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**Economic Structure of American Samoa, Commonwealth of the Northern Mariana Islands  
(CNMI), Guam and the U.S. Virgin Islands (USVI)**

**by**

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**Introduction**

The Bureau of Economic Analysis (BEA), a Department of Commerce (DOC) agency which calculates the gross domestic product (GDP) of the United States, the 50 states and the District of Columbia (DC), released its first GDP estimates for American Samoa, the CNMI, Guam and the USVI in Washington, DC on May 5, 2010. The estimates resulted from a year-long interactive and collaborative effort among the BEA, OIA and the territories. Congressional delegates from the four territories and senior officials from a number of federal agencies that work with the territories joined leaders from both DOI and DOC to celebrate this historic occasion.

Following the release of current (nominal) and real (adjusted for inflation) GDP totals for each of the four territories in DC, details of GDP components (consumer spending, private investment, government spending and net exports of goods and services) were subsequently presented to the governors and legislative leaders in each territory. This first set of GDP estimates covered 2002-2007. The BEA released estimates for 2008 and 2009 in May-July 2011, thus bringing territorial GDP estimates in line with those of the 50 states and DC. With the release of 2010 GDP estimates for the territories in the fall of 2012, the BEA will keep the series as current as practical. The goal is to enable the BEA to integrate the territorial GDP accounts into the national economic accounts.

A DOI technical assistance grant to the BEA made this work possible. DOI undertook this initiative to integrate territorial income and product accounts into the U.S.'s national economic accounts so that political and business leaders, households and citizens in the territories would have the same information on their economies as their counterparts in the 50 states and DC. The territories are currently not included in the aggregate measure of U.S. GDP that the BEA publishes. Moreover, GDP data produced by the BEA make it possible to compare territorial GDP data to those of the United States as a whole, the 50 states and DC and any other economy in the world since the BEA employs globally accepted methods and techniques for producing national economic accounts. The territories need current information on their economies as much as the nation collectively, the 50 states and DC independently do to make informed decisions about making and implementing economic and financial policy.

The BEA uses the same national economic accounting standards and estimation methodologies that it does for U.S. GDP. However, the source data the BEA uses for territorial GDP are different from those used to calculate U.S. GDP and that of the 50 states and DC. The data for the United States, the 50 states and DC that the BEA uses to calculate GDP come from other federal agencies such as the Census Bureau, the Bureau of Labor Statistics, even the Internal Revenue Service. Since the territories are not included in much of the current federal data and research work the way the states and DC are, there is little that federal agencies collect on the territories during periods other than national censuses.<sup>1</sup>

To obtain similar data sets for the territories, the BEA has to work directly with the territories, and that is where DOI funding becomes critical. The BEA team working on territorial GDP data must travel to the territories and work with territorial staff to collect the data and consult with territorial government and business people. An obvious benefit of this interactive process by which the BEA produces territorial GDP data is that it works closely with territorial economic and other statistics staffs. This two-way communication not only produces valuable data, but enables territorial staff to learn how their GDP is calculated.

### **Why GDP Data and Why Now**

Quantitative analysis has become an essential part of making informed economic policy at the federal and state levels in the United States and much of the world. Take, for example, how the President of the United States makes economic policy decisions. Within the White House, he gets advice on economic and fiscal policy from two principal sources. One is statutory and the other was created by executive authority. The statutory body is the Council of Economic Advisers (CEA), composed of a chair and two members; it was established by the Congress in 1946 to help the President design and implement formal economic growth policies which would address major economic issues such as unemployment, job creation and economic growth.

Some of the most accomplished academic economists have overseen the CEA over the years. Apart from its day-to-day advice to the President and White House staff on economic policy and programs and the monthly publication, *Economic Indicators*, a widely used data bulletin on the

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<sup>1</sup> The territories were added to the Census Bureau's annual publication, *County Business Patterns*, for calendar year 2009. They are to be included in all subsequent reports.

U.S. economy prepared for the Joint Economic Committee of the Congress, the CEA produces the *Economic Report of the President*. This is one of the best-known economic reports and source of data on the U.S. economy. The President submits it to the Congress every winter.

The other source advising the President and White House staff on economic policy matters, the National Economic Council, was created by an executive order in 1993. It is also headed by a prominent economist, but not necessarily from academia. It would be quite accurate to say that no program or economic policy proposal the President would want to initiate would leave the White House without a thorough analysis of its basic data, assumptions and implications.

Regardless of how thorough and sophisticated it may be, quantitative analysis does not mean that every element in practice turns out as the model predicted, but it provides the best direction for policy makers before a policy is presented. Governors of most of the 50 states have economists and economic advisory bodies doing pretty much the same work at state level. Two of the four territories OIA works with have territorial economists who collect data and produce reports, but the territories do not produce annual economic reports. This is due, in part, to lack of data and, in part, because of lack of specialized expertise. Now that there are basic GDP statistics for the four territories, along with the data from the *Economic Census* and *County Business Patterns*, this information can help territorial leaders make informed decisions about their economies.

### **GDP Data as a Policy Tool**

The four major GDP components (consumer spending, private investment, government spending and net exports of goods and services) provide the first step to understanding the structure of an economy. In the United States, these components are broken further into smaller pieces. There are also data on industries and their constituent parts as well as inter-industry links (e.g. how an increase in oil prices would affect travel demand and airline revenues). The advantage of detailed data is that policy makers can look at narrow areas, such as investment in hotels or fish processing, for example, or broader areas such as business investment in general.

Looking at the four components in each of the four territories, one thing stands out: business expenditures on fixed capital (buildings, machines, software, etc.) tends to be lower in the territories than in the United States as a whole. This is perhaps a reflection of the common notion that consumption and government spending, including federal grants, are among the main drivers of territorial economies. This may be so, but quantitative analysis makes the argument more concrete and, in the end, more objective.

Assuming that current GDP estimates, subject to revision and refinement, are accurate, and that private capital spending as a share of GDP is as low as the estimates suggest, the question then becomes: how does this information help policy making?

Investment in capital is not only a form of spending that adds to GDP and the income flow in the economy and jobs, it is the oil the economic engine needs to work smoothly and last longer. Capital spending makes the economic engine more productive, and productivity has a direct link to higher wages and salaries. Knowing that capital spending as a share of GDP is relatively low in the territories, governors and their advisors would want to study this subject with some depth

and understand what the underlying causes and effects may be. This understanding would be followed by proposals to the legislatures and the business community.

Limited GDP data prevent policy makers from making sector-specific inquiries into their economies. However, limited data are better than no data. We are hopeful that a continued partnership between the BEA and OIA will result in the production of more component and industry details in the years ahead. Examples of income details would be personal income, disposable income and savings, and examples of industries would include retail trade, manufacturing, construction, and other services (e.g. education).

Details on components and industries will enable territorial leaders to make economic policy and program decisions the same way that governors of the states and mayors of large cities do. Having good data may not solve economic problems, but not having them makes it impossible to know what the obstacles are, how to analyze them and what to do about them. Both government and business leaders benefit from more robust economies, and more detailed information helps them make better and more informed decisions. Households, individuals and all citizens benefit from more and better economic data to make informed decisions in their own affairs. Also, provision of information to citizens is a public good provided by their government that has a long history in the United States, going back to the beginning of the Republic.

### **Territorial GDP: American Samoa**

The table below shows American Samoa's GDP by major components.

<b>American Samoa Gross Domestic Product (Millions of Dollars)</b>								
	2002	2003	2004	2005	2006	2007	2008	2009
<b>Gross Domestic Product</b>	546	558	543	548	545	572	605	703
<b>Personal Consumption Expenditures</b>	309	329	354	365	372	379	404	403
<b>Private Fixed Investment</b>	12	12	17	21	20	21	20	17
<b>Change in Private Inventories</b>	5	28	13	-6	-3	-8	-35	-10
<b>Net Exports</b>	-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
<b>Govt. Consump. Expend. &amp; Gross Invest.</b>	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
<b>Real GDP (Millions of Chained 2005 Dollars)</b>	539	542	545	548	531	540	529	504
Population (000)	61	63	64	66	67	68	69	70
Per Capita Real GDP (\$)	8865	8658	8502	8366	7937	7918	7645	7190

Private fixed investment appears to be quite low, both in absolute numbers and as a share of GDP. As a share of GDP, private fixed investment was 2.4 percent in 2009, the most recent year for which these data are available. During the same year, private fixed investment as a share of GDP in the United States as a whole was 11.1 percent. Incidentally, private fixed investment spending as a share of GDP in the United States in 2009, a recession year, was the lowest during the 2002-2009 period. In fact, it averaged 15.5 percent of GDP during that period, as compared to American Samoa's average of 3.0 percent per year.

As a share of GDP, personal consumption expenditures in American Samoa in 2009 were 57.3 percent, not so close to the nation's 70.8 percent share, but closer than spending on private fixed capital. Government spending in American Samoa was 41.7 percent of GDP in 2009, double the nation's share of 20.9 percent.

It is commonly understood that territorial government spending, including spending funded by federal grants, plays a large role in the territory's economy. One part of the explanation is that the American Samoa Government (ASG) offers the usual government services that states do, as well as educational and universal health services. Furthermore, ASG supplies municipal utility services, especially power through an autonomous entity. As a share of GDP, territorial government spending in American Samoa in 2009 was the lowest during the 2002-2009 period.

An important point to make about the GDP data for American Samoa is that net exports (exports minus imports) were negative every year from 2002 to 2009. Ideally, the difference between exports and imports would be zero, but ideal seldom occurs in the real world. Economies that export more than they import and earn excess foreign exchange in world markets end up with more cash reserves which they invest in global financial markets. China is a good example. Economies that import more than they export have to find extra funds to pay for their imports. Depending on where the money to buy extra imports comes from, it can get importing economies in some financial trouble.

A negative trade balance for American Samoa may appear surprising because the territory has had an export (processed tuna) sector for a long time. However, the reason is that American Samoa's manufacturing exports of processed fish command relatively low prices in world markets. Imports are more costly, especially consumer electronics, heavy equipment, machinery and automobiles. Since one commodity export (processed fish) has dominated the territory's foreign trade balance for a long time, American Samoa ends up with a negative trade balance which would be difficult to sustain without federal grants. Still, further loss of manufacturing capacity puts even greater pressure on American Samoa's trade balance. One of the effects would likely be a reduction in imports unless there is new income to cover them.

### **Territorial GDP: CNMI**

During the 2002-2009 period, the CNMI economy underwent an involuntary transformation resulting from historically unique circumstances that led to dissolution of an industry and a major contraction of the economy. In 2005, the United States joined the world in a new global trade pact which abolished quotas on textiles imports to the United States, although import duties remained. Removing quotas made it possible for large and low-cost economies such as China to

export unlimited quantities of textiles to the United States and effectively force higher-cost producers such as the garment factories in the CNMI out of business. The CNMI production costs were lower than in the United States as a whole since the CNMI paid lower than U.S. minimum wages, but they were still significantly higher than labor costs in China.

During peak production levels in the CNMI in 1999-2000, some 30-plus garment factories produced around \$1 billion worth of garments on Saipan (wholesale value), mainly for domestic labels, and employed about 15,000 temporary Asian workers. With the new trade rules taking effect in January 2005, garment factories began to consolidate, move and close. This winding down of the industry continued until the last factories closed in the first quarter of 2009.

Under circumstances unrelated to garments or international trade, the CNMI's tourism also suffered losses, beginning in 2006 when Japan Air Lines withdrew from the market. With losses in both manufacturing and tourism in the study period, the CNMI's economy contracted substantially. Real (adjusted for inflation) GDP in 2009 was 49.1 percent smaller than in 2002.

With federal minimum wage and immigration rules in place, the CNMI has a foundation for its next economy which will most likely be based on services, especially tourism, and perhaps health and wellness services in the future. The table below shows the CNMI's GDP.

CNMI Gross Domestic Product (Millions of Dollars)								
	2002	2003	2004	2005	2006	2007	2008	2009
<b>Gross Domestic Product</b>	<b>1222</b>	<b>1181</b>	<b>1148</b>	<b>982</b>	<b>914</b>	<b>863</b>	<b>847</b>	<b>716</b>
<b>Personal Consumption Expenditures</b>	<b>538</b>	<b>543</b>	<b>547</b>	<b>502</b>	<b>557</b>	<b>558</b>	<b>588</b>	<b>518</b>
<b>Private Fixed Investment</b>	<b>24</b>	<b>24</b>	<b>42</b>	<b>41</b>	<b>35</b>	<b>24</b>	<b>27</b>	<b>27</b>
<b>Net Exports</b>	<b>293</b>	<b>255</b>	<b>190</b>	<b>66</b>	<b>-42</b>	<b>-72</b>	<b>-111</b>	<b>-169</b>
Exports	1077	1030	1128	910	729	525	377	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	388
Goods	675	667	808	728	665	514	419	332
Services	109	108	130	117	106	83	69	56
<b>Govt. Consump. Expend. &amp; Gross Invest.</b>	<b>367</b>	<b>358</b>	<b>369</b>	<b>374</b>	<b>364</b>	<b>353</b>	<b>344</b>	<b>339</b>
Federal	14	16	13	17	14	13	16	21
Territorial	353	342	355	357	350	339	327	317
<b>Real GDP (Millions of Chained 2005 Dollars)</b>	<b>1175</b>	<b>1189</b>	<b>1146</b>	<b>982</b>	<b>919</b>	<b>848</b>	<b>746</b>	<b>598</b>
Population (000)	74	77	79	71	61	59	55	52
Per Capita Real GDP (\$)	15793	15522	14525	13909	15140	14471	13514	11612

## Territorial GDP: Guam

In 2008, the size of Guam's economy exceeded the USVI's to become the largest of the four territorial economies in terms of current (nominal) dollars. It maintained that position in 2009, mainly on the strength of federal spending, especially defense. The USVI, the U.S. and other economies in the region and around the world were adversely affected by the global economic slowdown in 2008 and 2009. Unlike the USVI, American Samoa and even the CNMI before the garment factories closed, Guam does not have a large manufacturing sector. Guam's economy has three service sectors: national defense, tourism and the Government of Guam. Among the

three, national defense generates a higher income per person and that is the main reason that Guam's per capita GDP is higher than that of either the CNMI or American Samoa. The USVI's per capita GDP was higher than Guam's, but that was mainly the result of distortions caused by high petroleum prices than the value of production or income it generated in the territory.

Composition of Guam's GDP reflects its economic structure. Similar to the United States, consumer spending accounted for 65.1 percent of GDP in 2009. Private capital spending made up only 5.3 percent of GDP, net exports of goods and services a large negative 33.1 percent and government spending also a large 62.7 percent. Federal spending alone accounted for 41.3 percent of GDP. The proposed military buildup will enlarge Guam's economy once it gets underway. The buildup will expand Guam's economy, its tax base, as well as its population and the demand for infrastructure. Guam's GDP is presented in the table below.

Guam Gross Domestic Product (Millions of Dollars)								
	2002	2003	2004	2005	2006	2007	2008	2009
Gross Domestic Product	3314	3435	3717	4003	4004	4141	4255	4491
Personal Consumption Expenditures	2348	2182	2362	2588	2662	2784	2936	2924
Private Fixed Investment	137	166	152	145	164	217	252	237
Net Exports	-854	-824	-812	-908	-1081	-1351	-1544	-1486
Exports	635	574	759	858	839	829	803	720
Goods	74	73	71	70	80	115	133	98
Services	561	501	688	788	759	714	670	622
Imports	1489	1398	1571	1766	1919	2180	2347	2206
Goods	1357	1257	1413	1579	1733	1949	2091	1965
Services	132	141	158	187	186	231	256	241
Govt. Consump. Expend. & Gross Invest.	1684	1911	2016	2179	2259	2490	2612	2816
Federal	1002	1199	1295	1385	1410	1580	1698	1856
Territorial	682	712	721	794	849	911	914	960
Real GDP (Millions of Chained 2005 Dollars)	3589	3615	3879	4003	3850	3879	3899	3966
Population (000)	161	164	166	169	171	174	176	178
Per Capita Real GDP (\$)	22278	22097	23353	23743	22515	22357	22166	22293

## Territorial GDP: USVI

Among the territories, the USVI had the highest per capita GDP in 2009, as it did in the year before. This was mainly the result of high oil prices and the subsequent increase in the value of refined petroleum, which was the territory's largest export until the refinery closed in early 2012. Closure of the USVI's refinery on St. Croix resulted in a large and sudden loss in GDP, employment and taxes. GDP loss was estimated at \$580 million a year or 12.9 percent of an estimated total GDP of \$4.5 billion.<sup>2</sup> Adding indirect and induced effects would likely increase the loss. Closure of the refinery also led to an estimated total of \$92 million lost taxes and direct employment loss of 2,471 positions, or 12.0 percent of total employment in the territory.

<sup>2</sup> Source: Bureau of Economic Research (via e-mail), Office of the Governor, U.S. Virgin Islands, June 18, 2012.

Before the refinery closed, the USVI economy used to be relatively more diversified. The USVI produces a significant quantity of rum which it exports to the mainland. Rum exports generate a large sum of tax revenues for the territory as import taxes on rum to the United States are returned to the USVI treasury. These taxes are estimated at \$195 million in fiscal year 2013.

On the service side of the economic ledger, tourism, dominated by cruise ship visitors, is a significant income source. Nearly 1.7 million cruise ship passengers visited the USVI in 2009, as did more than 560,000 overnight staying tourists. Altogether, over 2.2 million tourists visited the USVI in 2009. Although that total was lower than in some previous years, it was still strong, given the state of the economy on the mainland which provides most of the tourists.

Net exports accounted for 6.0 percent of GDP in the USVI in 2009 while it made up a negative 2.8 percent in the United States. Meanwhile, as compared with the United States as a whole where consumer spending accounts for about 70 percent of GDP, the USVI's consumer spending represented 53.4 of GDP percent in 2009. This was not because consumption spending was not a large part of the economy. It was, but it was overshadowed by the impact of the USVI's exports of refined oil products. The value of goods exports (mostly refined petroleum products) in 2009 was nearly \$9.7 billion, more than twice the value of the territory's GDP. What this suggests is that the monetary value of refined petroleum products was so large in relation to other segments of the economy that it distorted their values, including the value of per capita GDP.

USVI Gross Domestic Product (Millions of Dollars)	2002	2003	2004	2005	2006	2007	2008	2009
Gross Domestic Product	3295	3455	3817	4457	4546	4853	4219	4243
Personal Consumption Expenditures	1613	1703	1836	2065	2246	2247	2235	2267
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	497	658	814	1138	879	1636	316	253
Exports	4809	6520	8604	11632	12730	14141	18412	10787
Goods	3911	5575	7587	10556	11628	13002	17255	9696
Services	898	945	1017	1076	1102	1139	1157	1091
Imports	4312	5861	7790	10495	11850	12505	18095	10534
Goods	4140	5651	7547	10243	11615	12251	17861	10310
Services	172	210	243	252	235	254	234	225
Govt. Consump. Expend. & Gross Invest.	822	765	779	814	960	1074	1098	1152
Federal	84	93	109	110	117	126	134	150
Territorial	739	671	670	704	843	949	964	1002
Real GDP (Millions of Chained 2005 Dollars)	4200	4159	4299	4457	4635	4836	4775	4509
Population (000)	110	111	112	112	114	115	116	117
Per Capita Real GDP (\$)	38182	37570	38556	39973	40765	42162	41199	38538

## A Comparative Note

Per capita GDP in the four territories is as different as the places themselves. Distorted by high oil prices when the refinery was in business, the USVI had a per capita GDP in 2009 that was 78.5 percent of U.S. per capita GDP. Clearly, this ratio has changed since the refinery closed, but updated official GDP data to reflect this change will not be available for some time.



2009 Gross Domestic Product (GDP) Components					
	U.S. GDP	A.S. GDP	CNMI GDP	Guam GDP	USVI GDP
	(\$Bill)	(\$Mill)	(\$Mill)	(\$Mill)	(\$Mill)
<b>GDP</b>	13939	703	716	4491	4243
<b>Personal Consumption Expenditures</b>	9866	403	518	2924	2267
<b>Private Fixed Investment</b>	1547	17	27	237	361
<b>Change in Private Inventories</b>	0	-10	0	0	210
<b>Net Export of Goods &amp; Services</b>	-392	-1	-169	-1486	253
<b>Government Consumption Expenditures &amp; Gross Investment</b>	2918	293	339	2816	1152
<b>Population (U.S. in millions)</b>	302	70100	51500	177900	117000
<b>Per Capita GDP (\$)</b>	46199	10029	13903	25245	36265
<b>As % of U.S. GDP</b>	100.0	21.7	30.1	54.6	78.5

Per capita GDP does not represent standards of living since taxes and other effects that reduce income have not been taken into account, not to mention qualitative aspects of standards of living such as geography, climate, family, community and social organization that affect lives. However, it does represent, as GDP itself, a comparative measure of the monetary value of output per person. As a general principle, economies with high per capita GDP generally enjoy high standards of living, and vice versa.

In the case of the four U.S. territories, it is the proximity (gap) to U.S. per capita GDP that is noteworthy. In American Samoa, per capita GDP is just over one-fifth of the Nation's. In the CNMI, it is just under one-third. Guam's is just over one half and the USVI's was the closest before closure of the oil refinery.

In comparison to the 50 states, with DC being an exception because of its unusually high per capita GDP owing to its special status, three of the four territories had per capita GDP outside the range of the 50 states in 2009. Guam, the CNMI and American Samoa all had per capita GDP lower than that of the lowest of the 50 states. Only the USVI had a per capita GDP in 2009 that would place it on the list of the 50 states. However, that will likely change since the closure of the oil refinery on St. Croix.

### **Future Research Needs**

Now that the four territories have basic GDP data and are included in the *County Business Patterns* and the *Economic Census*, the next step would be to generate more detailed components of income and GDP by industry. Again, more details on those essential components of the economy will provide more insight into their structures and performance which, in turn, will become useful tools for policy making. The principal goal of economic and financial policies would be to make the territorial economies as efficient, productive, and financially stable as they can be, given their small size and isolation.