

# Puerto Rico Economic Report and Opportunity Survey

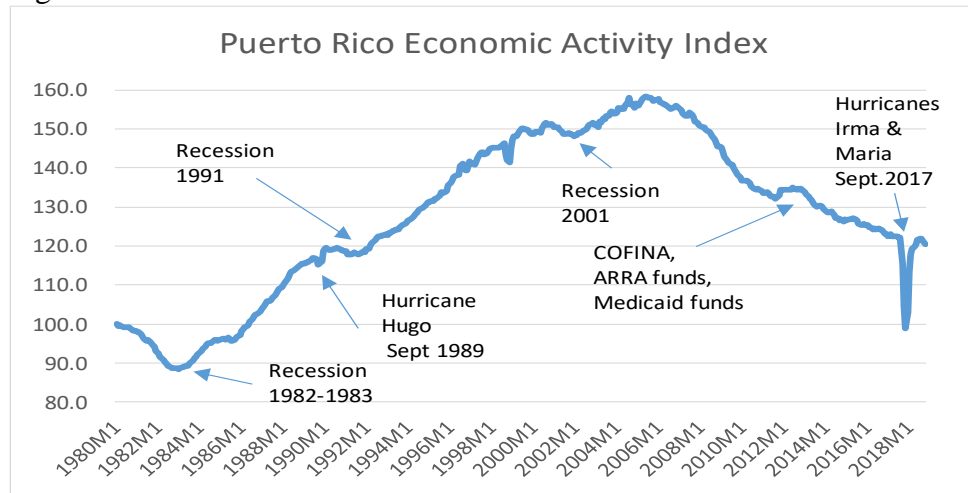
## Puerto Rico Economy

*The Puerto Rico Economy Faces Significant Challenges Related to the Government Debt Crisis and the Hurricane Recovery, but Insurance Proceeds and Federal Recovery Funds, Coupled with Initiatives by the Private Sector, Are Providing a Significant Boost the Economy in the Short-Term.*

**Overview:** On September 6, 2017, Hurricane Irma passed within 60 miles of Puerto Rico as a Category 5 storm carrying winds of up to 111 miles per hour. This storm caused several deaths on the island, caused an estimated \$1billion in damage and resulted in the loss of electrical power for over 1 million residents. Two weeks later, on September 20, 2017, Puerto Rico was hit by Hurricane Maria. Though this storm had weakened to a Category 4 storm by the time it reached Puerto Rico, it hit the island directly with winds upward of 155 mph, causing extensive damage. Hurricane Maria caused the entire island to lose electrical power, while water and cellular telephone service were lost by 95% or more of the population. Maria caused close to 3,000 deaths in Puerto Rico and total damages are estimated at up to \$90 billion.

Prior to the hurricanes in 2017, many investors knew little about Puerto Rico, although the debt crisis affecting Puerto Rico’s government had drawn increased attention to the island. Since the hurricanes, Puerto Rico has been the subject of many articles and stories in the mainstream media as well as the financial press. Consequently, what most investors and the general public associate with Puerto Rico stems from these two events, which generate largely negative impressions of the island. While the problems from the debt crisis and the hurricanes are very real and should not be overlooked, we believe there are other characteristics of Puerto Rico that are being lost as a result of the focus on these two significant events. We intend for this new publication to follow the recovery from these two crises while also taking a broader look at the economy in Puerto Rico and the longer-term opportunities on the island, presenting a broader view of Puerto Rico than the focus on just these two events allows.

Figure I



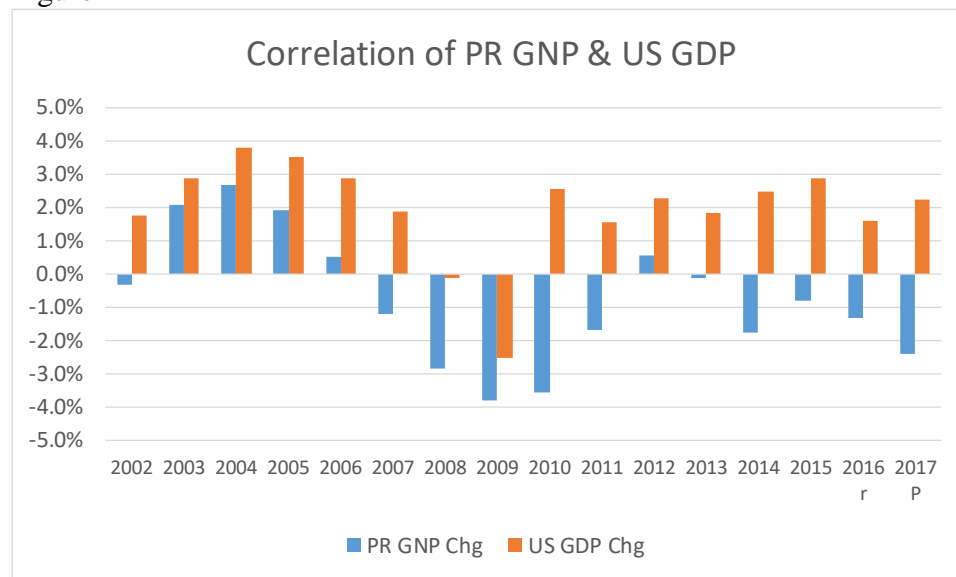
Source: Economic Development Bank for Puerto Rico

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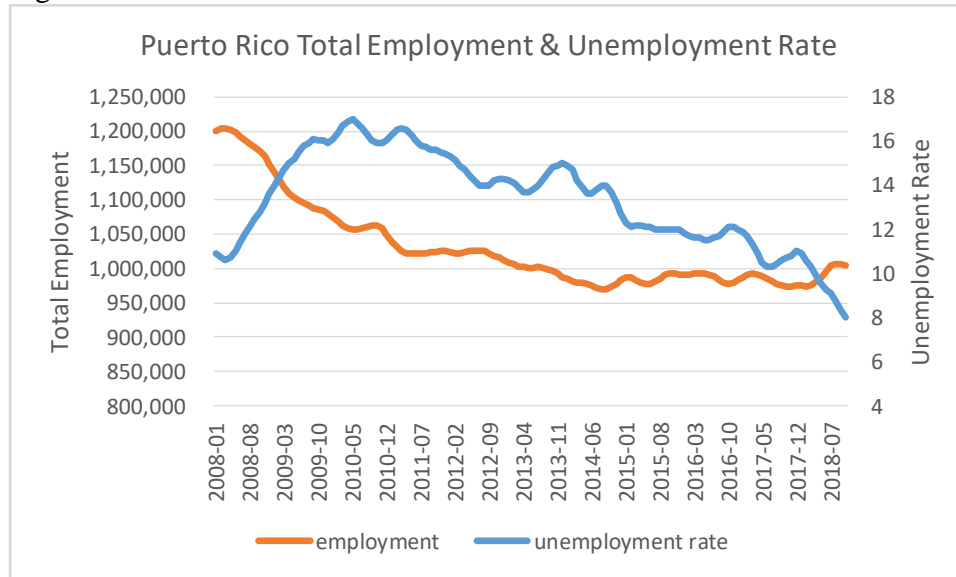
**Overall Economic Growth:** Puerto Rico has been in a recession for more than ten years. Since 2006, Puerto Rico has achieved only one year of positive growth in real GNP; and even that year – 2012 – registered growth of only 0.5%, despite significant boosts from Federal ARRA (American Recovery and Reinvestment Act) and Medicaid funds that year. A similar picture is painted by the Economic Activity Index (Figure I), a coincident index of economic activity in Puerto Rico published by Puerto Rico’s Economic Development Bank. The economic downturn roughly coincided with the termination of IRS Section 936, a section of the tax code meant to spur industrial development in Puerto Rico. A number of legitimate concerns about this program helped lead to a gradual phase-out of the program from 1996 to 2006. Manufacturing employment on the island, particularly in the pharmaceutical industry, peaked in 1995, just before the phase-out of Section 936 began, and has steadily declined since then. The phase-out of Section 936 also coincided with an apparent de-coupling of Puerto Rico’s economy from the US economy. As see in Figure II, Prior to 2006, Puerto Rico GNP was growing at a slower, but similar pace to U.S. GDP. However, around 2006, Puerto Rico’s GNP began to sink, despite continued growth in U.S.GDP. While the Great Recession caused U.S. GDP to decline sharply in 2009, almost matching the drop in PR GNP, the U.S. economy rebounded quickly and has shown positive growth ever since. In Puerto Rico, an influx of Federal funds in 2012 caused positive growth for one year, but the economy has continued to shrink every year since then.

**Figure II**



Source: Puerto Rico Planning Board, US Bureau of Economic Analysis

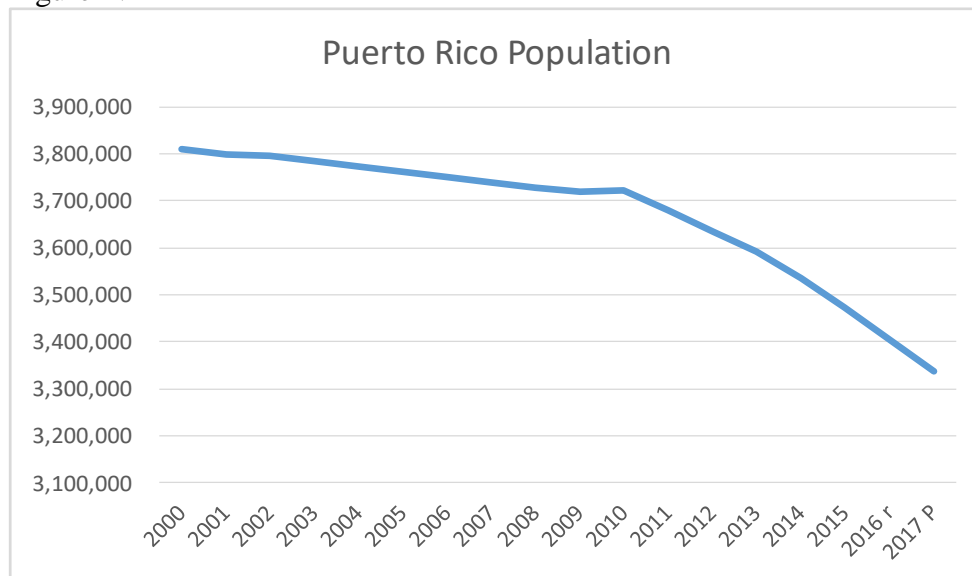
Figure III



Source: U.S. Bureau of Labor Statistics (BLS)

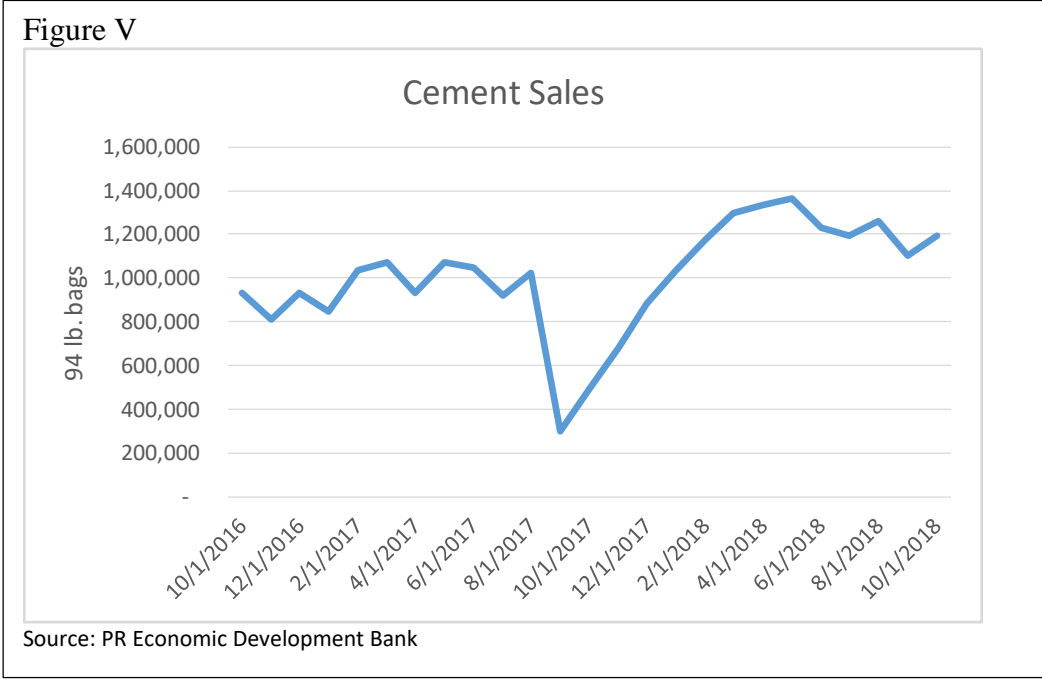
The overall trend in total employment is very similar to the EAI graph in Figure I. As seen in Figure III, total employment in Puerto Rico has been declining for most of the last ten years. However, employment has seen an increase in recent months as recovery from the hurricanes has spurred significant repair work and infrastructure spending. The unemployment rate on the island is a bit more unexpected. Puerto Rico suffers from a high poverty rate and a low workforce participation rate (40.3% in Puerto Rico as of October 2018 versus 62.9% for the U.S.). The island also has a large informal economy that does not show up in employment statistics. As a result, the official unemployment rate in Puerto Rico has long exceeded 10%. Despite the ongoing recession, however, the unemployment rate has been declining in recent years. In fact, the most recent reading shows an unemployment rate of 8.0% as of October 2018.

Figure IV

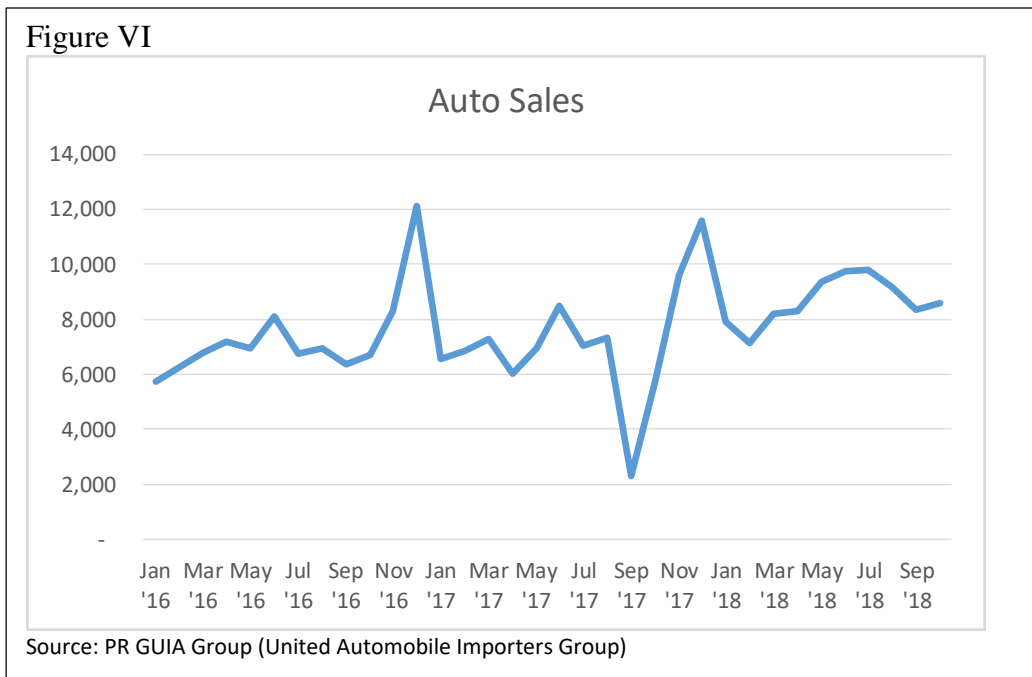


Source: US Census Bureau

Of course, the other side of the unemployment rate equation is the labor force. Despite the steady drop in Puerto Rico’s total population in recent years, the civilian labor force has remained fairly steady. Likewise, total employment has not changed much over the last few years. However, the number of unemployed persons in Puerto Rico has fallen. This has resulted in the decline we are seeing in the unemployment rate. Puerto Rico only rarely posts a single-digit unemployment rate. The 8.0% rate recorded for October 2018 is very low by Puerto Rico’s historical standards.



Some measures of the Puerto Rico economy have bounced back very strongly since the hurricanes. We will point out two of these: cement sales and auto sales. Cement sales, which are a component of the Economic Activity Index, have shown strong growth over the past year. With most buildings on the island constructed with cement, it makes sense that the rebuilding effort would stimulate higher cement consumption. As demonstrated in Figure V, cement sales for most of 2018 exceeded the pre-hurricane levels of 2016 and 2017.



The same logic applies to auto sales. Many residents saw their vehicles damaged or destroyed in the hurricanes. The need for a vehicle to get to work, aided by insurance payments, quickly drove auto sales in Puerto Rico to higher levels than before the hurricanes, where they have remained.

### Ground Level Observations:

I, Joe Gladue, recently moved to Puerto Rico. Though I was not here during the hurricanes, being here on a day-to-day basis has given me some unique insights into the ongoing challenges posed by the destruction from the hurricanes coupled with the government's uncertain financial situation.

Upon my arrival in June, I spent a few months in living in Santurce, an older neighborhood not far from the Condado tourist area and the convention center district. From this vantage point, I could still see significant damages caused by the hurricanes and the significant challenges that needed to be overcome for a full recovery. The neighborhood I stayed in was a mix of residential, retail, and commercial, with lots of small businesses, including auto repair shops, neighborhood grocery stores, bars, restaurants, and laundromats. There were many buildings in the neighborhood that showed significant storm damage and others that were unused and/or abandoned. It is unclear how many of these buildings were unused due to the impact of the storms and how many had been unused prior to the hurricanes, but in either case, they were a drag on the community.

In terms of public services, the aftermath of the storms was also readily apparent. Traffic signals at numerous major intersections were still not working even a year after the event. Amazingly, drivers seemed to make it work even without the signals or anyone directing traffic. Potholes were a significant driving hazard as well. In fact, the entrance to the street I stayed on had a pothole that was probably six feet wide and 8" or 10" deep. Private citizens tried to fill this pothole with rubble on several occasions, but rain and heavy traffic combined to flush all of the filler material out in a short time.

Despite the difficulties, there were also signs of significant activity. Small scale reconstruction activity on private homes and small businesses was fairly constant. There is a vibrant artistic community in this area that seemed to draw a lot of interest. In fact, the street I was staying on was closed one day for filming an episode of Spike Lee's Netflix series *She's Gotta Have It*.

It was interesting to see the impact the artistic community had on this one neighborhood. There have been several art festivals since my arrival in San Juan, but the big festival – called Santurce Es Ley – occurred in mid-December. This festival, draws mural artists from around the world to come paint murals on many of the buildings in this section of town. During the festival, many other artists and craftsmen, as well as many food & drink, t-shirt, and other vendors, set up temporary shops in the neighborhood. Popular bands keep the crowds coming late into the night. While the festival and the art were interesting by themselves, they provided a significant economic boost during the brief run of the festival. In addition, we also saw some longer-term impacts. A number of businesses and restaurants that had been closed since Hurricane Maria were re-opened in time for the festival, and several buildings that had been unused, either before or as a result of Hurricane Maria, were reclaimed and put back into use. Since this festival and several smaller ones are annual events, the ongoing activity seems to have spurred some real estate investors to bet on the revitalization of the neighborhood by buying up properties. While most of the activity in the area was driven by the private sector, we believe the festival even spurred the government to finally fix the previously mentioned huge pothole at the top of the street, which was paved over the day before the festival began. Clearly this is a small piece of the puzzle in getting Puerto Rico back on its feet, but it was very encouraging to see this activity up close. We believe it demonstrates the significant drive and entrepreneurial spirit of the neighborhood and the progress that can be made even without significant government assistance.

### **Technology Talent:**

To the extent people in the U.S. mainland think about Puerto Rico, we suspect few of them associate the island with technology or innovation. Since our arrival here, however, we have found a fairly vibrant community of entrepreneurial activity, start-ups, technological knowledge, and innovation. Of course, there are some well-known tech companies that got their start in Puerto Rico, including Evertec, Inc. (EVTC), the transaction processing business that operates throughout South America and the Caribbean, and PACIV, Inc., which provides process automation, controls and instrumentation to the biotechnology, pharmaceutical, and medical device industries. There is also an environment promoting the growth of smaller technology companies.

I utilize a co-working space run by Piloto 151 in San Juan. In addition to providing office space, Piloto 151 also runs coding boot camps and a program promoting women in technology. The environment they have created seems to draw a lot of entrepreneurs. I have also had a chance to visit with the folks at Parallel 18, a world-class incubator program also located in Santurce. Parallel 18 conducts an accelerator program that draws entrepreneurs from around the world to Puerto Rico. While some of the graduates of this program move back to their home countries or elsewhere after the conclusion of the accelerator program, many of them remain in Puerto Rico and continue to pursue their growth from here. We hope to provide a more in depth look at what Parallel 18 does in a future edition of this publication. For now, we'd like to profile one of the companies that graduated from one of its first accelerator classes.

## **Technology Focus**

*Many people in the U.S. mainland have a picture of Puerto Rico as a third-world country, with low levels of educational achievement, inadequate modern infrastructure, and little in the way of technological advancement, innovation, or entrepreneurial spirit. In this segment, we aim to shed some light on people and activities that may run counter to this perception.*

## **Abartys Health**

Abartys was formed in 2015 by Dolmarie Mendez and Lauren Cascio. The company was formed to provide a centralized system for holding patient and provider data and delivering that data in a fast, efficient manner. Hospitals, health care providers, insurance companies, and pharmaceutical companies all seem to have their own systems and terminology. In many cases, the systems are obsolete and none of the systems talk to each other. Patients, meanwhile, do not have convenient, portable access to their health records, particularly when multiple providers are involved. Abartys built its system to solve these issues.

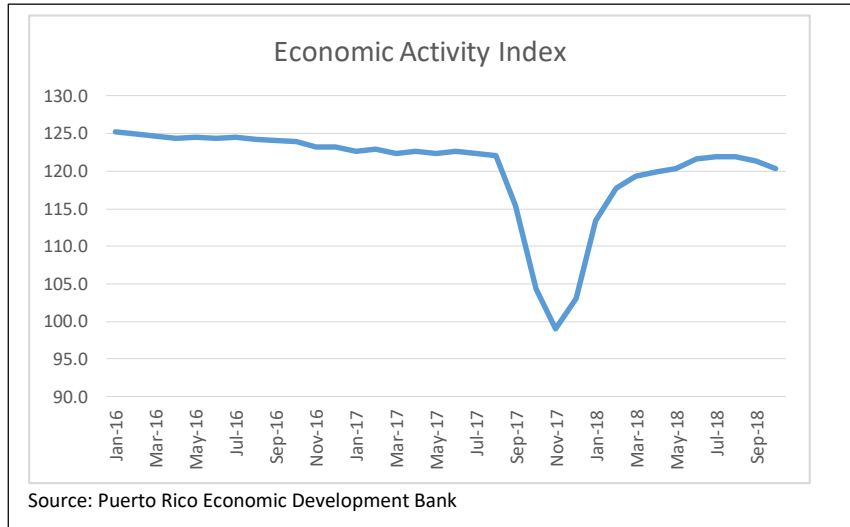
By providing a centralized patient-provider data delivery system, Abartys allows insurance providers deeper insight into treatment trends, outcomes, and costs. While usually, insurers see only issues that result in a claim, the Abartys system now allows the insurer to see the full spectrum of health issues at the patient level at the provider level, or an even wider basis. This can help insurers determine coverage options, cost outliers, and even help uncover fraud and abuse. For providers, the Abartys system allows providers to see the full spectrum of a patient's healthcare history and treatments from other providers. Patients can see this data as well. Even pharmaceutical companies can utilize the system to monitor health trends and treatment outcomes.

Originally, Abartys' founders envisioned the system as a complete package with functionality for insurers, providers, and patients. However, it became apparent that some users wanted to use just one facet of the system's functionality, and this led to the release of three separate, but interconnected products: InsureLynk, ProviderLynk, and PatientLynk. The company's products incorporate AI (artificial intelligence) and blockchain technologies that enable advanced analytics and data security.

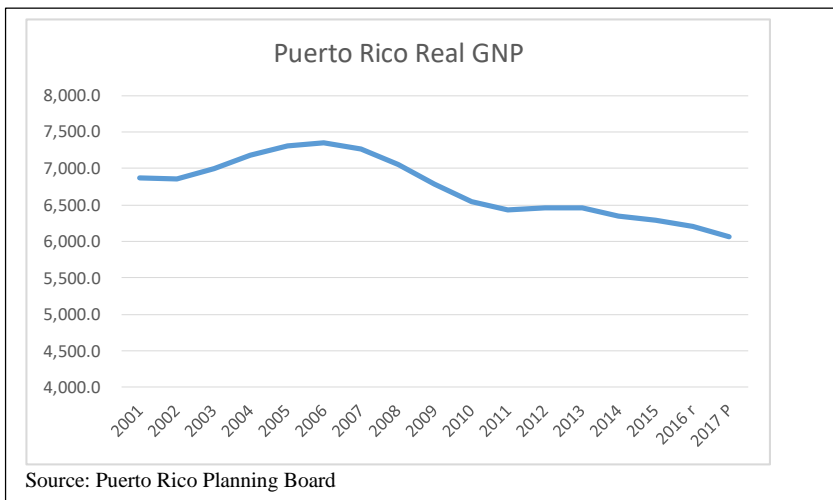
Abartys Health got some early help from Parallel 18, a technology incubator that provides \$40,000 of equity-free funding for start-ups along with mentoring, consulting and investor access. We'll discuss Parallel 18 in more detail in future notes, but Abartys credits Parallel 18's five-month program with jump-starting the company's development and helping significantly refine its focus.

After graduating as part of Parallel 18's second cohort of start-ups (where Abartys was one of two winners of the "Demo Day" award for that cohort, chosen by a jury of international investors), Abartys went on to win the Release It start-up competition at the 2017 SXSW (South-by-Southwest) Conference in Austin, TX.

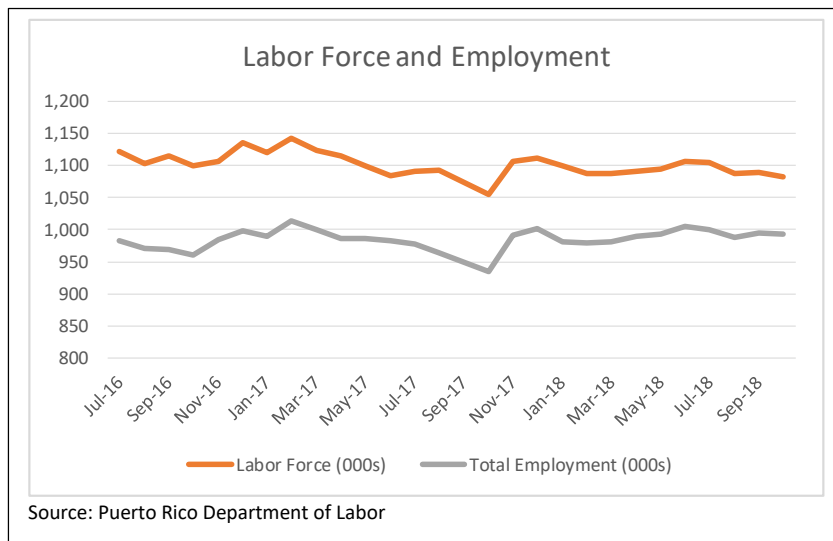
Abartys currently has almost 1 million providers/members enrolled in Puerto Rico and the United States. The company employs 17 people - mostly engineers/development, and it has 9 clients, mostly in the insurance industry, but also including a pharmaceutical company. The company is currently self-funding, meaning it earns enough money from product sales to fund its operations, though the company has raised a total of \$2.1 million in funding in an angel round and a seed round. The company's products have the capacity to become indispensable to users and the ability to foster follow-on sales of additional functionality.



The EAI has rebounded strongly from the Impact of Hurricanes Irma and Maria, but the rebound has stalled in recent months.



GNP has been on a steady downward trajectory since 2005.



Despite disruptions from the Hurricanes, employment in Puerto Rico has firmed in 2018



# Puerto Rico Economic Review and Opportunity Survey

## Key Puerto Rico Economic Statistics

	2017			2018												Mo/Mo Chg (%)	Yr/Yr Chg (%)	
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.			
<b>Economic Activity Index (EAI) <sup>1</sup></b>	104.3	99.0	103.0	113.4	117.8	119.3	119.9	120.4	121.7	121.9	121.9	121.4	120.4			-0.8%	15.4%	
<b>EAI Components</b>																		
Total Non-Farm Payroll Employment (000s) <sup>1</sup>	830.6	841.9	832.7	850.1	852.7	850.2	853.8	853.2	851.0	858.5	861.5	852.0	847.7			-0.5%	2.1%	
Electric Energy Generation (mm kWh) <sup>1</sup>	285.3	787.2	1,073.8	1,234.8	1,223.6	1,374.6	1,409.2	1,441.2	1,530.2	1,553.9	1,519.8	1,558.0	1,483.9			-4.8%	420.1%	
Gasoline Consumption (mm Gallons) <sup>1</sup>	77.1	83.7	94.0	98.2	93.1	79.5	88.6	82.5	89.4	83.4	75.7	79.0	80.4			1.8%	4.3%	
Cement Sales (000s of 94lb bags) <sup>1</sup>	477.7	718.1	1,041.2	1,111.7	1,161.6	1,229.2	1,271.1	1,246.7	1,197.3	1,185.2	1,192.7	1,223.1	1,110.1			-9.2%	132.4%	
<b>Employment</b>																		
Civilian Population (000s) <sup>2</sup>	2,738	2,732	2,728	2,724	2,719	2,714	2,702	2,702	2,695	2,694	2,693	2,688	2,686	2,683.0			-0.1%	-1.8%
Labor Force (000s)	1,055	1,107	1,111	1,099	1,087	1,087	1,091	1,095	1,107	1,105	1,087	1,089	1,082	1,075			-0.6%	-2.9%
Total Employment (000s)	935	992	1,001	981	979	981	989	993	1,005	1,000	988	995	993	993			0.0%	0.1%
Unemployment (000s)	120	114	110	118	109	107	102	102	105	105	99	93	89	81			-9.0%	-28.9%
Unemployment Rate (%)	11.4%	10.3%	9.9%	10.7%	10.0%	9.8%	9.3%	9.3%	9.2%	9.5%	9.1%	8.5%	8.2%	7.5%				
Participation Rate (%)	38.5%	40.5%	40.7%	40.3%	40.0%	40.1%	40.4%	40.5%	41.1%	41.0%	40.4%	40.5%	40.3%	40.0%				
Puerto Rico General Fund Net Revenues (\$000s) <sup>7</sup>	468,981	570,726	697,558	584,585	671,174	941,330	1,443,074	901,425	1,142,520	741,076	670,325	832,978	738,959			-11.3%	57.6%	
Retail Sales (\$000s) <sup>3</sup>	3,290,518	2,838,732	3,418,519	2,845,236	2,587,367	2,879,596	2,607,409	2,947,681	2,913,097	3,028,804	3,011,810					-0.6%	13.8%	
New Auto Sales (Fleet & Non-Fleet) <sup>9</sup>	5,635	9,345	11,336	7,720	6,826	8,024	8,105	9,152	9,596	9,724	9,156	8,335	8,594			3.1%	52.5%	
Bankruptcies <sup>6</sup>	199	398	512	547	542	670	652	716	639	642	696	661	687	593			-13.7%	49.0%
Foreclosures <sup>8</sup>	17	27	57	110	187	204	161	124	150	164	329	405	481			18.8%	2729.4%	
<b>Tourism</b>																		
Non-Resident Hotel & Paradores Registrations <sup>3</sup>	29,916	52,715	65,244	68,958	78,679	103,357	96,782	100,157	121,628	123,721	115,089					-7.0%	-31.4%	
Occupancy Rate: Hotels & Paradores (%)	79.3%	82.1%	77.3%	80.7%	83.6%	80.7%	73.4%	71.2%	76.4%	74.9%	69.5%							
Passenger Movement at LMM Airport <sup>4</sup>	421,994	467,246	645,845	612,266	550,287	705,553	695,954	710,605	871,636	942,368	757,748	526,761					-30.5%	142.2%
Cruise Ship Passengers (San Juan) <sup>4</sup>	12,172	44,229	149,979	162,843	120,557	133,660	134,432	107,390	134,903	127,327	134,274	102,502	133,991	163,656			22.1%	270.0%
<b>Quarterly Mortgage Loan Originations</b>																		
	2015	1Q16	2Q16	3Q16	4Q16	2016	1Q17	2Q17	3Q17	4Q17	2017	1Q18	2Q18	3Q18				
Mortgage Loan Originations # <sup>8</sup>	21,428	4,304	4,943	4,928	4,718	18,893	4,285	4,405	2,898	2,144	13,732	3,098	3,739	3,580			-4.3%	23.5%
Mortgage Loan Originations (\$000s) <sup>8</sup>	3,467,312	677,172	787,193	797,742	757,782	3,019,889	956,608	803,929	631,875	385,370	2,777,782	542,440	706,439	708,460			0.3%	12.1%
<b>Annual Population Change</b>																		
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016 r	2017 P				
Puerto Rico Population (000s) <sup>5</sup>	3,773	3,761	3,750	3,739	3,729	3,719	3,722	3,679	3,634	3,593	3,535	3,473	3,407	3,337				
Annual Change (%)	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	0.1%	-1.1%	-1.2%	-1.1%	-1.6%	-1.7%	-1.9%	-2.0%				

### Sources:

- 1 - Economic Development Bank for Puerto Rico
- 2 - Puerto Rico Department of Labor & Human Resources
- 3 - Puerto Rico Planning Board
- 4 - Puerto Rico Ports Authority
- 5 - U.S. Census Bureau
- 6 - U.S. Bankruptcy Court for the District of Puerto Rico
- 7 - Puerto Rico Treasury Department
- 8 - Office of the Commissioner of Financial Institutions (mortgage loan data includes both banks and non-depository mortgage institutions)
- 9 - PR GUIA Group (United Automobile Importers Group)

**Disclosure Appendix**

**Analyst Certification:**

I, Joseph Gladue, the primary analyst covering this issuer, certify that: 1) all of the views expressed in this report accurately reflect my personal views about the subject security or issuer, and 2) no part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this report.

**Risk Factors:**

The realization of any or all of the following risk factors, among others, may adversely affect the company’s stock price and prevent it from reaching our target price, if one is established:

- a weakening of the United States economy and the regional and local economies in which the company conducts operations
- unanticipated loan losses or securities-related losses
- a weakening of local real estate markets or the soundness and liquidity of the securities market for real-estate backed assets
- failure to maintain sufficient excess capital or liquidity to conduct operations
- the effects of trade, monetary, and fiscal policies and laws, including interest rate policies of the Board of Governors of the Federal Reserve System
- the effects of increased inflation, a flatter yield curve, or increased volatility in financial markets
- inability to attract core deposits or continue to obtain third party financing on favorable terms
- adverse legal action against the company or litigation initiated by the company
- inability to successfully integrate acquired operations or to maintain sufficient excess capital post the close of a transaction

**Investment Rating Definitions:**

Investment ratings reflect the analyst’s assessment of the subject stock’s return potential relative to the NASDAQ Bank Index. There are three investment rating tiers:

- **Outperform/Buy:** The subject stock’s total return is expected to exceed the return of the NASDAQ Bank Index by 10% or more over the next 12-month period.
- **Neutral/Hold:** The subject stock’s total return is expected to be comparable with the return of the NASDAQ Bank Index over the next 12-month period.
- **Underperform/Sell:** The subject stock’s total return is expected to be less than the return of the NASDAQ Bank Index by 10% or more over the next 12-month period.

**Investment Rating Distributions (as of December 31, 2018)**

<b><u>Rating Categories</u></b>	<b><u>All Covered Companies</u></b>		<b><u>Investment Banking Services Provided in the Last 12 Months</u></b>	
	<b><u>Count</u></b>	<b><u>% of Total</u></b>	<b><u>Count</u></b>	<b><u>% of Category</u></b>
Outperform/Buy	13	72%	0	0%
Neutral/Hold	5	28%	0	0%
Underperform/Sell	NA	0%	0	0%
Total	18	100%		

**Other Important Disclosures:**

Alden Securities is the trade name used by J. Alden Securities, Inc. J. Alden Securities, Inc. is a FINRA-registered broker-dealer.

Alden Securities expects to receive compensation for investment banking services from the subject company in the next three months and/or seeks to receive such compensation.

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Target prices, if applicable, are derived from our 12 Month Valuation Assessment. Our 12 Month Valuation Assessment is based on a blend of several relative value methodologies.

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