2,588	2,662	2,784	2,936	2,924
Private fixed investment.....	137	166	152	145	164	217	252	237
Net exports of goods and services.....	-854	-824	-812	-908	-1,081	-1,351	-1,544	-1,486
Exports.....	635	574	759	858	838	829	803	720
Goods.....	74	73	71	70	80	115	133	98
Services.....	561	501	688	788	759	714	670	622
Imports.....	1,489	1,398	1,572	1,766	1,919	2,180	2,347	2,206
Goods.....	1,357	1,257	1,413	1,579	1,733	1,949	2,091	1,965
Services.....	132	141	158	187	186	231	256	241
Government consumption expenditures and gross investment	1,684	1,911	2,016	2,179	2,259	2,490	2,612	2,816
Federal.....	1,002	1,199	1,295	1,385	1,410	1,580	1,698	1,856
Territorial.....	682	712	721	794	849	911	914	960

NOTE: Detail may not add to total because of rounding.

Contributions to Percent Change in Real GDP							
	2003	2004	2005	2006	2007	2008	2009
Percent change:							
Gross domestic product.....	0.7	7.3	3.2	-3.8	0.8	0.5	1.7
Percentage points:							
Personal consumption expenditures....	-5.77	4.57	3.57	-0.77	1.19	-0.02	-1.01
Private fixed investment.....	0.78	-0.64	-0.42	0.26	1.19	0.74	-0.23
Net exports of goods and services.....	1.75	2.49	-0.86	-2.72	-4.80	-1.15	-1.29
Exports.....	-2.54	4.13	0.91	-1.85	-0.79	-2.03	-2.03
Goods.....	-0.08	-0.14	-0.18	0.12	0.71	0.09	-0.62
Services.....	-2.46	4.27	1.09	-1.97	-1.50	-2.13	-1.41
Imports.....	4.29	-1.64	-1.78	-0.86	-4.01	0.88	0.74
Goods.....	4.37	-1.38	-1.35	-1.21	-3.04	1.14	0.27
Services.....	-0.08	-0.26	-0.43	0.35	-0.97	-0.26	0.47
Government consumption expenditures and gross investment	3.95	0.89	0.91	-0.61	3.19	0.94	4.27
Federal.....	4.08	1.25	0.15	-1.10	2.66	1.63	3.64
Territorial.....	-0.13	-0.36	0.76	0.49	0.53	-0.69	0.63

U.S. Virgin Islands

The economy of the U.S. Virgin Islands contracted in 2008 and in 2009. Real GDP decreased 5.6 percent in 2009 after decreasing 1.3 percent in 2008 (table 4). The decreases reflected changes in imports, inventory investment, and exports associated with the oil refining industry, in addition to declines in spending by tourists and by consumers.

Oil refining continued to be one of the primary industries in the U.S. Virgin Islands.¹² Petroleum products accounted for the majority of imports and exports of goods and of inventory investment. In 2008, the largest contributor to the decrease in real GDP was imports of goods, primarily of petroleum products, which increased. This was partly offset by an increase in inventory investment for petroleum products. In 2009, the decrease in real GDP was mainly due to a decrease in exports of goods, primarily of petroleum products.

Tourism is also among the most important industries in the territory and accounts for almost all of the U.S. Virgin Islands' exports of services. In 2009, spending by tourists fell 5.7 percent, subtracting 1.5 percentage points from the change in real GDP. The fall in spending by tourists reflected a significant decrease in the number of visitors.

Decreases in consumer spending also negatively affected economic growth, most notably in 2008. In 2008, consumer spending fell 9.3 percent, subtracting 4.9 percentage points from the change in real GDP. Prices paid by consumers for goods and services rose significantly, increasing almost 10 percent.

Improvements to the estimates for 2002–2007 include the following:

- Incorporation of newly available data on gross business receipts from the U.S. Virgin Islands Bureau of Internal Revenue that were used to estimate consumer spending on services (and some types of goods) for years in which economic census data are not available
- Improved source data for expenditures in the U.S. Virgin Islands by foreign residents and for expenditures on foreign travel by U.S. Virgin Islands residents
- Incorporation of newly available source data for government spending, including territorial government financial statements for fiscal year 2008 and data for federal military compensation

The pattern of growth in the revised estimates is similar to that of the previously published estimates. In both the revised estimates and the previously published estimates, real GDP increased in all years except

12. The Hovensa oil refinery, located on St. Croix, is one of the world's largest oil refineries.

Table 4. Highlights of GDP Growth, U.S. Virgin Islands

Percent Change From Preceding Year in Real GDP							
	2003	2004	2005	2006	2007	2008	2009
Gross domestic product (GDP).....	-1.0	3.4	3.7	4.0	4.3	-1.3	-5.6
Personal consumption expenditures....	2.7	4.2	8.4	6.0	-5.2	-9.3	-0.2
Private fixed investment.....	-32.3	11.6	18.8	3.6	-13.9	-12.5	-7.3
Change in private inventories.....							
Net exports of goods and services.....							
Exports.....	16.6	6.5	0.8	-5.2	0.4	1.8	-9.4
Goods.....	19.3	6.3	0.5	-5.5	0.4	1.8	-9.7
Services.....	3.6	7.7	3.3	-1.8	0.0	1.6	-5.7
Imports.....	17.4	7.5	1.4	-5.6	-5.8	5.7	-7.0
Goods.....	17.6	7.4	1.5	-5.6	-6.0	6.1	-7.2
Services.....	12.0	9.0	-1.6	-7.9	8.2	-13.7	1.4
Government consumption expenditures and gross investment	-10.9	3.2	0.8	6.8	10.1	-0.6	3.3
Federal.....	9.6	9.4	-5.2	0.7	1.8	3.5	13.4
Territorial.....	-13.2	2.3	1.8	7.8	11.3	-1.1	2.0
Addendum:							
Previously published GDP.....	-1.2	3.5	3.7	4.0	4.4		

Percent Change From Preceding Year in Price Indexes							
	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	5.9	6.8	12.6	-1.9	2.3	-11.9	6.5
Personal consumption expenditures....	2.8	3.4	3.8	2.6	5.5	9.7	1.6

Real GDP								
[Millions of chained (2005) dollars]								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	4,200	4,159	4,299	4,457	4,635	4,836	4,775	4,509
Personal consumption expenditures....	1,781	1,829	1,906	2,065	2,189	2,076	1,882	1,879
Private fixed investment.....	496	336	375	446	462	397	348	322
Change in private inventories.....	-161	49	46	-5	-26	-414	105	200
Net exports of goods and services.....	1,093	1,206	1,191	1,138	1,122	1,732	1,397	1,035
Exports.....	9,293	10,835	11,540	11,632	11,029	11,069	11,269	10,212
Goods.....	8,277	9,879	10,503	10,556	9,974	10,014	10,197	9,207
Services.....	933	967	1,041	1,076	1,057	1,057	1,073	1,012
Imports.....	8,200	9,629	10,349	10,495	9,907	9,337	9,872	9,177
Goods.....	7,985	9,395	10,092	10,243	9,675	9,092	9,646	8,954
Services.....	209	234	256	252	232	251	216	219
Government consumption expenditures and gross investment	878	782	807	814	869	957	952	984
Federal.....	97	106	116	110	110	112	116	132
Territorial.....	778	676	692	704	759	845	835	852
Addenda:								
Population (thousands) ¹	110.0	110.7	111.5	111.5	113.7	114.7	115.9	117.0
Per capita real GDP (chained dollars) ..	38,182	37,570	38,556	39,973	40,765	42,162	41,199	38,538

1. Source: 2009 U.S. Virgin Islands Annual Economic Indicators.

GDP								
[Millions of dollars]								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross domestic product.....	3,295	3,456	3,817	4,457	4,546	4,853	4,219	4,243
Personal consumption expenditures....	1,613	1,703	1,836	2,065	2,246	2,247	2,235	2,267
Private fixed investment.....	436	303	354	446	490	435	391	361
Change in private inventories.....	-73	27	33	-5	-30	-540	180	210
Net exports of goods and services.....	497	658	814	1,138	879	1,636	316	253
Exports.....	4,809	6,520	8,604	11,632	12,730	14,141	18,412	10,787
Goods.....	3,911	5,575	7,587	10,556	11,628	13,002	17,255	9,696
Services.....	898	945	1,017	1,076	1,102	1,139	1,157	1,091
Imports.....	4,312	5,861	7,790	10,495	11,850	12,505	18,095	10,534
Goods.....	4,140	5,651	7,547	10,243	11,615	12,251	17,861	10,310
Services.....	172	210	243	252	235	254	234	225
Government consumption expenditures and gross investment	822	765	779	814	960	1,074	1,098	1,152
Federal.....	84	93	109	110	117	126	134	150
Territorial.....	739	671	670	704	843	949	964	1,002

Note. Detail may not add to total due to rounding.

Contributions to Percent Change in Real GDP							
	2003	2004	2005	2006	2007	2008	2009
Percent change:							
Gross domestic product.....	-1.0	3.4	3.7	4.0	4.3	-1.3	-5.6
Percentage points:							
Personal consumption expenditures....	1.31	2.07	3.91	2.85	-2.59	-4.86	-0.10
Private fixed investment.....	-4.22	1.01	1.71	0.37	-1.51	-1.21	-0.66
Change in private inventories.....	3.12	-0.05	-1.08	-0.51	-10.43	17.34	3.00
Net exports of goods and services.....	1.54	-0.36	-1.00	-0.06	16.72	-12.38	-8.66
Exports.....	25.48	13.35	1.97	-14.78	1.06	6.50	-32.76
Goods.....	24.50	11.29	1.12	-14.33	1.06	6.10	-31.24
Services.....	0.98	2.06	0.85	-0.45	0.00	0.40	-1.51
Imports.....	-23.94	-13.72	-2.97	14.71	15.66	-18.88	24.09
Goods.....	-23.30	-13.17	-3.07	14.26	16.08	-19.67	24.17
Services.....	-0.64	-0.55	0.10	0.46	-0.42	0.79	-0.07
Government consumption expenditures and gross investment	-2.71	0.69	0.16	1.33	2.13	-0.14	0.85
Federal.....	0.24	0.26	-0.14	0.02	0.05	0.10	0.41
Territorial.....	-2.95	0.44	0.30	1.31	2.09	-0.23	0.44

2003. The average annual growth rate of real GDP was unrevised. For 2002–2007, the revised estimates of real GDP increased at an average annual rate of 2.9 percent; in the previously published estimates, real GDP also increased 2.9 percent.

Future Directions

This project represents an important step toward achieving BEA and OIA's long-term goal: to integrate these territories not only into the estimates of national GDP but also into the full set of NIPAs. A primary obstacle to realizing this goal is the lack of coverage of these four territories by most of the major surveys used by BEA to produce its estimates of GDP and related economic measures.¹³ Until the territories are included in these surveys, BEA will continue to depend heavily on the assistance and information provided by each of the territorial governments.

Over the coming months, BEA will continue to work closely with the territorial governments to update the estimates of GDP for the four territories. Estimates for 2010, in addition to revised estimates for 2002–2009, are scheduled to be released in the spring of 2012.

It is important to note that GDP is only one summary measure of economic activity. Future enhancements to the estimates for the four territories (subject to data availability and funding) include developing supplementary measures included in the full set of the NIPAs, such as personal income and personal saving rates.

Appendix: Summary of Methodologies

Gross domestic product (GDP) is measured as the sum of consumer spending (or “personal consumption expenditures”), private investment, net exports (exports less imports) of goods and services, and government spending (or “government consumption expenditures and gross investment”). The methodologies used to estimate the major components of GDP for American Samoa, the Commonwealth of the Northern Mariana Islands (CNMI), Guam, and the U.S. Virgin Islands are summarized in this appendix. These methods are consistent with the methods used to estimate U.S. GDP. Information from the Economic Census of Island Areas was used to establish levels of GDP for each terri-

tory for 2002 and 2007. For other years, annual series were developed and used to estimate GDP.

Consumer spending. Personal consumption expenditures (PCE) consists primarily of purchases of goods and services by households.¹⁴ For American Samoa, the CNMI, and Guam, economic census data on the consumer shares of sales for each industry sector were used to benchmark the estimates of household purchases of most goods. For the CNMI and Guam, annual growth rates for most goods and services were derived using gross business revenue data; for American Samoa, annual growth rates for most goods were derived using data on imports of goods. Annual estimates of goods for the U.S. Virgin Islands were mostly based on imports data from the Census Bureau's *U.S. Trade With Puerto Rico and U.S. Possessions* (series FT895) and *U.S. International Trade in Goods and Services* (series FT900).¹⁵

Economic census data on the consumer shares of sales for each industry sector were used for all four territories to benchmark the estimates of most services except housing and utilities. Annual growth rates were derived primarily using wage data for American Samoa and gross business revenue data for the CNMI, Guam, and the U.S. Virgin Islands. Housing services and utilities services were estimated independently. Housing services were estimated using information on the number of occupied housing units and average rental rates reported in the Census of Population and Housing. Utilities services were estimated using revenue data reported by government-owned utilities and by the U.S. Energy Information Administration. Other services not covered by the economic census—such as financial services furnished without payment, insurance, and sales by government—were also estimated independently.

Private investment. Private investment consists of spending on new fixed assets—equipment, software and structures by private businesses, and improvements to existing assets. It also includes the construction of new residential structures and the improvements to these structures.¹⁶ Because of data limitations, estimates of private investment in equipment and software and in structures were indirectly measured. Investment in equipment and software was estimated based on the value of imports of capital

13. These surveys include merchant wholesale trade and retail trade surveys; the annual capital expenditures survey; value of construction put in place; the service annual survey; the annual survey of manufactures; manufacturers' shipments, inventories, and orders; and government finances. The Census Bureau's County Business Patterns (CBP) program was recently expanded to include the U.S. territories. The CBP provides data by industry on employment during the week of March 12, first quarter and annual payroll, and number of establishments.

14. A small portion of PCE consists of purchases by nonprofit institutions serving households.

15. It was assumed for both American Samoa and the U.S. Virgin Islands that most consumer purchases of goods were imported.

16. For American Samoa and the U.S. Virgin Islands, private investment also includes private inventory investment (or “change in private inventories”).

goods or on economic census data on the business share of sales of the wholesale durable goods sector.¹⁷ Investment in structures was estimated using building permit data and construction industry receipts less sales to other construction firms and less sales to government as reported in the economic census.¹⁸

Net exports of goods and services. The estimates of exports of goods to the United States from the four territories reflected data from the Census Bureau's FT895 publication. Estimates of exports of goods from American Samoa, the CNMI, and Guam to the rest of the world were based on information compiled by the territorial governments. Estimates of exports of goods from the U.S. Virgin Islands to the rest of the world were based on data from the Census Bureau's FT900 publication. Estimates of imports of goods for American Samoa, the CNMI, and Guam were based on values or quantities of imported commodities reported by the territorial governments. For the U.S. Virgin Islands, estimates of imports of goods reflected data from the series FT895 and FT900 publications.

Information on imports of services and on exports of services other than tourism was limited. Estimates of exports of tourism services for the CNMI and Guam were based on survey data on tourist expenditures and visitor arrivals provided by the territorial government visitors' authorities. For the U.S. Virgin Islands, the es-

timate of exports of tourism services was based on expenditures of cruise ship passengers available from the Florida-Caribbean Cruise Association and total visitor expenditures provided by the Virgin Islands Bureau of Economic Research.¹⁹

Government consumption expenditures and gross investment. The estimates of government expenditures were prepared separately for the territorial governments and for the federal government sector. The primary sources of information for the territorial government estimates were financial statements of the primary government and of the government component units. The primary data sources for the federal government estimates were the Census Bureau's *Consolidated Federal Funds Report* and the *Federal Procurement Data System*.

Estimates of real GDP. Inflation-adjusted estimates of total GDP and its components were derived within a chain-type Fisher Index framework. For most of the detailed components of GDP, inflation-adjusted estimates were calculated by deflating each component using an appropriate price index. Consumer price indexes produced by each territorial government were used to deflate most of the detailed components of PCE. Inflation-adjusted estimates for most components other than PCE were calculated using U.S. prices from the U.S. Bureau of Labor Statistics.

17. For Guam, after discussion with officials in the Guam Bureau of Statistics and Plans, it was assumed that a majority of the goods purchased by durable goods wholesalers for resale were imported.

18. The method assumed that the receipts by construction industry reported in the economic census were collected for work done in the same year.

19. Exports of tourism services were a small component of American Samoa's economy and are not discussed.

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