

2021 GUAM ECONOMIC REPORT

Maria Claret M. Ruane, Ph.D.

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*DISCLAIMER

I wrote this report in my personal capacity as a citizen of the United States, a resident of Guam and a Ph.D. in Economics earned from the University of California-Riverside. As a U.S. citizen, I am proud to exercise my right to freedom of speech. As a resident of Guam for 14+ years, I am pleased to contribute this report to our island community in the hopes that it will invite informed discussions on the current state of our local economy and meaningful reflections on our collective vision for the future. As an economist for 35+ years, I am dedicated to the application of economic principles, the approach of scientific inquiry and the methodological and ethical standards that govern the conduct of research for the purpose of searching for the truth. Because you might know me in my professional capacity, I am compelled to declare that the views I expressed in this report as well as all errors and omissions herein are solely my own. I further declare that all resources (time, equipment, office space, funds, references, etc.) I used in the preparation of this report are my personal possessions and/or publicly available and hence properly cited. *I thank my family for allowing me the time and space and giving me their support and patience while I wrote this report.*

EXECUTIVE SUMMARY

The impact of the COVID-19 pandemic would have been so much more crippling to Guam's economy and our residents in 2020 if not for the massive assistance from the U.S. Federal Government. Official estimate from the U.S. Department of Commerce-Bureau of Economic Analysis (BEA) reported an 11.9% decline in Guam's economy in 2020. Our economy would have lost so much more--between 42.5% and 49.3%--if not for Federal pandemic assistance in 2020 (Ruane, et al., 2020 December 31).

This theme of the positive and significant impact of Federal funding on Guam's economy continues in 2021. A massive amount of \$4.5B of total Federal Government spending was contributed to our economy in 2021 for purposes related to pandemic assistance, support for economic recovery and post-pandemic economic growth (including the \$570M ARPA funds allocated by the Office of the Governor to fund some items in the Investment *Para Hamyo*), military construction projects and other Federal Government activities on Guam. This massive amount alone would have overcompensated for any reduced spending by other economic units (local households, local business, local government and visitors to Guam) from their own funds, i.e., not including amounts transferred to these units from the Federal Government) and turn Guam's economy around, leading to our forecast of a **+26.7% growth in Guam's economy in 2021**. Of course, our forecast is yet to be confirmed once the official estimate of Guam's 2021 real Gross Domestic Product (GDP) is released by the BEA in late-2022.

Like any economic forecast, ours relies on a number of assumptions:

- As already noted, estimates show that the U.S. Federal Government spent \$4.5B on Guam in 2021. This amount includes all funds for pandemic assistance (including two programs, the Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA) signed on December 27, 2020 and the American Rescue Plan Act (ARPA) signed on March 11, 2021, that combine to an estimated \$1.9B Federal funds to Guam as well as military spending (including the \$587M approved under the NDAA FY2021) and other Federal Government spending for non-pandemic or pre-pandemic purposes.
- Our tourism industry lost another \$208M of what it could have contributed to Guam's economy. This is in addition to the even larger loss (estimated at \$1.38B) it suffered in 2020.
- Not counting on spending funded by Federal funds, spending by local families and businesses were assumed to be the same in 2021 as they were in 2020. Admittedly, this assumption is a bit conservative as it is likely that household and business spending in 2021 were higher than in 2020, although perhaps still below their pre-pandemic/2019 levels.
- GovGuam spending not funded by Federal funds was assumed to be the same in 2021 as they were in 2020. Similarly, adjustments could be made to this particular assumption but we consider it to be conservative. In general, we prefer to err on the conservative side.
- We offer 'what if' scenarios, in this case, two were simulated:
 - In the absence of the \$1.9B U.S. Federal Government pandemic assistance to Guam in 2021, our economy **would have declined by 9.9% in 2021** compared to 2020 and instead of the +26.7% growth presented above.

- The worse scenario would be if all \$4.5B U.S. Federal Government spending on Guam were to be eliminated, which **would have shrunk our economy in 2021 by 59.7%** compared to its size in 2020.
- The official unemployment rate for Guam was 11.4% in June 2021, down from its peak figure of 19.4% in December 2020 (Guam Department of Labor-Bureau of Labor Statistics). With the growth forecast for 2021, unemployment rate estimates for the rest of 2021 (September and December) would decrease further.
- Official inflation estimates for the first 3 quarters in 2021 had been increasing, reaching 6% for the third quarter (July-September) in 2021 compared to the third quarter of 2020 (Guam Bureau of Statistics and Plans). Based on these official estimates and not having the fourth quarter figure available at the time of this writing, we forecast the annual inflation rate for 2021 to be around 5.2%.

This report is designed to focus on the author's expertise in macroeconomics and not to duplicate efforts and perspectives by local experts in other areas.

I hope that you will find this report useful. Thank you!

INTRODUCTION

Although the COVID-19 pandemic that began on March 11, 2020 continues to surprise us, with the latest development in late-November 2021 being the Omicron variant, our past 21 months of experience have taught us how to manage the twist and turns in our public health situation. Many medical experts are convinced that the COVID-19 virus, in one variant or another, will soon be as commonplace as the flu and, like the flu, medical science has given us the knowledge and means (including tests, vaccines, boosters, therapies and treatments) by which we can protect ourselves and our family members from the COVID-19 virus. Prior to the Omicron surge since late-November, positive cases, hospitalizations and deaths have slowed.

Guam's COVID-19 situation is summarized in **TABLE 1**, which shows the latest statistics as of December 23, 2021 compared to one year ago using statistics as of December 25, 2020.

TABLE 1: GUAM'S COVID-19 STATISTICS: LAST YEAR VS. THIS YEAR

CUMULATIVE DATA	Last Year (as of December 25, 2020) ¹	This Year (as of December 23, 2021) ²
Tests	99,995	324,223
Positive Cases	7,268	19,427
Positivity Rate	7.3%	6.0% (2.2% in the past 7 days ending on December 23, 2021)
In Active Isolation*	404	244
Not in Active Isolation	6,743	18,913
Hospitalized*	17	9 (6 vaccinated, 3 unvaccinated)
In Intensive Care Unit*	7	1
On Ventilator*	3	1
Deaths	121	270
Among Positive Cases:		
% Male vs. % Female	58% vs. 42%	55% vs. 45%
Age 20-29	20%	20%
Age 30-39	19%	18%
Age 40-49	19%	15%
Age 50-59	15%	12%
Fully Vaccinated, age 5+ ³	Not applicable	128,785 (83.7% of total population ⁴)
Received Booster shot, age 16+ ³	Not applicable	37,798 (24.6% of total population ⁴)

* Current, non-cumulative data

Sources:

¹ Guam Department of Public Health and Social Services (DPHSS) COVID-19 Response Surveillance Team, 2020, December 24

² Guam Department of Public Health and Social Services (DPHSS) COVID-19 Response Surveillance Team, 2021, December 23

³ Joint Information Center, JIC Release No. 903 (2021 December 27)

⁴ Guam's 2020 population estimate was 153,836 (U.S. Census Bureau).

Even with the Omicron surge in the U.S. and in other countries, some preliminary evidence suggests that, compared to the Delta variant, Omicron is more contagious/spreads more quickly, which explains the increase in the number of new cases, but have less severe effects to those infected, as reflected in only a small increase in the number of hospitalizations and an even smaller (just one case) of death in the U.S. (*Washington Post*, 21 December 2021)

Some medical experts are declaring an end to this pandemic while others are predicting its end in 2022 at which time we would transition to an endemic (*Fox News*, 2021 December 26). For this to be official, the World Health Organization would have to make a formal declaration to this effect the same way it declared the COVID-19 pandemic on March 11, 2020.

Parallel to the progress we have made in dealing with the COVID-19 pandemic are signs of economic recovery: economic output and activities rebounding and employment situations improving. In the U.S., output and production as measured by real GDP decreased by 5.1% in the first quarter of 2020 (Q1,2020), decreased by 31.2% in Q2, 2020 before rebounding in Q3, 2020 by growing at 33.8% and by 4.5% in Q4, 2020. Despite the continued pandemic, the U.S. economy posted growth in 2021-to-date, at 6.3% in Q1, 2021; 6.7% in Q2, 2021 and 2.3% in Q3, 2021 (note that the growth rates are calculated based on the corresponding quarter in the previous year) (U.S. Commerce-Bureau of Economic Analysis, 2021 December 22). As expected, job prospects in the U.S. have improved since the early months of the pandemic when the unemployment rate reached 14.8% in April 2020, 13.3% in May 2020, 11.1% in June 2020 and 10.2% in July 2020. Since then, the unemployment rate remained single-digit and is down to 4.2% in November 2021 (U.S. Department of Labor-Bureau of Labor Statistics, 2021 November).

On Guam, real GDP in 2020 declined by 11.9% (U.S. Commerce-Bureau of Economic Analysis, 2021 December 1). However, it is forecasted in this report to rebound quite significantly in 2021, thanks to the massive influx of more Federal funds to Guam to support economic recovery and invest in future growth as well as to fund the military realignment in the Indo-Pacific region. The employment situation on Guam deteriorated during the early months of the pandemic, from 66,360 employed in June 2019 to 60,790 employed in June 2020. Since then, there had been signs of recovery, with 90 employees hired (or recalled) by June 2021, when 60,880 were employed. Guam's unemployment rate, which was 17.3% in June 2020, first increased to reach 19.4% in December 2020 before declining to 11.4% in June 2021.

To further paint the large picture of Guam's economy in 2021 and to attempt a forecast for 2022 or at least highlights items and issues to watch, the next section presents the latest indicators on Guam's macroeconomy.

MACROECONOMIC INDICATORS

Real Gross Domestic Product (GDP) Growth

Thanks to the decennial census in the U.S. and territories, we have the latest estimate of the total population of Guam in 2020 at 153,836 residents. Compared to the last census which put Guam's population at 159,358, there had been a 3.47% decline in Guam's population over the 10-year period between 2010 and 2020.

On the other hand, Guam's economy in 2010 measured at \$5.151B compared to \$4.984B in 2020 (measured as real GDP in 2012 prices), which translates to a decline in real GDP of 3.24% between 2010 and 2020 (U.S. Department of Commerce-Bureau of Economic Analysis, 2021 December 1). Therefore, average real income (a measure of standard of living) remained relatively unchanged: \$32,323.45 in 2010 vs. \$32,398.14 in 2020. This means that the 11.9% decline from the COVID-19 pandemic in 2020 easily wiped out whatever small growth in Guam's economy between 2010 and 2019, even after adjusting for the smaller population in 2020. Of course, things could have been worse if Guam had not received funds from the Federal Government to assist with the pandemic. Under this scenario, Guam's real GDP in 2020 would have been \$3.179B which, when divided by Guam's 2020 population, would yield an average income/standard of living measure of \$20,665 in 2020. One might wonder how many years or decades ago when Guam's average income was around this level!

The most recent growth estimates of Guam's economy are presented in **TABLE 2**, which shows Guam's economy decreasing by 0.7% in 2018, increasing by 2.5% in 2019, one of the strongest years in the past 10 years, and decreasing 11.9% in 2020, the year of the pandemic. **TABLE 2** also shows how closely our previous years' economic reports had forecasted these official figures.

Our relatively good success by which our forecast for Guam's economy compare with official estimates in the past 3 years (2018-2020) gives the confidence to provide our forecast for 2021. It is both exciting and scary to see how well our forecast for Guam's 2021 GDP compares with the official estimate by the U.S. Department of Commerce-Bureau of Economic Analysis, which is likely to be released by late-2022.

TABLE 2: GUAM'S ECONOMIC GROWTH, 2018-2020: OFFICIAL VS. FORECASTED

	2018	2019	2020
2018GER (December 27, 2018) ¹	0% to -0.5%	0% to -1%	-
2018GER (March 13, 2019) ²	-	0% to -0.5%	-
BEA (October 9, 2019)	-0.30%	-	-
2019GER (December 30, 2019) ³	-	0% to 1%	0% to -0.2%
BEA (February 16, 2021)	-0.90%	2.00%	-
2020GER (December 31, 2020) ⁴	-	-	-0.7% to -18.9%
2020GER (February 18, 2021) ⁵	-	-	-9.2% to -27.5%
BEA (December 1, 2021) ⁶	-0.70%	2.50%	-11.90%
Our forecast	0% to -0.5%	0% to 1%	-9.2% to -27.5%
Official forecast	-0.70%	2.50%	-11.90%
Our forecast vs. Official forecast	close to range	same general direction but conservative	within range

GER = Guam Economic Report, BEA=Bureau of Economic Analysis under the U.S. Department of Commerce, which provides the official GDP estimates.

Sources:

¹ Ruane, Maria Claret M.; Aflague, Alexander K.M.; Casimbon, Rebecca G. & Tenorio, Luisa V. (2018 December 28). *2018 Guam Economic Report*. University of Guam-School of Business and Public Administration-Regional Center for Public Policy.

² Ruane, Maria Claret M.; Aflague, Alexander K.M.; Casimbon, Rebecca G. & Tenorio, Luisa V. (2019 March 13). *2018 Guam Economic Report: UPDATE*. Presentation at the University of Guam Economic Luncheon.

³ Ruane, Maria Claret M.; Barcinas, Efigenia Rose; Cayanan, Daniel; Garrido, Prairie Rose; Meneses, Sofia Diane; Salalila, Jun-Patrick; Sayama, Kristina, C; Tenorio, Luisa V. & Tretnoff, Angelina T. (2020 January 24). *2019 Guam Economic Report*. University of Guam-School of Business and Public Administration-Regional Center for Public Policy.

⁴ Ruane, Maria Claret M.; Anderson Celia J.; Dela Cruz, Nathaniel J.; Donaldson, Grace C.; Garrido, Prairie Rose; Guerrero, Kamerin M.; Kabigting, Leila C; Terlaje, Steve Eric S.; Vince, Laarnie D. & Wiley, Mary Catherine (2020 December 31). *2020 Guam Economic Report*. University of Guam-School of Business and Public Administration and Omicron Delta Epsilon International Honor Society for Economics-Alpha Chapter of Guam at the University of Guam.

⁵ Ruane, Maria Claret M. & Kabigting, Leila C. (2021 February 18). *2020 Guam Economic Report: UPDATE*. Presentation at the Guam Women's Chamber of Commerce.

⁶ U.S. Department of Commerce, Bureau of Economic Analysis (2021 December 1). News Release: Gross Domestic Product for Guam, 2020

TABLE 3 reproduces the official real GDP estimates in the past 3 years along with our forecast for 2021, which estimates a figure of \$6.341B for Guam's real GDP in 2021. Compared to the official figure for 2020, our forecast represents a major rebound by Guam's economy measured by the 27.2% increase between 2020 and 2021. Note the obvious: this is great news compared to the 11.9% decline in Guam's economy in 2020. The 26.7% forecasted growth rate in 2021 makes sense and that there is no error in its calculations, although there some might have objections to some of the assumptions we used to arrive at this figure. First, just like the U.S. economy rebounded 30+% in the third quarter of 2020, one would also expect a rebound in Guam's economy, it was just a matter of the timing of when it would happen. Second, given that Guam's economy shrank 11.9% in 2020 and some positive developments related to the pandemic, it is not likely to repeat that experience, i.e., it is more likely for the economy to post positive growth. Third, it is a 'numbers game': given that Guam's economy is small, it does not take a large amount

to increase it. For example, if you have a hypothetical economy that is measured at \$1B, if it were able to produce another \$1B in the output of the following year (or within a few years), then it would have doubled its size, meaning it would have grown 100% during that year or few years. In contrast, the same increase of \$1B if it happened in a larger economy like the U.S. (\$20+ trillion) would barely increase the resulting economic growth figure. Fourth, with Federal Government spending on Guam on pandemic assistance, military and other pre-pandemic items amounting to \$4.5B in 2021 compared to \$2.4B in 2020 is too significant to not increase Guam's GDP (measured both in nominal and real terms). The \$2.1B increase in Federal Government spending on Guam between 2020 and 2021 is large enough to replace the \$182M decrease in tourism spending during the same period.

TABLE 3: GUAM'S REAL GDP AND ECONOMIC GROWTH: 2018-2021

Year	Real GDP in 2012 dollars	% Change from previous year
2018 ¹	\$5.514B	-0.7%
2019 ¹	\$5.654B	2.5%
2020 ¹	\$4.984B	-11.9%
Our 2021 Forecast ²	\$6.316B	+26.7%
2021* ²	\$4.492B	-9.9%
2021** ²	\$2.009B	-59.7%

* In the absence of U.S. Federal Government COVID-19-related funds

** In the absence of all U.S. Federal Government funds

Sources:

¹ U.S. Department of Commerce, Bureau of Economic Analysis (2021 December 1). News Release: Gross Domestic Product for Guam, 2020

² Author's own calculation based on the following assumptions:

- limited information on the Omicron variant as of December 29, 2021
- household and business spending from non-Federal Government funds are the same as in 2020
- tourism receipts are \$182M less in 2021 than in 2020
- Federal Government spending (including military spending) on Guam is \$2.1B higher in 2021 than in 2020
- GovGuam spending not funded by pandemic assistance from the Federal Government in 2021 is the same as in 2020

Against this good news, **TABLE 3** also presents us with two 'what if' scenarios. First, if Guam had not received pandemic assistance from the Federal Government in 2021 (funds from the Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA) signed in December 2020 and the American Rescue Plan Act (ARPA) signed in March 2021 amount to \$1.9B, more on this later), then it would have decreased by 9.4% in 2021 in addition to the 11.9% decrease in 2020. Therefore, between these 2 years of the pandemic alone, Guam's economy would have lost 1/5 of its size. In this case, our standard of living, and to a large extent our quality of life, would have gone down quite significantly. The second scenario is much more drastic in that it asks, "what if Guam did not receive any Federal Government funds at all in 2021", an amount that was mentioned earlier to be \$4.5B, then our economy would have lost 60% of its 2020 size. Whereas the second scenario is not as likely, the first scenario is as it represents what is likely to happen once this pandemic is over.

Employment and Unemployment

The economic growth forecasted to have occurred in 2021 reflects increased economic activities on Guam matched by positive developments in employment prospects and a decrease in unemployment rates. The latest available Current Employment Survey (CES) by the Guam Department of Labor-Bureau of Labor Statistics (GDOL-BLS) is for June 2021 so it captures only half of 2021. Nonetheless, it does suggest some improvement in the employment situation on Guam since the early months of the pandemic last year.

TABLE 4 presents employment data for 3 years: 2019, 2020 and 2021 (all of them based on data for the quarter ending June). In this comparison, 2019 represents the pre-pandemic, 2020 the “height” of the pandemic, and 2021 the latter(?) part of the pandemic and potentially transitioning to the post-pandemic.

TABLE 4: GUAM’S EMPLOYMENT SITUATION, 2019-2021

	June 2019	June 2020	June 2021	2020 vs 2019	2021 vs. 2020
AGRICULTURE	320	250	300	-70	50
CONSTRUCTION	6,540	7,980	8,900	1440	920
MANUFACTURING	1,440	1,410	1,490	-30	80
TRANSPORTATION & PUBLIC UTILITIES	4,680	3,890	3,530	-790	-360
WHOLESALE TRADE	2,600	2,490	2,410	-110	-80
RETAIL TRADE	14,000	11,650	11,020	-2350	-630
FINANCE, INSURANCE & REAL ESTATE	2,670	2,540	2,710	-130	170
SERVICES	18,770	15,470	15,500	-3300	30
<i>Hotels and other lodging places</i>	6,900	4,500	4,740	-2400	240
<i>All other services</i>	11,870	10,970	10,760	-900	-210
TOTAL PRIVATE SECTOR	51,020	45,680	45,860	-5340	180
FEDERAL GOVERNMENT	3,880	3,870	3,940	-10	70
GOVERNMENT OF GUAM (GOVGUAM)	11,330	11,240	11,080	-90	-160
<i>Executive Branch (Include GPSS)</i>	6,820	6,690	6,450	-130	-240
<i>All others including autonomous</i>	4,510	4,550	4,630	40	80
TOTAL PUBLIC SECTOR	15,210	15,110	15,020	-100	-90
TOTAL PAYROLL EMPLOYMENT	66,230	60,790	60,880	-5440	90

Source: Guam Department of Labor, Bureau of Labor Statistics (2021 June 20). *CES Historical Table*.

It is clear from **TABLE 4** that the employment situation deteriorated between 2019 and 2020 before improving somewhat between 2019 and 2020. During this period, all areas of business, except construction, reduced employment. Note that these figures reflect the number of employees and not their hours of work, which were also reduced during the pandemic. Between 2019 and 2020, construction companies hired 1,440 employees while the entire private sector terminated a total of 5,340 employees. In comparison, the private sector added 180 employees between 2020-2021. While construction continued to show strength and added 920 employees, other areas of business also hired new employees or recalled former employees. The only exceptions were in Transportation and Public Utilities, Wholesale Trade and Retail Trade, which reduced employment

by 360, 80 and 630 employees, respectively, between 2020-2021. Note however that these figures are lower compared to the corresponding reduction in employment one year earlier (2019-2020). Keep in mind how two Federal Government pandemic assistance programs might have affected these employment figures. On the one hand, the Paycheck Protection Program, administered by the U.S. Small Business Administration-Guam Office, incentivized employers to keep their employees. On the other hand, the availability of Pandemic Unemployment Assistance (PUA) combined with the Federal Pandemic Unemployment Compensation (FPUC) made it more financially attractive for employees to be terminated by their employers (*Guam Daily Post*, 2021 December 1).

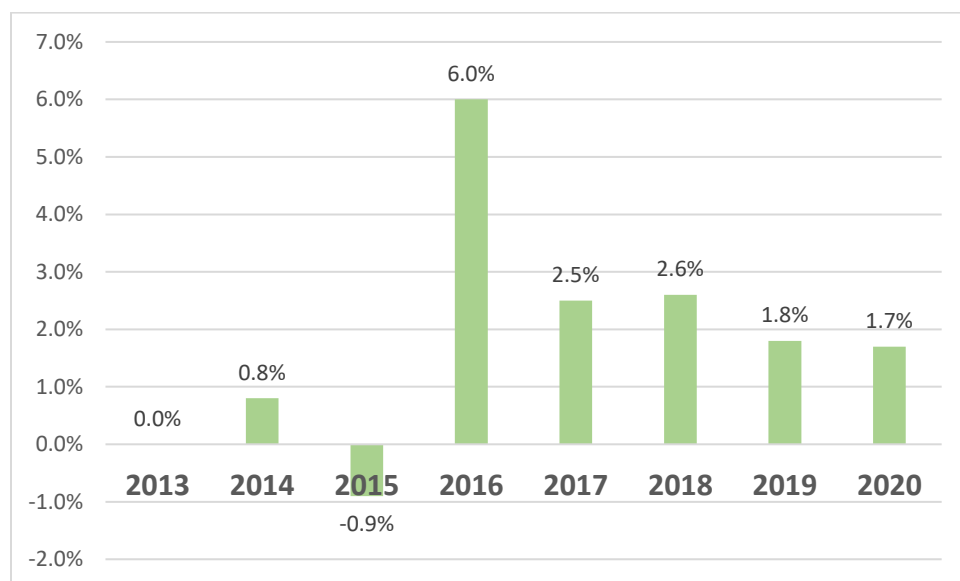
In the public sector, the Federal Government reduced its employment by 10 employees between 2019 and 2020 and then hired or recalled 70 employees between 2020 and 2021. Employment in GovGuam decreased during both periods, by 90 employees between 2019 and 2020 and by another 160 employees between 2020 and 2021.

Guam's unemployment rate, which was 17.3% in June 2020, increasing to 17.9% in September 2020 and peaking at 19.4% in December 2020, decreased to 16.5% in March 2021 and down to 11.4% in June 2021, the latest estimate available at the time of this writing (Guam Department of Labor-Bureau of Labor Statistics, 2021 June 20). When looking at the unemployment rates, and a related measure, the labor force participation rates, one must keep in mind the possible effects of the pandemic unemployment program on Guam, which provided financial benefits to eligible residents between March 15, 2020 and September 6, 2021. It is also important to note that the requirement to actively look for work was suspended, for personal safety and public health considerations, during much of the pandemic but was reinstatement beginning August 1, 2021 (KUAM, 2021 May 15)

Prices and Inflation

Inflation had not been a major source of concern for local residents and businesses for some time. **CHART 1** shows that, between 2013 and 2020 with the exception of 2016, price increases on Guam had stayed within 2-3%, a range considered to be manageable and generally affordable for employers to match in pay increases so as to keep purchasing power the same. Inflation was kept at bay even during the first year of the pandemic. As the pandemic continued in its second year, prices started to increase more, including the closely watched price of gasoline although it only makes up 1.4% in the calculation of the overall Consumer Price Index (CPI) by the Guam Bureau of Statistics and Plans. The latest CPI report estimated inflation in the third quarter of this year at 6%, meaning that prices of the 160+ items that Guam consumers typically buy are 6% higher during July-September this year compared to the same months last year. Referring again to **CHART 1**, we have not seen inflation at that level on Guam since 2016. The same report broke down the price increases by groups and sub-groups to see where the overall 6% inflation came from. The most notable price increases were in Food (8.8%), Electricity (25.6%), Motor Fuel ("gas") 29.7% and Medical Care (9.2%) (Guam Bureau of Statistics and Plans, 2021 3rd Quarter).

CHART 1: GUAM'S INFLATION RATE, 2013-2020

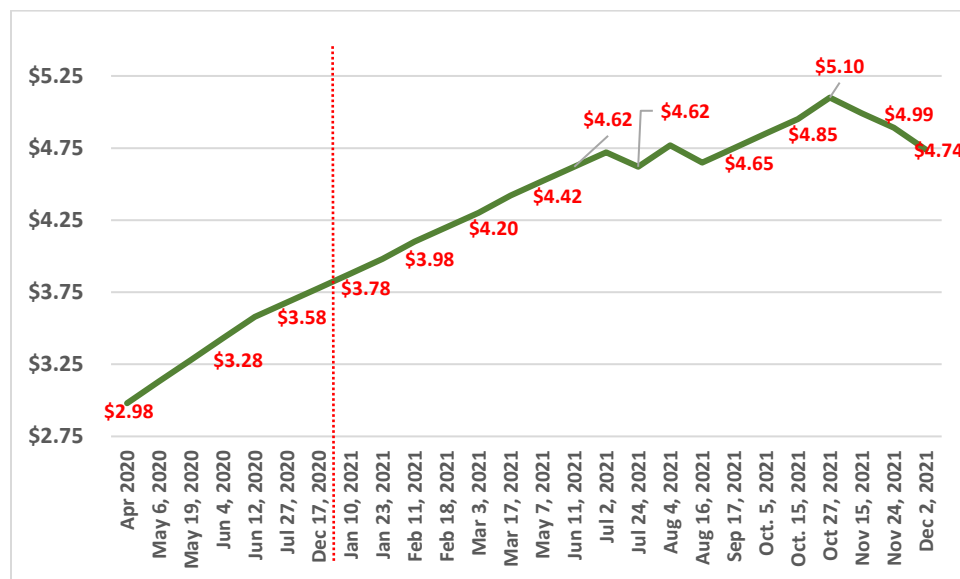


Source: Guam Bureau of Statistics and Plans (2021 3rd Quarter). *Guam Consumer Price Index*.

Forecasting prices for the remainder of this year (October-December) as well as into 2022, we expect prices to continue to increase and for inflation to average for 2021 at around 5.2% and to exceed 6% in 2022. There are several reasons for this prediction:

- COVID-19 protocols continue to increase costs of sanitizing and supply of personal protective equipment (PPE) for local businesses.
- Minimum wage increased to \$9.25 per hour effective September 1, 2021. This was delayed from taking effect on March 1, 2021 (*Marianas Variety*, 2021 March 1). Wage rates for several H2-B workers have also been increasing (*Pacific Daily News*, 2021 October 15).
- Planned utility rate increases, which had been delayed through the Governor's transfer of \$15M to the Guam Power Authority and \$14.4M to the Guam Waterworks Authority of the Federal funded ARPA funds, has taken effect or soon to take effect (*Marianas Business Journal*, 2021 August 20b; *Pacific Island Times*, 2021 August 14).
- **CHART 2** shows gas prices increased from \$3.78 per gallon at the beginning of the year (in fact, Since December 17, 2020) to its peak of \$5.10 on October 27, 2021 before decreasing to \$4.74 since December 2, 2021 (*Guam Daily Post*, 2021 December 13b). As the U.S. and other economies continue to recover from the pandemic, demand for fuel and for everything that uses fuel (manufacturing, travel, etc.) has been surpassing its domestic (U.S.) and global supply.

CHART 2: GAS PRICES (\$ per U.S. gallon)



Based on the lowest octane for unleaded gasoline.

Source: *Guam Daily Post*, 2021 December 13b.

- Shipping rates will be increasing effective January 30, 2022 (*Guam Daily Post*, 2021 December 13a).
- Although it might not affect some households, the recent increase in BAH allowance will push rents higher (*Guam Daily Post*, 2021 December 20). The alternative, which is to purchase a home, has also seen increases in median home prices on Guam, which stands at \$380,000 for a single family home in 2021. This figure has been increasing every year since 2017 and even during the pandemic and is expected to continue this trend into 2022 (Hutapea, 2021 December 2).
- Prices where most our products come from, i.e., the U.S. have been increasing. The latest data on U.S. consumer prices, measured by CPI, show an increasing trend to 6.9% inflation in November 2021 compared to the previous year. More telling is the increasing trend on Producer Price Index (PPI), which increased 9.7% in November 2021 compared to the previous year. PPI measures changes in prices paid by producers or businesses, representing their cost of doing business. These higher costs end up being partially or fully passed on to consumers. (U.S. Department of Labor-Bureau of Labor Statistics, 2021 November). Inflation in the U.S. have been caused by those that reduce the supply of products and services causes a supply chain crisis (shortage of labor due to vaccine mandates, more recently shortage of labor (in airlines) due to Omicron variant surge, shortage of labor including truck drivers, regulations in trucking industry, stuck at the port, higher cost of store theft and looting) as well as those that increase the demand for products and services, driven by a recovering economy, increase in employment prospects and incomes, as well as the increase in transfers from the U.S. Federal and State governments related to the pandemic and those related to increased U.S. Federal spending related to the Infrastructure Law and could be made worse by further increase if the Build Back Better in some version passes the U.S. Senate.

TOURISM IN 2021

The pandemic, which decimated Guam's tourism in 2020, continues to weigh down on it in 2021. As of this writing, the latest estimate for visitor arrivals is for October 2021, which shows 60,323 visitors arrived by air and 687 by sea for a total number of 61,010 visitors. Of this group, 19,424 (32%) were from the military (Armed Forces visitors) as shown in **TABLE 5**, which also shows how this source of visitors to Guam increased from 11,842. At a time when tourism from our usual source markets continues to suffer from the on-going pandemic, the military market has been a welcome development. Our estimate shows that this market contributed \$26M to Guam's economy in 2021.

TABLE 5: ARMED FORCES VISITOR ARRIVALS BY AIR AND SEA: 2020-2021

Month	2020	2021
Jan	1,277	2,081
Feb	2,466	1,235
Mar	1,502	1,008
Apr	898	1,301
May	808	1,131
Jun	1,336	2,477
Jul	5	5,203
Aug	823	2,480
Sep	1,740	1,264
Oct	987	1,244
TOTAL	11,842	19,424

Source: Guam Visitors Bureau (various issues), *Visitor Arrivals Summary*.

The relatively large number of visitors to Guam from the military explains the large share (67%) of visitors from the U.S. or Hawaii, as shown in **TABLE 6**. The same table shows the extent to which the predominant source markets for Guam tourism pre-pandemic, i.e., Japan, Korea and Taiwan, continues to have very small shares in visitor arrivals this year compared to the same months in 2019 or even in 2020, owing to record-breaking figures in January and February before the pandemic was declared in March 2020.

**TABLE 6: GUAM'S VISITORS BY SOURCE MARKETS
(% TOTAL ARRIVAL BY AIR)**

Source Markets	Jan-Oct2019	Jan-Oct2020	Jan-Oct2021
Japan	41%	45%	5%
Korea	46%	39%	5%
Taiwan	2%	1%	4%
China	1%	1%	0%
US/Hawaii	6%	9%	67%
CNMI	1%	2%	5%
Palau	0%	0%	1%
FSM	1%	1%	4%
Philippines	1%	1%	4%
Other Markets*	0%	1%	6%
VISITOR ARRIVALS BY AIR	1,354,386	322,138	60,323

*Other Markets include RMI, Australia, Europe, Hong Kong, Russia, Singapore, India, Malaysia, Others/Unknown
Source: Guam Visitors Bureau (various issues), *Visitor Arrivals Summary*.

As expected, visitor arrivals for the purpose of tourism continue to be low this year, although there were some months that showed promise, especially compared to the dismal figures from last year. However, this promise went away quickly as soon as the Omicron variant appeared on the scene in late November, which led almost 5,000 prospective visitors to cancel their trip to Guam (*Marianas Business Journal*, 2021 December 10). In light of these new unknowns and an understandably wait-and-see strategy for many in general and for those from Guam's tourism source markets, this report **forecasts 65,000 total visitors to Guam for the year 2021**. Compared to last year when 328,001 visitors came to Guam, the 2021 figure represents a decline of this figure represents 262,481 fewer visitors to Guam, an 80% decline over visitor arrivals in 2020, and **a decrease of \$208M in the contribution of tourism to Guam's economy in 2021**.

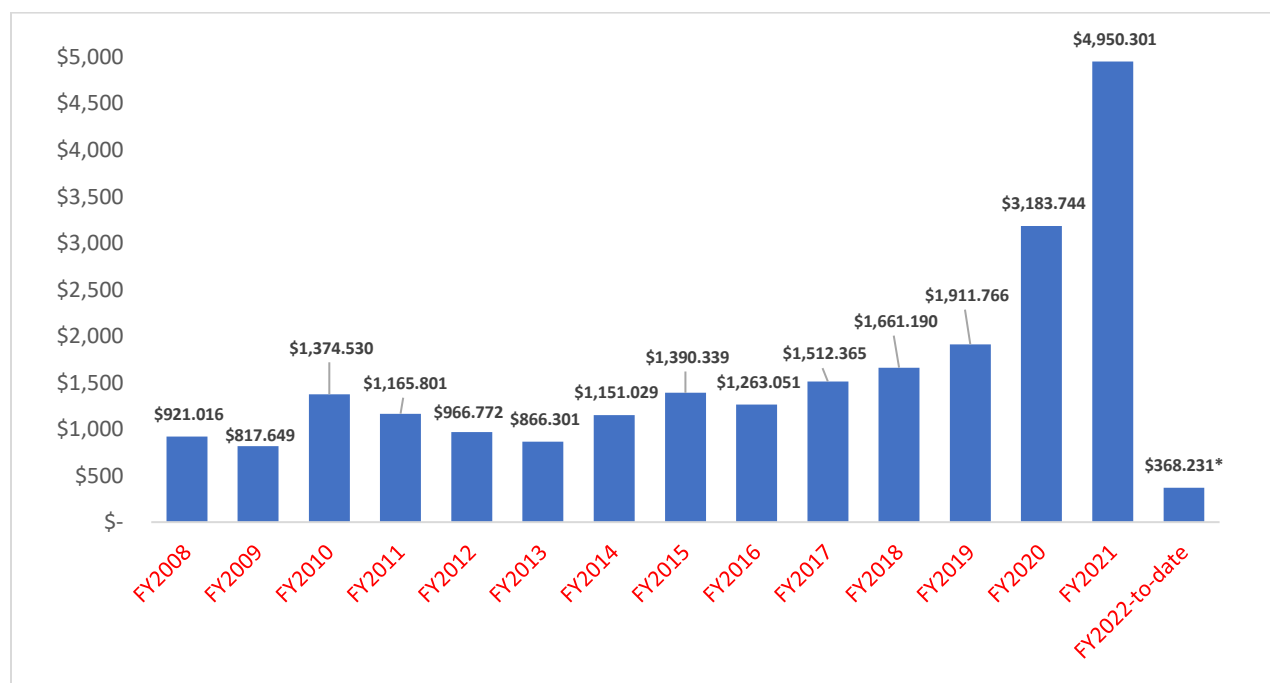
TOTAL FEDERAL GOVERNMENT SPENDING ON GUAM

The U.S. Federal Government has always been an important contributor to Guam's economy, with spending on Guam averaging \$1.7B per year between 2002 and 2019 or 34% of Guam's economy. During the pandemic, its contribution increased to \$2.4B in spending or 41.6% of Guam's economy in 2020, increasing further to \$4.5B in spending or 62.6% of Guam's economy in 2021.

The total Federal Government spending on Guam for all purposes (including pandemic assistance, support for economic recovery and post-pandemic economic growth, military construction projects and other Federal Government activities on Guam is first reviewed in this section, followed by additional information on those Federal spending as financial assistance to local families and businesses during the pandemic as well as information on military construction and realignment on Guam.

CHART 3 shows the total Federal Government spending on Guam from FY2008 to FY2022 (up to December 29, 2021). Except for FY2016, Federal Government spending has steadily increased since FY2013. Mainly due to pandemic-related funding but enhanced also by increased military construction spending on Guam, Federal Government spending increased to \$3.2B for FY2020, \$4.9B for FY2021.

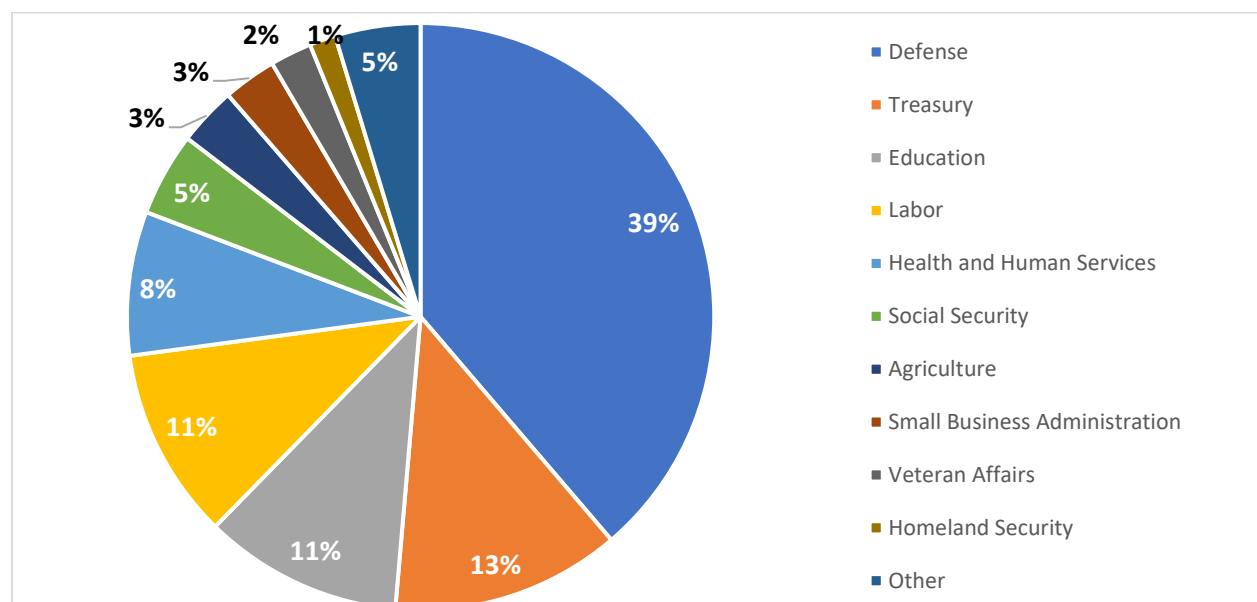
CHART 3: FEDERAL GOVERNMENT SPENDING ON GUAM FY2008-FY2022 (in millions \$)



* FY2022-to-date covers amounts obligated by the Federal Government to Guam from October 1 to December 29, 2021.

Source: USASpending.gov

**CHART 4: SERVICES ON GUAM FUNDED BY THE FEDERAL GOVERNMENT
FY2021**



Source: USASpending.gov

For FY2021, **CHART 4** displays the top 10 services in Guam that were funded by the Federal Government throughout FY2021. The U.S. Treasury ranked the second Federal agency to award contracts and grants to Guam, with its 13% share reflecting funds awarded to Guam including the last 2 of 3 rounds of Economic Impact Payments to local families. The U.S. Department of Education awarded 13% of total Federal spending to Guam, including pandemic and non-pandemic grants to the Guam Department of Education as well as some pandemic grants directly to the Office of the Governor. It might seem surprising that the U.S. Department of Labor ranked fourth by the amount of Federal spending awarded to Guam, given that the \$808M funded Pandemic Unemployment Assistance (PUA) and Federal Pandemic Unemployment Compensation (FPUC) and additional amounts for cost to administer these programs (estimated at \$6.3M and other pandemic programs). The 8% share of Federal Spending on Guam for FY2021 is not surprising, given the financial assistance provided to the Guam Department of Health and Human Services to address public health issues during the pandemic. Rounding out the top 10 Federal agencies by amounts of spending on Guam for FY2021 are the Social Security Administration, U.S. Department of Agriculture, U.S. Small Business Administration (more on its pandemic programs in the next section), Veteran Affairs and U.S. Homeland Security.

FINANCIAL ASSISTANCE FROM THE FEDERAL GOVERNMENT DURING THE PANDEMIC

\$1.85B CARES Act/CRF COVID-19-related Funding

On March 27, 2020, then-President Trump the CARES Act, which included provisions for Guam and other U.S. territories under the Coronavirus Relief Fund (CRF) program. This program provided the Governor of Guam with \$117,968,257.80 in “economic aid to American workers and families, small businesses, and to preserve jobs (U.S. Department of the Treasury, 2020). This amount was administered by the Guam Department of Administration. As of May 31, 2021, Guam had received and spent all of this amount as detailed in APPENDIX 1.

Guam’s other Executive Branch Line Departments and Agencies also received COVID-19 stimulus and assistance funds from the Federal Government, which amounted to \$1,384,886,662.67. As of October 31, 2021, 79% of this amount has been spent or encumbered. In addition, Executive Branch Autonomous and Semi-Autonomous Agencies, and Other Entities were awarded \$353,810,626.73, of which 96% has been spent or encumbered as of October 31, 2021. Therefore, from May 2020 to October 2021, Guam received a total of \$1,856,665,547.20 assistance from the Federal Government under the CARES/CRF Act. Details can be found in APPENDIX 2.

\$526M from CRRSAA

On December 27, 2020, the \$900B Coronavirus Response and Relief Supplemental Appropriations Act of 2021 (CRRSAA) Program was signed into law. This program funded a second round of Economic Impact Payments (EIP2) to individuals and a second round of Paycheck Protection Program to businesses, unemployment benefits extended through September 6, 2021, vaccine procurement and distribution, rent assistance and other benefits. Unlike the CARES Act March 2020, this program did not provide funding directly to state and territorial governments. However, the Office of the Governor received \$33,284,456 under the Education Stabilization Fund II (ESF II).

Under this program, Guam received \$525,801,236.42, including the ESF II, and has spent or encumbered 54% of this amount as of October 31, 2021. Of this amount, \$271,887,705.42 was awarded to Executive Branch Line Departments and Agencies, including \$110,563,287 received by the Department of Education and \$78,982,426 received by the Department of Revenue and Taxation as funding for the EIP2 program. The remaining \$220,629,075 was awarded to Executive Branch Autonomous and Semi-Autonomous Agencies and Other Entities, including \$106,584,393 received by the Small Business Administration-Guam office, which funded PPP2. Details of amounts received by Guam from this program can be found in APPENDIX 3.

\$1.38B from ARPA

The American Rescue Plan Act (ARPA) is a program designed to “change the course of the pandemic and deliver immediate relief for American workers...” by mounting “a national

vaccination program, contain COVID-19, and safely reopen schools” and delivering “immediate relief to American families bearing the brunt of this crisis.” (White House, 2021 March). This \$1.9T program became law on March 11, 2021. For Guam, ARPA provided funding to the Office of the Governor in the amount of \$569,912,733 comprised of \$553,582,247 from the Coronavirus State Fiscal Recovery Fund and the \$14,285,714.29 from the Coronavirus Capital Projects Fund. The unveiling of the Investment *Para Hamyo* plan on November 23, 2021 provided a breakdown of how the almost \$570M Federal fund will be allocated by the Governor (see APPENDIX 5 for details). ARPA also provided funding of \$17,599,913 to “Non-Entitlement Units of Local Government”, \$32,660,972 to “Counties of Local Government” and \$696,477,336.33 to Executive Branch Line Departments and Agencies. The top recipient was the Department of Revenue and Taxation for the amount of \$241,000,000 for the third round of the Economic Impact Payment (EIP3) and \$93,537,000 for the Advanced child tax credit, which increased from \$2,000 to \$3,000 or \$3,600 per child, depending on age. The second top recipient was the Department of Education for the amount of \$286,940,627 for which a breakdown of how it will be spent was recently shared with the public (*Guam Daily Post*, 2021 December 25). Under this program, Executive Branch Autonomous and Semi-Autonomous Agencies and Other Entities received a total amount of \$60,663,806. The total amount received under ARPA was \$1,377,314,760.33, with only 31% spent or encumbered as of October 31, 2021. Details of amounts received by Guam from this program can be found in APPENDIX 4.

TABLE 7 summarizes the amounts of Federal Government funds received by Guam under the three different programs enacted during the pandemic. **TABLE 8** and **TABLE 9** present a summary of programs designed to assist local families and businesses, respectively, during the pandemic. Although they do not include all available programs, they contain a good number of the main pandemic assistance programs available on Guam since March 2020. Attempts were made to separate those programs that were offered in the year 2020 from those made available in the year 2021. Additional details about each program are available from the sources listed under each table as well as for other online sources that are relatively easy to locate.

TABLE 7: FEDERAL GOVERNMENT ASSISTANCE TO GUAM DURING THE PANDEMIC

	CARES/CRF/other COVID-19 Stimulus (March 2020)	CRRSAA (December 2020)	ARPA (March 2021)
Office of the Governor	\$117,968,257.80	\$33,284,456.00	\$569,912,733.00
Executive Branch Line Departments and Agencies	\$1,384,886,662.67	\$271,887,705.42	\$696,477,336.33
Executive Branch Autonomous and Semi-Autonomous Agencies and Other Entities	\$353,810,626.73	\$220,629,075.00	\$60,663,806.00
“Non-Entitlement Units of Local Government”			\$17,599,913.00
“Counties of Local Government”			\$32,660,972.00
TOTAL FEDERAL FUNDING	\$1,856,665,547.20	\$525,801,236.42	\$1,377,314,760.33

Source: BBMR, 2021 October 31, various reports (see APPENDIXES 1-4)

**TABLE 8: SUMMARY OF FINANCIAL ASSISTANCE TO FAMILIES ON GUAM
(BOLDED AND HIGHLIGHTED ENTRIES ARE FOR YEAR 2021)**

Program name	Number of eligible individuals	Total amount approved	Source of Funding
Unemployment Benefits administered by the Guam Department of Labor	30,856 (March 15, 2020-September 4, 2021) ¹	\$1.06B authorized budget ¹ , \$503M paid out as of December 30, 2020 ²	COVID-19 programs by the Federal Government
Unemployment Benefits administered by the Guam Department of Labor	30,856 (March 15, 2020-September 4, 2021)¹	\$1.06B authorized budget¹, \$305M paid out as in 2021 as of December 28, 2021³	COVID-19 programs by the Federal Government to cover estimated payment in 2021
Supplemental Payments for Lost Wages – Benefits administered by the Guam Department of Labor		\$45M ⁴	COVID-19 programs by the Federal Government (Federal Emergency Management Administration)
National Dislocated Worker Grants (DWG) administered by the Guam Department of Labor		\$3M ⁴	COVID-19 programs by the Federal Government
“Prugraman Salappe Ayudon I Taotao” administered by the Guam Department of Administration	2,313 as of November 2020 ⁵	\$16M as of Final Report dated May 31, 2021 ⁶	CARES Act /CRF funds from the Federal Government
Economic Impact Payments (EIP) administered by the Guam Department of Revenue and Taxation	85,503 payments as of December 17, 2020 ⁷	\$145M paid as of December 17, 2020 ⁷ (\$150.2M awarded)	COVID-19 programs by the U.S. Treasury
EIP2 administered by the Guam Department of Revenue and Taxation	75,155 payments processed as of March 18, 2021⁸	\$79M paid as of March 18, 2021⁸	CRRSSA from the Federal Government
EIP3 administered by the Guam Department of Revenue and Taxation	87,269 payments as of September 16, 2021⁹	\$241M as of September 16, 2021⁹	ARPA from the Federal Government
Advanced Child Tax Credit administered by the Guam Department of Revenue and Taxation	49,598 as of October 25, 2021¹⁰	\$93.5M total received, \$31.4M paid as of October 25, 2021, with 2 more installments to go¹⁰	ARPA from the Federal Government
“Ayuda I Mangafa” (AIM) Help for Families Program administered by the Guam Department of Revenue and Taxation	648 payments processed as of as of November 25, 2020 ¹¹	\$608K as of Final Report dated May 31, 2021 ⁶	\$10M out of GovGuam’s General Fund per Bill 367-35 which lapsed into law as Public Law 35-94

All RISE administered by the Office of the Governor	29,699 applications filed as of September 20, 2021¹²	\$38M	ARPA from the Federal Government to the Office of the Governor
Mortgage Relief Program administered by the Guam Housing Corporation	136 applied, only 3 approved as of July 12, 2021¹³	\$714K budget, all still available¹⁴, \$7,868 paid as of July 12, 2021¹³	ARPA from the Federal Government
Emergency Rental Assistance Programs (ERA, ERA2) administered by the Guam Department of Administration	4,000 applied, 2,225 approved as of December 1, 2021¹⁶	\$32M¹⁵ + \$29M¹⁴ approved amount, \$7M paid as of December 1, 2021¹⁶	CRRSSA + ARPA from the Federal Government (U.S. Treasury)
Homeowner Assistance Fund administered by the Guam Department of Administration		\$13.5M¹³	ARPA from the Federal Government (U.S. Treasury)
Supplemental Nutritional Assistance Program (SNAP) EBT cards for school children and non-SNAP households administered by the Guam Department of Public Health and Social Services	25,985 EBT cards issued at \$1,243.32, 1,556 card yet to be distributed as of October 31, 2021¹⁴	\$32M as of October 31, 2021¹⁴	ARPA from the Federal Government (U.S. Department of Agriculture)
ESTIMATED TOTAL FOR 2021		\$809M (100% FEDERAL FUNDS)	
ESTIMATED TOTAL FOR 2020		\$713M (99% FEDERAL FUNDS)	

Sources:

¹ *Guam Daily Post*, 2021 December 1b

² *Guam Daily Post*, 2020 December 18, updated December 22

³ *Guam Daily Post*, 2021 December 28

⁴ BBMR, 2021 December (report as of 10-31-2021), see APPENDIX 2

⁵ BBMR, 2020 November (report as of 10-31-2020)

⁶ BBMR, 2021 July (report as of 05-31-2021), see APPENDIX 1

⁷ *Guam Daily Post*, 2020 December 22

⁸ Department of Revenue and Taxation Press Release, 2021 March 18

⁹ Department of Revenue and Taxation Press Release, 2021 September 16

¹⁰ Department of Revenue and Taxation Press Release, 2021 October 25; *Marianas Business Journal* (2021 October 26)

¹¹ *Pacific News Center*, 2020 December 1

¹² *Guam Daily Post*, 2021 September 4, updated September 20

¹³ *Guam Daily Post*, 2021 July 12

¹⁴ BBMR, 2021 December (report as of 10-31-2021), see APPENDIX 4

¹⁵ BBMR, 2021 December (report as of 10-31-2021), see APPENDIX 3

¹⁶ *Guam Daily Post*, 2021 November 23, updated December 1

TABLE 9: SUMMARY OF FINANCIAL ASSISTANCE TO SMALL BUSINESSES IN GUAM (BOLDED AND HIGHLIGHTED ENTRIES ARE FOR YEAR 2021)

Program name	Target businesses	Number of businesses approved in program	Total amount approved	Source of Funding
Payroll Protection Program (PPP) administered by U.S. Small Business Administration	Small businesses, eligible nonprofit organizations, veteran organizations, and tribal businesses described in Small Business Act	2,208 as of August 8, 2020 ¹	\$192M as of August 8, 2020 ¹	CARES Act (Federal Government)
Second round of Payroll Protection Program (PPP2) administered by U.S. Small Business Administration	Small businesses, eligible nonprofit organizations, veteran organizations, and tribal businesses described in Small Business Act	1,445 as of May 31, 2021²	\$107M as of May 31, 2021²	CRRSSA (Federal Government)
Economic Injury Disaster Loan (EIDL) administered by U.S. Small Business Administration	Eligible small businesses, private-nonprofits, agricultural businesses	1,529 for EIDL advances as of July 14, 2020; 1,322 for EIDL direct loans as of November 22, 2020 ¹	\$6.3M (advances) as of July 14, 2020; \$78.4M (direct loans as of November 22, 2020 ¹	CARES Act (Federal Government)
Economic Injury Disaster Loan (EIDL) administered by U.S. Small Business Administration	Eligible small businesses, private-nonprofits, agricultural businesses	266 for EIDL advances; 1,384 for EIDL direct loans as of August 18, 2021²	\$2.2M (advanced); \$103M (direct loans) as of August 18, 2021²	CRRSSA (Federal Government)
Supplemental Targeted Advance administered by U.S. Small Business Administration		186	\$930K as of August 18, 2021	CRRSSA (Federal Government)
Restaurant Revitalization Fund (RRF) administered by U.S. Small Business Administration	Eligible food-related businesses	287 applied, 79 approved as of July 14, 2021^{3, 4}	\$102.8M budget, \$15.2M paid as of July 14, 2021^{3, 4}	ARPA (Federal Government)
2020 Guam Small Business Pandemic Assistance Grant Program (GSBPA) administered by the Guam Economic Development Authority (GEDA)	Small businesses experiencing “Business Interruption” due to COVID-19	2,313 as of November 2020	\$16.6M* as of November 2020	CARES Act (Federal Government)
2021 Guam Small Business Pandemic Assistance Grant Program (PAG2021) administered by the Guam Economic	Small businesses experiencing “Business Interruption” due to COVID-19	1,928 applications received and logged as of December 17, 2021⁵	\$27.3M as of September 9, 2021⁶; \$20M as of November 23, 2021⁷	ARPA from the Federal Government to the Office of the Governor

Development Authority (GEDA)				
Guam Small Business Rent Assistance Program administered by the Guam Economic Development Authority (GEDA)	“food & beverage establishment, a small retail establishment, and/or personal care services establishment where services can only be rendered at that physical location ⁸	1,039 applied, 695 approved (403 received checked as of January 20, 2021), 292 found ineligible ⁹	\$3M paid as of January 20, 2021 ⁹ , \$1.75M additional budget approved as of August 19, 2021 ¹⁰	CARES Act (Federal Government) from CRF by the Office of the Governor
Local Employers’ Assistance Program (LEAP) administered by the Guam Economic Development Authority (GEDA)	small businesses with 50%+ business interruption rate or small businesses verified as a “covered establishment” pursuant to DPHSS with 20%+ business interruption rate¹¹	452 applications received and logged as of December 22, 2021¹²	\$50M budget	\$25M from ARPA from the Federal Government to the Office of the Governor + \$25M out of GovGuam’s General Fund per Bill 214-36¹³
Childcare Assistance Program Stabilization 2021 (CAPS21) administered by the Guam Economic Development Authority (GEDA)	“qualified and eligible child care providers to cover operational expenses as a way to stabilize these fragile child care industry”¹⁴	43 applications received and logged as of December 16, 2021¹⁵	\$20M	ARPA from the Federal Government to the Office of the Governor
ESTIMATED TOTAL FOR 2021			\$318M (92% FEDERAL FUNDS)	
ESTIMATED TOTAL FOR 2020			\$296M (100% FEDERAL FUNDS)	

* Original funding \$20M originally, reduced to \$16M on September 16, increased to \$17M on September 29

¹ BBMR, 2021 December (report as of 10-31-2021), see APPENDIX 2

² BBMR, 2021 December (report as of 10-31-2021), see APPENDIX 3

³ *Guam Daily Post*, 2021 July 14 updated July 19

⁴ BBMR, 2021 December (report as of 10-31-2021), see APPENDIX 4

⁵ GEDA, 2021 December 17, <https://www.investguam.com/wp-content/uploads/PAG2021/Updates/PAG2021%20Updates%2012172021.pdf>

⁶ *Marianas Business Journal*, 2021 September 10

⁷ Office of the Governor, Investment Para Hamyo, 2021 November 23-see APPENDIX 5

⁸ GEDA, 2020, <https://www.investguam.com/rentassistance/>

⁹ *Marianas Business Journal*, 2021 February 1

⁹ *Marianas Business Journal*, 2021 August 20a

¹¹ GEDA, 2021, <https://www.investguam.com/leap/>

¹² GEDA, 2021 December 22, <https://www.investguam.com/wp-content/uploads/LEAP/Updates/LEAP%20Status%20Update.pdf>

¹³ 36th Guam Legislature, 2021 October 15.

¹⁴ GEDA, 2021, <https://www.investguam.com/caps2021/>

¹⁵ GEDA, 2021 December 16, <https://www.investguam.com/wp-content/uploads/CAPS2021/Updates/CAPS2021%20Status%2012162021.pdf>

Although not all programs were funded by the Federal Government, more than 90% were, which highlights the positive impact that to our local families and businesses. Indeed, it will not be an exaggeration to say that, without these funds, our family and businesses on Guam would have been much more adversely impacted by the pandemic. **TABLE 8** shows that local families received \$809M in pandemic assistance in 2021, all of them funded by the Federal Government. In 2020, \$713M were received, all except for \$10M “Ayuda I Mangafa” assistance was paid for by Federal funds.

TABLE 9 shows that local businesses participated in pandemic assistance programs valued at \$318M, 92% of which was funded by the Federal Government through the CRRSAA of December 2020 and the ARPA of March 2021. The remaining 8% represented the \$25M for the Local Employers’ Assistance Program (LEAP) that was funded from the GovGuam’s General Fund Budget pursuant to Bill 214-36 (36th Guam Legislature, 2021 October 15). In comparison, programs offered in 2020 were estimated at a value of \$296M, all of which were funded by the Federal Government.

The Paycheck Protection Program (PPP) was established by the CARES Act to provide small businesses with funds to cover payroll costs during the pandemic and to pay interest on mortgages, rent, and utilities (U.S. Department of Treasury, 2020). It received a second round of funding under the CRRSAA, which passed in late-December 2020. **TABLE 9** shows that a total of 3,653 small business applications were approved for a total amount of \$299M. As of November 21, 2021, an estimated amount of \$235M (or 79%) of the total PPP loan amount to Guam was forgiven, thereby benefiting 2,925 (or 80%) of the small business PPP recipients on Guam (<https://data.sba.gov/dataset/ppp-foia>). Terms for PPP loan forgiveness can be found at <https://www.sba.gov/funding-programs/loans/covid-19-relief-options/paycheck-protection-program/ppp-loan-forgiveness#section-header-0> and are reproduced below.

First Draw PPP loans made to eligible borrowers qualify for full loan forgiveness if during the 8- to 24-week covered period following loan disbursement:

- Employee and compensation levels are maintained,
- The loan proceeds are spent on payroll costs and other eligible expenses, and
- At least 60% of the proceeds are spent on payroll costs.

Second Draw PPP loans made to eligible borrowers qualify for full loan forgiveness if during the 8- to 24-week covered period following loan disbursement:

- Employee and compensation levels are maintained in the same manner as required for the First Draw PPP loan,
- The loan proceeds are spent on payroll costs and other eligible expenses, and
- At least 60% of the proceeds are spent on payroll costs.

Like the PPP program, the Economic Injury Disaster Loan (EIDL) was first funded by the CARES Act of March 2020 but received additional funding when included in the CRRSAA of December 2020. The program included both direct loans and forgivable advances at “\$1,000 per employee, up to a maximum of \$10,000” (U.S. Small Business Administration, 2020). The CRRSAA also added the Supplemental targeted advances. **TABLE 9** shows that a total of 2,706 EIDL direct loan applications from Guam were approved for a total loan amount of \$181.4M, funded under both CARES and CRRSAA funds. In addition, 1,795 EIDL advances were approved for a total amount of \$8.5M. Lastly, 186 applications were approved and \$930,000 for the supplemental target advances program under CRRSAA funds. Applications for advances will be accepted until

December 31, 2021 or until the funds are exhausted, while those for supplemental targeted advances must be received and processed by December 31, 2021 (*Marianas Business Journal*, 2021 November 24b).

MILITARY SPENDING ON GUAM

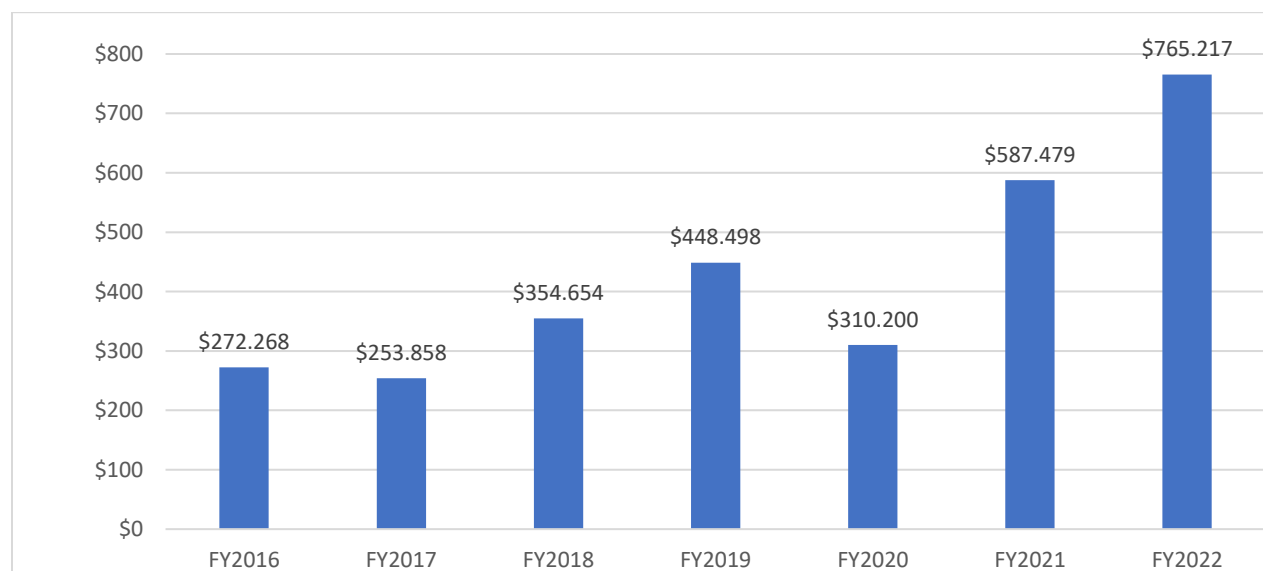
The best indicator of positive developments related to the military realignment in Guam is the annual National Defense Authorization Act (NDAA) and, more specifically, the amounts of funding and the types of military construction projects in Guam that are authorized by U.S. Congress and approved by the President.

National Defense Authorization Act (NDAA) FY2022

CHART 5 shows the NDAA military construction authorization for Guam since FY 2016 and shows a clearly increasing trend in the last 3 fiscal years, where it increased from \$310M for FY2020 to \$587M for FY2021 and to \$765M for FY2022.

The NDAA for FY2022 passed the U.S. House of Representatives on December 7, 2021 and the U.S. Senate on December 15, 2021. The \$768B spending for national defense was signed into law by the President on December 27, 2021. It authorizes funding of \$765M for military construction projects in Guam shown on **TABLE 10**.

CHART 5: MILITARY CONSTRUCTION PROJECTS ON GUAM UNDER THE NDAA: FY2016-FY2022 (in millions \$)



Sources:

Figures for Y2016-FY2021 reproduced from Ruane, et al. (2020), CHART 10.
Figure for FY2022 was taken from *Pacific Island Times*, 9 December 2021.

TABLE 10: MILITARY CONSTRUCTION PROJECTS IN GUAM APPROVED UNDER THE NDAA FY2022 (in million \$)

Project	Amount
Navy: Andersen AFB¹	
Aviation Admin Building	\$50.890
Navy: Joint Region Marianas¹	
4th Marines Regiment Facilities	\$109.507
Combat Logistics Battalion-4 Facility	\$92.710
Consolidated Armory	\$43.470
Infantry Battalion Company HQ	\$44.100
Marine Expeditionary Brigade Enablers	\$66.830
Principal End Item (PEI) Warehouse	\$47.110
X-Ray Wharf Berth 2	\$103.800
Air Force: Joint Regional Marianas¹	
Airfield Damage Repair Warehouse	\$30.000
Munitions Storage Igloos IV	\$55.000
Army National Guard¹	
National Guard Readiness Center Addition	\$34.000
Air Force: Extension of 2017 Project Authorization²	
Joint Region Marianas APR-Munitions Storage Igloos, Phase 2	\$35.300
Joint Region Marianas APR-SATCOM C4I Facility	\$14.200
Authorized Energy Resilience and Conservation Investment Program Projects. (a) Inside the United States²	
Polaris Point Submarine Base	\$38.300
TOTAL	\$765.217

Sources:

U.S. Department of Defense- Office of the Under Secretary of Defense (Comptroller), 2021 May
Pacific Island Times, 9 December 2021

In FY2021, \$1.87B federal contracts awarded by the Naval Facilities Engineering Systems Command (NAVFAC) Pacific were won by U.S. small businesses in the following categories: Small Disadvantaged Business (\$1.3B); Women-Owned Small Business (\$317M); Service Disabled Veteran Owned Small Business (\$159M); and Historically Underutilized Business Zone (\$614M) (*Pacific Island Times*, 21 November 19).

FORECAST FOR GUAM'S ECONOMY IN 2022

The 26.7% estimated growth of Guam's economy in 2021 represents a rebound from the pandemic and the massive \$4.5B Federal Government spending on Guam that year. However, this amount is not likely to be sustained once the pandemic is over. Even the \$193M from the recently enacted Infrastructure Law of December 2021 and any increase in NDAA funding for FY2023 would not be enough to replace the \$1.9B pandemic assistance from two Federal laws, the CSSRAA of December 2020 and the ARPA of March 2021. Things might be better if the Build Back Better bill became law and Guam receives at least \$1.5B from it. However, this might be wishful thinking at this time.

As we learned how to manage ourselves and our safety after almost 2 years of living during the pandemic coupled with the financial assistance many of us received through a multiple of Federally funded programs with some addition of local funding, more and more individuals have returned to work or are now seeking employment. Therefore, the unemployment rate is expected to continue to decrease in 2022.

Labor force participation rate, which was at 57.5% in June 2021, might have decreased in September and December 2021 but official estimates are yet to be released to confirm this claim. In the near future, programs that support employees, such as the recently introduced \$130M local childcare initiatives funded with Federal funds and included in the Governor's Investment *Para Hamyo* plan will make childcare services more affordable to many parents and guardians so that they could return to work. One issue to consider is whether or not schools at all levels remain open but, from the successful experiences of several private schools and DODEA schools since the beginning of the academic year 2021 (in some cases, even earlier), there are lessons at hand on how to keep schools open without compromising personal and public safety, even as the pandemic continues. Ultimately, the decision to participate in the labor force is and has always been one for the individual to make, usually in consultation with his/her family, but the public sector can incentivize the final outcome by making it easier and more rewarding to choose to work and contribute productively to our island economy.

As individuals return to work, household incomes from employment will increase in 2022 and most likely exceed those in 2020 and 2021. The tricky part is whether household incomes from all sources in 2022 will be higher than those for 2020 and 2021, keeping in mind the generous pandemic assistance programs our island benefitted from, first and foremost were the unemployment benefits, which ended in early September. If the net amount of household income were higher in 2022, then we could forecast consumer spending to increase in 2022 compared to 2021. The latest Guam GDP data shows that consumer spending in 2020 still decreased by 3%. even with the pandemic assistance and would have decreased by 25% without the pandemic assistance.

The same data source shows business spending in 2020 increased by 7.4% when the amount of pandemic assistance to businesses was factored into the calculation. This shows that some businesses such as those in construction, health care, quarantine hotels, to name a few, thrived during the pandemic. In the absence of pandemic assistance, business spending in 2020 would have decreased by 13.5%. Again, whether it increases or decreases in 2022 when pandemic assistance is expected to no longer be available is difficult to predict.

Spending by the local government was easier to forecast before the pandemic as it tended to follow what happened to the General Fund. The recent successes of receiving reimbursement for the Earned Income Tax Credit (EITC) and increased reimbursement for Medicare as well as the higher personal income tax collections from the Federally funded unemployment benefits have buffered the General Fund to some extent. What happens to the General Fund in 2022 depends on how well the reduced tax collections from the end of the unemployment benefits get replaced by other sources of taxes or other revenue sources, including those from the Federal Government, e.g., Section 30 funds.

It is notable that local government spending in 2022 will appear to have increased significantly as some of the items listed in the Investment *Para Hamyo* plan come to fruition. However, for the purpose of economic analysis, since \$1.7B (86%) of the \$1.9B total amount of the plan is funded by Federal sources, this amount would already have been included in the increase in total Federal Government spending on Guam and should not be double-counted. Note also that the plan's "deadline" of 2024, therefore, not all items will be spent in 2022. Only those spent in 2022 will affect Guam's economy in that year.

Spending on Guam's tourism in 2022 will be in line with the expectation that Guam's tourism will not return to its pre-pandemic until 2024. As mentioned earlier, there were 328,000 visitors to Guam in CY2020. It also was obvious that the figure for 2021 would be lower than 328,000. After multiple iterations on the forecast for visitor arrivals for FY2021, the final version one year ago was 82,600 visitors. The actual number came in at 61,607 for FY2021. Our prediction for CY2021 (calendar year 2021) is 65,000. Regardless, both numbers are below what was predicted for this year. Comparatively, forecasts for next year's visitor arrivals are higher. The figures shared by the Guam Visitor Bureau's Vice President at the 2022 Economic Forecast hosted by the Guam Chamber of Commerce on December 3, 2021 ranged from 85,000 (conservative), 130,000 (optimistic), 201,783 (based on industry feedback) and a most realistic figure of 115,000. Compared to 2021, the contribution of tourism to Guam's economy will be higher by \$15M to \$131M, depending on whether 85,000 visitors or 130,000 visitors come to Guam in 2022.

To summarize, for 2022, if no significant increases in spending are likely to come from consumers, businesses and the Government of Guam, if the amount expected from the Build Back Better is uncertain, if no new industry begins contributing to Guam's economy soon, if the only other sources of higher spending are \$15M to \$131M from tourism, \$193M from the Infrastructure Law (*Guam Daily Post*, 2021 December 1), and \$178M from increased NDAA FY2022 compared to NDAA FY2021 for a total of \$400M, and if the entire \$1.9B Federal pandemic assistance is not "repeated" in 2022, then the +26.7% forecasted economic growth we have for 2021 will turn to negative economic growth in 2022, in the range of -2% to -10%.

CONCLUSION

The impact of the COVID-19 pandemic would have been so much more crippling to Guam's economy and our residents in 2020 if not for the massive assistance from the U.S. Federal Government. The official estimate reported that Guam's economy declined by 11.9% in 2020 (U.S. Department of Commerce-Bureau of Economic Analysis, 2021 December 1). This is within the local forecasted range from -0.7% to -18.9% (Ruane, et al., 2020 December). Without Federal assistance in 2020, Guam's economy would have declined by between 42.5% and 49.3%.

This theme of the positive and significant impact of Federal assistance on Guam's economy continues in 2021, with the addition that the prospects for recovery for Guam's economy would not have been as promising if not for the continued pandemic assistance, economic recovery and growth funding from the Federal Government. On the one hand, one will very well be correct to declare success over the goal of maximizing Federal funds for Guam as this is clearly evident.

On the other hand, one will also be correct to be cautious about the eventual phasing out of Federal Government funds aimed at mitigating the effects of the pandemic as well as effectuating an economic recovery. This phase out was temporarily moderated by the passage of the \$1.2T Infrastructure Law on November 15, 2021, with Guam's share estimated at \$193M. Truth be told, the economist in me is not too disappointed in the stall of the Build Back Better bill, with all indications pointing to it not receiving approval at the U.S. Senate. While some in the U.S. and on Guam might fret over the more than \$2T additional funds to a large part of the U.S. population as well as Guam's, to others, this development represents a return to the basic principle of responsible government and a reminder that, as much as governments around the world would always prefer to be generous to their peoples, they are not always in the position to afford being so without imposing harm on the current generation, e.g., in the form of higher inflation and reduced purchasing power, and preventable burden on the future generation by increasing an already heavy national debt. As the Congressional Budget Office estimated, the Build Back Better bill would cost at least \$4.5T, which could not be paid through higher taxes imposed on a group of American taxpayers. Keep in mind that past and present Federal funds allocated to Guam contribute, albeit a small share, to this national debt and, as such, highlights support to our residents' well-being at the expense of the well-being of taxpaying residents in the U.S., including our friends and families living there, and other taxpaying entities. Indeed, Guam is in an enviable position to have addressed this pandemic and our on-going state of public health emergency on Federal funds. The impending failure of the Build Back Better bill to become law might in fact be a blessing in disguise, as it would offer the opportunity to learn and apply the basic economic lesson of living within our limited resources and ensuring that none is wasted and that all are allocated to their best uses.

Regardless of what other spending bills might or might not become U.S. law, the Federal funds that have already been approved for Guam in FY2021 and those expected in FY2022, including the recently enacted NDAA FY2022 budget, are already plentiful. With these, we could create and/or finance a lot of opportunities for legitimate economic activities in the short run but, more importantly, in the long run when Guam's economy could be better positioned toward sustainable and participatory economic growth. On the other hand, a lot of Federal funds on Guam increases the temptation to avoid or relax applicable rules and regulations, thereby distorting the basic incentive system (those who toiled should reap the rewards) and the basic economic principle above noted (resources should go to their best uses) and reducing our island's potential for economic growth. Having lived through a martial law regime under a corrupt government and also

having studied public corruption around the world, there is nothing that destroys private enterprise and personal motivation more than an unlevelled playing field and arbitrary rules of economic engagement. To mitigate these possible scenarios, there will be an increased need for transparency, accountability and overall ethical behavior for those entrusted to serve the Guam public. Certain entities (Guam Office of Public Accountability, Guam Office of the Attorney General and the U.S. Attorney's Office-Districts of Guam & the Northern Mariana Islands) will play an important role in keeping affairs in order.

Before we know it, we will find ourselves in 2024, a very important year for several reasons. On the one hand, tourism is expected to recover to the pre-pandemic level *that year*, perhaps new industries will have been established and contributing to a diversified economic base *that year*. On the other hand, Federal Government spending will have decreased *that year*, as the pandemic will have been over by that time, if not next year. Spending related to the Investment *Para Hamyo* will have been spent by *that year*. Spending to build the new hospital and perhaps the entire medical complex will have been completed *that year* (Office of the Governor, 2021 November 23, Press Conference). The U.S. Marine relocation to Guam will be completed or close to be completed *that year*, signifying a slowdown in military construction on Guam resulting in a decrease in the NDAA budget *that year* or soon thereafter. Where Guam's economy ends up *that year* will depend on the balance among these opposing developments as well as other developments yet to enter the large picture. It is definitely too early to make predictions, but it gives us the next 2 years to better position ourselves for what might come.

In a democracy like ours, we all can determine our future in the choices we make. The next 2 years are crucial as we once again find ourselves at the crossroads. Let us not forget that 2022 is the election year for the Governor and the 37th Guam Legislature, and 2024 (*that year* referred to above) is the election year for the 38th Guam Legislature. In both election years, I plan to vote as an economist, i.e., **for whomever has and will use the island's limited resources in the best way, measured by the greatest improvement in the standard of living and, more importantly, the quality of life for the greatest number of our island's residents. Toward this end, I call, "People of Guam, unite!"**

http://bbmr.guam.gov/wp-bbmr-content/uploads/2021/07/DOA-Fund-677-CARES-Act-as-of-5-31-21_Final-Report.pdf

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COVID-19 RELIEF FUND - FINAL REPORT					
As of 5/31/2021					
REVENUES					
CAPES ACT: Allocation for Guam					
Funds received	\$ 117,968,258				
	BUDGET	EXPENDITURES	TRANSFERRED	FINAL	TO BE FUNDED
	\$	\$	\$	\$	BY ARPA
					\$
3. COVID-19 Related Actions to Facilitate Compliance with Public Health Measures					
GBHWC Food Delivery to Residents	-	-	-	-	-
Guam Department of Education	1,000,000	1,000,000	-	1,000,000	-
Subtotal	1,000,000	1,000,000	-	1,000,000	-
Improve Telework Capabilities of Public Employees to Enable Compliance with Public Health Precautions					
Office of Governor	-	-	-	-	-
BBMAR	-	-	-	-	-
Civil Service Commission	19,048	19,048	0	19,048	-
Department of Youth Affairs	9,666	9,666	-	9,666	-
Department of Corrections	859,978	832,978	27,000	859,978	-
Guam Police Department	-	-	-	-	-
Department of Integrated Svcs. for Individuals with Disabilities	18,816	18,324	492	18,816	-
Guam Environmental Protection Agency	20,004	20,004	-	20,004	-
Hagatna Restoration and Redevelopment	8,023	8,023	-	8,023	-
Guam Economic Development Authority	14,839	14,839	-	14,839	-
Guam Visitors Bureau	990	990	-	990	-
Guam Waterworks Authority	162,398	162,398	-	162,398	-
United Judiciary	147,100	147,099	0	147,100	-
University of Guam	20,532	20,532	-	20,532	-
Subtotal	1,281,394	1,253,902	27,492	1,281,394	-
Office of the Governor Homeless Program					
	864,133	969,133	(105,000)	864,133	-
Subtotal	864,133	969,133	(105,000)	864,133	-
4. COVID-19 Related Economic Support & Other					
Economic Support (Other than Small Business, Housing, and Food Assistance)					
Department of Administration	7,003,789	6,936,069	67,720	7,003,789	-
DOA Process Program Salapue	114,225	114,225	-	114,225	-
DOA Bereavement Fund	1,235,850	1,275,850	(40,000)	1,235,850	-
Guam Economic Development Authority	35,417	35,417	-	35,417	-
Guam Visitors Bureau	290,927	290,927	-	290,927	-
Judiciary of Guam	495	495	-	495	-
Department of Labor	40,391	35,412	4,979	40,391	-
Department of Public Health and Social Services (DPHSS)	200,000	21,450	178,550	200,000	-
DPHSS - Program Salapue Ayudan Tantan	16,077,300	16,077,300	-	16,077,300	-
Department of Public Works	328,805	328,805	-	328,805	-
Guam Police Dept	2,487	1,797	690	2,487	-
Office of Chief Medical Examiner	2,223	-	2,223	2,223	-
University of Guam	150,818	150,818	-	150,818	-
GMHA	1,573,859	1,573,859	-	1,573,859	-
OHS - GMHA Equipment	861,984	861,984	-	861,984	-
Department of Revenue and Taxation (DRT)	945,282	794,246	151,036	945,282	-
DRT - I Ayudan Mangafa Payment Program	608,000	608,000	-	608,000	-
DRT - Process Stimulus Overtime	102,245	102,344	(98)	102,245	-
Subtotal	29,574,097	29,208,998	365,099	29,574,097	-
Small Business Assistance					
Guam Economic Development Authority (GEDA) - Small Businesses	17,000,000	17,000,000	-	17,000,000	-
GEDA - Business Rent Relief Program	2,971,000	2,971,000	-	2,971,000	-
GEDA - Guahan Sustainable Farmers Emergency Relief Program	5,000	5,000	-	5,000	-
Subtotal	19,976,000	19,976,000	-	19,976,000	-
TOTAL EXPENDITURES					
	117,968,257	\$ 129,600,303	\$ (11,632,046)	\$ 117,968,257	\$ (11,632,046)

**FY2022 – GOVGUAM Federal Stimulus & Assistance Programs
Update Report – CARES ACT & COVID-19 (As of 10-31-2021)
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GOVGUAM-Federal-Stimulus-Assistance-Programs-Update-
Report-CARES-ACT-COVID-19-As-of-10-31-2021-1.pdf](http://bbmr.guam.gov/wp-bbmr-content/uploads/2021/12/FY2022-GOVGUAM-Federal-Stimulus-Assistance-Programs-Update-Report-CARES-ACT-COVID-19-As-of-10-31-2021-1.pdf)**

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<http://bbmr.guam.gov/wp-bbmr-content/uploads/2021/12/FY2022-GovGuam-Federal-Stimulus-Assistance-Report-CRRSAA-Programs-As-of-10-31-2021-1.pdf>

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FY2022 – GovGuam Federal Stimulus & Assistance Report – American Rescue Plan (ARP) 2021 Programs (As of 10-31-2021).
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APPENDIX 5

Investment Para Hamyo

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https://www.guampdn.com/news/spending-plan-billed-at-2-b-will-grow-as-federal-funding-opportunities-expand/article_cacd56ea-53df-11ec-8ad6-6bf582ac334c.html

Investment Category	Agency	Funding Amount	Reference	Funding
Health	Behavioral Health	5,000,000	mental health services	Federal-ARPA
Economic Growth	Bureau of Statistics and Plans	1,434,928	economic data and analysis	Federal-ARPA
Public Service	Bureau of Women's Affairs	129,784	womens programs	Federal-ARPA
Education	CAHA	458,240	cultural programs	Federal-ARPA
Education	Chamoru Language Commission	465,412	cultural programs	Federal-ARPA
Public Safety	Chief Medical Examiner	485,465	operations	Federal-ARPA
Education	Commission for Educator Certification	145,346	Education certification	Federal-ARPA
Public Service	Contractors Licensing Board	72,100	customer servcie	Federal-ARPA
Public Safety	Customs and Quarantine	3,500,000	34 new customs officers.support	Federal-ARPA
Public Service	Department of Administration	8,200,000	IT and contractual needs	Federal-ARPA
Public Service	Department of Administration	2,000,000	comprehensive wage study	Federal-ARPA
Environment	Department of Agriculture	1,759,460	6 new conservation officers/natural resources	Federal-ARPA
Economic Growth	Department of Agriculture	1,500,000	agricultural development	Federal-ARPA
Education	Department of Chamoru Affairs	1,850,730	cultural programs	Federal-ARPA
Public Safety	Department of Corrections	3,500,000	16 new corrections officers/operations	Federal-ARPA
Public Safety	Department of Military Affairs	385,829	support	Federal-ARPA
Public Safety	Department of Youth Affairs	2,735,104	youth programs	Federal-ARPA
Health	DISID	3,954,022	services for the disabled	Federal-ARPA
Health	Governor's Office	194,125,144	new GMH	Federal-ARPA
Public Service	Governor's Office	38,000,000	All Rise program	Federal-ARPA
Health	Governor's Office	31,005,729	quarantine and isolation facilities	Federal-ARPA
Health	Governor's Office	6,400,000	financial transaction charges	Federal-ARPA
Health	Governor's Office	2,000,000	testing clinics	Federal-ARPA
Public Service	Governor's Office	1,500,000	Safe haven program for homeless	Federal-ARPA
Health	Governor's Office	850,000	bereavement grants	Federal-ARPA
Health	GRMC	7,800,000	covid response	Federal-ARPA
	Guam Board of Registration for Professional Engineers, Architects and Land Surveyors			Federal-ARPA
Public Service		36,148	customer service	
Economic Growth	Guam Department of Labor	987,774	workforce development	Federal-ARPA
Economic Growth	Guam Economic Development Authority	25,000,000	LEAP	Federal-ARPA
Economic Growth	Guam Economic Development Authority	20,000,000	small business pandemic assistance	Federal-ARPA
Economic Growth	Guam Economic Development Authority	3,100,000	diversification	Federal-ARPA
Economic Growth	Guam Economic Development Authority	1,900,000	farmer's grants/ small business incubator	Federal-ARPA

Economic Growth	Guam Economic Development Authority	1,800,000	small business rental assistance	Federal-ARPA
Economic Growth	Guam Economic Development Authority	1,000,000	industry development	Federal-ARPA
Environment	Guam 45ldg.45nmental Protection Agency	1,681,318	environmental regulation/enforcement	Federal-ARPA
Public Safety	Guam Fire Department	3,500,000	35 new firefighters.operations	Federal-ARPA
Tourism	Guam International Airport Authority	15,000,000	destination management	Federal-ARPA
Health	Guam Memorial Hospital Authority	7,276,089	hospital operations	Federal-ARPA
Health	Guam Memorial Hospital Authority	6,600,000	nurses pay	Federal-ARPA
Public Safety	Guam Police Department	9,000,000	communication system	Federal-ARPA
Public Safety	Guam Police Department	3,500,000	75 new police officers	Federal-ARPA
Infrastructure	Guam Power Authority	15,000,000	subsidies to keep rates down	Federal-ARPA
Public Service	Guam Regional Transit Authority	2,500,000	public and paratransit services	Federal-ARPA
Environment	Guam Solid Waste Authority	12,000,000	capital improvements	Federal-ARPA
Environment	Guam Solid Waste Authority	3,000,000	operational support	Federal-ARPA
Tourism	Guam Visitors Bureau	20,000,000	tourism development	Federal-ARPA
Infrastructure	Guam Waterworks Authority	14,737,400	water improvements	Federal-ARPA
Infrastructure	Guam Waterworks Authority	14,400,000	subsidies to keep rates down	Federal-ARPA
Tourism	Hagatna Restoration and Redevelopment Authority	27,096	destination management	Federal-ARPA
Public Service	Judiciary & others	6,892,915	governance and oversight	Federal-ARPA
Public Service	Land Management, Ancestral Lands, Chamoru Land Trust	2,172,366	customer service	Federal-ARPA
Public Service	Office of Technology	4,387,590	technology upgrades/support	Federal-ARPA
Public Service	Parks and Rec	2,500,000	park maintenance / 6 new park rangers	Federal-ARPA
Education	PBS	525,080	learning centers	Federal-ARPA
Infrastructure	Port Authority	15,000,000	CIPS and freeze port tariff rates	Federal-ARPA
Education	Public Libraries	458,380	Learning Centers	Federal-ARPA
Infrastructure	Public Works	12,000,000	road projects	Federal-ARPA
Infrastructure	Public Works	11,000,000	DPW operations	Federal-ARPA
Public Service	Rev and Tax	9,000,000	IT and contractual needs	Federal-ARPA
Education	University of Guam	3,400,000	cultural heritage repository	Federal-ARPA
Education	University of Guam	48,668	support	Federal-ARPA
Public Service	Veterans Affairs	1,224,616	veterans programs	Federal-ARPA
Health	Behavioral Health	7,500,000	New Beginnings Bldg	Federal-Other
Health	Behavioral Health	678,000	Talofoto cottage homes	Federal-Other
Health	Behavioral Health	200,000	SMS system	Federal-Other
Environment	Bureau of Statistics and Plans	759,000	Guam 2050 Sustainability Plan	Federal-Other
Tourism	Bureau of Statistics and Plans	390,000	tourism repositioning study	Federal-Other
Economic Growth	Bureau of Statistics and Plans	300,000	automate collection of import data	Federal-Other
Public Service	Bureau of Statistics and Plans	300,000	GovGuam IT assessment	Federal-Other
Environment	Bureau of Statistics and Plans	135,000	Territorial Seashore Protection Plan	Federal-Other
Environment	Bureau of Statistics and Plans	75,000	Coral reef restoration	Federal-Other
Education	CAHA	123,000	artists grants	Federal-Other
Public Safety	Corrections/Youth Affairs/GPD	700,000	detection and mitigation efforts	Federal-Other
Public Safety	Customs and Quarantine	283,000	marine patrol facility	Federal-Other
Public Service	Department of Administration	50,000,000	Emergency rental assistance	Federal-Other
Health	Department of Agriculture	500,000	farmers mental health	Federal-Other
Economic Growth	Department of Agriculture	466,000	mobile meat slaughterhouse	Federal-Other
Economic Growth	Department of Agriculture	375,000	agriculture masterplan	Federal-Other
Infrastructure	Department of Agriculture	270,000	facility improvements including a wet lab	Federal-Other
Economic Growth	Department of Agriculture	90,000	aquaculture feasibility study	Federal-Other
Environment	Department of Agriculture	40,000	conservation patrol vehicle and supplies	Federal-Other
Infrastructure	Department of Agriculture	30,000	Masso Reservoir engineering assessment	Federal-Other
Environment	Department of Agriculture	7,000	TOKA app	Federal-Other
Public Safety	Department of Corrections	2,000,000	facility improvements	Federal-Other
Public Safety	Department of Youth Affairs	1,920,000	DYA facilities	Federal-Other
Public Safety	Department of Youth Affairs	720,000	security upgrades	Federal-Other
Public Safety	Department of Youth Affairs	32,000	29 new CCTV cameras	Federal-Other
Public Service	DISID	170,000	management information system	Federal-Other

Infrastructure	GHURA	3,600,000	acquisition and rehab of affordable rental units	Federal-Other
Public Service	GHURA	1,600,000	new homeless shelter	Federal-Other
Infrastructure	GHURA	1,400,000	residential treatment center	Federal-Other
Infrastructure	GHURA	769,949	Central community arts hall	Federal-Other
Infrastructure	GHURA	150,000	Sinajana walks	Federal-Other
Health	Governor's Office	32,000,000	public health lab	Federal-Other
Education	Governor's Office	13,900,000	Learning Resources	Federal-Other
Environment	Governor's Office	6,000,000	climate change resiliency	Federal-Other
Education	Governor's Office	4,800,000	25 new school busses & preventative maintenance and operations	Federal-Other
Education	Governor's Office	3,500,000	Student Social & Emotional Health Programs	Federal-Other
Education	Governor's Office	3,200,000	Mayor's Sports Programs and CIPs	Federal-Other
Infrastructure	Governor's Office	2,500,000	permanent homeless shelter	Federal-Other
Education	Governor's Office	2,200,000	Special Education Programs	Federal-Other
Education	Governor's Office	1,700,000	Academic Activities	Federal-Other
Health	Governor's Office	1,700,000	medical campus masterplan	Federal-Other
Education	Governor's Office	1,500,000	Leadership & Community Service Programs	Federal-Other
Education	Governor's Office	958,000	Arts, Culture and Language Program	Federal-Other
Education	Governor's Office	919,997	Sports Activities	Federal-Other
Education	Governor's Office	300,000	school bus/student tracking system	Federal-Other
Education	Governor's Office	294,000	repair and expand school bus shelters	Federal-Other
Education	Guam Air National Guard	1,600,000	STEM programs	Federal-Other
Education	Guam Community College	6,200,000	Higher Education Emergency Relief	Federal-Other
Education	Guam Community College	3,700,000	expansion of GCC student success center	Federal-Other
Education	Guam Department of Education	397,000,000	public schools	Federal-Other
Economic Growth	Guam Department of Labor	3,400,000	training programs	Federal-Other
Public Safety	Guam Fire Department	1,600,000	Sinajana Fire Station	Federal-Other
Public Safety	Guam Fire Department	200,000	Drone program	Federal-Other
Public Service	Guam Housing Corp.	13,500,000	Homeowner Assistance fund	Federal-Other
Public Service	Guam Housing Corp.	714,000	mortgage relief program	Federal-Other
Infrastructure	Guam International Airport Authority	183,000,000	terminal, runway, and fire & rescue	Federal-Other
Health	Guam Memorial Hospital Authority	722,000	telehealth	Federal-Other
Public Safety	Guam Police Department	3,500,000	new evidence bldg	Federal-Other
Public Safety	Guam Police Department	200,000	Eastern substation A/E	Federal-Other
Public Service	Guam Regional Transit Authority	8,000,000	new electric busses and transport vehicles	Federal-Other
Public Service	Guam Regional Transit Authority	4,200,000	27 GRTA 14-passenger vans	Federal-Other
Infrastructure	Guam Regional Transit Authority	4,000,000	GRTA operations center	Federal-Other
Public Service	Guam Regional Transit Authority	1,900,000	Accelerate Innovative Mobility	Federal-Other
Infrastructure	Guam Regional Transit Authority	600,000	Park and Ride facility A/E	Federal-Other
Public Service	Guam Regional Transit Authority	458,000	Paratransit one click transportation mngt	Federal-Other
Environment	Guam Regional Transit Authority	400,000	electrification plan for electric vehicles	Federal-Other
Public Service	Guam Regional Transit Authority	76,000	Route Shout and Transit Minor System	Federal-Other
Public Service	Land Management	309,000	IT upgrade	Federal-Other
Infrastructure	Parks and Rec	4,400,000	gyms and recreation facilities	Federal-Other
Infrastructure	Parks and Rec	35,000	Agana tennis court lighting	Federal-Other
Public Service	Public Health	130,000,000	child care	Federal-Other
Education	Public Health	5,000,000	testing in public and private schools	Federal-Other
Health	Public Health	2,300,000	vaccinations	Federal-Other
Infrastructure	Public Health	1,500,000	foster care facility	Federal-Other
Health	Public Health	491,000	modular lab and generator room	Federal-Other
Education	Public Libraries	236,779	Library improvements	Federal-Other
Infrastructure	Public Works	43,600,000	Federal Highway Fund Projects	Federal-Other
Infrastructure	Public Works	3,300,000	multipurpose emergency center	Federal-Other
Infrastructure	Public Works	838,679	basketball court	Federal-Other
Infrastructure	Public Works	684,441	Umatac baseball field	Federal-Other
Infrastructure	Public Works	464,567	Rehab/new construction of recreational facility	Federal-Other
Public Service	Rev and Tax	93,500,000	child tax credit	Federal-Other
Public Service	Rev and Tax	1,500,000	business permit license online	Federal-Other
Public Service	Rev and Tax	187,980	drivers license online	Federal-Other
Education	University of Guam	21,000,000	new student center	Federal-Other

Education	University of Guam	12,000,000	cultural heritage repository	Federal-Other
Education	University of Guam	10,700,000	Higher Education Emergency Relief	Federal-Other
Education	University of Guam	8,500,000	WERI institute and extension to the school of nursing	Federal-Other
Education	University of Guam	6,500,000	school of engineering	Federal-Other
Public Service	Veterans Affairs	40,000	VA accredited reps	Federal-Other
Infrastructure	Governor's Office	1,000,000	swimming pool	Bonds
Infrastructure	Guam Economic Development Authority	5,000,000	Fisherman's coop	Bonds
Infrastructure	Port Authority	45,000,000	wharf & pier repairs, roads, and 47ldg. repairs	Bonds
Infrastructure	GHURA	12,000,000	I Learn Academy Charter School	fed loan guarantee
Environment	Bureau of Statistics and Plans	15,000	Territorial Seashore Protection Plan	local
Health	Governor's Office	35,000,000	FY2022 financing	local
Economic Growth	Guam Economic Development Authority	25,000,000	LEAP	local
Public Safety	Guam Fire Department	25,000	Drone program	Local
Infrastructure	Guam Housing Corp.	1,400,000	renovation of 23 affordable rental units in Lada Gardens	local
Infrastructure	Guam International Airport Authority	20,000,000	terminal, runway, and fire & rescue	local
Public Service	Guam Regional Transit Authority	446,000	Accelerate Innovative Mobility	local
Environment	Mayors Council of Guam	1,500,000	abandoned vehicle cleanup	local
Infrastructure	Parks and Rec	250,000	Saulaglula pool repairs	local
Infrastructure	Public Works	5,500,000	multipurpose emergency center	Local
Infrastructure	Public Works	2,759,000	Territorial Highway Funds	local
Infrastructure	Public Works	468,000	mayor's office renovation	local
Tourism	Rev and Tax	50,000,000	cannabis revenue for Tumon Infrastructure	local
Economic Growth	Guam Economic Development Authority	200,000	Small business incubator	local-QCCC
Infrastructure	GHURA	66,000,000	construction of affordable housing	Tax Credits
Unclassified*		4,400,000		
TOTAL INVESTMENT PARA HAMYO		1,974,588,125		

*Author's determination

SUMMARY TABLE 1: BREAKDOWN BY FUNDING SOURCE

Funding Source	Amount (\$)	Share of Total (%)
Federal Funds ARPA \$569,192,733 (29%) DOD and other Federal agencies \$1,133,112,392 (57%)	1,703,025,125	86%
Local Funds	142,363,000	7%
QCCC	200,000	0%
Federal Tax Credits	66,000,000	3%
Bonds	51,000,000	3%
Federal Loan Guarantee	12,000,000	1%
TOTAL INVESTMENT PARA HAMYO	1,974,588,125	100%

SUMMARY TABLE 2: BREAKDOWN BY PURPOSE/INVESTMENT CATEGORY

Investment Category	Amount (\$)	Share of Total (%)
Education	513,183,632	26%
Infrastructure	488,257,036	25%
Public Service	385,516,499	20%
Health	346,101,984	18%
Economic Growth	86,553,702	4%
Tourism	85,417,096	4%
Public Safety	37,786,398	2%
Environment	27,371,778	1%
Unclassified*	4,400,000	0%
TOTAL INVESTMENT PARA HAMYO	1,974,588,125	100%

*Author's own determination

SUMMARY TABLE 3: BREAKDOWN BY AGENCY/OFFICE IN CHARGE

Agency	Amount (\$)	Share of Total (%)
Guam Department of Education	397,000,000	20.15%
Governor's Office	385,352,870	19.56%
Guam International Airport Authority	218,000,000	11.06%
Rev and Tax	154,187,980	7.83%
Public Health	139,291,000	7.07%
GHURA	85,519,949	4.34%
Public Works	80,614,687	4.09%
University of Guam	62,148,668	3.15%
Department of Administration	60,200,000	3.06%
Port Authority	60,000,000	3.05%
Guam Economic Development Authority	83,000,000	4.21%
Guam Waterworks Authority	29,137,400	1.48%
Guam Regional Transit Authority	22,580,000	1.15%
Guam Visitors Bureau	20,000,000	1.02%

Guam Police Department	16,200,000	0.82%
Guam Housing Corp.	15,614,000	0.79%
Guam Power Authority	15,000,000	0.76%
Guam Solid Waste Authority	15,000,000	0.76%
Guam Memorial Hospital Authority	14,598,089	0.74%
Behavioral Health	13,378,000	0.68%
Guam Community College	9,900,000	0.50%
GRMC	7,800,000	0.40%
Judiciary & others	6,892,915	0.35%
Department of Corrections	5,500,000	0.28%
Department of Youth Affairs	5,407,104	0.27%
Guam Fire Department	5,325,000	0.27%
Department of Agriculture	5,037,460	0.26%
Guam Department of Labor	4,387,774	0.22%
Office of Technology	4,387,590	0.22%
DISID	4,124,022	0.21%
Customs and Quarantine	3,783,000	0.19%
Bureau of Statistics and Plans	3,408,928	0.17%
Parks and Rec	2,785,000	0.14%
Land Management, Ancestral Lands, Chamoru Land Trust	2,172,366	0.11%
Department of Chamoru Affairs	1,850,730	0.09%
Guam 49nvironmental Protection Agency	1,681,318	0.09%
Guam Air National Guard	1,600,000	0.08%
Mayors Council of Guam	1,500,000	0.08%
Veterans Affairs	1,264,616	0.06%
Corrections/Youth Affairs/GPD	700,000	0.04%
Public Libraries	695,159	0.04%
CAHA	581,240	0.03%
PBS	525,080	0.03%
Chief Medical Examiner	485,465	0.02%
Chamoru Language Commission	465,412	0.02%
Department of Military Affairs	385,829	0.02%
Land Management	309,000	0.02%
Commission for Educator Certification	145,346	0.01%
Bureau of Women's Affairs	129,784	0.01%
Contractors Licensing Board	72,100	0.00%
Guam Board of Registration for Professional Engineers, Architects and Land Surveyors	36,148	0.00%
Hagatna Restoration and Redevelopment Authority	27,096	0.00%
Unclassified*	4,400,000	0.02%
TOTAL INVESTMENT PARA HAMYO	1,974,588,125	100%

*Author's own determination

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Dr. Maria Claret M. Ruane is a citizen of the United States and a resident of Guam since July 2007 and an economist. She earned her B.S. (with Great Distinction) and M.A. in Economics from San Jose State University and her Ph.D. in Economics from the University of California-Riverside where there were 25 students in her cohort and she was the first of only 7 students in her cohort to complete their Ph.D. at the age of 26. She has 30 years of professional experience in International Macroeconomic Development and is trained in quantitative approach to analyze available data and, when necessary, design methodologies to address limitations in data. Dr. Ruane has written annual reports on the Guam economy since 2010 in one arrangement or another. Whether as a solo author or with co-authors, or with or without research sponsor(s), she believes that research is a search for the truth and strives to produce a report that represents ethical, relevant and impactful economic research and analysis that will benefit Guam's island community.