

Economic impact of a minimum wage increases in Puerto Rico



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Executive Summary

All societies desire the wellbeing of their citizens and wages are one of the many criteria used to measure it. Despite decades of experience and economic research, debates about the costs and benefits of establishing minimum wages continue today. Such debates have not prevented most countries from approving minimum wage laws and thus, the discussions now mostly focus on how to determine an “adequate” minimum wage that balances the alleged benefits of having a wage floor while minimizing the detriments of possible inflation, loss of jobs and preserving international competitiveness.¹ Evidently such analysis cannot occur in a vacuum and needs to consider the economic reality of each country or jurisdiction.

Since 1995, Puerto Rico has been under the US federal minimum wage structure even though its economic and wage structure is substantially different and in recent years the gap between both economies has widened. Puerto Rico has been in a recession since 2006 battered with different events including a credit downgrade, removal from the financial markets, government bankruptcy, a Fiscal Oversight and Management Board imposed by the U.S. Congress, two category-5 hurricanes, earthquakes, and a pandemic. In that period, the economy has contracted almost 20% with over 600,000 residents migrating to the mainland.

The number of small and medium size businesses that have closed is still undetermined, but it is estimated that 5,000 closed after hurricanes Irma and Maria, and another 10,000 are struggling because of the lockdowns due to the pandemic. While citizens have received some relief from the federal government in the form of paychecks, businesses have not been able to receive any funding outside the PPP loans. Furthermore, consumers have changed their consumption habits, which has led to more online shopping and an inclination towards larger chain stores.

Even before some of these events, there was a wide consensus that the Island’s economic situation warranted urgent treatment. Nobel Prize winner economists such as Joseph Stiglitz, that usually favor increases in the federal minimum wage, publicly expressed doubts that Puerto Rico should be included in the discussions happening in the US.² Previously, reports like the Brookings Institution in 2006 discussed this same issue.³ In 2015, The Krueger Report went further recommending Puerto Rico should seek an exemption to the federal minimum wage⁴ which Congress later included under Section 403 of PROMESA. More recently, in 2019 Puerto Rico was excluded from federal labor regulation changes that raised the wage requirements for exempt employees in a recognition of the Island’s completely different wage structure.

¹ For example, in 2019, before the pandemic and while the US Economy was in clear expansion, The Congressional Budget Office examined how increasing the federal minimum wage to \$10, \$12, or \$15 per hour by 2025 would affect employment and family income. At \$15 an hour 1.3 million other workers would become jobless, according to CBO’s median estimate.

² Presentation, Debt, Austerity and Growth: There is Another Way, April 6, 2017.

³ *The Economy of Puerto Rico, Restoring Growth*; Edited by Susan M. Collins, Barry P. Bosworth, and Class June 22, 2006.

⁴ KRUEGER, TEJA, AND WOLFE, 2015, A Way Forward: The US federal minimum wage of \$7.25 per hour is too high relative to local incomes and regional competitors. Puerto Rico should seek an exemption until such time as its per capita income approaches that of the poorest US state, which currently is still 50% higher than Puerto Rico’s. If full exemption is not possible, then an alternative might be to set the rate for Puerto Rico at one---third the general rate (per capita income in Puerto Rico is about one---third that on the mainland).

Notwithstanding, Congress and the local government have renewed talks for an increase in the minimum wage and a reversal to the 2017 labor reform. While data shows wages on the Island are significantly lower than in the mainland, any new discussion on this subject needs to reconsider the structural differences between each economy and the fact that those differences have been widening. There is no one-size-fits-all minimum wage rate, as arbitrary figures, such as the popular \$15 target, are well out



of sync with the market price for labor in different states. Thus, proposals to increase wages on the Island must first tend to the structural problems that keep wages down in the Island so that ideally the brunt of any increases occurs endogenously and not imposed.

In addition to the difficulties presented by the recession, hurricanes, earthquakes, and the lockdowns due to the pandemic, businesses located in Puerto Rico have higher costs than their counterparts in some states. Energy, permits, water, taxes, and others are some of the higher costs that businesses must cover. Although temporary, this discussion is happening while most businesses are complying with the government's executive orders related to the pandemic forcing them to decrease patrons, increase their operating costs investing in sanitation, and are struggling not to lose customers to other platforms. Many of those businesses have kept operating only because of the federal Payment Protection Program (PPP) loan subsidy.

One of the most influential principles in economics is that “[there’s] no such thing as a free lunch”, meaning that economic changes, such as those related to wages, will need to be paid somehow. The Puerto Rico Planning Board estimated in 2018 that a \$15hr minim wage would require an increase in wages of over \$5.2 billion. With no real economic growth in over a decade to justify it, we would need other possible sources. Wage increases could be a factor of productivity increases so we evaluated if that could offset any increases. Data shows that is not the case on the Island. If by contrast wage increases are not based on growth and productivity increases, then they will need to come either from the employer earnings, if any considering the recession previously described, or from price increases which feeds into a negative spiral of cost of living increases and lack of competitiveness of local businesses. Moreover, employers could reduce employment, also an unintended and undesired consequence.

Conversations to increase wages in the U.S. started before the pandemic, since much of the salary on the mainland is well above the minimum. Minimum wage increases are intended to bring those few jobs lagging closer to the norm. That is why it is called a ‘minimum’ and not a median” or “average” wage. For example, the last time an increase was implemented between 2007-09, it affected only about 3 to 4% of the job market that was still at the previous minimum wage. At the time, the Labor Department said only 479,000 workers paid by the hour earned exactly \$5.15

in 2005.⁵ And even then, the increases came with aid packages for businesses to compensate the impact.⁶

Unfortunately, in Puerto Rico those federal tax breaks did not apply and no similar packages were provided locally. Although many factors contributed to the economic recession that began in 2006, the parallel increases in operational costs included significant increases in wage costs such as minimum wage and the Christmas Bonus.

This report shows that the Puerto Rico economy is not in an adequate position to absorb any impact of minimum wage increases at this time, specially of the magnitude being considered at the federal level. Regardless of the economic and policy debate surrounding minimum wages in general, there can be no doubt that the fundamentals of the Puerto Rico economy and its wage structure require differential treatment than in the mainland. In addition to adapting any federal wage policy to Puerto Rico circumstances, policymakers need to focus on fomenting productivity increases, significant cost reductions, promoting economic growth and making sure that equivalent tax breaks or aid apply to local business to avoid more job losses and inflation.

Brief History of Minimum Wage in Puerto Rico

Puerto Rico's first Minimum Wage Act was Act No. 8 of April 5, 1941. This law authorized the Minimum Wage Board to determine minimum wages for all industries in Puerto Rico. It also established that the Board could determine working conditions such as vacation and sick leave, length of working day and week, meal period, discount for meals, uniforms, etc., for each industry.

Later amended by Act No. 96 of June 26, 1956, known as the Minimum Wage Act of Puerto Rico, requiring that all employees in Puerto Rico, except for executives, professionals, administrators and domestic employees, were covered by this Act. Minimum wages, vacation, and sick leave were determined by minimum wage committees appointed by the Chairman of the Board. Employers, employees, and the public interest were equally represented in these committees. After public hearings were held, a proposed mandatory decree was submitted to the Board. No amendments could be made by the Board. It could only approve or reject it. If it was approved, the decree became effective 30 days after its publication in a newspaper of general circulation. If it was rejected, wholly or in part, the Board had the option of either resubmitting it to the same committee for revision stating the reasons for rejection or appointing a new committee. The Board was empowered to revise the industries every two years.

Amendments to the Federal Fair Labor Standards Act in 1974 put Puerto Rico on the road to parity with the US but it was Act No. 84 of July 20, 1995, 29 LPRA §245, that established that the public policy of the Commonwealth of Puerto Rico will be that in the future any increase in the federal minimum wage be applicable to Puerto Rico in the same manner as in the United States.⁷

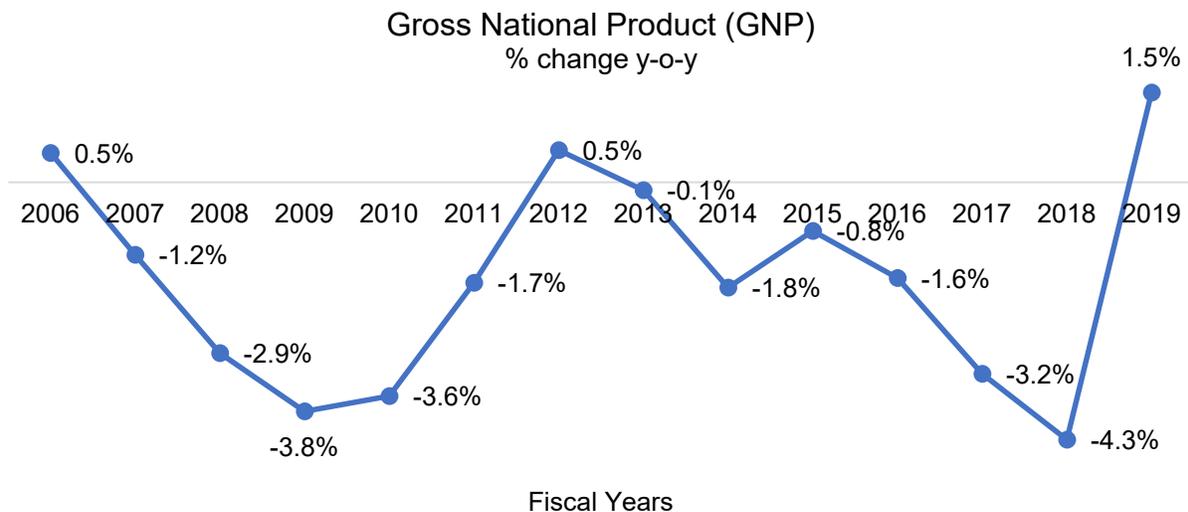
⁵ [U.S. House passes minimum wage increase - Indiana Daily Student \(idsnews.com\)](http://www.idsnews.com)

⁶ At the time 32 states and Washington, D.C., already had a higher minimum wage.
https://money.cnn.com/2007/07/23/news/economy/minimum_wage/

⁷ Labor Legislation in Puerto Rico, by the PR Manufacturers Association, 2010.

Puerto Rico's Macroeconomic Situation

Since 2006 Puerto Rico has been in a recession when an exemption for manufacturers in the island under Section 936 of the IRS Code expired. In 2009 and 2010 the economy went through its worst period with dips of -3.8%⁸, and -3.6% due to its close ties with the US economy and the financial crisis of 2008. The following years it saw an increase in output due to \$7 billion in transfers of federal funds under the American Recovery and Reinvestment Act (ARRA) of 2009. Once the federal funds ended, the economy reneged into a recession. As of 2006, the real GNP had shrunk over 14%.



Graph 1: Gross National Product
Source: Statistical Appendix 2019

A year after section 936 finally came to an end Puerto Rico started to suffer the effects of the Global Financial Crisis. From 2007 to 2010 Puerto Rico lost 20% of all banking branches. In that same period Commercial, Industrial and Agricultural Loans & Leases by commercial banks would decrease 46% or about \$8.6 billion, indicating a significant decline in investment within those sectors.

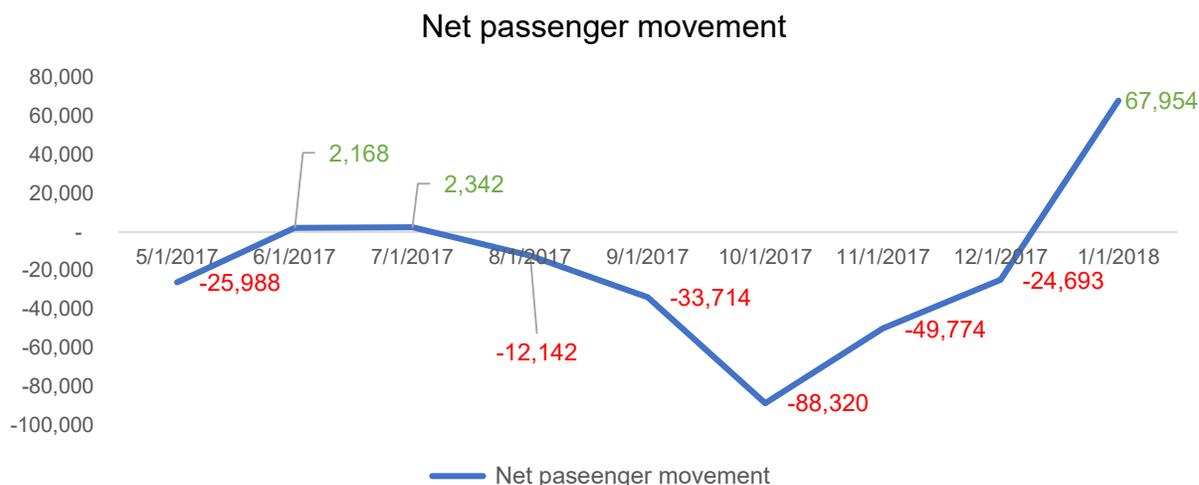
As a result, Puerto Rico would not experience GNP growth until 2012 which can be attributed to the \$7 billion dollars in aid approved by the federal government as part of the American Recovery and Reinvestment Act in 2009 (see Graph 1). Although it did cause GNP growth, it only did so in 2012 with a 0.5% growth.

In February 2014, Puerto Rico's access to capital markets was closed after its credit was downgraded to "junk" status. In 2015 Puerto Rico's agencies defaulted with investors, followed by a government default in 2016. Due to the continuous hurdles in the economy, Congress enacted the Puerto Rico Oversight, Management and Economic Stability Act (PROMESA) and

⁸ GNP measurement.

created the Fiscal Oversight and Management Board of Puerto Rico (FOMB).⁹ The Oversight Board is tasked with restructuring Puerto Rico's debt and achieving fiscal balance as to regain access to capital markets. Nevertheless, the island declared bankruptcy under Title III of PROMESA in May 2017.

In 2017 Puerto Rico was hit by two category 5 hurricanes, Irma and María. Damages were estimated to be \$90 billion, making hurricane Maria¹⁰ the costliest hurricane in Puerto Rican history. This was specially devastating considering the 2016 GNP was just shy of \$70 billion USD and the second costliest hurricane in Puerto Rican history was Georges which according to NOAA caused \$5 billion in damages, 18 times less than hurricane María. Hurricane María sparked a wave of emigration in Puerto Rico.



Graph 2: Net passenger movement
Source: Ports Authority

New challenges: 2020

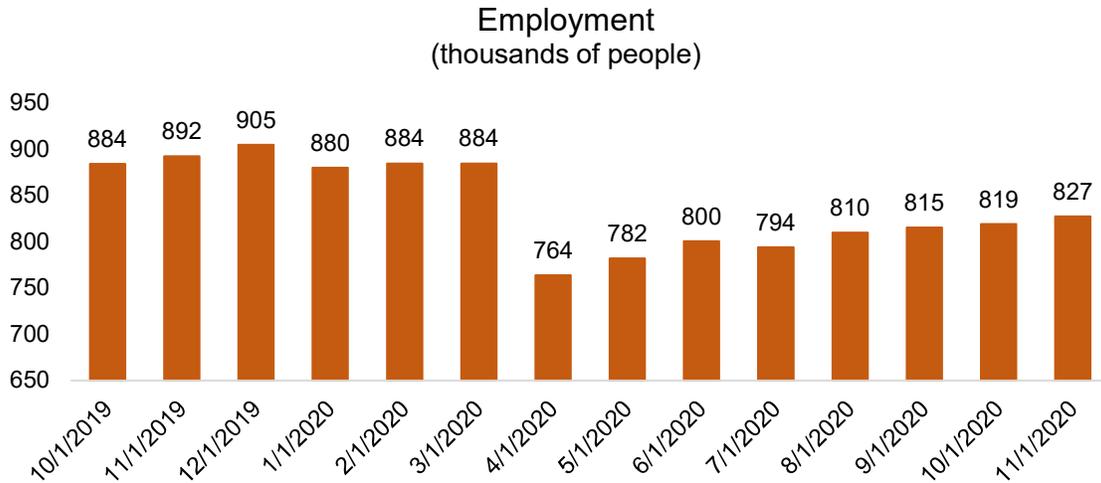
In January 2020, the Southern region of the Island was hit by a series of earthquakes causing thousands of people to lose their homes. According to local news outlets, the Secretary of the Department of Economic Development and Commerce estimated losses to be at \$75 - \$150 million per day.¹¹

Later in the year, the COVID-19 global Pandemic reached Puerto Rico and by March 2020 an executive order imposed a mandatory curfew into effect that would paralyze most of the economy. As a result, employment plummeted particularly in the tourism industry, who lost 42% of its employment from March to April 2020. In May, Puerto Rico posted the second largest unemployment rate in the country at 20.6%, Nevada leading at 22.6%, Hawaii in third at 18.3%.

⁹ Related to the current analysis it is important to note that Section 403 of PROMESA, Public Law 114-187 on 6/30/2016, recognized the federal minimum wage was an issue and authorized the Governor and the Oversight Board to reduce the minimum wage applicable.

¹⁰ Estimates by the NOAA, Moody's and Inteligencia Económica.

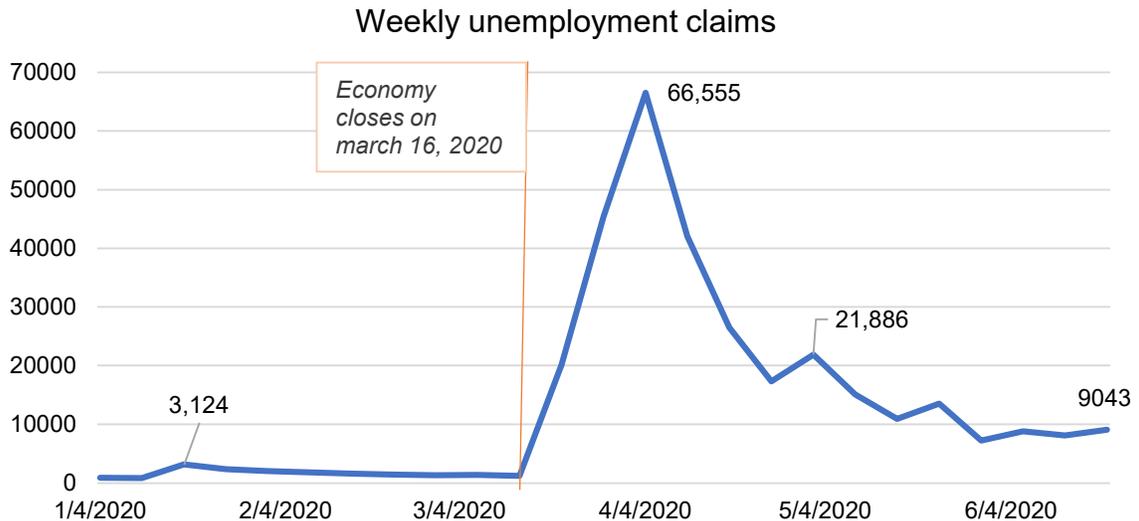
¹¹ El Nuevo Día. *Intentan revivir la economía del suroeste tras los terremotos*. January 11, 2020



Graph 3: Total employment – Not Adjusted.
Source: Bureau of Labor Statistics (BLS)

Additionally, weekly unemployment claims at its peak in April reached 66,555 making it the highest number of weekly unemployment claims since 2006 (see graph 4). Although government restrictions have softened and the economy is starting to pick up again, malls and restaurants, among others, are still open to the public at a fraction of their capacity.

We can expect the economy to begin to recover as the spread of COVID-19 slows down and economic restrictions begin to be lifted. Relief efforts from the Federal Government and agencies such as the Small Business Administration should help the Puerto Rican economy pick up again after being brought to a halt by the virus.



Graph 4: Weekly Unemployment Claims.
Source: Department of Labor

Nonetheless, the fact is that Puerto Rico has been in an economic depression since 2006, with over a 22% economic contraction and the few increases in the economy have been related to external factors like federal transfer funds. In summary, Puerto Rico has faced:

Evolution of local economy from 2006 to 2020

2006	In April starts an economic recession.
2006	In November starts a new Sales and Use tax, increasing prices on products for customers and increasing operational costs for small and medium businesses.
2007-2009	Yearly increases to the federal minimum wage combined with yearly increases in the mandatory Christmas Bonus.
2008	Global Financial Crisis started in the U.S. gave the island a hit in real estate and tourism. It took almost two and three years for these industries to recover.
2009	The US awards an economic stimulus package under the American Recovery and Reinvestment Act (ARRA) where PR was awarded \$7 billion and created a false sense of recovery that ended two years later.
2009	Act 7-2009 was enacted and led to the firing of over 30,000 public employees, directly impacting the labor market, consumption, and small and medium businesses.
2010	Bank consolidation on the island – The island went from having a variety of banks to currently only having three major banks, all after the FDIC intervened on other major banks to consolidate their operations. This created uncertainty in the financial industry, another hit to the economy.
2014	In February, Puerto Rico’s bonds were downgraded to junk. In March was the last bond emission of \$3.5 billion and was taken out of the market.
2015	In May, the local government increased the Sales Tax from 7% to 11.5%.
2015	In August, the government of Puerto Rico defaults for the first time in history in one of their payments.
2016	In July, President Obama signed into law the Puerto Rico Oversight and Management Economic Stability Act (P.R.O.M.E.S.A) which was a guideline for Puerto Rico to repay its debt and return to the markets. It also imposed an Oversight and Management Board.
2017	In March 2017, the government of Puerto Rico filed for bankruptcy under Title III of PROMESA.
2017	In September, hurricanes Irma and Maria ravaged the local economy causing over \$80 billion in damages. Over 5,000 businesses closed their door permanently in the following months. There still aren’t official numbers for the total damaged caused to small and medium size businesses (SMEs) in the long run after Maria.
2018	The months following the disaster, over \$20 billion was transferred to the economy between federal transfers, private insurance payouts, and more. This created a false recovery and economic growth of 1.5% during the fiscal year.

2018	Municipalities increased their property income taxes to their highest levels – some at 12%. Additionally, inventory taxes also increased.
2020	Between earthquakes and the pandemic caused by COVID-19 which led to governmental restrictions and a lockdown on businesses, SMEs specially have been directly impacted and it is estimated that 30% had to close permanently.
2020	In lieu of the lockdown and pandemic, the federal and local government created packages for economic stimulus of \$2 trillion and \$2 billion, respectively. Thus, creating an artificial economic growth.
2020	In June 2020, the government indicated an increase in the water bill until, at least, 2022. An increase of 2.8% for businesses, and 3.5% for industries.
2020	In the past years, the power bill has gradually increased but under the new PREPA privatization agreement, it could increase energy of up to 5%.

These events demonstrate the dire situation businesses are in because of government taxes and obstacles that increase operating expenses. This should also include:

- **Extensive waiting time for permits:** Starting a business in Puerto Rico can be costly timewise, as permits needed for construction can take up to 165 days to receive. Property registry can also be a hindrance when starting a business, as current laws stipulate a time limit of 90 days for government officials to finish the process, but in practice it can take up to 190 days.
- **Increase in taxes:** Tax rates on local businesses in Puerto Rico can be quite high when compared with other Latin American jurisdictions, reaching up to 37.5%. Also, a business’s inventory is considered part of their property for tax purposes, which effectively creates an inventory tax of up to 12% in some municipalities. **A dozen of new taxes or tax hikes have been imposed to deal with the structural fiscal crisis. The aggregate effect of these taxes amounted to \$25 billion over the last decade.**
- **Increase in public utilities such as electric energy and water:** The cost of commercial power in Puerto Rico has averaged 21 cents per kilowatt hour, compared with the average cost in the United States, which is 10.89 cents per kilowatt hour.
- **Cabotage Laws:** Puerto Rico imports most of their products from the US and is subject only to the Jones Act for only using US merchant ships. This dependence on costly US-based shipping can cost the island more than \$1.5 billion according to a recent study.¹² Hawaii and Alaska are also affected by the Jones Act and have lobbied Congress to repeal.

The effects of the recession in businesses and productivity

Economic productivity serves as an important measure of progress and efficiency in a particular economy. Productivity is defined as the ratio between economic output (GDP) and an input that goes into it (hours worked or total employment). Productivity has been steadily increasing in most

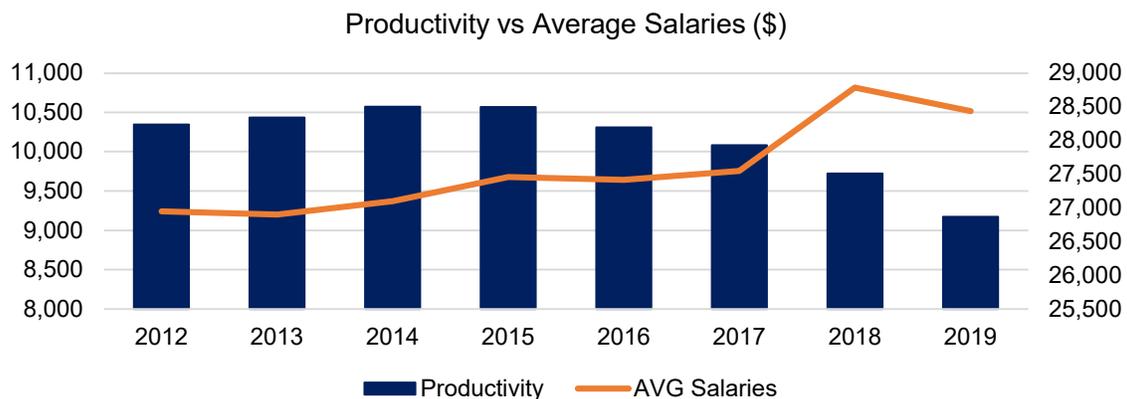
¹² The Jones Act, A Legacy of Economic Ruin, John Dunham & Associates, Feb 2019.

of the world thanks to technological advances that allow more work to be done in the same amount of time.

Advances in transportation, computers, and telecommunications allow for more output to be produced within an economy with the same number of hours worked or total workers. There tends to be a correlation between increases in productivity and economic growth.

As explained before, in the case of Puerto Rico businesses have struggled in the past decade to operate in the middle of an economic recession and increases in taxes. As seen in the graph below, net income of corporations has decreased in the past five years while corporate income tax revenue continues to increase. The costs of operating in Puerto Rico as a SME is extremely high.

Productivity also fell in the past years due to the instability of the job market, decrease in population and the loss of production because of the lack of energy after Maria. In the same period, average salaries increased from \$26,948 in 2012 to \$28,433 in 2019.



Graph 5: Productivity vs Average Salaries.
Source: Planning Board, Statistical Appendix 2019

A decrease in productivity is not necessarily linked to employee's performance. But the reality is that many businesses have closed or decreased employee's hours to mitigate the increases in

A jurisdiction that has been in economic recession for over a decade, has had over 15,000 small and medium businesses close, a decrease in productivity in the past five years, can hardly be expected to increase its minimum wage at all, but even less by over 100%.

The effects of the recession on small and medium businesses

Since an increase in minimum wage will directly impact small and medium size businesses, we've included a historical look at their behavior mid recession.

Looking at historical private employment data from the Bureau of Labor Statistics, we can attempt to see how firms behaved pre-2007 minimum wage increases and after it.

For the period 2001-2020, small businesses have made up 95.3% of all establishments in Puerto Rico, medium-sized businesses have made up 4.4%, and large businesses have made up 0.3% of all establishments.

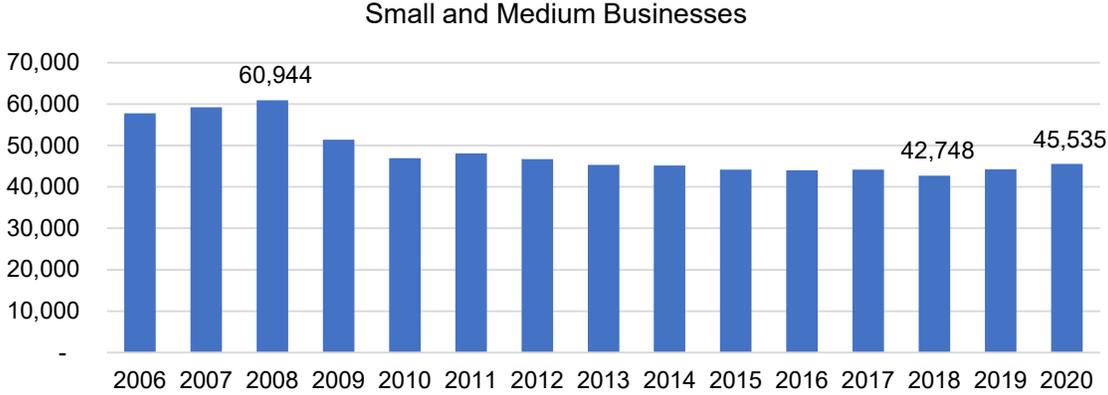
Year	Small Businesses	Medium Businesses	Large Businesses
2006	55,370	2,386	174
2007	56,943	2,316	156
2008	58,695	2,249	151
2009	49,337	2,085	141
2010	44,953	2,019	138

Table 1: Impact of minimum wage increase per business size.
Source: BLS

Last time there was an increase in minimum wage, local businesses were left out of credits given by the federal government, this caused small businesses to decrease by -15.6%, and -6.6% medium size businesses. A total of 9,522 businesses closed their door, the largest drop in establishments since the beginning of the recession. Depending on the minimum wage, and the credit packages provided to ease the impact, if this were to happen in 2021, a total of 6,900 small businesses, and 148 medium size businesses could close their doors, for a total of 7,084 establishments. This represents about 106,200 employees.

In a worst-case scenario, of an increase to a \$15 minimum wage, there could be up to 24,600¹³ establishments that would have to close, representing 369,400 employees directly impacted and had to either move to a different job, leave the country, seek unemployment, or move to the informal economy.

The Great Recession had a disproportionate effect on small businesses in Puerto Rico, affecting them at a much greater rate than medium-sized or large businesses. This lays out the vulnerability of these businesses to large scale demand shocks, such as what has happened in 2020 with the COVID-19 pandemic.



Graph 6: Small and Medium size businesses
Source: BLS

Since 2001 on average 42.5% of all private employees work for small businesses, 38.5% work for medium-sized businesses, and 19.5% work for large businesses. In the past 19 years, the proportion of small businesses has increased from 38.3% in 2001 to 43.5% in 2020.

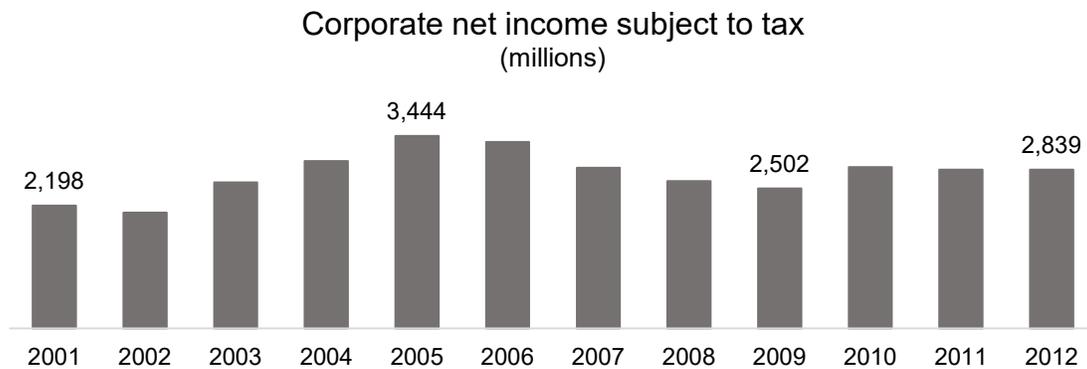
¹³ This estimate is based on two surveys conducted by Inteligencia Económica with two different associations, neither one being the client.

In 2020, there were 17,154 more employees in small firms than there were in 2001. There are 43,503 fewer employees in medium-sized businesses and 21,948 fewer employees in large firms.

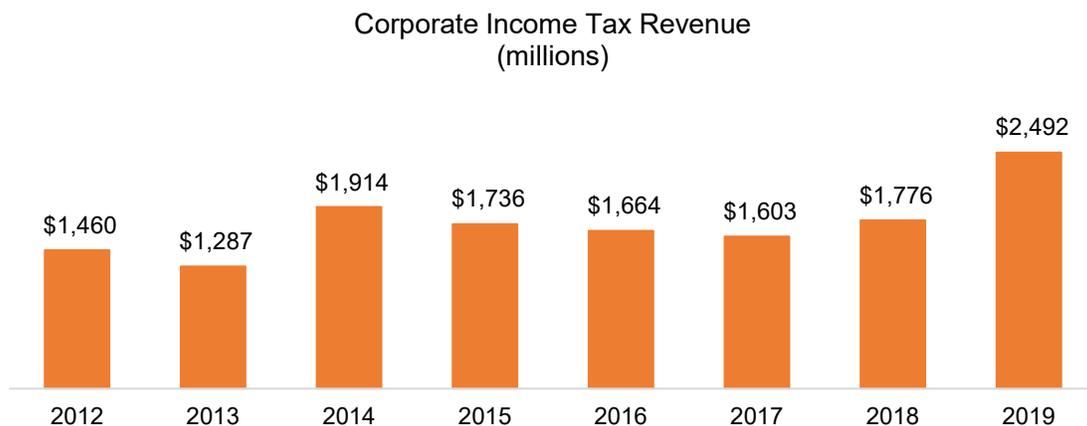
The effects of the recession in business net income

Businesses have struggled in the past decade to operate in the middle of an economic recession and increase in taxes. As seen in the graph below, corporate net income subject to taxation decreased significantly since the beginning of the recession due to a decrease in their net revenues. The collapse of the banking sector in 2010, which paid high corporate taxes, developers, supermarkets, SMEs, and the increase in operating costs affects that profitability.

On the other hand, corporate income tax continues to increase due to the number of additional taxes imposed by the government. While business' net income declines, the treasury Department continues to collect on corporate income tax. This has come to represent an average of 3.0% in the past years of total net income and increased in FY2018 to 3.3% and 4.5% in FY2019.



Graph 7: Corporate net income subject to tax
Source: Planning Board, Statistical Appendix 2019

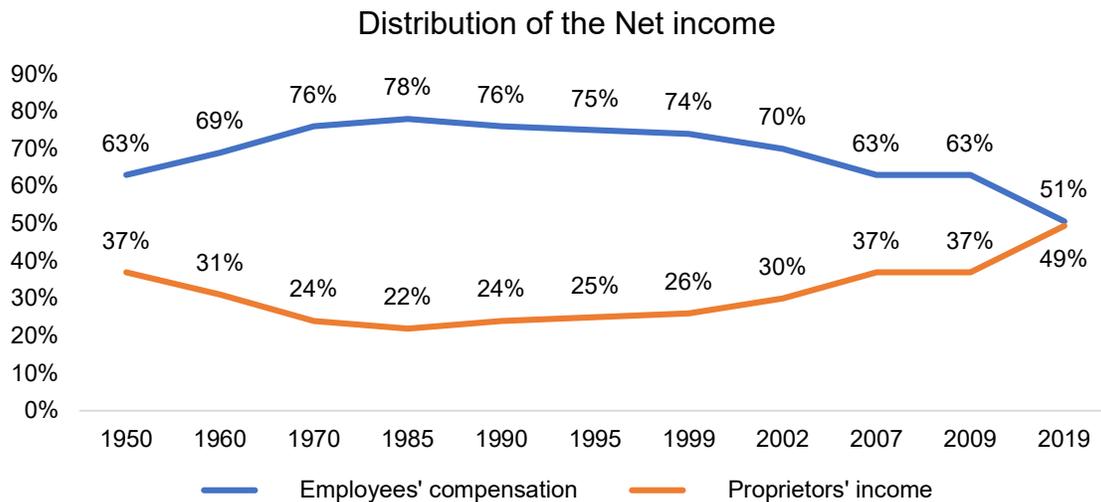


Graph 8: Corporate Income Tax Revenue
Source: Treasury Department.

The effects of the recession in proprietor's income

Proprietors income, which is the excess of revenue over explicit production cost of owner-operated businesses – including payments for labor, capital, land and entrepreneurship. In the past 70 years, proprietor's income has increased its percent from 37% in 1950 to 49% in 2020. While employee compensation decreased from 63% in 1950 to 51% to 2020.

The distribution of net income - without considering the income that was sent abroad - increasingly favored employees, since their participation increased from 63.4% to 77.5% between 1950 and 1985. Starting in 1985, a relative reduction in this participation or, what is the same, an increase in the "slice" of Net Income received by local owners.



Graph 9: Distribution of Net Income
Source: Planning Board, Statistical Appendix 2019

But net income, for both employees and proprietors, decreased during this period. Although proprietor's income shares increased, the aggregate amount decreased. This could be because of the dynamics of the manufacturing sector itself and, to a lesser degree, in sectors such as finance, insurance and real estate, which over the years have achieved a greater presence in the Puerto Rican economy.

Investors in the industries represented in these sectors - particularly those in manufacturing - demand an increasing proportion of the total income that the country generates.

Labor Market in Puerto Rico

U.S. labor law and Puerto Rico's Constitution¹⁴ cover employment laws on the island. The Constitution affirms the right of employees to choose their occupation, to have a reasonable minimum salary, a regular workday not exceeding eight hours, and to receive overtime compensation for work beyond eight hours.

The Minimum Wage, Vacation, and Sick Leave Act of Puerto Rico (Minimum Wage Act) was enacted in 1998, it establishes that the federal minimum wage fixed by the Fair Labor Standards Act (FLSA) applies automatically to non-exempt employees in Puerto Rico who are covered by the FLSA. Employers not covered by the FLSA must pay a minimum wage to non-exempt employees of at least 70% of the applicable federal minimum wage, which would be \$5.10. Employees covered by the FLSA are entitled to overtime pay at a rate 1.5x.

In Puerto Rico, different from the rest of the states or territories, employers give a Christmas bonus (Bono de Navidad) and it is a mandatory annual payment to employees based on their earned wages for the year. Yet, since the implementation of the Fiscal Oversight and Management Board, the government and the Board have had encounters on whether the bonus should be given at all to public employees. While the latest Labor Reform Law in 2017 reformed the bonus, it remains.

Employees in Puerto Rico¹⁵ are not at-will employees, meaning that employees in Puerto Rico can only be fired for just cause. Employers in Puerto Rico anticipate more difficulty than in other locations in the U.S.

Employment

Overall employment in Puerto Rico has been in decline since 2006 when the recession started. Employment went from 1.04 million in 2006 to 879,163 in 2020, a -15.2% decrease in fourteen years, this does not take into consideration the job loss due to COVID-19. This is mainly due to businesses being directly affected by the economic recession and many businesses closing.

Also, labor laws on the island continue to be extremely favorable to employees providing them end-of-the-year bonuses that employers must pay.

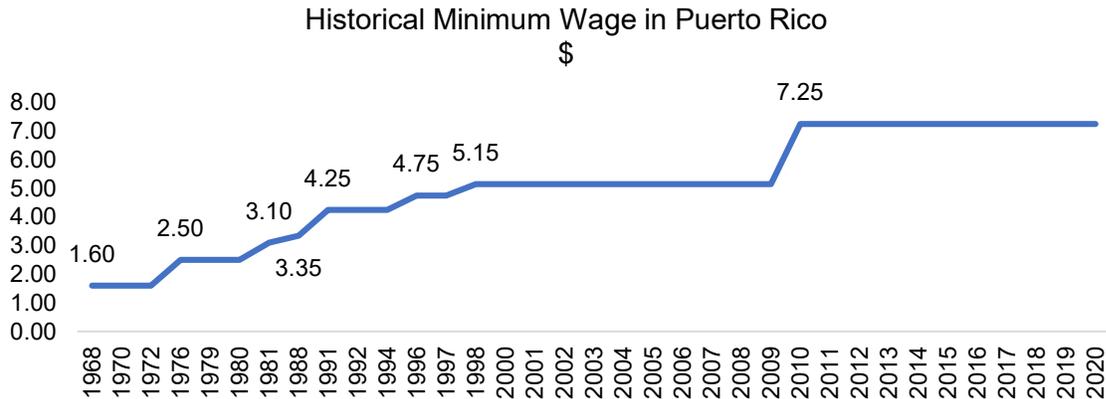
In 2017, the month hurricanes Irma and Maria impacted the island, employment fell almost 70,000 jobs but were quickly recovered the following months posting better numbers than previous months. This was mainly due to the federal transfers by Congress for reconstruction and economic recovery. Employment has plateaued in the high 880,000 jobs, still a decrease from the 1.1 million over a decade ago.

¹⁴ Art. II, Sec. 16

¹⁵ The only other state with this law is Montana.

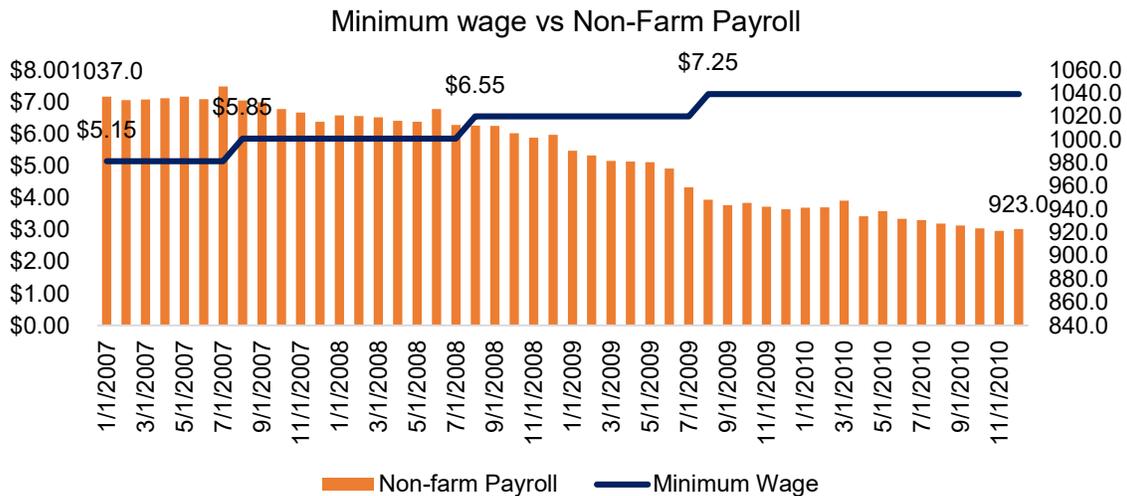
Recent trajectory of the increases in the minimum wage and their effects on the local economy

Puerto Rico's state minimum wage rate is \$7.25 per hour. The minimum wage applies to most employees in Puerto Rico, with limited exceptions including tipped employees, farm workers, students, and others.¹⁶ A full-time minimum wage worker in Puerto Rico working 40 hours a week, 52 weeks a year, will earn approximately \$13,624 per year.



Graph 10: Historical minimum wage in Puerto Rico – 1968 through 2020
Source: Department of Labor

As seen in the graph below, minimum wage hasn't had any direct impact on increased employment. On the contrary, increase in minimum wage has become a burden in small and medium businesses that have had to close their doors because of the high operating costs, thus, decreased employment.

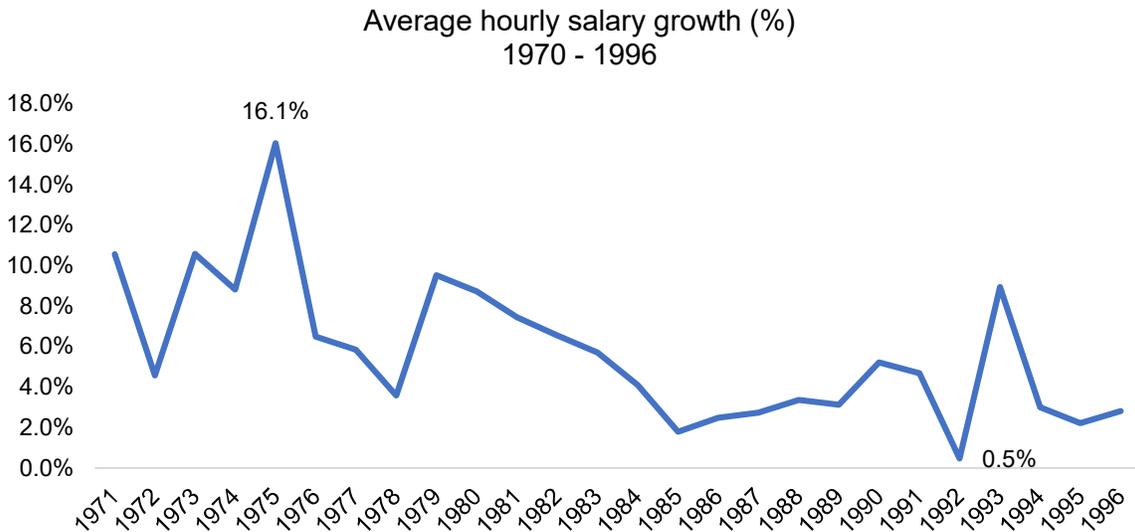


Graph 11: Minimum wage compared to non-farm employment payroll
Source: Department of Labor

¹⁶ <http://www.dol.gov/elaws/esa/flsa/screen75.asp>; <http://www.dol.gov/compliance/guide/minwage.htm>

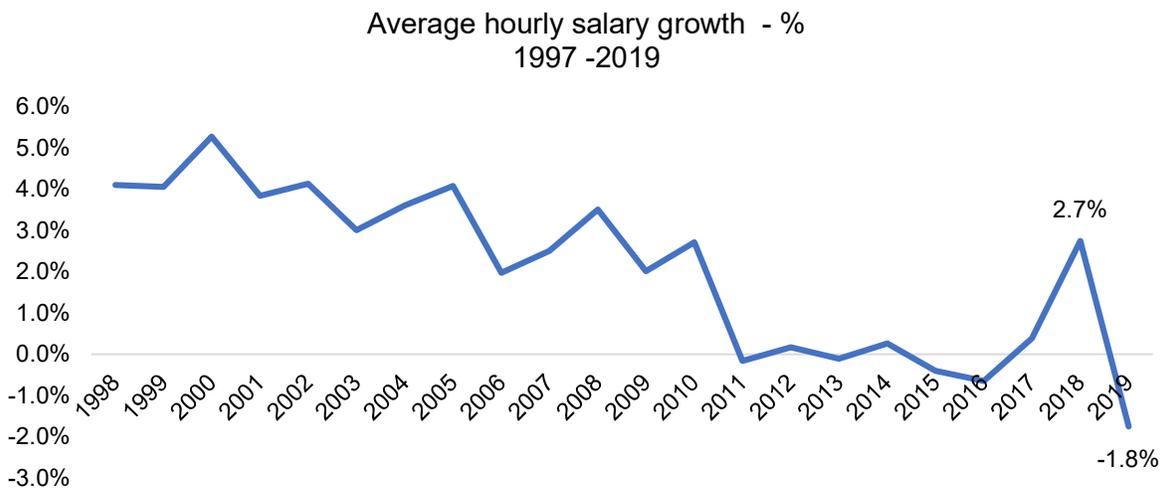
Average Hourly Earnings versus the Minimum Wage

The term “hourly wage” describes a rate an employer agrees to pay a worker per hour worked, the federal minimum is \$7.25 The “average” is an estimated hourly rate calculated using the varying hourly rates of a group of workers in a specific occupation – or in this case, all occupations.



Graph 12: Average hourly salary growth – y-o-y % change from 1971 to 1996
Source: Planning Board

According to the Planning Board, between 1971 and 1996, the average hourly salary grew at a 6% average annual rate, increasing from \$2.13 in 1970 (nominal terms) to \$8.96 in 1996, the year Section 936 was repealed by Congress. During this period, the economy experienced solid economic growth tied to the expansion of the manufacturing industry and the emergence of pharmaceuticals and chemicals as the main industrial components.



Graph 13: Average hourly salary growth – y-o-y % change from 1997 to 2019
Source: Planning Board

Once Section 936 was repealed the economy experienced slower growth and in 2006, the great depression began creating the current economic crisis that have affected almost every industry. During this period of economic stagnation average hourly salaries grew at a lower rate of 2.2%. Average hourly salary increased from \$9.20 (1997) to \$14.27 in 2019.

According to the Bureau of Labor Statistics¹⁷, the average hourly rate in the past five years was \$13.83, 1.91 times higher than the minimum wage. It Went from \$13.23 to \$14.27.

The sharp increases in 2018 and 2019 were due to several factors:

1. Federal transfers to the island due to the damages by Hurricane Maria caused an unsustainable economic growth since those federal transfers are not continuous and were mainly for consumption.
2. This caused a disruption in the labor market since federal jobs created were paying over 2.7 times the minimum wage. Businesses could not find employees since many were applying for federal jobs, directly impacting small and medium size local businesses. You had the private sector competing with the federal government.
3. In addition, former governor signed an executive order – which was later repelled – to increase minimum wage locally in some sectors.

Average hourly wages are at 82.8% above the minimum wage and have gone on par with the economic recovery. As seen in the previous graph, when the economy grew – granted, with federal transfers – average hourly rate increased.

As seen in the table below, the different average, or “mean” hourly wage per occupation.

Occupation	Total Employees	Mean Hourly Wage	Mean Annual Wage
All Occupations	865,160	\$ 14.27	\$ 29,670
Management Occupations	39,000	\$ 36.86	\$ 76,660
Business and Financial Operations Occupations	43,170	\$ 19.60	\$ 40,770
Computer and Mathematical Occupations	12,110	\$ 20.62	\$ 42,880
Architecture and Engineering Occupations	14,410	\$ 26.57	\$ 55,260
Life, Physical, and Social Science Occupations	6,760	\$ 22.16	\$ 46,090
Community and Social Service Occupations	15,440	\$ 14.31	\$ 29,760
Legal Occupations	4,610	\$ 31.35	\$ 65,200
Educational Instruction and Library Occupations	63,560	\$ 16.99	\$ 35,330
Arts, Design, Entertainment, Sports, and Media Occupations	6,120	\$ 16.92	\$ 35,200
Healthcare Practitioners and Technical Occupations	50,620	\$ 17.44	\$ 36,280
Healthcare Support Occupations	14,680	\$ 9.68	\$ 20,130
Protective Service Occupations	53,830	\$ 12.24	\$ 25,460
Food Preparation and Serving Related Occupations	69,940	\$ 9.22	\$ 19,180
Building and Grounds Cleaning and Maintenance Occupations	39,720	\$ 9.77	\$ 20,330
Personal Care and Service Occupations	8,830	\$ 10.28	\$ 21,380
Sales and Related Occupations	103,140	\$ 11.16	\$ 23,210
Office and Administrative Support Occupations	138,140	\$ 12.38	\$ 25,750
Farming, Fishing, and Forestry Occupations	1,700	\$ 11.19	\$ 23,280
Construction and Extraction Occupations	28,170	\$ 10.60	\$ 22,050
Installation, Maintenance, and Repair Occupations	30,780	\$ 12.84	\$ 26,700
Production Occupations	57,630	\$ 11.70	\$ 24,330
Transportation and Material Moving Occupations	62,810	\$ 10.78	\$ 22,430

Table 2: Distribution of employees, mean hourly wages and annual wages per industry in 2019.

Source: BLS

¹⁷ We used two different sources – Bureau of Labor Statistics and Planning Board – to calculate the average hourly wage. There is a discrepancy of 5.8% between hourly wages in their tendencies. Both used different methodologies and surveying period. We used both to have a wider reach of information and distribution.

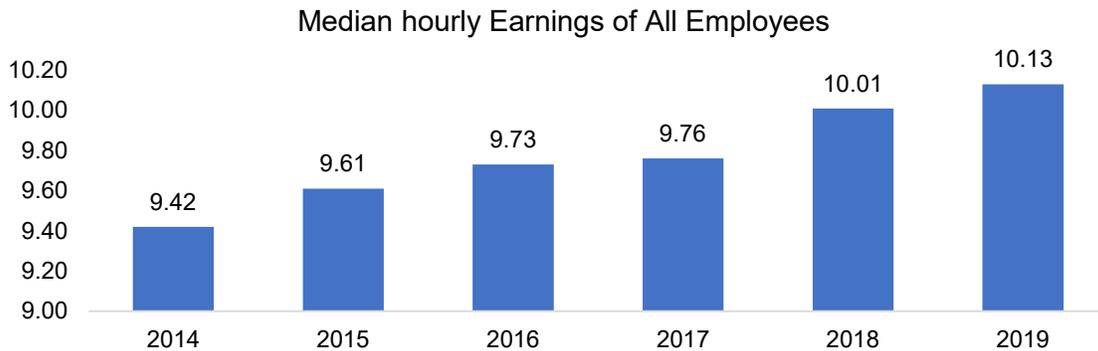
When analyzing per industry, Leisure and Hospitality has the lowest average hourly salary since this includes tipped workers who are paid below the federal minimum wage.

Industry	Average Hourly Wage
All Industries	\$ 13.10
Goods Producing	\$ 16.04
Construction	\$ 11.76
Manufacturing	\$ 18.95
Service Providing	\$ 12.52
Trade, transportation, and utilities	\$ 11.93
Information	\$ 18.68
Financial Activities	\$ 19.06
Professional and Business Services	\$ 14.05
Education and Health Services	\$ 12.36
Leisure and Hospitality	\$ 7.20

Table 3: Distribution of average hourly wages per industry
Source: BLS

Median hourly wages

When analyzing hourly wages, we should also analyze the median hourly wages. While both try to measure tendency in the middle of the market, using the median hourly wage a more neutral measure of central tendency, especially when there's high inequality.



Graph 14: Median hourly earnings of all employees
Source: BLS

In the case of Puerto Rico, the median hourly wage in 2019 was \$10.13, this is the lowest from all other jurisdictions in the US, including Guam and USVI. Even the highest 90 percentile is way below than the lowest in the nation.

	Median hourly wage	Mean hourly wage	10 Percentile	90 Percentile
USA	\$19.14	\$25.72	\$10.35	\$48.57
USVI	\$17.33	\$22.10	\$10.88	\$38.83
Mississippi	\$15.00	\$19.27	\$8.58	\$34.31
Guam	\$13.26	\$17.75	\$8.97	\$31.70
PR	\$10.13	\$14.27	\$7.97	\$24.24

Employee Compensation by Industry

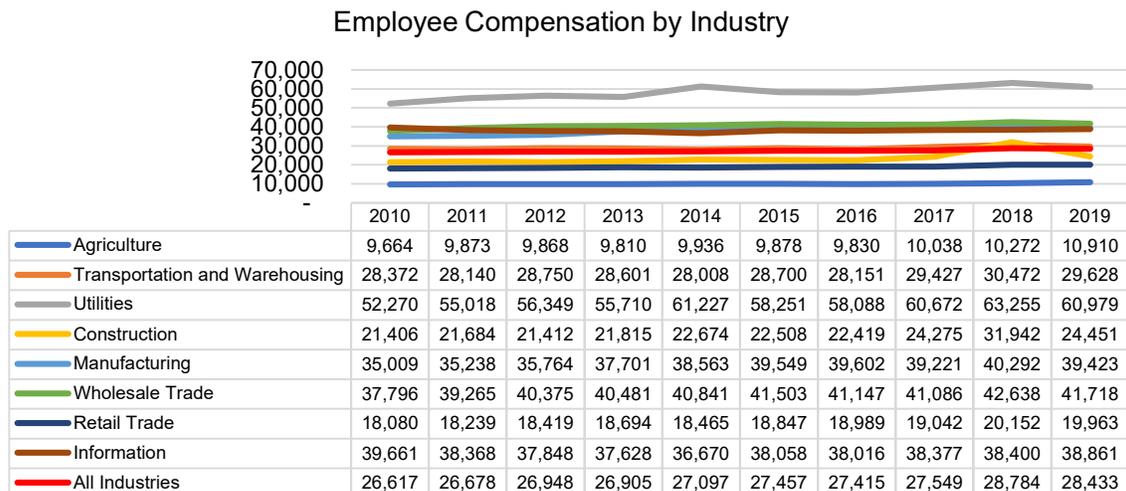
In the past 10 years, total employee compensation on the island has gone from \$24.76 billion in 2010 to \$24.91 billion in 2019, an increase of just 0.6%. While this is expected in a jurisdiction that has experienced economic contraction in the same period, it has not affected all industries in the same way. Even though most job sectors have seen increases in annual pay that outpace inflation, the total amount of jobs has fallen by 4%, or 41,000; with non-farm payroll going from 923,000 in 2010 to just 882,000 in 2019. This total has since gone further down to the COVID-19 pandemic.

The most dramatic change has occurred in transportation, warehousing and information sectors. Average annual wages in these industries have not kept pace with inflation in the past 10 years. The Consumer Price Index has grown 8% between 2010 and 2019, while annual pay in transportation and warehousing has grown by only 4.4% and annual pay in information has gone down by 2%.

One industry that has seen growth in employee compensation in the past 5 years in Puerto Rico has been construction. Average annual pay in this industry has risen by \$3,045, or 14.2%.

Another industry that has seen significant increases in annual wages has been utilities. This sector has had increases in average annual wages of \$8,407, or 14.2%. Reconstruction efforts due to Hurricane Maria and the associated federal funds contributed greatly to an increase in construction employment on the island. This sector, however, has been greatly affected by the COVID-19 pandemic.

Overall, changes in average annual wages have been distributed in a non-uniform way throughout the island's economy in the past 10 years. Most major sectors have had increases in average wages that have kept up with inflation. The stagnation of total compensation throughout the economy is a worrying sign, however. Average annual wages in all industries on the island have grown by \$1,816, or 6.8% in the past 10 years; a rate below that of inflation. Combined with a decline in non-farm payroll, this points to a lack of structural drivers for economic growth on the island.



Graph 15: Employee compensation by industry

Source: BLS

Minimum wage increase in Puerto Rico

In the case of Puerto Rico, there's been analysis on how an increase in minimum wage will impact the economy from the public sector and some on the private sector, the latest from 2018, which obviously doesn't include the pandemic's impact.

Revision of Literature in Puerto Rico Puerto Rico Planning Board

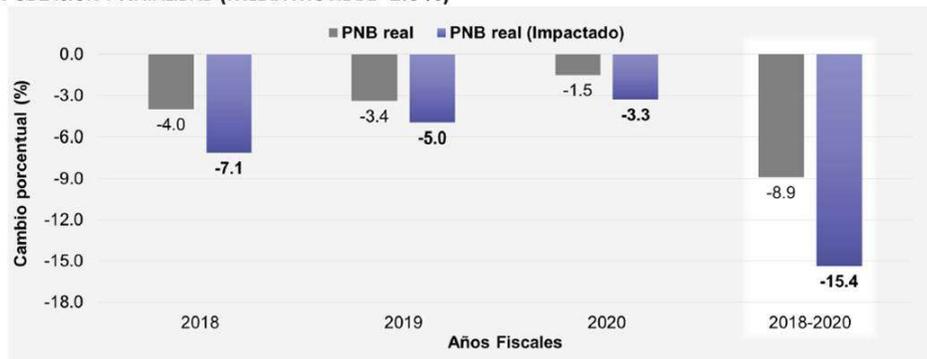
In 2018, the Planning Board of Puerto Rico conducted an extensive analysis and review of literature for economic impact of a wage increase in Puerto Rico. The objective of the study was to analyze the economic impact of an increase in minimum wage in the private sector. The study reviews literature from previous economists and assessments while identifying other jurisdictions in how they effectively increased their minimum wages.

Conclusions:

- A change of in 0.1% in Real GDP, would have an average impact of 0.089 in employment.
- Regardless of the model used to predict the effects of increases in the minimum wage, there are consensus in the economic literature, based on empirical results, since the Salary Law was implemented Federal Minimum, that increases in the minimum wage tend to reduce employment, at least in the short and medium term. The greater the increase in the minimum wage, the greater the loss of jobs. Although increases in the minimum wage seek to improve the economic well-being of the poorest workers, the effects job loss among the most disadvantaged low-skill groups, including youth, workers less skilled, immigrants, and minority groups neutralize the positive effects.
- By setting higher minimum wages by law, policymakers inflict collateral damage by reducing the number of jobs at the level of the basic minimum wage levels. The decision to increase the minimum wage does not it is a decision without costs at the aggregate level of the economy. Someone must pay for that cost. The Empirical evidence shows that lower-skilled workers pay, young people looking for their first opportunity employment, and consumers who pay higher prices for products and services. If the youngest are the most affected, these groups, not finding employment, could emigrate to other states, affecting the availability of human capital and a consumer sector that would contribute to economic recovery.
- From a macroeconomic point of view, an increase in the minimum wage in Puerto Rico may have a positive impact in the family income of workers who are in the basic wage scale, \$ 7.25 per hour, with the effect that this injection of income has on aggregate demand; but from the microeconomic perspective would have a negative effect on small and medium-sized companies, which are estimated to represent 95% of the establishments or companies in the private sector in Puerto Rico, 7 causing job losses and closure of companies unable to adjust to higher wage costs and shifts toward greater incorporation of Substitute production factors for the labor factor, in those that can make adjustments. In 2015 SMEs employed 286,665 people in Puerto Rico, representing 42.73% of private employment in Puerto Rico, according to the 2015 SME Report of the Trade and Export Company.⁸ It is estimated that SMEs they contribute 54% of the gross product according to sources such as the Puerto Rico Chamber of Commerce

- Puerto Rico's economy is currently in a downward spiral in economic activity, contrary to the economy of the United States, which have already recovered from the recession, which was the main product of the financial crisis and not structural problems, as is the case in Puerto Rico. The current economic situation in 2017 presents a delicate scenario for raising the minimum wage at the state level. In Puerto Rico, a higher minimum wage at the prevailing federal minimum, would cause further distortion in the structural problems of the economy, currently in crisis, with a high unemployment rate that has begun to reflect a slight reduction in the most recent months, estimated at 10.3%, in May 2017 compared to 11.3% in May 2016. It would also cause a delicate situation in the government budget, if government collections are further reduced, if the recession worsens.

GRÁFICA: AUMENTO DEL SALARIO MÍNIMO (A \$7.39 EN 2018, \$7.53 EN 2019 Y \$7.67 EN 2020), PERSPECTIVAS DE CRECIMIENTO A LARGO PLAZO PARA LOS AÑOS FISCALES 2018 AL 2020, CON DISMINUCIÓN EN POBLACIÓN Y NATALIDAD (MEDIA MÓVIL DE -1.0 %)



Fuente: Plan Fiscal aprobado en marzo 2017; Elaborado por Junta de Planificación, Programa de Planificación Económica y Social

Aumentar el salario mínimo a \$7.39 en 2018, \$7.53 en 2019 y \$7.67 en 2020 pudiera reducir el PNB real hasta -15.4 por ciento para el periodo 2018-2020. Esto implica una reducción adicional de -0.4 por ciento cuando se compara con la opción de mantener el salario mínimo actual. En uno de los análisis anteriores que se realizó manteniendo el salario máximo en \$7.25 también se puede apreciar cómo el coeficiente del componente poblacional domina cualquier efecto de la variable salario por hora cuando su tasa de cambio es constante. Por lo que resulta en una reducción en el PNB real hasta -15.0 por ciento para el período 2018-2020 (ver Apéndice A).

	2018		2019		2020	
	PNB real	PNB real impactado	PNB real	PNB real impactado	PNB real	PNB real impactado
Mantener el Salario Mínimo \$7.25	-4.0	-7.0	-3.4	-4.9	-1.5	-3.2
Aumento en el Salario Mínimo a \$8.00 en 2018, \$8.75 en 2019 y \$10.00 en 2020	-4.0	-15.4	-3.4	-4.6	-1.5	-8.7
Aumento del Salario Mínimo a \$10.00 en 2020	-4.0	-7.1	-3.4	-5.0	-1.5	-38.9

NOTA: La población ya venía disminuyendo a un ritmo de 1.0 por ciento anual desde el año fiscal 2005. En el año fiscal 2017, su media móvil era de -0.88 por ciento. Se espera que para el 2018 vuelva a disminuir igual o más.

\$8.00hr		\$8.75hr		\$10.00hr		\$15.00hr	
% of Employment	Additional Wages						
6.2%	\$18,440	21.2%	\$186,515	41.8%	\$869,131	63.2%	\$5,267,425

Table 4: Employment % and Additional Wages in thousands – Four scenarios

Source: Junta de Planificación (2018) Estudio de impacto económico sobre el aumento en el salario mínimo.

Key Findings:

- The results of the studies on minimum wage in the United States, other jurisdictions and Puerto Rico indicate that raising the minimum wage lowers the level of employed persons, increases the unemployment rate and does not increase significantly income.
- The analysis with the input product matrix with scenarios of increase to the minimum wage of \$8.00, \$8.75, and \$10.00 showed that the sector with the greatest impact would be Accommodation and Food Services followed by Services Educational.
- In the analysis of the simplified and optimized model with respect to the variable average hourly wage, it was found that raising the minimum wage to \$ 7.32 in 2018, \$ 7.39 in 2019, and \$ 7.46 in 2020 could reduce real GNP to -14.1% for the 2018-2020 period. This implies not only a minor reduction, but also a gain of +0.7% compared to the option to maintain the current minimum wage.
- The relationship between growth in employment and growth in Real GNP showed that for an average impact or Real GNP growth of 0.1 percent, an increase in employment of 8,900 people is obtained. On the contrary, if Real GNP is reduced by 0.1, employment is reduced by 8,900 people.¹⁸
- An increase to \$15hr would require over \$5 billion in additional wages.

Puerto Rico – A Way Forward (2015)

A 2015 study done by Krueger, Teja, and Wolfe points out several factors that make raising the minimum wage in Puerto Rico a difficult proposition. Poor prospects for economic growth, a lack of demand for labor, and low wages relative to the federal minimum wage are amongst the reasons why underemployment remains a chronic malady on the island. This paper goes on to state that: “Puerto Rico should seek an exemption (to the minimum wage) until such a time as its per capita income approaches that of the poorest US state”.

Furthermore, “Puerto Rico has many advantages to build on”, “Reducing input costs for labor, energy, and transport is key to regaining competitiveness”. Energy costs that are much higher than in the United States, high transport cost due to the Jones Act, and a non-business friendly taxation and permit regime on the island all contribute to create a huge structural barrier to investment and the creation of new employment on the island. A potential increase in the minimum wage would only serve to worsen these problems.

¹⁸ The Planning Board’s study has more detailed information, more conclusions, and findings. We have chosen the most relevant to our paper to keep it simple. You can access the report in the Planning Boards page.

Advantage Business Consulting / Vicente Feliciano (2010)

Puerto Rico's high minimum wage compared to median wages on the island have also been pointed out by a study on the last labor reform on the island carried out by Advantage Business Consulting for the Puerto Rico Commerce and Exports. They point out that in the year 2008, the minimum wage on the island was 73% of the median wage. This is much higher than any other OECD economy, with France having the second highest ratio among them with their minimum wage being 63% of the median wage.

This high wage floor contributes to structural unemployment on the island. This high cost of potentially employing a new worker contributes to firms on the island being reluctant to raise payroll. Adding to this the high level of benefits that workers receive, which are higher than the average in the United States, and what is seen is a recipe for chronic high unemployment and low overall labor participation.

This study calculates the per hour compensation that is added to the minimum wage by the benefits that employers are obligated to give their workers. Between vacation days, sick days, and the Christmas bonus, per hour compensation on the island comes out to \$8.29, which is higher than the federal minimum and higher than the minimum in 17 states.

Their main arguments for improving labor supply are as follow. That there should be a "revision of the structure of social benefit programs, such as SNAP, the Health Services Administration, TANF, PREPA subsidy programs, amongst others." They argue that the high level of aid provided by these programs provides a disincentive to work. They add to this an implementation of an earned income tax credit would incentivize work on the island. They also favor the implementation of anti-discrimination legislation, particularly based on sexual orientation, as well as flexible work hours.

Their proposals for addressing the demand side of employment are reducing non-monetary costs of employment (benefits), reducing monetary costs of employments, and improving productivity. According to this study, any increase in the minimum wage in Puerto Rico would only serve to further disincentivize joining the labor force.

MIDA, Snapshot of the food industry (2017)

A study by MIDA, an organization representing all sectors of the food industry in Puerto Rico, allows us to better understand the effect of a minimum wage raise. The food industry in Puerto Rico operates with low profit margins. In 2017, this was barely 2%. Labor costs represent 7.89% of their total operating costs. Proposed federal legislation to raise the minimum wage to \$15 would nearly double their labor costs, as nearly all supermarket employees earn the minimum wage, or a wage based on it.

This would necessitate the raising of prices throughout the island. While there are mainland-based companies operating on the island which could take on this additional labor cost, this could have disastrous consequences for locally based businesses.

All these studies point out that for Puerto Rico's economy to grow again after 15 years of economic depression, a more business-friendly environment is necessary. Without this, chronic underemployment and a reliance on state benefits will hinder any potential progress.

An argument that minimum wage pushes the pay scale

A study of minimum wage increases by economists from MIT, the London School of Economics, and the Federal Reserve Board¹⁹ has shown the ripple effect of recent minimum wage increases in the United States.

Their study of minimum wage increases between 1979-2012 shows that: “the effect of the minimum wage extends further up the wage distribution than would be predicted if the minimum wage had a purely mechanical effect on wages (i.e., raising the wage of all who earned below it).” **This finding affirms the notion that minimum wage increases places pressures on wages that are not directly affected by the increase.** These increases end up influencing pay scales throughout the economy.

Salaries near the new minimum wage may end up rising. Their findings suggest that minimum wage increases have a statistically significant effect up to the bottom 15th percentile of all workers. It would be of interest to expand this study to include Puerto Rico. This is due to the island's average wage being closer to the minimum than in the United States. What this implies is that any minimum wage increase on the island would end up pressuring upwards shifts in a larger percentage of employment than what has been observed in studies focused on the United States.

This ripple effect implies that minimum wage increases could potentially have greater effects on wages and inflation on the island than what would be thought of based solely on US data. **Even a \$1.50 increase in the minimum wage would directly affect the 20th percentile of workers on the island; and based on the data seen in this study, the ripple effect could be wider reaching than is thought.**

Local Food Industry

After experiencing sustained growth throughout 2018 and half of 2019, the unprocessed food industry (supermarkets) experienced signs of weakness between July 2019 and February 2020.

The strong injection of federal stimulus packages associated with the recovery efforts after Hurricane “María” and the temporary increase in funds from the Nutrition Assistance Program (PAN), provided dynamism to the sector.

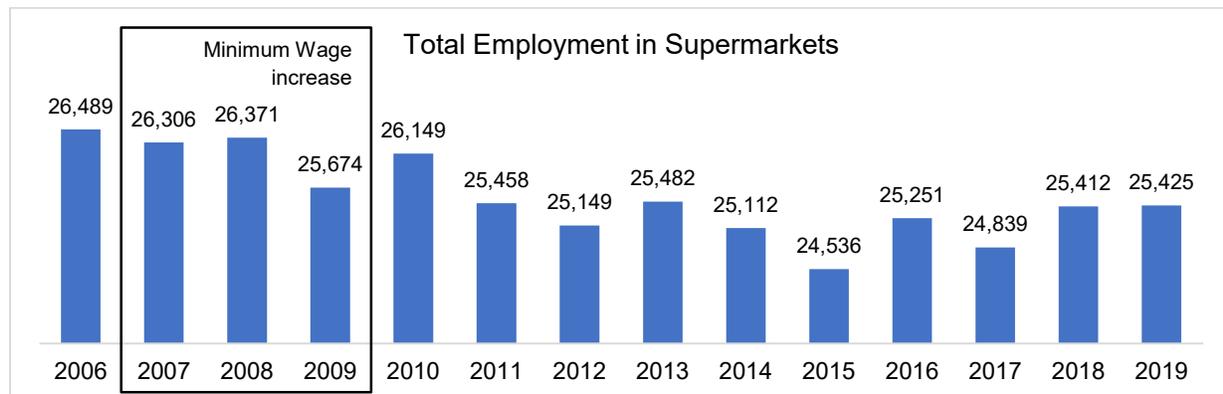
The quarantine declared on the Island as of March 15, 2020 caused a rebound in the supermarket sector and the entire industry. This growth has been associated with the fact that restaurants were closed for a long time and changes in the habits of consumers seeking safety from the threat of the Pandemic.

However, the expectation is that, during the second half of 2021, once the economy gradually recovers, consumers will likely pick up their previous behavior and opening of restaurants will decrease supermarket sales. This normalization scenario is going to influence the supermarket industry, as it is expected that people focus on returning to their outings, tourism, entertainment activities and eating away from home.

¹⁹ *The Contribution of the Minimum Wage to US Wage Inequality over Three Decades: A Reassessment* By David H. Autor, Alan Manning, and Christopher L. Smith
American Economic Journal: Applied Economics 2016, 8(1): 58–99
<https://economics.mit.edu/files/3279>

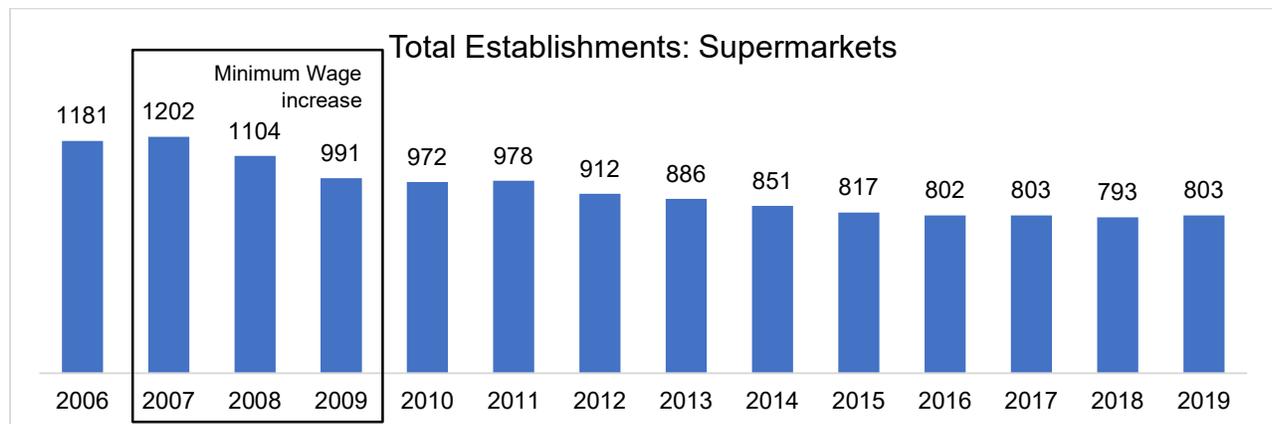
To this scenario must be added the fact that once federal funds (stimulus) are exhausted, including the increase in temporary PAN funds, and given the reality that the economic recovery will be slow and gradual, the food industry will be able to face an adverse macroeconomic situation again. In other words, the boom that the industry is experiencing today responds to a very specific situation that will not be sustainable.

In addition, the supermarket industry has one of the lowest net income margins at 1.5% to 2%. This small margin is sensitive to ANY increase in prices and costs.



Graph: 16: Total Establishments and Employments in Supermarkets
Source: BLS

Supermarkets represent 25,425 employees with over 803 establishments and annual wages of \$371.1 million. The last increase in minimum wage accelerated the number of businesses in this industry of closing. Prior to the increase, there was an expansion of 3.9%²⁰ on average, when the minimum gradually increased in 2007-2009, 230 establishments closed in that period – mainly small and medium businesses. Employment, which was increasing at a 1.5% average rate, decreased -0.2%, in the same period.



Graph: 17: Total Establishments and Employments in Supermarkets
Source: BLS

Graphs 17 and 18 demonstrate the sharp decrease in establishments once the minimum wage was imposed, and that the industry still hasn't recovered. Markets continue to feel pressure with a decrease in population and increase in operational costs.

²⁰ Two years prior to the first increase in minimum wage.

Based on experience, a gradual increase in minimum wage equivalent to \$2hr, similar to that between 2007-2010, could close over 154 food retail establishments (not counting those already closing due to the pandemic) and 180 employees. On the other hand, if the industry behaves similarly to other industries²¹ with an increase of \$7.75 to \$15hr, we can expect 13,753 jobs lost and almost 430 establishments to close.

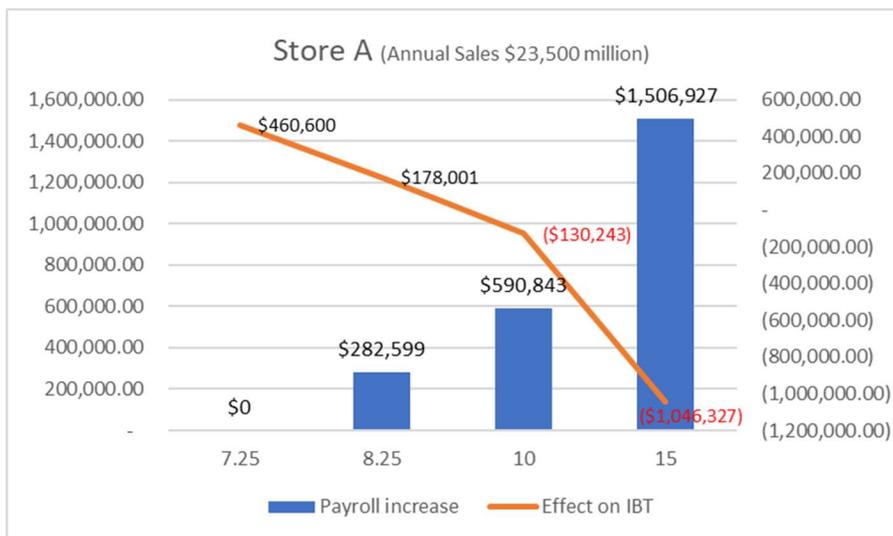
A Case Study for local Supermarkets

Microeconomic analysis is of particular importance to illustrate the impact of wage increases on actual businesses. For this, several local supermarkets provided us a snapshot of what their businesses would look like if minimum wage were to increase. Having total sales, we presumed a net income before taxes of 1.96% as an industry average to avoid revealing the participants confidential or sensitive information.²²

Nonetheless, we need to point out that some of the participants are currently operating at a loss due to the pandemic situation. It is also important to establish that these number do not include the “bumping effect” throughout the pay scale of the business which we believe to be significant since industry surveys have showed around 70% is under \$8hr.

First Case Study – Medium Supermarket with Annual Sales of \$23.5 million

	Payroll increase	Effect on IBT
7.25	-	460,600.00
8.25	282,599.33	178,000.67
10	590,843.02	(130,243.02)
15	1,506,926.52	(1,046,326.52)



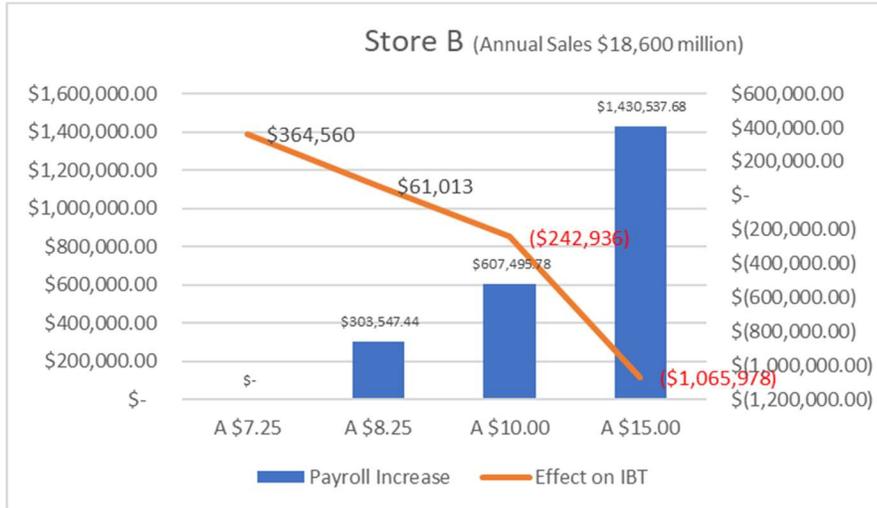
Graph 18: Minimum wage increase impact on a medium size supermarket
Source: Provided by client

²¹ This is using an estimate from a survey in a similar industry. No survey has been made for supermarkets and these estimated can vary.

²² Based on the average of three reports by MIDA titled *Retrato de la Industria*.

Second Case Study – Medium Size Supermarket with Annual Sales of \$18.6 million

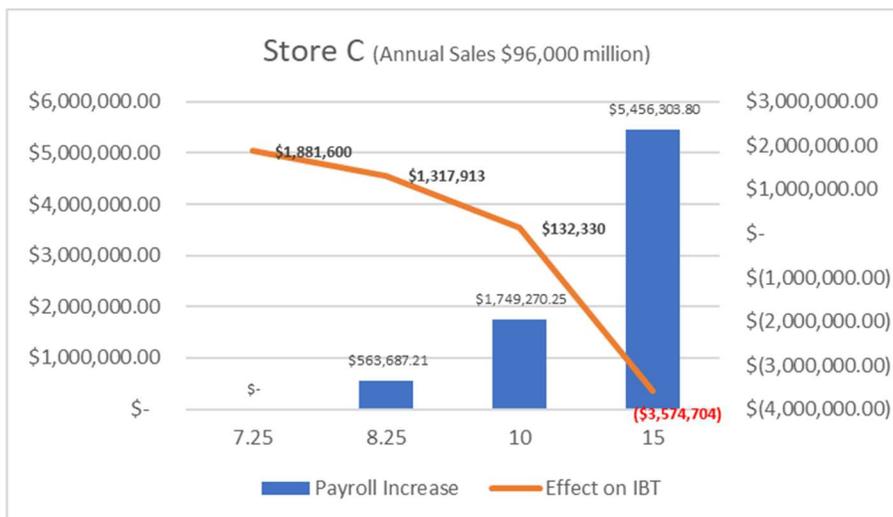
	Payroll Increase	Effect on IBT
A \$7.25	\$ -	\$ 364,560.00
A \$8.25	\$ 303,547.44	\$ 61,012.56
A \$10.00	\$ 607,495.78	\$ (242,935.78)
A \$15.00	\$ 1,430,537.68	\$ (1,065,977.68)



Graph 19: Minimum wage increase impact on a medium size supermarket
Source: Provided by client

Third Case Study – Multistore Supermarket with Annual Sales of \$96 million

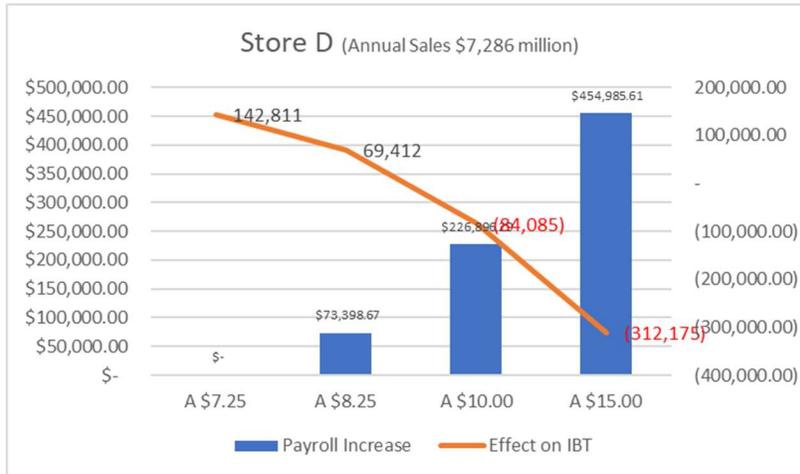
	Payroll Increase	Effect on IBT
7.25	\$ -	\$ 1,881,600.00
8.25	\$ 563,687.21	\$ 1,317,912.79
10	\$ 1,749,270.25	\$ 132,329.75
15	\$ 5,456,303.80	\$ (3,574,703.80)



Graph 20: Minimum wage increase impact on a multistore supermarket
Source: Provided by client

Forth Case Study – Small Supermarket with Annual Sales of \$7.3 million

	Payroll Increase	Effect on IBT
A \$7.25	\$ -	142,811.11
A \$8.25	\$ 73,398.67	69,412.44
A \$10.00	\$ 226,896.29	(84,085.18)
A \$15.00	\$ 454,985.61	(312,174.50)



Graph 21: Minimum wage increase impact on a small supermarket
Source: Provided by client

The examples above illustrate that even presuming they are currently profitable, most businesses in the supermarket industry would still go under with \$10/hr increase in the minimum wage without even considering the indirect impact in marginal benefits that are calculated on a percentage basis or the fact that pay scales will force additional increases along those pay scales.

Assuming the opportunities for productivity increases are limited, their alternatives to continue operating are reducing employees or payroll costs such as marginal benefits, raising prices, or a combination thereof. But businesses that compete in the international markets, such as manufacturing, agriculture, or tourism, cannot increase their prices without losing market share.

Sample Supermarket % Minimum Wage by Department

Department	Total Employees	% Emp @	# Employees		Hours	Rate	Payroll			Total Expense
			@ \$7.25				Expense	FICA & Med	CFSE	
Cashier	65	100%	65		18,582	7.25	134,719.50	10,306.04	4,984.62	
Bagers	39	100%	39		11,534	7.25	83,619.69	6,396.91	3,093.93	
Grocery	39	82%	32		8,131	7.25	58,949.75	4,509.66	2,181.14	
Meat	31	65%	20		7,865	7.25	57,019.44	4,361.99	2,109.72	
Produce	17	65%	11		3,696	7.25	26,797.81	2,050.03	991.52	
Dairy	9	78%	7		2,611	7.25	18,927.94	1,447.99	700.33	
Deli	15	93%	14		5,230	7.25	37,913.88	2,900.41	1,023.67	
Maintenance	11	82%	9		2,718	7.25	19,707.31	1,507.61	729.17	
Administration	20	25%	5		1,945	7.25	14,097.63	1,078.47	148.03	
Meat Cutter	5	0%	0		-	7.25	-	-	-	
	251	80%	202				451,752.94	34,559.10	15,962.13	502,274.17

Graph 22: Minimum wage distribution by department in a supermarket and expenses
Source: Provided by client

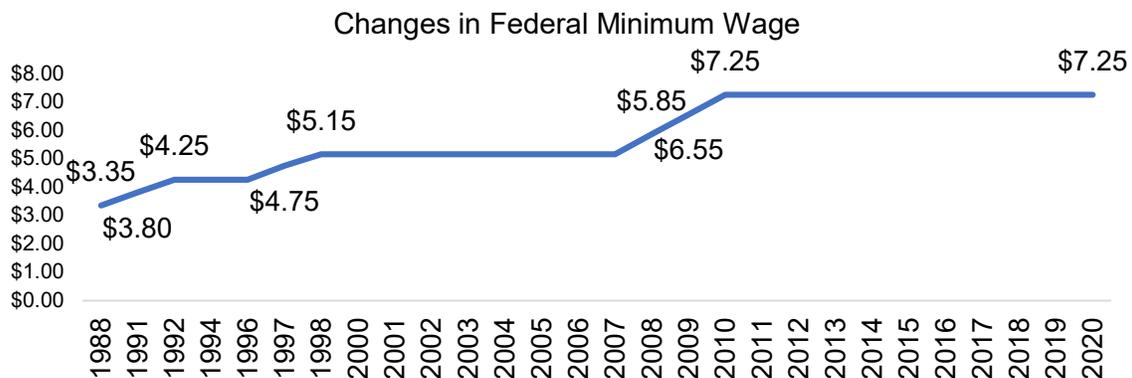
Employers have several additional costs related to wages that most of the time are calculated as a percentage of wages. Such is the case of State Insurance Fund (Fondo del Seguro del Estado), unemployment insurance, Medicare, social security, FICA, etc.

Minimum Wage in the United States

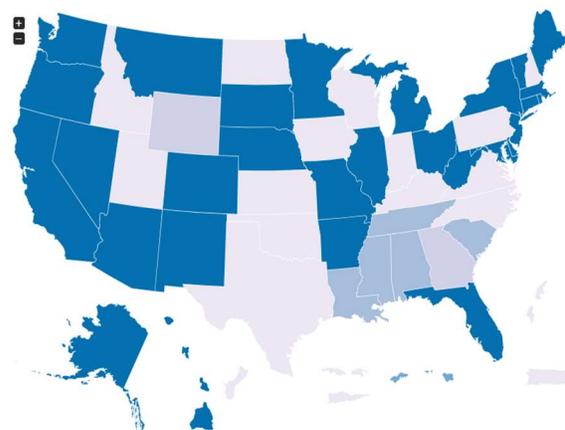
The last federal minimum wage increase was in 2009 and came in the heels of the Great Recession of 2008 where the economy reported the most severe economic contraction since the Great Depression of the 1930s.

The Great Recession hit several key sectors hard, including real GDP fell -4.3% and did not recover its \$15 trillion pre-recession level until Q3 2011. Household net worth fell -17.3% and did not regain its pre-recession level until Q3 2012. Total non-farm payroll -6.2% and did not regain the pre-recession level until May 2014. The unemployment rate peaked at 10.0% in October 2009 and did not return to its pre-recession level of 4.7% until May 2016.

In 2007, the minimum wage increased to \$5.85 per hour effective July 24, 2007; \$6.55 per hour effective July 24, 2008; and \$7.25 per hour effective July 24, 2009,²³ with progressive policies for industries (like waiters) and small and medium businesses.



Graph 23: Minimum wage's trajectory
Source: Department of Labor



Legend

- States with Higher Minimum Wage than Federal
- States with the same Minimum Wage as Federal
- States with lower Minimum Wage rates - Federal Applies
- States with no Minimum Wage rates - Federal Applies
- States with special Minimum Wage

After the last minimum wage, two-thirds of Americans still favored raising the minimum wage to \$15 an hour²⁴, this led to states taking their own initiatives in increasing their minimum wages.

Now, 31 states – including D.C. minimum wages range from \$8.56 in Florida to \$15.00 in DC.

In eight of the states with higher-than-federal minimum wages, some cities and counties have adopted local minimum wage laws that provide for higher rates than the state

²³ *History of Changes to the Minimum Wage Law*. Department of Labor

²⁴ David, L & Hartig, H. (2019) *Two-thirds of Americans favor raising minimum wage to \$15 an hour*. Pew Research Center.

minimum, accelerate schedules for future increases, or both.²⁵

Mainly in California, cities like Minneapolis, Chicago, Albuquerque, Los Angeles, and others, have minimum wages from \$12 and more.

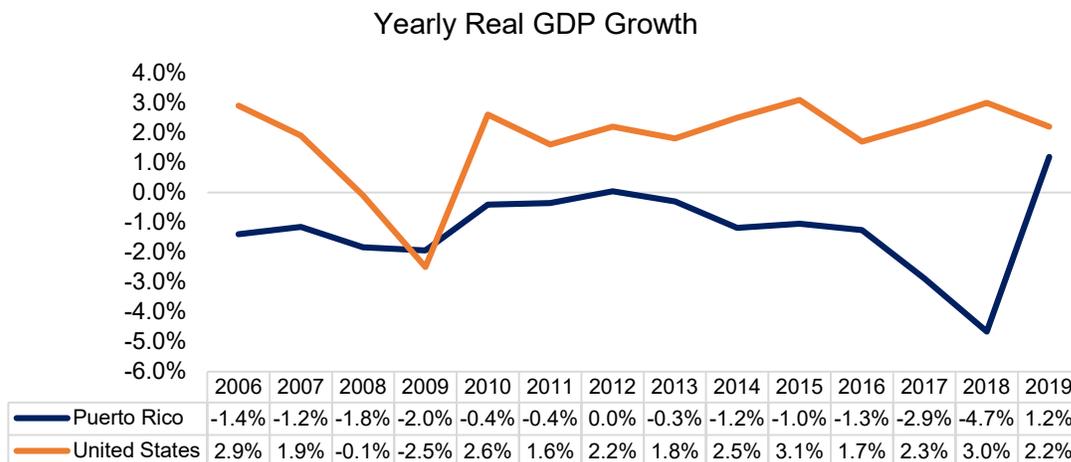
In 2018, 81.9 million workers age 16 and older in the United States were paid at hourly rates, representing 58.5 percent of all wage and salary workers. Among those paid by the hour, 434,000 workers earned exactly the prevailing federal minimum wage of \$7.25 per hour. About 1.3 million had wages below the federal minimum. Together, these 1.7 million workers with wages at or below the federal minimum made up 2.1 percent of all hourly paid workers. The percentage of hourly paid workers earning the prevailing federal minimum wage or less edged down from 2.3 percent in 2017 to 2.1 percent in 2018.²⁶ As of December 2020, AVERAGE HOURLY EARNINGS OF ALL EMPLOYEES in the US was \$29.81.

The Congressional Budget Office examined in 2019 how increasing the federal minimum wage to \$10, \$12, or \$15 per hour by 2025 would affect employment and family income. Even under record period of economic growth and a 6-year implementation period to the year 2025, they still predicted that raising to \$15 per hour would cause **1.3 million other workers would become jobless, according to CBO's median estimate.**

The decoupling effect between the US and PR

The first immediate decoupling of Puerto Rico's economy and the United States' economy can be seen in yearly GDP growth estimates for both jurisdictions. Beginning in 2005, Puerto Rico's economy experienced 7 consecutive years of economic contraction that ended only with the arrival of ARRA (American Recovery and Reinvestment Act) funds in 2012.

This was followed by 6 more consecutive years of negative growth that was ended by the arrival of federal recovery funds in the aftermath of hurricane Maria.



Graph 24: Decoupling effect. Measuring GDP real growth
Source: Planning Board, Statistical Appendix 2019 and Bureau of Economic Analysis (BEA)

²⁵ Desilver, D. (2020) *When it comes to raising the minimum wage, most of the action is in cities and states, not Congress.* Pew Research Center.

²⁶ The Characteristics of Minimum Wage Workers, <https://www.bls.gov/opub/reports/minimum-wage/2018/pdf/home.pdf>

In this same period, the United States' economy grew by \$2.8 trillion in real terms, or 17.8%, at an average rate of 1.8% per year. Puerto Rico's economy experienced a growth rate of -14.9% at an average rate of -1.2% per year.

	US	PR
Economic Growth*	2.4%	-1.7%
Unemployment Rate**	4.5%	14.1%
Labor Participation**	63.1%	45.0%
Median Hourly Wage	\$19.14hr	\$10.13hr
Mean Hourly wage	\$25.72hr	\$14.27hr
Income Per Capita	\$35,672	\$13,345
Housing beneficiaries NAP	10.7%	43.2%
% in minimum wage (\$7.25)	2.1%	15%
Corporate Tax (max)	27%	34%
Sales Tax	Varies each state - highest 9.53%	

*Average between 2015-2019

** Before pandemic numbers

Table 5: Macroeconomic indicators compared between the US and PR

Source: Various

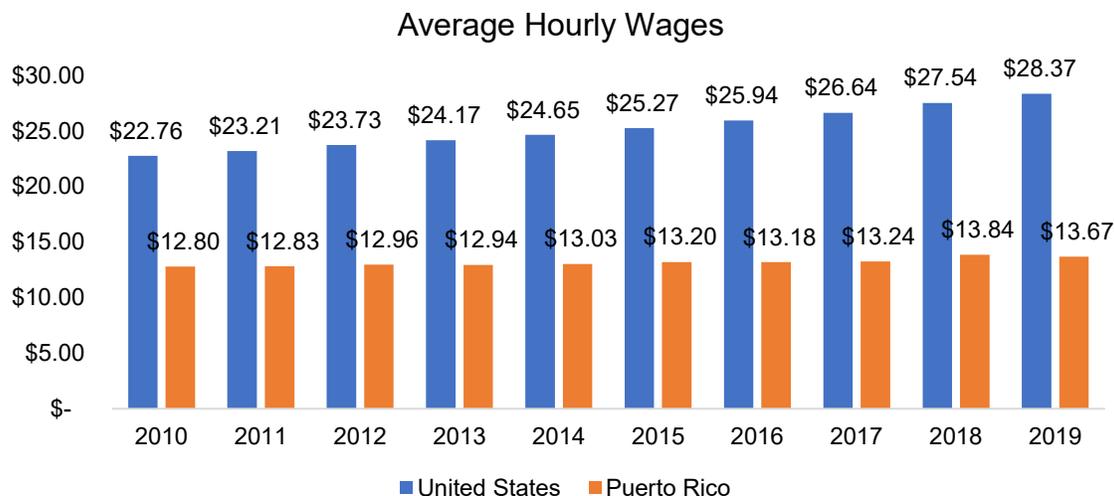
To provide additional perspective and context we calculated Puerto Rico would need to create an additional 583,114 new jobs how many new jobs just to be at par with the US in terms of participation rate and unemployment.²⁷ In addition, if the US wants to impose a higher minimum wage, Puerto Rico should align with the US's labor market in benefits such as eliminating the Christmas Bonus, eliminating, or privatizing the Fondo de Seguro del Estado, and more.

Average salaries

This difference is exacerbated when viewing average hourly compensation in both jurisdictions. While average hourly wages in the United States are 291% higher than the national minimum wage, in Puerto Rico this number is merely 89%. The proposal for a \$15 minimum wage is 9.7% higher than the average hourly wage on the island in 2019.

The same difference is seen in growth over the past 9 years. While nominal average hourly wages have grown by \$5.61, or 24.6%, in the United States between 2010 and 2019, in Puerto Rico, this figure has grown by just \$0.87, or 6.8%. When adjusted for inflation, average hourly wages on the island have gone down by \$0.08 an hour.

²⁷ Population 16 year and over (2,699,404) x 60.2% participation = 1,703,324 x 4.5% unemployment (76,650) = 1,626,674 - actual employment (1,043,560) = 583,114 new Jobs needed



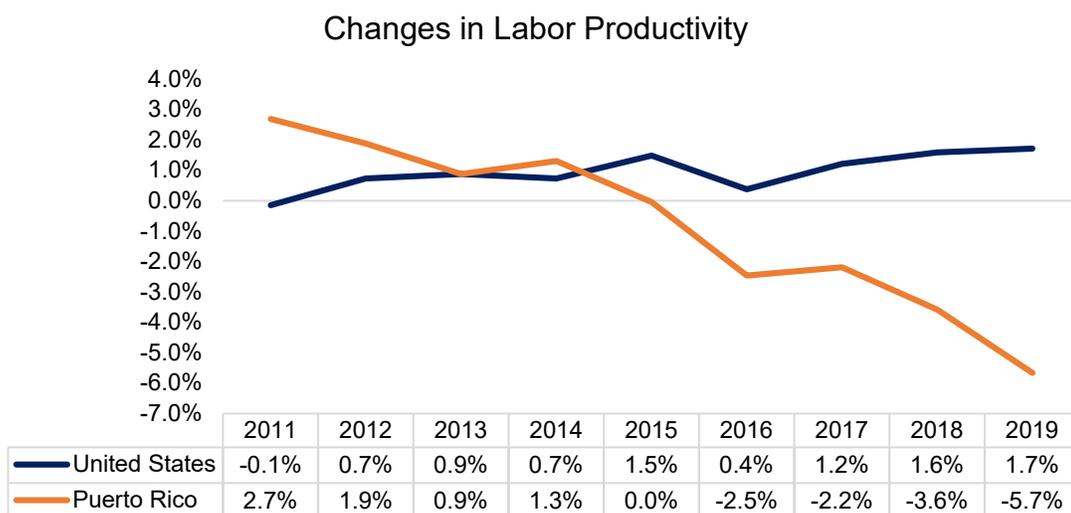
Graph 25: Average Hourly Earning between the US and PR
Source: Bureau of Labor Statistics

Productivity

Labor productivity also highlights these fundamental structural differences between Puerto Rico and the United States. This pattern of decoupling can be seen in the change in labor productivity between 2011 and 2019.

While in the United States labor productivity grew a total of 8.9% at an average annual rate of 1%, labor productivity in Puerto Rico decreased by 7.2% at an average annual rate of 0.8%.

This decrease in labor productivity has been driven by migration away from the island by young professionals, overall lack of economic growth, and the lack of a business-friendly environment on the island which divert much of a company's resources towards compliance with a byzantine tax code and a non-transparent permit process.



Graph 26: Labor Productivity
Source: Planning Board and BEA

The case of other states vs Puerto Rico

States that have been able to increase their minimum wage above the federal minimum have found themselves in different economic realities when compared with Puerto Rico. Since the last federal minimum wage increase, Puerto Rico has had just 2 years with positive GNP growth. Both years were due to the arrival of federal funds; in 2012 due to the aftermath of the financial crisis, and in 2019 due to the devastating effects of hurricane Maria.

One of the states that has been at the forefront of the nationwide push for a \$15 minimum wage has been California. High cost of living and GDP growth are the two most readily apparent reasons why the minimum wage throughout California is consistently above the federal minimum of \$7.25.

As of 2020, 27 cities in California have a minimum wage higher than the state minimum of \$12; including some cities that have some of the highest minimum wages in the country, such as Emeryville, whose minimum wage is set at \$16.84. Aside from cost of living and general economic growth, there is a hidden factor at play: productivity.

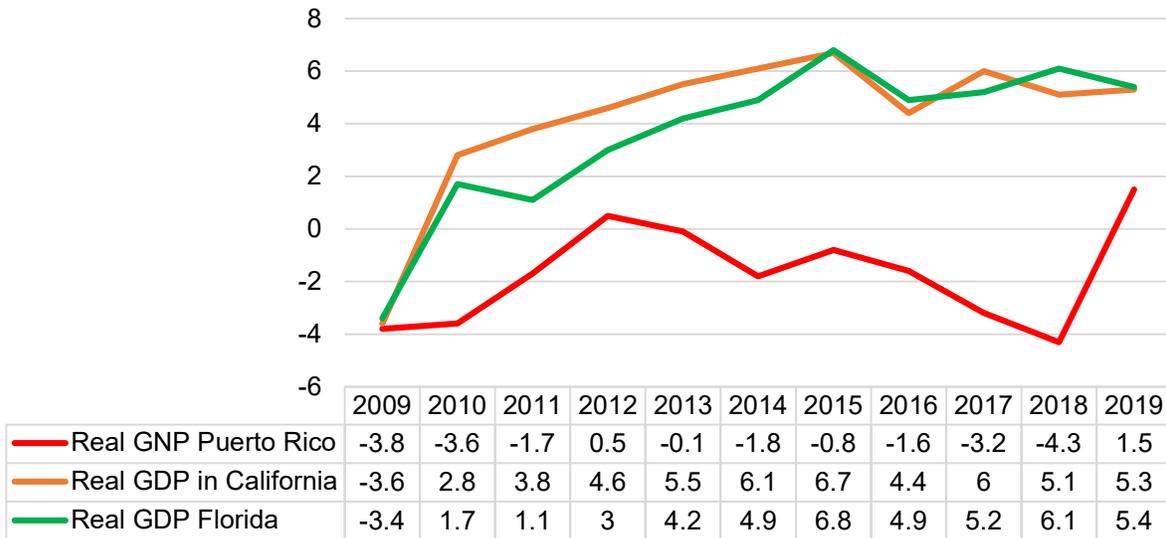
Economic productivity can be roughly defined as the ratio between a certain input that goes into production, be it hours worked or total employment, and economic output. California has consistently outpaced most states in the US in terms of growth of output per employee in the past 8 years. This measure has grown by 14% since 2012 in the state of California, compared to Florida, where it has grown by just 4%, and Connecticut where it has remained the same. This growth in output per employee shows that efficiency has been a key driver in California's economic growth. This is where we can begin to apply this idea to Puerto Rico.

Aside from experiencing 15 years of economic contraction, productivity in Puerto Rico has not experienced nearly the same level of growth as in other states. This lack of growth in productivity hints at a lack of efficiency in both the island's labor market as well as in how work gets done.

Since 2012, productivity on the island as measured by total employment has fallen by 11%. Without the economic growth that is brought by increases in productivity and efficiency, firms are rendered unable to absorb increases in wages. This has been a historic problem on the island, where despite sharp increases in GDP throughout the 20th century, unemployment rates were always considerably higher than in the mainland United States.

Without increases in labor productivity and overall economic efficiency, increases in wages on the island become a dangerous proposition. Firms on the island would be unable to absorb these increases in their labor costs due to not having a corresponding increase in productivity. This could lead to increases in price levels and decreases in overall employment.

Economic Growth



Graph 27: Comparing economic growth (real GNP and GDP change) in different jurisdictions.
Source: Planning Board, BEA

Puerto Rico’s economy has yet to find a model for sustainable growth since the 2008 financial crisis. Compared with other states with similar sized economies, Puerto Rico lags both in growth and in a per capita assessment of its economy. Prior to the COVID-19 pandemic, no state registered negative GDP growth since North Dakota in 2017. Most jurisdictions in the United States with minimum wages higher than \$12 an hour is in states that have had 10 years of uninterrupted GDP growth, such as California and Washington, or are located in metro areas that have high costs of life, such as Washington D.C. and Chicago.

Based on GDP, Puerto Rico’s economy is larger than that of 15 states. However, when looking at GDP per capita, Puerto Rico’s ranks dead last in the United States. The island’s GDP per capita is \$4,000, or 11%, smaller than Mississippi’s. What this disparity shows is that in terms of worker productivity, Puerto Rico lags the rest of the United States. The 2 states with population totals most like Puerto Rico, Iowa, and Utah, both have economies that are roughly 80% larger than Puerto Rico’s.

This combination of lack of economic productivity and growth on the island makes the impact of a federal minimum wage impact on the island potentially devastating for its labor market. Federal legislation aimed at increasing the minimum wage is based on 10 years of economic growth and prosperity that have increased productivity and the overall size of the economy throughout the 50 states. This has not been the case in Puerto Rico, and as such, potential legislation could remove the island’s few competitive advantages in manufacturing, one of which is low wages relative to the mainland.

Conclusions

Minimum wages affect the wage distribution in both the formal and, especially, the informal sector, both at the minimum wage and at multiples of the minimum. The minimum wage does not uniformly benefit low-wage workers, it primarily affects wages of the high skilled. This indicates that the minimum does not generally lift the wages of all, but instead, it offers a wage into which employers can "lock in" wages that are already near that level.²⁸

Since Puerto Rico is not an independent country that can control its monetary policy nor is it a state that can participate in federal legislation of minimum wages, the island is subject of policy changes made in Congress and the Federal Reserve. In addition, the US and Puerto Rico economies have very different paths and fundamentals.

While the US had been on one of the longest periods of continuous growth until the COVID pandemic, Puerto Rico has been in an economic recession since 2006, with a 20% smaller economy, a 600,000-population loss, hurricane damages and continuous earthquakes. Apart from the overall economic events, businesses are subject to continuous challenges including extensive waiting time for permits, increase in taxes and electric energy, cabotage laws, and more.

Per our analysis, 133,170 employees or 15.4% of total employment are below the \pm \$10 threshold²⁹ and 63.2% are below the \pm 15\$ threshold which would be directly impacted by an increase in the minimum wage.³⁰

Under any reasonable analysis, a wage increase that directly affects over 63% of total employment will create a considerable shock to any economy. Furthermore, the magnitude of the increase would be of more than 100% in many cases, from \$7.25 to \$15hr. In addition, businesses have salary scales as to differentiate beginners from experienced workers, supervisors, etc.

Wage increases must be paid for somehow, ideally from economic growth or productivity increases. A country that has been in economic recession for over a decade, has had over 5,000 small and medium businesses close, decrease in productivity in the past five years, can hardly be expected to increase its minimum wage. Furthermore, at the time of this analysis businesses were still under an executive order limiting client capacity and operating hours due to the COVID-19 pandemic.

Policymakers cannot simply transfer the responsibility of providing an acceptable cost of living, to businesses when governments have been inefficient in providing the resources or economic environment businesses need to survive. As explained before, most of the causes for cost-of-living increases are controlled or provoked by the government (taxes, energy, water).

²⁸ Kristensen, Nicolai; Cunningham, Wendy. 2006. *Do Minimum Wages in Latin America and the Caribbean Matter? Evidence from 19 Countries*. Policy Research Working Paper; No. 3870. World Bank, Washington, DC. World Bank.

²⁹ We have chosen the \$10 threshold since the lower margins of average annual wages are closer to \$10.

³⁰ In the Planning Board's 2018 study: Jobs impacted by applying a new minimum wage statute at \$10.00 per hour worked amounted to 367,475 or 41.8% of a total of 879,220 jobs. Performing a static analysis, if no conditions change, said increase to \$ 10.00 per hour would represent an additional payroll to workers of \$869,131,456. According to data from the same study, 556,045 or 63.2% are below \$15hr for an additional payroll of \$ 5,267,425,105.

In 2019, when the federal transfers related to hurricane María started to flow in the economy, the labor market increased its average minimum wage to compete. But this was the exception, should not be the norm since that money is not recurrent and it would be the government imposing on businesses to increase their costs. As seen in this report, when the economy grows, average hourly wages also increase, the market corrects itself. Thus, it is by creating the circumstances for economic growth that wages increase even without government intervention.

In contrast, significantly increasing wages without growth would specially impact small and medium local businesses.

Small and Medium Businesses have been hit the hardest with over 15,409 of them closing since 2008. Due to the pandemic, we estimate that 4.5% of small businesses closed due to lockdown orders – this represents 1,821 SMEs. While 35.8% (16,302 businesses) could close at any moment or remain open, depending on the governments regulations and customers' take.

This research shows the destructive consequences of legislating under economic premises that are inapplicable to the situation of the Island. The difference between the US and PR economies is abysmal and has been increasing since the last minimum wage hike.

In summary, using the PR Planning Board 2018 estimates, at \$15hr the island's economy would need \$5.3 billion in added wages which is more that the corporate net income. Assuming a static analysis and current negative economic trends, if the minimum wage is increased this would impact 556,045 jobs³¹, representing \$15.2 billion in wages, or 14.7% of the GDP.

Recommendations & suggestions for developing a public policy on the minimum wage.

Overall analysis for the increase of minimum wage has had mixed conclusions with inconclusive regressions. Even before the pandemic, Puerto Rico's economy continues to struggle with the ongoing economic recession, government debt, decrease in foreign investment, migration, the devastation caused by hurricane Maria, the earthquakes, and more.

Based on these conclusions we recommend that there be no minimum wage increase until some points are addressed:

1. If the US minimum wage is the objective, the Island's economy would **need to close the gap in macroeconomic indicators** such as:
 - a. Per Capita Income – The Island's per capita income is about a third of the US average and about half the worst state.
 - b. Labor participation rate – The US participation rate is consistently above 60% while PR is less than 40%.
 - c. Unemployment rate – Before the pandemic, the US was considered in full employment with under 4% unemployment while in PR has consistently been above 10%.
 - d. General economic growth trends – Until 2006, the patterns or trajectories of both economies were similar but since then they are divorced, and the gap is widening.Until those gaps are closed, minimum wage policy needs to adapt to the economic circumstances of the Island and not the other way around.

³¹ Number given by the Planning Board in their 2018 analysis.

2. **Focus on increasing productivity.** Policymakers need to focus on fomenting productivity increases and significant cost reductions. As mentioned in this report, the past two years have seen a decrease in productivity due to factors discussed, while costs continue to increase, including the latest increase in the cost of energy.
3. **Significantly reduce the cost of living and the cost of doing business –** Streamline taxes eliminating layers such as the inventory tax, excise taxes and others. Reduce utilities cost and transportation costs, permitting, etc.
4. **Tax breaks or aids need to be offered.** If any increases are to be implemented, policymakers need to ensure that equivalent or improved tax breaks or aid offered to US employers are applied to local business to avoid more job losses and inflation.
5. **Converting direct aid in work subsidies –** Puerto Rico receives over \$6.9 billion in different federal subsidies. Participants risk losing such benefits added to the income taxes penalties if they work which creates a disincentive to work. Several studies have suggested converting such subsidies in complements to wages so that workers receive higher wages without the negative impacts to employers.
6. **There is a clearer path on the effects of the pandemic.** In the U.S. and P.R. unemployment has skyrocketed, the number of small and medium size businesses closing is in double digits and there is no real timeline of when the pandemic is ending.
7. **Minimum wage across industries. Although we believe the market should establish wages, if public policy forces significant increases to the economy, consideration should be given to implementing a minimum wage depending on the industry as adopted in different countries. Before 1995 Puerto Rico had mandatory decrees by industries. The industries where minimum wage increase could affect businesses, are the most hurt from the pandemic.** Occupations and industries that could see benefits from increasing the minimum wages (such as Food and Preparations, Accommodation) are the hardest hit from the pandemic. Restaurants are still operating at 50% capacity³² while businesses dependent from Tourism are closing and furloughing employees.³³
8. **Small and medium size businesses have resorted to operating adjustments to remain stable.** In a recent survey³⁴, 55% of SME's indicated that their business remains stable, but they had to reduce employee's hours and part of their salaries as alternative adjustment to not laying off employees. The majority³⁵ estimates that in 1 to 2 years – or until a vaccine is available, they will not see any normalization of their businesses.

³² OE 2020-61

³³ El Nuevo Día. *Siete hoteles en Puerto Rico confirman la cesantía de 2,000 empleados por la crisis de coronavirus.* March 24, 2020

³⁴ Survey conducted by Inteligencia Económica with La Cámara de Comercio from May, 2020 to August, 2020 where 60% of participants were Small and Medium Businesses, while 22.4% were self-employed and 6% were local chains. The remaining participants were multinationals.

³⁵ 56.7% of participants.

Suggestions for developing public policy.

As explained before, the best way to increase wages is by promoting real economic growth and productivity increases. It is difficult to argue that Puerto Rico is in a clear path to growth in the short or medium term aside from the recent federal aid packages related to succeeding emergencies. Thus, any mandated increases in wages will have further significant effects on the economy.

Nonetheless, under normal circumstances, there are different approaches to increase the minimum wage.

The reality of setting a minimum wage varies state by state and country to country. There are different ways to choose a right minimum wage.

1. Regimes involving an expert body: the government entrusts a private third-party to solely study which minimum wage should be put in place and the effects of it over the economy. Recommendations by this party are then analyzed by the government to reach a consensus in increasing the minimum wage. This was the case in Puerto Rico until 1995.
2. Government-set minimum wages: where the government unilaterally makes the analysis and decides the wage.
3. Formula approaches:
 - a. Setting minimum wage as a percentage of average wages.
4. Collective bargaining: Different unions coming to the table with government to determine a minimum wage.

Setting minimum wage as a percentage of average wages

A “bite” of the minimum wage

The “bite” of the minimum wage is a ratio of the average hourly wage already in the market. For most countries, the minimum wage is set at around half the median wage, but this varies country to country. For example, in the US the minimum wage is 37% of the median wage while in France and New Zealand is 60%, while 46% in the UK. In the US it also varies state by state with 29% in Massachusetts, and 42% in Ohio.

In Puerto Rico, the median hourly earnings for all occupation was \$10.13 in 2019.³⁶ If it were to apply a “bite” approach it would need to be higher “bite” than other countries, since the minimum wage is already 71.6% of the median hourly wage. So technically, Puerto Rico already is well above other countries’ average.

Using the average hourly earning

If we use the mean hourly earnings which was \$14.27 in 2019, and a similar “bite” approach of 37% as the US it should be \$5.28 – well below the current minimum wage – or at 60% as France it would be \$8.13, an increase of \$1.31 to the current mean hourly earnings.

³⁶ Source: BLS

Minimum wage across group of workers

Many countries have lower minimum-wages rates for younger workers on the premise that they are, on average, less productive than older workers. This was already suggested by the Fiscal Oversight and Management Board, but since Puerto Rico has a problem of losing its productive population (young professionals) to the mainland, this would incentivize them to leave.

Packages for Small and Medium Size Businesses - PYMES

Increasing the minimum wage directly impacts small and medium size enterprises (SMEs), especially local SMEs since large chains are already paying above the minimum (for example, Amazon and Walmart). The last time the minimum wage was increased in the United States, the federal government provided grants and benefits to SMEs to minimize the impact created by the increase in operational costs.

In the case of Puerto Rico, if the minimum wage were to potentially increase, it would need to go hand in hand with stimulus whether be by tax incentives, tax cuts or payable benefits to SMEs. If this is NOT part of any proposal, then we will see numerous local SMEs close their doors permanently, which will consolidate revenues in larger and foreign chains.

SMEs represent more than 42% of private employment and about 54% of total gross product, if they are marginalized in this conversation, production and consumption will consolidate a few large chains and online ordering from other countries.

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