

May 2010

Economic Impacts Attributable to Federal Grants and Payments to Seven Insular Areas

Executive Summary

Prepared for

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RTI Project Number 0211700.002

The Office of Insular Affairs (OIA) carries out the Department of the Interior's responsibilities for U.S.-affiliated insular areas. These areas include the territories of American Samoa, Guam, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands as well as the Freely Associated States (FAS)¹ of the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau.

OIA will provide \$479.6 million in grants and payments to the insular areas during FY2010. This assistance plays an important role in the economies of each of these areas by providing financial and technical assistance to promote economic growth, education, public health, and the development of more efficient and effective government. However, no rigorous economic studies have been conducted to quantify the importance of this assistance because of a lack of sophisticated economic data series for these insular areas. As a result, territorial and federal leaders are largely deprived of the type of thorough economic analysis that would assist them in making more informed policy decisions.

OIA contracted with RTI International in April 2010 to develop a methodology that, despite data limitations, estimates the economic impact of OIA grants and payments to the insular areas. To meet OIA's needs, RTI canvassed existing secondary data and provided OIA with a methodology for rapidly approximating the economic impact of OIA payments. This methodology was used to estimate the impact of payments on each of the following economic aggregates for each insular area:

- § Employment: the number of individuals gainfully employed, which typically consists of full-time and part-time employees but excludes subsistence agriculture and fishing
- § Employee compensation: payments made to all employees during the year, including salaries, wages, and other forms of compensation
- § Gross domestic product (GDP): a measure of each area's economic output—typically defined as the value of all final goods and services made within the borders of the insular area in a particular year

Table ES-1 summarizes the results of this analysis.

¹FAS are independent nations that were at one time governed by the United States and continue to maintain a close relationship with the United States through the Compact of Free Association, which makes them eligible to receive funds and assistance from U.S. federal agencies.

Table ES-1. Economic Impact Summary of OIA Grants and Payments, FY2010

	Total OIA Payments (\$'000; 2009\$)	Total OIA Employment Impact (#)	National Employment Supported by OIA Payments (%)	Total OIA Employee Compensation Impact (\$'000; 2009\$)	National Employee Compensation Supported by OIA Payments (%)	Total OIA GDP Impact (\$'000; 2009\$)	National GDP Supported by OIA Payments (%)
American Samoa	35,365	1,575	9%	26,510	14%	51,022	9%
Guam	67,412	4,109	6%	91,076	7%	305,179	7%
Northern Mariana Islands	17,604	640	2%	9,685	3%	24,514	2%
U.S. Virgin Islands	142,599	8,763	18%	286,054	19%	860,960	18%
Micronesia	108,800	8,570	54%	46,868	69%	140,722	54%
Marshall Islands	70,049	4,510	44%	39,121	39%	68,208	44%
Palau	15,678	1,490	12%	16,921	17%	21,194	12%
Total	457,507	29,656	15%	516,235	14%	1,471,798	13%

Note: Approximately \$22.1 million of the total \$479.6 million was spent outside the seven insular areas that were the primary focus of this study.

Source: RTI estimates.

ES.1 FY2010 OIA Payments to the Insular Areas

OIA's responsibilities are framed by the long-term security interests of the United States in the western Pacific and serious economic and fiscal problems affecting the U.S. territories. Although each territory's situation is unique, they share common challenges, including limited land and resources, small populations, limited local technical expertise, narrow economic bases, and exposure to natural disasters, such as hurricanes and typhoons. OIA strives to empower the local communities, foster economic development, promote sound management, and improve quality of life while respecting and preserving local cultures.

U.S. per capita GDP was estimated to be approximately \$47,300 in 2007 when adjusting for inflation (Census, 2010). By contrast, per capita GDP for the insular areas averages to less than \$20,000, although there is great variability in income across areas (Table ES-2). GDP per capita (2008) is lowest in the three FAS areas, ranging from \$2,400 in Micronesia, \$2,500 in the Marshall Islands, to \$8,600 in Palau. 2007 GDP per capita is relatively greater in the four U.S. territories, ranging from \$8,100 in American Samoa, \$17,000 in the Northern Mariana Islands, \$26,000 in Guam, to \$41,000 in the U.S. Virgin Islands.

Table ES-2. Estimated Economic Characteristics by Insular Area

	Estimated Population (#)	Estimated Employment (#)	Estimated Employee Compensation (\$'000; 2009\$)	GDP (\$'000; 2009\$)	GDP per Capita (2009\$)
American Samoa	68,200	16,990	191,675	550,461	8,071
Guam	173,456	67,229	1,361,210	4,428,521	25,531
Northern Mariana Islands	58,629	25,977	291,172	995,382	16,978
U.S. Virgin Islands	114,743	48,234	1,535,214	4,738,931	41,300
Micronesia	110,123	15,962	68,071	262,103	2,380
Marshall Islands	58,316	10,209	100,362	154,397	2,648
Palau	20,162	11,947	98,483	169,990	8,431

Note: Data on estimated 2007 population and GDP for the four U.S. territories were collected from BEA (2010). Data on estimates 2007 population and GDP data were obtained for the three FAS from World Bank (2010a; 2010b). RTI constructed estimated employment and employee compensation statistics from the most recent secondary sources available and represent various years. The construction of this data for each insular area is explained in more detail in the full report.

For FY2010, OIA will provide \$479.6 million in technical assistance, grants, and payments to the insular areas, of which nearly 93% is considered mandatory, essential assistance to provide basic services, or defined by law (OIA, 2010). Only about 7% is considered to be truly discretionary. OIA payments fund health care, education, government operations, roads, and other types of social and physical infrastructure. From a budgetary standpoint, payments can be separated into three primary categories (Table ES-3):

- § *fiscal payments*, which are the return of taxes collected by the U.S. federal government to Guam and the U.S. Virgin Islands, as required by law
- § *Assistance to Territories*, which provides general technical assistance, finances education and health care operations, funds and maintains essential infrastructure, and supports environmental initiatives, including Brown Tree Snake control and the Coral Reef Initiative
- § *Compact of Free Association*, which distributes annual payments to FAS, per their treaties with the United States, and provides support to the U.S. western Pacific territories and Hawaii to offset the impact the Compact has on regional social infrastructure

Table ES-3. FY2010 OIA Payments by Area

	Fiscal Payments (\$'000; 2009\$)	Assistance to Territories (\$'000; 2009\$)	Compact of Free Association (\$'000; 2009\$)	Total OIA Payments (\$'000; 2009\$)
American Samoa	—	35,351	14	35,365
Guam	39,000	11,585	16,827	67,412
Northern Mariana Islands	—	15,674	1,930	17,604
U.S. Virgin Islands	138,000	4,599	—	142,599
Micronesia	—	4,796	104,004	108,800
Marshall Islands	—	2,748	67,456	70,204
Palau	—	1,643	14,035	15,678
Other ^a	—	8,799	13,327	22,126
Total	177,000	85,195	217,437	479,632

^a This other category represents payments being spent outside the seven insular areas, such as Washington, DC; Hawaii; Georgia; and others.

Source: RTI estimates based on detailed budget information provided by OIA (2010).

ES.2 Study Methodology

Total economic impacts are the sum of direct economic impact and indirect/induced economic impact resulting from recipient organizations' consumption of goods and services and household spending by organizations' employees. RTI reviewed employment, employee compensation, and activity trends for each insular area to estimate the direct impact of OIA payments.

Indirect/induced impacts were estimated using economic base analysis (EBA). The reasoning underlying EBA is that an individual region's economic activity is derived from its "base" or "primary" sectors, which are defined as those sectors whose revenue is received primarily from outside the region. Base sectors often include manufacturing, mines, agriculture, and fisheries that produce goods for export as well as activities that are funded by the U.S. federal government and aid organizations.

RTI's selection of EBA as an analytical strategy was motivated by the importance of offering OIA a methodology for estimating economic impacts that could be applied using data currently available and that could be updated as needed, either for future fiscal years' payments or as new economic data are made available for the insular areas.

In addition to its primary analysis of the seven insular areas, RTI also conducted a supplemental analysis of the economic impact of OIA spending on Washington, DC, and Hawaii. Because input-output statistical data were available for these two areas, RTI used IMPLAN, a static input-output model of economic activity, to quantify the impact OIA spending has on each economic region.

ES.3 Economic Impact Results

Using the analytical methodology described above, RTI estimated the direct, indirect/induced, and total economic impacts of OIA payments on each insular area in terms of employment, employee compensation, and GDP.

Estimates of local employment supported by OIA payments are presented in Table ES-4. Based on RTI's analysis of the economic structure of each insular area, it was determined that for every 1 job directly supported by OIA payments, approximately 1.90 jobs were supported elsewhere in each insular economy, on average. Base employment multiplier estimates ranged from 1.96 in the Northern Mariana Islands to 3.77 in the U.S. Virgin Islands.

Table ES-4. Estimated Employment Impact for FY2010 OIA Payments, by Insular Area

	Direct Employment Impact (#)	Indirect/Induced Employment Impact (#)	Total Employment Impact (#)	National Employment Supported by OIA Payments (%)
American Samoa	766	809	1,575	9%
Guam	1,294	2,816	4,109	6%
Northern Mariana Islands	326	313	640	2%
U.S. Virgin Islands	2,327	6,436	8,763	18%
Micronesia	3,150	5,420	8,570	54%
Marshall Islands	1,879	2,631	4,510	44%
Palau	480	1,009	1,490	12%
Total	10,222	19,434	29,656	15%

Source: RTI estimates.

In the cases of the Marshall Islands and Micronesia, a significant portion of national employment is directly and indirectly supported by OIA payments. Approximately 54% of total recorded employment in Micronesia was either directly or indirectly supported by OIA payments. These data do not include subsistence agriculture or fishing.

Estimates of the amount of employee compensation supported by OIA payments are presented in Table ES-5. Based on RTI's analysis of the economic structure of each insular area, it was determined that for every \$1 of employee compensation directly supported by OIA payments, approximately \$2.26 of employee compensation was supported elsewhere in the insular economy, on average. Base employee compensation multiplier estimates ranged from 1.95 in the Marshall Islands to 3.87 in the U.S. Virgin Islands.

Table ES-5. Estimate of Employee Compensation Impact for FY2010 OIA Payments by Insular Area

	Direct Employee Compensation Impact ('000; 2009\$)	Indirect/Induced Employee Compensation Impact ('000; 2009\$)	Total Employee Compensation Impact ('000; 2009\$)	National Employee Compensation Supported by OIA Payments (%)
American Samoa	11,260	15,249	26,510	14%
Guam	26,951	64,125	91,076	7%
Northern Mariana Islands	3,967	5,718	9,685	3%
U.S. Virgin Islands	73,986	212,068	286,054	19%
Micronesia	16,213	30,655	46,868	69%
Marshall Islands	20,019	19,102	39,121	39%
Palau	5,790	11,131	16,921	17%
Total	158,186	358,049	516,235	14%

Source: RTI estimates.

In the cases of the Marshall Islands and Micronesia, a significant portion of national employee compensation is directly and indirectly supported by OIA payments. For example approximately 69% of total estimated recorded employee compensation in the Federated States of Micronesia is either directly or indirectly supported by OIA payments.

Estimates of the amount of GDP supported by OIA payments are presented in Table ES-6. Based on RTI's analysis of the economics of each insular area, it was determined that for every \$1 of GDP directly supported by OIA payments, approximately \$2.28 of GDP was supported elsewhere in the insular economy on average. As a result, a significant portion of national employee compensation is directly and indirectly supported by OIA payments. For example, approximately 54% of total GDP in Micronesia is either directly or indirectly supported by OIA payments.

Table ES-6. Estimate of GDP Impact for FY2010 OIA Payments, by Insular Area

	Direct GDP Impact (‘000; 2009\$)	Indirect/Induced GDP Impact (‘000; 2009\$)	Total GDP Impact (‘000; 2009\$)	National GDP Supported by OIA Payments (%)
American Samoa	24,825	26,197	51,022	9%
Guam	96,069	209,110	305,179	7%
Northern Mariana Islands	12,510	12,004	24,514	2%
U.S. Virgin Islands	228,627	632,333	860,960	18%
Micronesia	51,722	89,000	140,722	54%
Marshall Islands	28,419	39,788	68,208	44%
Palau	6,831	14,363	21,194	12%
Total	449,003	1,022,795	1,471,798	13%

Source: RTI estimates.

In addition to the analysis of the seven insular areas, RTI also conducted a supplemental analysis of the economic impact of OIA operations in Washington, DC, and Hawaii. RTI estimated that approximately \$7.2 million of OIA’s operating budget was spent in Washington, DC. Approximately \$13.4 million in Hawaii for OIA operations and to offset the impact Compact provisions have on Hawaii’s social infrastructure. To estimate the economic impacts, RTI used IMPLAN modeling software to construct input-output models of each region. Using these models, RTI estimated that OIA’s operations and payments would create approximately 37 employees in Washington, DC, receiving \$4.3 million of employee compensation and 199 employees in Hawaii receiving \$10.4 million of employee compensation.