PUERTO RICO: THE ECONOMY AND POLITICAL STATUS
Why are Things So Bad and How Can the Situation Be Improved?

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ABSTRACT

This manuscript examines the condition of the Puerto Rican economy, arguing that poor economic performance is intimately connected to the island's political status. The combination of uncertainty and dependence inherent in Puerto Rico's status as a territory of the United States has undermined private sector actions and government policies that could generate long-term sustained economic growth. In terms of economic progress, statehood could provide the most favorable option. The argument is developed by an examination of the economy over the past several decades and then by a focus on the long recession that emerged early in the 21st century. Attention is given to the set of myths that have been used to justify poor government policies in Puerto Rico, particularly the myth that tax incentives and an emphasis on manufacturing have provided and can provide in the future a basis for progress. The buildup of Puerto Rico's public debt is examined, and a critique is undertaken of the resulting takeover of Puerto Rico's financial affairs by the Financial Oversight and Management Board appointed by the federal government. Consideration is also given to the implications of Puerto Rico's dependence in terms of poverty, economic inequality, and out-migration. Finally, the manuscript presents actions that could revive the island's economy, giving emphasis to a major program of public infrastructure investment, obtaining reasonable support from the federal government, and reforms affecting the regulatory system, education, and tax collection.

Keywords: Puerto Rico status, dependence, Puerto Rico debt, level playing field, emigration, Hurricane Maria, Puerto Rican statehood, poverty, inequality, austerity. Financial Oversight and Management Board

JEL Classification: E62, E63, F34, O1, O2, O23, O24, O54

"The Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States."

The Constitution of the United States
Article IV, Section 3, Paragraph 2

"Operation Bootstrap was based on a negation of self-sufficiency and an acceptance of utter dependency on the colonial master, the United States. Manufacturing firms in Puerto Rico were almost completely export oriented to the mainland market . . . Puerto Rico was also dependent on the United States for its investment capital."

Sonia Maria Sotomayor
La Historia Cíclica de Puerto Rico: The Impact of the Life of Luis Muñoz Marín on the Political and Economic History of Puerto Rico, 1930-1975.
Princeton University, Senior Thesis, Department of History, 1976, p. 98

"Uncertainty … can have serious adverse effects, especially on investment."

Paul Krugman
"Tariff Tantrums and Recession Risks: Why trade war scares the market so much"
The New York Times, August 7, 2019
https://www.nytimes.com/2019/08/07/opinion/tariff-tantrums-and-recession-risks.html

"The definition of insanity is doing the same thing over and over and expecting different results."

Attributed to Albert Einstein
Source Unknown

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Preface

Partly it was the hurricane's devastation in September 2017. And partly it was the mounting public debt, which threatened the stability of financial markets. Whatever the particular causes, the U.S. media, federal authorities, and the general public in the United States have finally become aware of the Puerto Rican economic debacle: a recession lasting more than a decade; decades of economic slowdown preceding the recession; severe and widespread poverty and extreme inequality; hundreds of thousands of Puerto Ricans leaving the island for new homes in the states; the huge and unpayable public debt; the hurricanes' devastation; and legislation in Washington that placed control of Puerto Rico's economic policy in federal hands.

What explains this poor performance of the Puerto Rican economy? And what can be done to establish economic well-being and growth?

There are many parts to an explanation. Our analysis here, however, demonstrates that the calamity of the Puerto Rican economy, in terms of both conditions and policy, can be traced to the political status of the island. Puerto Rico's status as a "territory" of the United States has been the crucible of economic failure.

Our emphasis on political status differs from many other analyses of the Puerto Rican economy that separate economics from politics. Numerous economists and others have advocated for policy changes that, they claim, would overcome economic weakness and promote economic growth. Many of these policy proposals are good in the abstract, but they are seldom, if ever, effectively implemented because their proponents fail to take account of the political context. For example, they fail to take account of the uncertainty that is endemic to Puerto Rico's status and that inhibits investments, which would provide a basis for long-run economic growth. Also, they ignore the dependent position of the Puerto Rican economy, which has severely limited the development of Puerto Rico-based businesses and the buildup of the island's social and physical infrastructure. Instead of building up foundations of economic growth within Puerto Rico, the island's governments have looked to the mainland for sources of investment and business organization and to Washington for special favors.

The argument that political status is the dominating factor in explaining the condition of the Puerto Rican economy is built on several pillars. However, these two broad factors—uncertainty and dependence—are central pillars of the argument. Generated by the island's territorial status, uncertainty and dependence have distorted investment decisions, and have inhibited economic progress.

To develop our analysis, it will be necessary to review the course of Puerto Rico's economic policy and progress (or lack of progress) at least since World War II and to show how that experience has been shaped by the island's political status, its relation to the federal government. We will also offer a critique of policies that have been pursued in recent years. There are alternative policies, we will argue, that could move the economy forward. Yet, even the best of policies will have limited positive impact as long as the current status is maintained.

The Status Alternatives

There are two alternatives to the current status—statehood and independence. In referenda and polls, statehood increasingly has risen to first place over both the current status and independence. Only a small share of the population has expressed a preference for independence. While the validity of these referenda and polls has been in dispute, it seems clear that statehood, while not commanding an overwhelming majority, is the option most favored by the residents of Puerto Rico.

A third arrangement is frequently advocated as an option, namely "sovereign free association." Sovereign free association, would provide Puerto Rico with full sovereignty, allowing Puerto Rico to control its own foreign economic relations, including membership in international organizations, while its people retained U.S. citizenship. This option, however, would not be possible under the U.S. constitution. As stated gently in the 2011 Report by the President's Task Force on Puerto Rico's Status, sovereign free association would be "constitutionally problematic."[1] As difficult as it would be to establish either of the other two alternatives to the current status of Puerto Rico, sovereign free association, which would require amendment of the U.S. Constitution, cannot be viewed as a possible option, and therefore its implications will not be considered here.

Statehood would have numerous economic advantages. Most important, Puerto Ricans on the island would no longer be second class citizens. With statehood, they would have representation in Congress and would take part in presidential elections. Under existing federal policies and with this power in Washington, Puerto Rico would receive substantial economic benefits. The island would be on a level playing field with the states.

Much more than this, however, statehood would have significant and positive impacts on economic policy within Puerto Rico and on the operation of businesses on the island. The context in which the Puerto Rican economy operated would be dramatically altered. The uncertainty of the current status would be gone, and there

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[1] Report by the President's Task Force on Puerto Rico's Status, March 2011, https://obamawhitehouse.archives.gov/sites/default/files/uploads/Puerto_Rico_Task_Force_Report.pdf. The context of the term "constitutionally problematic," is as follows: [C]onsistent with the legal conclusions reached by prior Task Force reports, one aspect of some proposals for enhanced Commonwealth remains constitutionally problematic—proposals that would establish a relationship between Puerto Rico and the Federal Government that could not be altered except by mutual consent. This was a focus of past Task Force reports. The Obama Administration has taken a fresh look at the issue of such mutual consent provisions, and it has concluded that such provisions would not be enforceable because a future Congress could choose to alter that relationship unilaterally." (p. 26)

would be clear incentives for greater, long-term investment. The island's dependence would no longer inhibit the emergence of economic activity fueled by a locally based private sector. Ironically, some opposition to statehood has been based on the argument that Puerto Rico must achieve substantial economic progress under the current status before it is ready for statehood. Yet, it is precisely the current status that inhibits substantial economic progress.

There are arguments for independence. Independence might allow Puerto Ricans to follow a different set of social and economic policies from those of the states. The Puerto Rican Independence Party calls for a movement towards social democratic policies. Also, language and culture are the focus of many who support independence, and there is also the issue of identity. Yet, the economic record of small, independent island countries does not provide an auspicious record for an independent Puerto Rico, and, while major economic benefits of statehood are automatic, the same cannot be said of independence. Further, independence would jeopardize the U.S. citizenship of, at least, future generations.

Beyond the arguments regarding an alternative status for Puerto Rico and economic considerations, there is the essential question of human rights. The current status involves a denial of basic human rights. Regardless of the fact that Puerto Rico is self-governing in certain respects, the federal government has ultimate authority, and the people of Puerto Rico have no meaningful representation in the federal government—neither representatives in Congress nor votes for president.[2] They are citizens of the United States, but, while living on the island, they are second class citizens.

Basic issues of human rights and economic well-being demand a basic change in Puerto Rico's political status.

Data Issues

Our analysis is developed on an empirical foundation, using the data that are available. While we believe this gives our analysis force, it must be recognized that there are serious problems with Puerto Rican economic data. One outstanding example is the way that aggregate data—Gross National Product (GNP), Gross Domestic Product (GDP), and personal income, for example—are adjusted for inflation. In making the adjustments, 1954 is used as the base year. Over more than six decades, goods and services change dramatically, the "market basket" of items that are produced and what is consumed become very different, completely new products are introduced, and many old products no longer exist. Thus, the "real" values (that is the inflation adjusted values) for today based on 1954 as the base year are not real at all.

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[2] Puerto Ricans do elect a single "Resident Commissioner" in the U.S. House of Representatives. The Resident Commissioner sits on and can vote in committees and can introduce legislation, but does not have a vote in the full House. Were Puerto Rico a state, it would have two senators and perhaps four representatives in the House, all, of course, with the full voting rights.

In some cases, there are alternative ways to measure what has happened in the Puerto Rican economy. For example, there is the Economic Activity Index, based on what has happened to the production and purchase of a few important commodities. This index can be used to check the changes in aggregate variables (such as GNP, GDP, and total personal income). Yet, in many cases, it is necessary to rely on the official data, in spite of their well-known problems. The reader should be cautious, however, in accepting precise statements based on weak data, and we will try to avoid leading the reader in that direction. (The data problem issue, like other issues mentioned in this preface will be examined more thoroughly in the chapters that follow—the data issue in the appendix to Chapter 1. The problems with the data can be traced to the island's status and which would likely be repaired with statehood.)

Aside from the problems with the data, the reader needs to keep in mind that most of the economic data for Puerto Rico are reported on a fiscal year basis. That is, for example, when data that are reported for 2017, this means that those data are for the period July 1, 2016 to June 30, 2017. One significant result of this way of reporting the data is that figures for 2017 do not include the immediate impact of the hurricanes that hit the island in September 2017. The fiscal year 2017 ended on June 30, 2017, and thus those hurricanes were in fiscal year 2018. Unless otherwise indicated, when data are reported here for a particular year, it is the fiscal year.

A major source of Puerto Rico economic data is the annual *Informe Económico al Gobernador*, which contains a useful statistical appendix.[3] When we use data without noting a source or by simply noting *Informe*, those data are from this source, sometimes from several years of the *Informe.* Because data are often revised after they first appear in an annual *Informe*, we have tried to rely on the revised figures whenever possible (often from an *Informe* a few years after the date of the data).

In much of our analysis, we focus on the period up through 2017 (that is, up through fiscal year 2017). In understanding the course of the economy over time, we wanted to avoid the disruption of the hurricanes. While that disruption was not simply "an act of nature," to include 2018 (the fiscal year in which the hurricanes occurred), would detract from an understanding of the longer run impact of policies and of the economy's course. Also, by 2018, the Financial Oversight and Management Board (FOMB), which had been created by 2016 federal legislation, was thoroughly dominating economic policy, and so experience from that point onward requires a different set of considerations. We will give attention to the actions and impact of the FOMB and of the post-hurricanes course of the economy, but we think it most useful to focus on the years up through 2017 and, separately but connected, 2018 and beyond.

[3] Available at "Informe Económico al Gobernador," http://jp.pr.gov/Econom%C3%ADa/Informe-Econ%C3%B3mico-al-Gobernador.

Acknowledgement

While we have benefited from the comments and publications of many people in developing our ideas and arguments, we wish to acknowledge and express our gratitude to Michaela Spampinato for the for the many substantive and technical ways in which she has supported our work. She, however, bears no responsibilities for any remaining errors or for arguments that may be disagreeable to some readers.

Chapter 1

Introduction: Recession, Debt, Hurricanes, and Status

On June 15, 2015, the then Governor of Puerto Rico announced that "The debt is not payable." The governor, Alejandro García Padilla, was referring to the roughly $70 billion in Puerto Rican public debt—debt undertaken by the island's central government, municipal governments, and public enterprises such as the Puerto Rico Electric Power Authority (PREPA). Because the Gross National Product of Puerto Rico was about $70 billion and the island's economy had been in recession since 2006, no one, certainly not those who paid attention to the situation on the island, should have been surprised by the governor's statement.[4]

Puerto Ricans themselves, certainly, were well aware of the economic difficulties. In 2015, the island's GNP (inflation adjusted) had fallen by 14.4% since its peak in 2006 and the unemployment rate stood at 12.8%. Even that high unemployment rate masked the severity of the situation, as the labor force participation rate had plummeted to 39.6% from 47.9% in 2006. (And that 2006 figure itself was very low by international standards.)[5] Also, in order to meet its debt payments, the government had been cutting its own expenditures and laying off government workers, which, of course, meant cuts in public services.

Investors in the United States, though not all, had been well aware of the likelihood of a crisis in the Puerto Rican bond market. For example, in March 2012, Breckinridge Capital Advisors had issued a White Paper on the Puerto Rican situation, stating:

> "…the Commonwealth today is flirting with insolvency, and the risk is growing that, someday, Commonwealth investors may not be repaid in full. Puerto Rico's financial condition is far worse than any U.S. state's, and default—though unlikely in the immediate future—is a possibility over the next few years… Breckinridge has long avoided obligations of Puerto

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[4] Michael Corkery and Mary Williams Walsh, "Puerto Rico's Governor Says Island's Debts Are 'Not Payable'," *The New York Times*, June 28, 2015, https://www.nytimes.com/2015/06/29/business/dealbook/puerto-ricos-governor-says-islands-debts-are-not-payable.html.

[5] As noted in the Preface, unless otherwise indicated, data here are for fiscal years and are taken from the statistical appendix of the *Informe Económico al Gobernador Puerto Rico*, various years.

Rico, but we believe all municipal bond investors should now be cognizant of its problems."[6]

Traders in the bond market were not the only group that lost confidence in Puerto Rico. Many Puerto Ricans were themselves dealing with the situation by departing the island. As U.S. citizens, they could simply move to the states. The population declined from 3.805 million in 2006 to 3.337 million in 2017, a decline of over 12%.[7] This 2017 figure is from before the hurricanes of September 2017, but following the hurricanes departures greatly increased. Between July 2017 and July 2018, the population declined by another 140 thousand, a rate three times faster than the average of the 2006 to 2017 period. Thus by the 2018, the population of Puerto Rico was 3.195 million, 16% below its 2006 level. (The population decline will be discussed further below, especially in chapter 8.)[8]

While the migration was garnering attention in several states, it was the concern in the bond market, exacerbated by the governor's "not payable" statement, that finally set off alarm bells in Washington. Until 2015, the congresses and presidents had largely ignored the economic plight of Puerto Rico. A year after the governor's statement, however, the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA) became law. While PROMESA has many aspects (some of which will be discussed below), its principal feature was the creation of a seven-member Fiscal Management and Oversight Board (FOMB) that would, in effect, determine fiscal and economic policies of the Puerto Rican government and thereby exercise a great deal of control over the island's economy. Members of the FOMB would be appointed by the President from lists submitted by Congress.[9]

Leaving aside for now (though see below, especially Chapter 6) the policies imposed by the FOMB, its appointment was a confirmation of the subordinate status of Puerto Rico in the U.S. political system. Puerto Ricans are

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[6] Breckinridge Capital Advisors, *Puerto Rico's Challenge*, Special Commentary, March 2012. Available at https://www.slideshare.net/LuisTaverasMBAMS/puerto-ricos-challenge.

[7] The population decline was also affected by a fall in the birth rate and a slight rise in the death rate, which can also be viewed as results of the dire economic situation; see Chapter 8. The population decline meant that the fall in per capita GNP was much less than the fall in GNP, dropping by only 7% in this period. Also, personal income per capita fell even less, for reasons taken up in Chapter 8.

[8] The population figures used here are from *Informe*. The data from the United States Census Bureau, are somewhat different, but make no significant difference to an understanding of what happened. See the Census Bureau's release of Wednesday, December 19, 2018, https://www.census.gov/newsroom/press-releases/2018/estimates-national-state.html.

[9] The President, however, could appoint one member of the FOMB at his sole discretion. For a detailed description of PROMESA, see D. Andrew Austin, *The Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA; H.R. 5278, S. 2328)*, Congressional Research Service, July 1, 2016, https://fas.org/sgp/crs/row/R44532.pdf.

citizens of the United States, but they have no votes for congressional representatives and do not vote for President. They are, in representation and many other ways, second class citizens, and with PROMESA and the creation of the FOMB, the sobriquet of “colony” became more widely used.[10]

The Hurricanes

PROMESA was signed into law by President Obama on June 30, 2016. Little more than a year later, as the Puerto Rican government, under control by the FOMB, was attempting to develop a new economic plan, the island was devastated in September 2017 by two powerful hurricanes. At least three thousand people died (with one estimate well over four thousand), many thousands of homes and businesses were destroyed or severely damaged, most of the island was without electricity for several months, and food and safe water remained scarce well after the hurricanes had departed. The cost estimates of the total damage ranged up to nearly $100 billion.

The economic problem was no longer only how to overcome the damage of the recession and the overbearing debt. Now Puerto Rico was faced with the double crisis of the long recession’s economic damage and the hurricanes’ all-encompassing damage. The FOMB and the Puerto Rican government revised their economic plans and projections in the wake of the hurricanes. Those plans and projections were dependent on timely provision by Washington of substantial disaster relief funds in response to the hurricanes’ damage. A year and a half after the hurricanes, however, the provision of those funds was neither timely nor substantial. Indeed, the conflict in Washington over relief funds for Puerto Rico underscores the island’s subordinate and dependent position in the U.S. polity—which is to say, it underscores the issue of Puerto Rico’s political status.

In April, 2019, *The New York Times* reported, “So far, FEMA and other agencies have disbursed $11.2 billion in aid to Puerto Rico, according to the federal Office of Management and Budget. Some $41 billion has been allocated but not yet distributed…Representative Jenniffer González-Colón, a Republican and Puerto Rico’s nonvoting member of Congress [comments]…’People get frustrated that all the money has been there — you can smell it, you can touch it — but you can’t grab it.’ For Mr. Rosselló [governor of Puerto Rico and a Democrat], the funding fight is a question of fairness. For every long-term rebuilding project underway in Puerto Rico at this point after Hurricane Maria, there were 28 projects underway in Texas for damage from Hurricane Harvey, and 32 projects in Louisiana after Hurricane Katrina, the governor

[10] When Puerto Ricans move to one of the states, they have the same rights as the other residents of those states; in other words, in the states, they become first class citizens. Regarding the reaction in Puerto Rico to PROMESA and the FOMB, see, for example, Mary Williams Walsh, “Puerto Rico Debt Relief Law Stirs Colonial Resentment,” *The New York Times, June 30, 2016,* https://www.nytimes.com/2016/07/01/business/dealbook/puerto-rico-debt-relief-law-stirs-colonial-resentment.html.

said. ‘Puerto Rico is getting much fewer and much lower resources than any comparable jurisdiction in the United States.’”[11]

(Chapter 2 contains further discussion of the hurricanes, their impacts, and their lessons.)

The Situation is Not New

Although the hurricanes added a severe new element to Puerto Rico’s economic difficulties, the island’s economic troubles should not be viewed as new. The difficulties cannot be found simply in unfortunate events and bad policy choices of recent years. To be sure, the 21st century has seen unfortunate events and bad policy choices in Puerto Rico—and bad choices in Washington affecting Puerto Rico. Yet, the economy of Puerto Rico has shown substantial weakness for decades and the causes of these problems are much deeper than can be found in the events and policies immediately preceding the post-2006 recession.

Although Puerto Rico experienced rapid economic growth from the 1950s on into the 1970s, since 1980 the island’s economy has fallen further and further behind that of the United States. Figure 1.1, showing the growth of GNP by decade in Puerto Rico, illustrates what has happened.

The period of rapid growth in the post-World War II decades is often attributed to tax breaks that the federal government, but also the Puerto Rican government, offered to U.S. firms that established operations on the island. The growth, however, was also brought about by the relatively low wages of Puerto Rican workers and the firms’ privileged access, compared to other low-wage parts of the world, to the U.S. market. The tax breaks and these conditions brought many light manufacturing firms to Puerto Rico, producing a range of goods from baseballs to apparel. The set of policies that contributed to this economic expansion were dubbed *Operation Bootstrap*.

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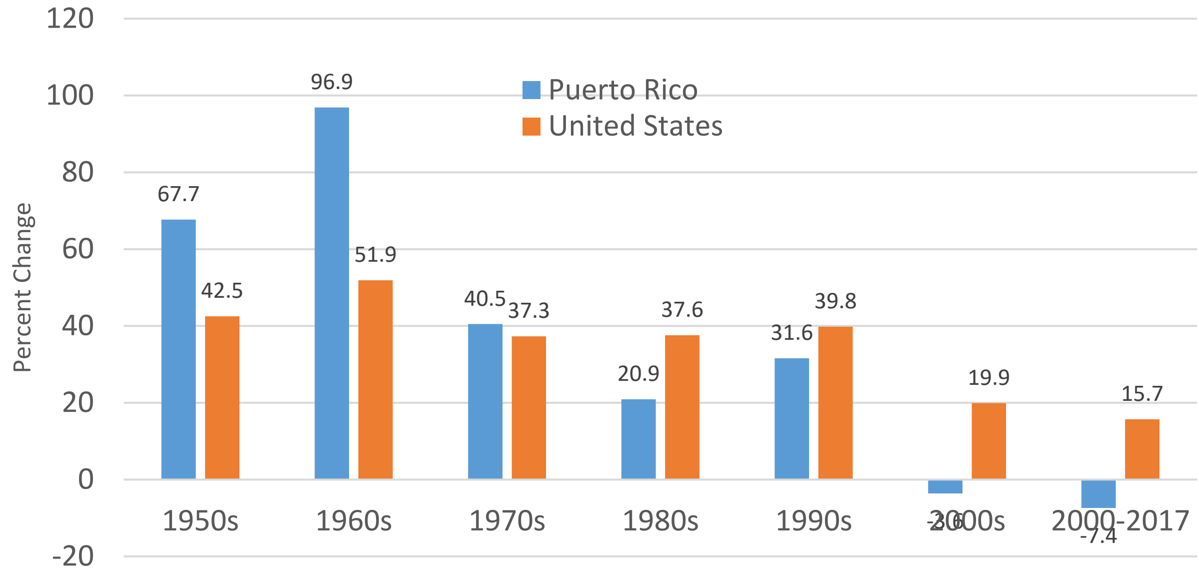
[11] See Patricia Mazzei, “Hunger and an ‘Abandoned’ Hospital: Puerto Rico Waits as Washington Bickers,” *The New York Times,* April 8, 2019, https://www.nytimes.com/2019/04/07/us/puerto-rico-trump-vieques.html?action=click&module=Top%20Stories&pgtype=Homepage. And Mazzei also notes: “A University of Michigan analysis published in the journal *BMJ Global Health* in January found it took twice as long — four months — for Hurricane Maria survivors in Puerto Rico to receive a comparable amount of individual aid (about $1 billion) as Hurricane Harvey survivors in Texas and Hurricane Irma survivors in Florida, though Maria was stronger and more devastating. Maria killed an estimated 2,975 people in Puerto Rico.”

Figure 1.1: Real GNP Growth in Puerto Rico and the United States, 1950 to 2017,
Percent Change in the Decade



Sources: For Puerto Rico - 1950-1980: James L. Dietz, *Economic History of Puerto Rico.* Princeton: Princeton University Press, 1986, Table 5.1; 1990-2017, *Informe*, various years. For the United States - calculated from Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/GDPC1.

There is no disputing the fact that the decades of *Operation Bootstrap* were, as shown in Figure 1.1, a period of quite rapid economic growth. As wages rose, however, and as other low-wage parts of the world gained access to the U.S. market, things changed. Moreover, within the framework of Operation Bootstrap, there were some serious problems. In a prescient critique of policies of that period, U.S. Supreme Court Justice Sonia Maria Sotomayor summed up the situation in her 1976 college thesis. She recognized that Operation Bootstrap allowed the Puerto Rican economy to improve in absolute terms, but argued that it failed because it ". . . was based on a negation of self-sufficiency and an acceptance of utter dependency on the colonial master, the United States. Manufacturing firms in Puerto Rico were almost completely export oriented to the mainland market . . . Puerto Rico was also dependent on the United States for its investment capital."[12] In other words, the growth success of this period did not generate strong bases for growth within Puerto Rican society. (The experiences of those early years and their legacy will be taken up below, especially in Chapter 3.)

[12] Sonia Maria Sotomayor. *La Historia Cíclica de Puerto Rico: The Impact of the Life of Luis Muñoz Marín on the Political and Economic History of Puerto Rico, 1930-1975*. Princeton University, Senior Thesis, Department of History, 1976, p. 98.

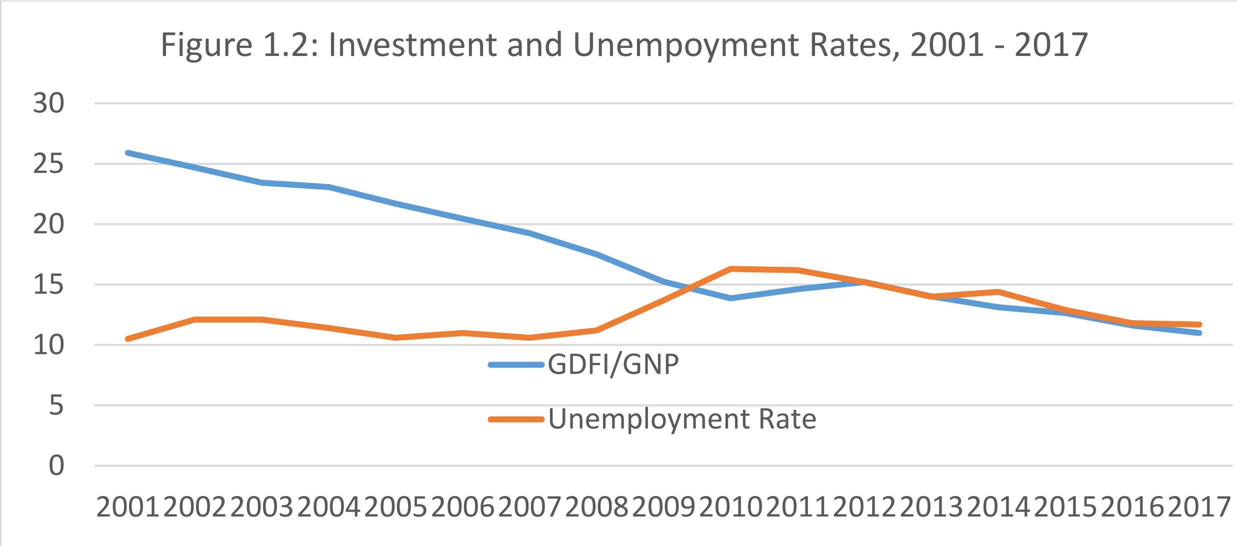
In subsequent years, not only did economic growth falter, but the Puerto Rican economy continued to be plagued by a high rate of poverty. At least since 2000, the poverty rate in Puerto Rico has been around 45%. In the era of rapid growth in the 1950s and 1960s, the poverty rate fell substantially as a large segment of the population moved from rural agriculture to urban industry; and another large segment left the island for the states. In the 1970s and 1980s, the poverty rate fell further, as transfer payments (e.g., Social Security and Medicare) played an increasing role in personal income. But in the 21st century, the poverty rate, at about 45%, has been about four times that for the United States as a whole and more than twice as high as that of Mississippi, the state with the highest poverty rate.[13]

Income inequality is also quite high in Puerto Rico. Measured by the Gini coefficient, the degree of income inequality rose substantially between 1950 and 1970 and has stayed high ever since—more in line with the degree of inequality in Latin American countries than with the states. (The Gini ratio is a measure of the distribution of income, ranging from 0, all people having the same income, to 1.0, all income going to one person. Almost all countries have Gini ratios for the distribution of income between 0.250 and 0.650.) In all years for which comparative data are available, income inequality has been higher in Puerto Rico than in any of the U.S. states. In 2017, the most recent year for which data are available, the Gini coefficient for Puerto Rico was 0.551, while that for the whole United States was 0.482; the only state with a Gini coefficient greater than 0.5 in 2017 was New York, with 0.516.[14] (Poverty and inequality will be more extensively discussed below in Chapter 8.)

The overall severity of the economic downturn that has plagued Puerto Rico since 2006 is illustrated in Figure 1.2, showing the unemployment rate and the investment rate (Gross Domestic Fixed Investment as a percentage of Gross National Product) from 2001 to 2017. In this period the unemployment rate rose and the investment rate plummeted. In 2010, the investment rate fell below the unemployment rate and this relationship between the two rates has remained roughly the same in most subsequent years. *There could hardly be a more dramatic statistical relationship illustrating economic distress*.

[13] The level of income that defines the poverty rate is the same in Puerto Rico as in the states. For the experience in the 1970s and 1980s, see Orlando J. Sotomayor, "Poverty and Income Inequality in Puerto Rico, 1969-89: Trends and Sources," *Review of Income and Wealth*, Series 42, Number I, March 1996, http://www.roiw.org/1996/49.pdf.

[14] Gloria G. Guzman, *Household Income: 2017*, American Community Survey Briefs, U.S. Census Bureau, September 2018, https://www.census.gov/content/dam/Census/library/publications/2018/acs/acsbr17-01.pdf.



Source: *Informes,* various years

Why is the Puerto Rican economy in such miserable shape—not just in in 2019 and in the years since 2006, but as pointed out, over the past several decades? There is, after all, wide agreement on many good policies that would improve the island's economy: improvement of the schools and support for "high tech" investments; improvement of the physical infrastructure; a better and more effective tax system; inclusion of the island in federal programs designed to reduce poverty (most especially the Earned Income Tax Credit); better support for the tourist industry; and the list goes on. Yet, rhetoric aside, policies of change are not thoroughly implemented. Why?

Economic Malaise and Political Status

The explanation for Puerto Rico's economic malaise presented here is that the island's economic condition is intimately connected to its political status as a "territory" of the United States. Territorial status creates uncertainty, a short-run approach to economic policy, an ideology and practice of reliance on special treatment by the U.S. government, dependence on investment from off the island, and continual failure to build up bases for economic development within the island's own society. Under these circumstances good policies, while recognized and advocated in many quarters, waste away in government reports and statements of good intentions. And externally based investors and the U.S. government fail to provide the hoped-for support.[15]

[15] A good example of many policy proposals combined with a lack of consideration of why good proposals are not adopted is the influential 2006 book produced by the Center for the New Economy in San Juan and the Brookings Institution in Washington. The editors portray policy and status as unconnected: "…our economic analyses and proposed growth strategy are status neutral and will be relevant regardless of political regime." (p. 2) Such an ahistorical approach, which fails to connect economics to politics, is of little use in understanding the roots of Puerto Rico's economic difficulties. Susan Collins, Barry P. Bosworth,

Continuation of territorial status will, at best, mean continuation of economic stagnation and instability. At worst, under the policies imposed by the FOMB, further decline is likely. Some of the economic problems identified here as stemming from Puerto Rico's political status could, in theory, be mitigated without status change. Yet, the history of Puerto Rico's treatment by the U.S. government, and the practices that have been followed by Puerto Rican governments with regard to their economic policies make it highly unlikely, if not inconceivable, that significant and lasting progress could be attained without status change.

There are, then, two options. Puerto Rico could become the fifty-first state or Puerto Rico could become an independent, sovereign county.[16] In terms of economic expansion taken alone, it would seem that statehood is preferable. As a state, the uncertainty that derives from Puerto Rico's current status would be removed, and the impact on investment would likely be positive, both in terms of the amount and the length of investors' outlook. Puerto Rico would be automatically treated in the same manner as the states with regard to federal programs; the outward orientation of policy in Puerto Rico would be altered; and, most important, Puerto Rico would have two senators and perhaps four representatives in the House and would fully take part in presidential elections. (The important issue of how Puerto Rico is currently treated more poorly than the states in terms of federal programs is elaborated in Chapter 4.)[17]

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and Miguel A. Soto-Class, editors, *The Economy of Puerto Rico: Restoring Growth, Center for the New Economy*, San Juan, and Brookings Institution, Washington, 2006.

[16] A third option, that of "sovereign free association" with the United States, has been dismissed in the Preface on constitutional and practice grounds, and will not be considered further here.

[17] Opponents of statehood sometimes argue that under statehood Puerto Ricans would suffer a large increase in their tax burden, as Puerto Ricans would become liable for federal income taxes. This is a bogus argument. Because their incomes are too low, they would not be required to pay federal income taxes. Indeed, most Puerto Ricans would have their tax burden *reduced* because they would receive federal tax credits, the EITC and CTC in particular. One comprehensive 2005 study of taxation in Puerto Rico concluded: "The overall effect of fully incorporating Puerto Rico into the US Federal tax system would be to provide additional benefits in the form of refundable credits to the vast majority of Puerto Rican residents…Based on [this study's] estimates, approximately 92.5 percent of all returns of Puerto Rican residents would either receive a tax refund or have no Federal income tax liability if Puerto Rico were fully incorporated into the US Federal tax system. The proportion of single and head of household returns that would either receive a refund or have no income tax liability is approximately 96.1 percent. Likewise, the proportion of married returns filing jointly that would either receive a refund or have no income tax liability is approximately 87.9 percent." Mary Schmitt and Judy Xanthopoulos, "Puerto Rico and the US Federal Tax System – Lessons from the Past and a Proposal for Economic Growth through Reduced Tax Burdens," A report by Optimal Benefit Strategies, LLC, Washington, November 11, 2005, p. 47; online at http://quantria.com/assets/img/PRandUSFederalTaxSystem.pdf. (The basic facts behind this point have not changed since the 2005 study.) Furthermore, if Puerto Rico were to become a state, it is possible that Puerto Rican taxes would not be as high as they are now under territorial status, as the federal government would take over some of the Puerto Rican government's functions.

As an independent country, Puerto Rico would have the authority to chart its own economic path, which could include different social programs than those of the U.S. government.[18] Also, independence would allow Puerto Rico to determine its own economic relations with other countries, and, with its own currency, it could devalue in an effort to overcome economic downturns. In dealing with its debt and other economic problems, an independent Puerto Rico could turn to international agencies for support. There are, however, few examples of small, island countries that have had substantial economic success. Also, such countries tend to maintain the same outward looking, dependent approach to policy that has characterized policy in Puerto Rico.

There are, of course, non-economic issues that are involved. For many Puerto Ricans, cultural, language, and identity issues are important; these issues are emphasized by those advocating independence. Especially prominent is the issue of U.S. citizenship, which would, of course, remain the same under statehood but which is at least uncertain under independence.

While economic issues will be given paramount attention here, the issue of human rights cannot be ignored. Under the current status, without voting representatives in Congress and no role in the election of the U.S. President, the people living in Puerto Rico are denied basic rights that the U.S. people, the U.S. government, and much of the world's people and governments have long viewed as essential components of freedom. Moreover, the human rights issue is connected to the economic issues that are examined here; lacking a say in the actions of the federal government, Puerto Ricans are treated as second class citizens, denied many economic benefits that accrue to their fellow citizens in the states. (The poor economic support provided by the federal government in the wake of the hurricanes is only the most noticeable example.)

The impact of Puerto Rico's current status in terms of both the economy and human rights is succinctly summed up by Sergio Marxuach, the Policy Director of the Center for a New Economy: "…any new economic strategy for Puerto Rico, no matter how nuanced, sophisticated, or brilliantly conceived, is bound to eventually fail if it ignores the fact that Puerto Rico has reached the limits of its development within the multiple constraints imposed by its subordinate political status, which is both humiliating to Puerto Ricans and unworthy of the United States."[19]

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[18] The Partido Independentista Puertorriqueño advocates a social democratic approach to policy, significantly different from policy approaches of U.S. governments.

[19] Sergio M. Marxuach, "Statement for the Record," in *Report: A Discussion on the Future of Puerto Rico's Economy*, Congressional Hearing organized by Representative Nydia M. Velázquez, August 2017, p. 20, https://velazquez.house.gov/sites/velazquez.house.gov/files/FINAL%20-%20A%20Discussion%20on%20Puerto%20Rico's%20Future%20Event.pdf. Marxuach points out in a footnote: "Neither a sovereign country nor a state of the union, Puerto Rico has no authority to negotiate international treaties, no access to emergency financing from multilateral institutions, no monetary policy instruments, limited fiscal policy tools, nominal representation in Congress, and the U.S. Supreme Court has determined it is constitutionally permissible for Congress to discriminate against Puerto Rico in the application of federal programs as long as there exists a 'rational basis' for doing so."

While the status issue is formally under the authority of the U.S. government, the desires of the Puerto Rican people are central to any decision regarding the choice between statehood and independence. In many referenda and polls over several decades, the preference of the Puerto Rican people has increasingly been for statehood, and in recent years the statehood preference has dominated the alternatives of the current status and independence. The most recent poll, taken by the Kaiser Family Trust and *The Washington Post* in September 2018, showed 48% of respondents in favor of statehood, 26% favoring the current status, and 10% for independence; 16% did not express a choice.[20]

The most recent referendum on Puerto Rico's status was held in June 2017. The vast majority, 97%, voted in favor of statehood. However, the anti-statehood groups boycotted this referendum because of dissatisfaction with its wording, and only a quarter of registered voters turned out at the polls. In the previous referendum, at the time of the general election in 2012, Puerto Rican voters were presented with two questions: (1) whether they agreed to continue with Puerto Rico's territorial status and (2) which status they preferred from a choice of three alternatives—statehood, independence, or a sovereign nation in free association with the United States. Fifty-four percent voted "No" on the first question. Of those who answered the second question, 61.2% chose statehood, 33.3% chose "free association," and 5.5% chose independence. However, with this referendum there was also a problem of participation, though far less so than in 2017. Advocates of the current status had supported a "Yes" vote on the first question and advocated leaving the answer to the second question blank. As it turned out, while there were 27% of voters left the second question blank, while only 4% had left the first question blank. (There were 1,879,000 votes cast.)[21]

It would appear that there is a significant degree of momentum towards the statehood alternative among Puerto Ricans. Whether or not the federal government will respond positively, however, remains an open question. The argument presented here is not only that continuation of Puerto Rico's current status will mean continued economic stagnation, with the island falling further and further behind the United States in term of income and output. In addition, statehood offers the opportunity for reinvigoration of economic growth in Puerto Rico, creating an avenue for people on the island to overcome the material deprivation that has been their lot for decades. Perhaps this analysis will affect decisions both in San Juan and Washington. (If, however, one

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[20] See question 64, in *The Washington Post*-Kaiser Family Foundation, Survey of Puerto Rico Residents, September 2018, http://files.kff.org/attachment/Topline-and-Methodology-Views-and-Experiences-of-Puerto-Ricans-One-Year-After-Maria. It is, however, not known how those who registered a preference for the current status would respond if the current status were not an option. Nonetheless, in this poll, the combined current status and independence preference was less than the statehood preference.

[21] Wikipedia, supplies details on all the referenda, complete with references, at "List of Puerto Rican Status Referendums," https://en.wikipedia.org/wiki/List_of_Puerto_Rican_status_referendums. The same source provides data on the referendums of 1967, 1993, and 1998. Taken altogether, there has been an increasing preference for statehood. However, as in 2012 and 2017, there has been controversy over the wording and interpretation of results.

gives priority over economic growth to culture, language, identity, and following a social course different from that of the United States, independence would likely be favored.)

Simulating Statehood

Nonetheless, although statehood could be the foundation of economic progress in Puerto Rico, there is little likelihood that statehood will be achieved in the near future. Regardless of the Puerto Rican people's rising support for statehood, there is no substantial support in the U.S. Congress for statehood, and economic conditions in the states along with the sharp partisan divisions do not bode well for attention being devoted to the Puerto Rican issue, let alone for the emergence of a consensus.

This political reality calls for interim action. There is a set of policy changes, not dependent on statehood, that would, first, be good in themselves, bringing positive economic developments for Puerto Rico. At the same time these changes would lay a foundation for a transition to statehood. These new policies would level the playing field by treating Puerto Rico, whenever possible, in the same manner as the states in all federal legislation, executive orders, and programs.

For example, Puerto Ricans should be made fully eligible for the federal Earned Income Tax Credit and the Child Tax Credit. Were these credits available to Puerto Ricans, many people on the island would see their incomes raised by thousands of dollars each year, as is the case with their fellow low-income residents of the states. (See Chapter 4.) Also, on all programs that involve the disbursement of federal funds—everything from federal procurement and employment by federal agencies to Medicare, Medicaid, and Supplemental Nutritional Assistance—Puerto Rico should be treated in the same manner as the states. The collection of these policies would help Puerto Rican families and generate significant general economic improvement, first, through providing a substantial stimulus and, second, by actively encouraging positive policy changes within Puerto Rico—including greater transparency and greater accountability. In fact, if Puerto Rico were treated in the same manner of the states on six major programs mentioned here (EITC, CTC, Nutritional Assistance, Medicare, Medicaid, and federal procurement), the result could mean an increase of over $6 billion coming to the island annually. (See Table 9.3.) While including Puerto Rico in these program would not make Puerto Rico a state, they would, in effect, "simulate statehood" in the economic realm, and, when a move to statehood develops, they would greatly facilitate the change.

Still, experience certainly demonstrates that it is difficult to implement good policies in Puerto Rico under the current status. Further, even if good policies are introduced, their endurance is hampered and becomes uncertain if the island's status is not altered.

What’s to Follow

The following chapters will provide a description and analysis of the Puerto Rican economy as it has evolved over several decades and has fallen into serious decline. The recurring theme in the analysis is that Puerto Rico’s economic weakness and decline can best be understood as consequences of its political status as a “territory” of the United States. Territorial status has created conditions of uncertainty and dependence, which have greatly retarded, if not wholly prevented, the foundation for sustained economic growth.

Chapter 2 deals with the hurricanes of September 2017. While the hurricanes did not initiate Puerto Rico’s economic troubles, they did make a bad situation worse, and the devastation they wrought has continued to hamper economic progress in subsequent years. The important point is that this devastation was not simply a “natural” disaster. If the preparedness and response of the Puerto Rican and federal governments had been more effective, the extent of the loss of life and damage would have been considerably less. The government failures can best be understood as a consequence of the island’s status.

Chapter 3 discusses the evolution of the economy since the World War II period. The rapid economic growth of the 1950s and into the 1970s had the perverse effect of generating a set of misleading myths that have been used to justify poor policy choices. These myths, which are interconnected and mutually supporting, include:

- *The tax incentive myth*: that tax incentives, especially Section 936 of the U.S. tax code, were valuable tools to attract investment that would generate economic growth and jobs;

- *The manufacturing myth*: that manufacturing was vital to the Puerto Rican economy and would be the foundation for long-run economic development; and

- *The myth of sustained economic success*: that the Puerto Rican economy had grown successfully, at least up until the downturn that emerged in 2006, and that downturn was, then, an aberration.

Chapter 3 also contains an appendix explaining and pointing out the significance of the large gap between Gross Domestic Product and Gross National Product for Puerto Rico.

Chapter 4 focuses on the economic treatment of Puerto Rico by the federal government. It is sometimes argued that the federal government provides generous support to Puerto Rico. Yet, in reality, Puerto Rico receives less economic support (measured various ways) than do many states. In numerous federal programs, Puerto Rico is treated less favorably that the states and is thus deprived of large flows of funds that would come to the island were it on a level playing field with the states.

Chapter 5 deals with the very large public debt that has been a major factor, both as cause and effect, in Puerto Rico's economic decline of recent years. The rapid growth of the public debt has had several particular causes—the inadequacies of the tax system, the rising burden of medical expenses (partly a result of poor support from the federal government), and a failure to anticipate the Great Recession in the states and its impact. These particular causes, however, were not simply "mistakes," but represented long-existing characteristics of the Puerto Rican government, which had their manifestation in taking on debt to meet current expenditures. Moreover, the government's ability to take on debt was eased by the triple exemption of Puerto Rican bonds—exempt from federal, state, and local taxes (including Puerto Rican taxes). Also, the debt of public enterprises is an important part of the story, dealt with in Chapter 5 by an examination of the largest of the public enterprise debtors—the Puerto Rico Electric Power Authority (PREPA).

Chapter 6 focuses on the economic austerity that has been imposed on the people of Puerto Rico. The policy of austerity was first imposed by the Puerto Rican government, but has been continued and increased under the PROMESA-created FOMB. The FOMB had the dual goals of assuring that Puerto Rico's creditors would be paid and engineering a program of economic growth on the island. Yet, presented with these contradictory goals, the FOMB has imposed austerity, hampering growth, in order to assure the availability of government funds to meet bond obligations. There is, however, a paradox of austerity. On the one hand, austerity is presented by its advocates as the necessary action when a government has spent beyond its resources and has taken on excessive debt. On the other hand, austerity, which means lack of government support for both basic needs and programs to support growth, tends to generate a downward economic spiral, which both squeezes the well-being of the population and fails to provide sufficient funds for the creditors. The chapter presents a critique of the FOMB's operations and develops an understanding of the detrimental impacts of its austerity program.

Chapter 7 explains how the great emphasis given to manufacturing has distorted the whole Puerto Rican economy. With its focus on tax incentive to attract subsidiaries of off-island firms, the government failed to give attention and support to economic activities for which the island would seem to have potential advantages; tourism and agriculture stand out as examples. Of special importance, the government's approach to manufacturing meant bringing in firms that had low rates of employment and built their profits to a large extent through transfer pricing and on locating the ownership of patents with their Puerto Rican subsidiaries. The nature of these firms' activities gave them limited interest in the long-run development of the public education system (and also the physical infrastructure). The weakness of education, which can in part be traced to off-island firms' lack of interest in the long-run development of the Puerto Rican economy, is one factor that has weakened the foundation for sustained economic expansion.

Chapter 8 provides descriptions of the extent and evolution over time of poverty and inequality in Puerto Rico. The high levels of poverty and inequality compared to the situation on the mainland provide poor foundations for economic progress. Also, poverty and inequality have contributed to the continuing migration from the island to the states. The rate of out-migration accelerated during the period since 2006, and rose sharply in the aftermath of the September 2017 hurricanes. (While largely motivated by economic factors, the burgeoning of social media, which provides quicker access to information, has also affected the out-migration.) The large decline in the population, caused by poor economic conditions, is likely to contribute to further poor conditions. This is especially the case as the population decline has been extremely large among the very young, children under sixteen.

Chapter 9 offers an alternative set of policies that could revive the Puerto Rican economy. At the core of these policies is a massive program of public infrastructure investment. The program would be financed from a number of sources: a favorable restructuring of Puerto Rico's debt; better treatment of Puerto Rico in federal programs (a level playing field); modest improvements in tax collection; and new borrowing, with proceeds dedicated to the program. For the program to move forward, a new approach to Puerto Rico on the part of the federal government will be necessary—e.g., with regard to the treatment of Puerto Rico in federal programs and support for debt restructuring. Beyond the public infrastructure program, the Puerto Rican government will have to initiate reforms—in its regulatory regime, public education, and tax collection. These are major changes, and there is good reason for skepticism that the necessary actions by the federal and Puerto Rican governments will take place. Nonetheless, the alternative to these sorts of actions is a Puerto Rican economy that remains in the doldrums, continued migration of many to the states, and poverty for most of those who remain.

These several chapters underscore the point that the uncertainty and dependence that lie at the root of economic weakness will remain until status change is achieved. Indeed, while the sorts of policies suggested in Chapter 9 might be put in place, they are unlikely to endure while Puerto Rico remains a territory (and even the likelihood that such policies will be put in place is low under the current status arrangements). The purpose of Chapter 10, the brief concluding chapter, will be to bring together important points introduced earlier, and to place them in the common framework of the status issue.

Finally, there is a brief Afterword on economic growth and climate change.

Appendix 1A
The Data Problem

Any discussion of the performance of the Puerto Rican economy is seriously hampered by the poor quality of the official data. Indeed, in some respects the official data are virtually useless. The poor quality of the data not only limit the reliability of statements about what has been happening to the economy; bad data also weaken economic performance (as pointed out below). Furthermore, it has become been clear that the government, at least sometimes, views economic data as a political tool, to be withheld or released—and perhaps distorted—according to the government's needs.

Perhaps the most obvious and most serious problem with the data is that 1954 prices are ostensibly[22] used to calculate real (inflation adjusted) aggregates. Over a fifty to sixty-year period, goods and services change dramatically, the "market basket" of goods that is consumed becomes very different, completely new products are introduced, and many old products no longer exist. Thus "real" calculations for today based on 1954 prices are not real at all.

As an example of the problematic consequences of using the 1954 prices to determine "real" aggregate figures, consider: In Fiscal Year 2017, according to the official data, real consumption expenditures were one-and-a-half times as large as real GNP, and the real excess of imports over exports was virtually equal to GNP. In current prices, however, consumption was 90% of GNP and the excess of imports over exports was 14% of GNP.[23] While these strange "real" results may reflect an accurate mathematical application of 1954 prices to 2017 conditions, they provide nothing useful about the real condition of the 2010 economy.

A related problem is revealed by the very large change in 2010 of the Puerto Rican Consumer Price Index (CPI), a principal measure of inflation. The new CPI presented a radically reduced and more plausible rate of inflation, as compared with the old CPI. Although the new CPI represents a positive step, the sharp change of these figures, which underlie judgments about what has been happening to the island's economy, increases general concern about the official data. Furthermore, although the CPI was revised for some years before 2010 and for years going forward, it appears that the revisions have not been done for earlier years.

Beyond these problems with the available data, the Puerto Rican government has at times attempted to prevent the availability of data. In 2010 the government attempted to prevent the release of the new CPI. When the Director of the Instituto de Estadísticas ignored the government's efforts and made the new CPI public, the government tried (unsuccessfully) to have him dismissed. As another example of the government's efforts to suppress economic data, in April 2012 the following statement appeared on the home page of the Government Development Bank (GDB):

> In compliance with Act 78-2011 (Puerto Rico Electoral Code for the Twenty-First Century), during an election year and until the following day

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[22] "Ostensibly" because it has been privately alleged by a person who had worked with the data in the Junta de Planificación that, in fact, other methods are used to determine real aggregates. Even if correct, this is hardly reassuring, as it suggests that no one outside of the Junta de Planificación knows how the computations are actually accomplished—which, in itself, makes the data of limited usefulness.

[23] The data for these examples are taken from tables 1, 2, and 3 in the statistical appendix to *Informe Económico al Gobernador Puerto Ricco 2018.*

> of the election event, the Government Development Bank for Puerto Rico may not publish certain information through the media, including its website, for the benefit of the general public. In order to keep our public informed and maintain our commitment of transparency with the investor community, we may provide updated information, per request. If you wish to receive updated economic information, please send us an email to investorresources@gdb.pr.gov.

The problem, of course, lies in the establishment of Act 78-2011. Yet the application of the law by the GDB, a major source of economic information on the Puerto Rican economy, underscores the effort by political authorities to control access to economic data. (Shortly after it was generally noticed, the statement disappeared from the GDB web site.)

The problems with the data themselves—especially with price adjustments and calculations of "real" values—make it difficult to have much confidence in data coming from official government sources, the Junta de Planificación in particular. Adding the apparent view of the government that economic information released by official agencies can be used as a political instrument, an observer must be concerned about the veracity of these data.

The issue, however, is not simply that one must have little confidence in the picture of the Puerto Rican economy that can be obtained from the official data—though of course this hampers efforts to develop accurate analyses. In addition, it undermines the government's ability to formulate effective economic policy, the ability of rating agencies to know what is going on in Puerto Rico, and the confidence that private investors (internal or external) have in Puerto Rican conditions.

The President of the New York Federal Reserve Bank, William C. Dudley, speaking in Puerto Rico in 2010, both commented on the importance of good economic data and noted the existence of Puerto Rico's shortcoming:[24]

> The private and public sectors both need accurate, timely and comprehensive economic statistics to perform effectively. It is impossible to make good decisions without a solid factual basis for those decisions. For example, the government needs good economic information to develop effective fiscal, economic development and regulatory policy. Likewise, to make the best production, investment and pricing decisions, businesses need accurate and timely information on things such as wages, income and prices. Poor quality information increases uncertainly and this uncertainty inhibits well-considered risk-taking and investment decisions.

[24] William C. Dudley, "The Challenges Ahead," Remarks at the Center for the New Economy 2010 Conference, San Juan, Puerto Rico, February 19, 2010, https://www.newyorkfed.org/newsevents/speeches/2010/dud100219.html.

> Although Puerto Rico's statistical system was once a model for other countries, now there are major opportunities for improvement in comparison with the mainland and other countries.

The poor quality of government economic data in Puerto Rico has created business for private consulting firms, as they sometimes generate estimates of data series to meet the needs of business clients. The work of the firm Estudios Técnicos in building a consumer price index for Puerto Rico is a good example.

In spite of the serious problems with the official data, there is no option but to use them in the analysis presented here, except in a few places otherwise noted. But the reader has been cautioned.

Chapter 2

The Hurricane Devastation of September 2017: A Disaster but Not a "Natural Disaster"

Hurricane Maria made landfall in Puerto Rico on September 20, 2017. It was the worst hurricane to hit Puerto Rico since the San Felipe Segundo hurricane of 1928. Two weeks before Maria, the even stronger hurricane Irma had swept just north of Puerto Rico, inflicting considerable damage on the island. Hurricanes and the damage they leave in their wake are facts of life on Puerto Rico, as well as on other Caribbean islands. Hurricane Hugo smashed into Puerto Rico in 1989, hurricane George in 1998, and many others. More will come.

Hurricane Maria, however, was different—but not just because of the loss of life and physical damage, both of which were extensive. Maria was different because of the attention it received in the states and because that attention revealed the poor economic conditions on the island, the incapacities of the Puerto Rican government, and Puerto Rico's thoroughly subordinate position in the U.S. polity. Already weakened by over a decade of recession, the island's economic institutions and infrastructure had little capacity to deal with the storm's impact. The government was both ill-prepared for that impact, and was not able to respond effectively. The federal government responded slowly and inadequately, treating Puerto Ricans as they had long been treated—as second class citizens.

All of this can be traced to the status of Puerto Rico, but it was the federal government's treatment of Puerto Rico that underscores the status issue. A month before Maria landed on Puerto Rico, hurricane Harvey had struck the Houston, Texas, area. And shortly after Irma had skirted the north side of Puerto Rico, it pummeled Florida. In both Texas and Florida, there was serious damage. Yet, in both of these states, federal support was substantial and quick to come. But not in Puerto Rico. The immediate response was limited, and two years after the storms, much of the federal funds promised for recovery had still not arrived.

As a "territory" and not a state, Puerto Rico was at a clear disadvantage. Texas and Florida each have two senators and several congressional representatives in Washington. Citizens in both states vote in presidential elections. Puerto Rico has no senators, no congressional representatives, and citizens on the island have no votes in presidential elections. Is it any wonder that in the aftermath of hurricanes Puerto Rico gets treated less well than the states?

Not a "Natural Disaster"

The death and damage wrought by hurricanes are often viewed as "natural disasters." Hurricanes are, of course, natural phenomena. In recent decades, however, hurricanes have changed, becoming more frequent and more powerful. Their impact has, consequently, become more substantial. The change is a result of climate change caused by humans. In this sense, the nature of hurricanes and their impact cannot be deemed simply "natural" phenomena. Nonetheless, the reality of hurricanes' increasing force must be taken as "given," if not "natural." Certainly, there was nothing that the Puerto Rican authorities or the U.S. authorities could have done in 2017 to reduce the power of Irma and Maria.

It was, however, not the hurricanes themselves that were the disaster. It was the severity of their impact. And here the actions—and inactions—by authorities in San Juan and Washington were responsible for making the disaster worse than it might otherwise have been.

Perhaps the first and most obvious failure of the authorities was denial of the seriousness of the hurricanes' impact. In particular, the government's original estimate of the number of deaths following hurricane Maria was 64. It was almost a year later, August 28, 2018, that Puerto Rico's Governor revised the number of deaths attributable to the storm to 2,975. (In Washington, President Trump denied the number.)[25] The new figure came from an independent study undertaken at the Milken Institute of Public Health at George Washington University that estimated there were 2,975 excess deaths in Puerto Rico due to Hurricane Maria between September 2017 and February 2018.[26]

However, a study released online in May 2018 by the *New England Journal of Medicine* had estimated an even higher number of additional deaths in 2017 during the period following Hurricane Maria: 4,654. This study was a collaboration among researchers at the Harvard School of Public Health, the University of Colorado School of Medicine, and the Carlos Albizu University in Puerto Rico.[27]

Many of the deaths that took place during and immediately after the storm could have been prevented by more extensive preparations, in which only the government could have taken the lead. The much larger number of deaths that took place in subsequent weeks and months were also attributable to the storm and many could have

[25] Amnesty International, "Puerto Rico a Year After Hurricane Maria," https://www.amnesty.org/en/latest/research/2018/09/puerto-rico-a-year-after-hurricane-maria/

[26] GW Today, "GW Researchers: 2,975 Excess Deaths Linked to Hurricane Maria," https://gwtoday.gwu.edu/gw-researchers-2975-excess-deaths-linked-hurricane-maria. The methodology on which this study and the next mentioned study were largely based involved estimating how many deaths there were in previous years over the same period which did not experience a hurricane and comparing those with the deaths that took place during and in the months after hurricane Maria. The higher number of deaths in the latter period were viewed as "excess deaths" or "additional deaths."

[27] Harvard FXB, Center for Health and Human Rights, "Study Estimates Prolonged Increase in Puerto Rican Death Rate After Hurricane Maria," May 29, 2018, https://fxb.harvard.edu/2018/05/29/study-estimates-prolonged-increase-in-puerto-rican-death-rate-after-hurricane-maria/.

been avoided by timely action and, especially important, by the establishment of a better infrastructure over the longer-run. The outstanding example was the miserable condition of the electric power grid, which was virtually entirely knocked out by the storm. As a result, in many homes and health facilities where people depended on electricity to operate medical devices, deaths occurred. Likewise, without electricity it was extremely difficult to obtain safe water. It was almost a year before electricity was fully restored.

Another infrastructure failure that led to deaths was that the storm made many bridges and roads impassable, and people in need of medical care could not reach that care and medical personnel could not reach them—to say nothing of people's access to food and other basic supplies. These infrastructure failures—both in the provision of electricity and in the roads and bridges—were the product of long-term neglect, exacerbated by the generally poor condition of the economy (the long recession) in the years prior to the hurricanes.

The physical damage wrought by the hurricanes has been extensively reported. Beyond the bridges and roads that were impaired or destroyed, buildings across the island were badly damaged, with roofs of homes torn off and walls collapsed. While the destruction was extensive, perhaps the impact was most serious in rural and especially mountainous areas, where people were cut off from assistance. With inadequate Puerto Rican government facilities to reach people in need, and with substantial delay in help coming from the federal government, relief was slow to come.

The Humanitarian Crisis and the Failure of Support

In the months following the hurricanes, the situation in Puerto Rico was widely referred to as a "humanitarian crisis."[28] And, vying with the debt situation for most attention, stories of personal trauma from the hurricanes have been regulars in the U.S. media. But as the focus on personal tragedies waned, the long-lasting impacts of September 2017 continued, as illustrated from this story from early 2019:

> Two weeks ago, builders finally started to repair the ceiling over Tugrul Giray's lab at the University of Puerto Rico's Río Piedras campus, near San Juan. It's been more than 500 days of leaking and mold, since Hurricane Maria tore through the island in September 2017—a deadly category 5 storm that caused a humanitarian crisis…

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[28] See, for example, NBC News, "Puerto Rico Facing Humanitarian Crisis After Maria, September 26, 2017, https://www.nbcnews.com/video/puerto-rico-facing-humanitarian-crisis-after-maria-1055297603796; Vox, "Hurricane Maria: 4 ways the storm changed Puerto Rico — and the rest of America, September 20 2018, https://www.vox.com/2018/9/20/17871330/hurricane-maria-puerto-rico-damage-death-toll-trump; Mercy Corp, "Quick facts: Hurricane Maria's effect on Puerto Rico," Last updated: June 27, 2019, https://www.mercycorps.org/articles/united-states/hurricane-maria-puerto-rico.

> Giray's lab is among 14 or so in the Julio Garcia Diaz biology building, which was among those severely damaged, particularly as it was already undergoing roof repairs when the storm hit. Water seeped in through the roof and windows, damaging costly research equipment, furniture, and lab materials. Toxic mold thrived in the moist, hot climate, creating hazardous conditions that made the building uninhabitable. Power outages cut off researchers' freezers and fridges, destroying precious genetic and tissue samples for good. The damages are estimated to range from $250,000 up to $2.5 million dollars per lab in that building, says Giray, a behavioral biologist whose main focus is honeybees.[29]

Overall, the cost of damages in Puerto Rico from the hurricanes has been estimated at over $90 billion. Much of this amount should have come from the federal government and some from private insurance. What should come have come, however, does not always come. After describing the plight of one resident, Fernando Rivera Molina, the *Miami Herald* reports:

> Rivera Molina is only one of 332,000 Puerto Rican householders whose applications for FEMA [Federal Emergency Management Agency] help with repairs in the months after Maria have been denied, leaving many in precarious living conditions — often without roofs and in virtually uninhabitable homes — a full year after the storm. The overriding reason: agency regulations and policies that require recipients of assistance to prove they own and occupy the damaged dwellings.
>
> The FEMA requirements, which critics contend the agency has applied more strictly after Maria than previously, quickly ran into the peculiar realities of property ownership in Puerto Rico, a U.S. territory whose legal code is a legacy of centuries of Spanish colonial rule and custom: Unless you have a mortgage or a condo, both of which only a minority of homeowners on the island do, there's no need for a deed.[30]

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[29] Katarina Zimmer, "Science in Puerto Rico is Still Recovering After Hurricane Maria," *The Scientist*, February 15, 2019, https://www.the-scientist.com/news-opinion/science-in-puerto-rico-still-recovering-after-hurricane-maria-65479. It is not clear whether Hurricane Maria should be viewed as a Category 5 or as a Category 4 storm. It was a Category 5 storm in much of the Caribbean. However, according to Climate.gov, "When María reached the island, it was a Category 4 storm, although meteorologists have no land-based records of María's maximum winds because the storm damaged most of Puerto Rico's wind sensors. The storm also destroyed the weather radar operated by the Federal Aviation Administration and the National Weather Service. That radar was designed to withstand maximum winds of 116 knots (133 miles per hour), so this value provides a low-end estimate of the storm's winds." https://www.climate.gov/news-features/understanding-climate/hurricane-marias-devastation-puerto-rico.

[30] Andres Viglucci, "They lost homes in Hurricane Maria, but didn't have deeds. FEMA rejected their claims," *Miami Herald*, undated (but August or September 2018), https://www.miamiherald.com/news/nation-world/national/article217935625.html.

Similar issues have arisen with private insurers. According an October 2018 story in the *Insurance Journal*:

> Thousands of Puerto Ricans have been forced to drain their savings, close their businesses, or resign themselves to living with structural damage as they fight insurance companies over millions of dollars' worth of claims that have gone unanswered or unpaid more than a year after Hurricane Maria.
>
> Experts say the Category 4 storm caught insurance companies off-guard and left them reeling financially after they were hit with nearly 279,000 claims, a number that one expert called "extraordinary." One major insurer has already folded, leaving more than 1,500 claims worth a total of $70 million up in the air. Many worry other companies might follow.
> ……
>
> Insurance companies in Puerto Rico have paid a total of $4.4 billion in claims, but more than 13,600 claims have not been closed, according to a report from Puerto Rico's government. The report shows that 65 percent of overall claims were closed with payment and 30 percent without payment.[31]

Much Promised, Little Delivered

As to general disaster relief from the federal government, a year and a half after the hurricanes, while much had been promised, little had been delivered. According to an NBC News April 2019 report:

> President Donald Trump amplified his opposition to granting more disaster funding to Puerto Rico, [and] falsely claim[ed] that "Puerto Rico got 91 billion dollars for the hurricane." He may have confused that number with the overall amount of the damages suffered by Puerto Rico during Hurricane Maria, which have been estimated at $90 billion, making it the third-costliest hurricane in the United States on record.
>
> But the actual amount allocated to the island is far less. A White House official told NBC News last week that the federal government has allocated $40 billion for disaster recovery in Puerto Rico. And much of that money has not actually reached the island…
>
> Even though it is on track to receive tens of billions of dollars in unprecedented aid — particularly from the Department of Housing and Urban Development, which allocated historic amounts of funding for the

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[31] Dana Coto, "Insurers Under Scrutiny in Puerto Rico with 13,600 Hurricane Maria Claims Still Open," Insurance Journal, October 25, 2018, https://www.insurancejournal.com/news/national/2018/10/25/505580.htm.

> island in the areas of housing, infrastructure and energy—most of the money has not made its way to communities in the island.
>
> While Puerto Rico has been able to use some of the more than $3.7 billion the federal government disbursed through the Federal Emergency Management Agency to finance local government grants during the immediate aftermath of Maria in 2017, most of the money appropriated by Congress last year is still stuck in Washington.[32]

With inadequate support from insurance firms and the governments in San Juan and Washington, Puerto Ricans themselves have responded to the post-hurricane situation in a variety of ways. Some have simply endured. By mid-2019, tens of thousands were living in houses with nothing more than blue tarps for roofs. In some parts of the island, neighbors have helped neighbors, organizing groups to rebuild damaged homes. Many Puerto Ricans have departed to the states. Over the 2006 to 2017 years of recession, out migration had been substantial; the island's population declined from 3.805 million in 2006 to 3.325 million in 2017 (before the hurricanes), an average decline of 44 thousand per year. Then, by mid-2018, the population declined by another 130 thousand, a 4% decline in one year. (See Chapter 8 for more on the population decline.)

A Short-term Recovery

While far less than what Puerto Rico has needed in the aftermath of September 2017, the combination of people's own resources, federal funds, private insurance payments, and some help from private agencies, supported a surge of rebuilding and repair. The Economic Activity Index (EAI - a composite of data on several activities, including cement sales), after falling in September, October, and November of 2017, rose continuously for the next nine months, a period of increase more lengthy than any since the onset of the recession in 2006. (See Table 2.1.) Also, the GNP decline in fiscal year 2018 turned out to be much less than the FOMB and the Puerto Rican government had anticipated. After the hurricanes, the FOMB and the government had predicted that GNP (inflation adjusted) would fall by 13% in 2018; in fact, preliminary estimates indicate that the fall was only 4.7%. It certainly appears that the recovery efforts created an upsurge in economic activity.

However, by October 2018, the upsurge, as shown by the EAI, stopped. The Puerto Rican economy seemed to settle back into its poor performance of the pre-hurricanes period. Further and continuing progress will need far more than the catalyst of disaster recovery.

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[32] Nicole Acevedo, "Puerto Rico Struggles to Get Disaster Aid Amid Congress, Trump Showdown," NBC News, April 2, 2019, https://www.nbcnews.com/news/latino/puerto-rico-struggles-get-disaster-aid-amid-congress-trump-showdown-n990046.

Table 2.1 - Economic Activity Index, Fiscal Years 2018 and 2019, 1980 = 100 (High Point, FY2006 = 156.6)

	FY2018	FY2019
July	121.5	121.7
August	121.3	121.8
September	114.9	121.6
October	104.2	121.1
November	99.0	121.4
December	103.3	121.1
January	113.4	121.3
February	117.5	121.1
March	118.8	121.4
April	119.5	121.0
May	120.2	120.7
June	121.1	120.4

Source: Puerto Rico Economic Data, https://www.bde.pr.gov/BDESite/PRED.html

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With at least 3,000 people dying as a result of the hurricanes that hit Puerto Rico in September 2017, the experience was certainly a disaster. The disaster continued for many months, as Puerto Ricans struggled to overcome the extensive destruction of homes, roads, bridges, water systems, and the virtual demise of the electrical power system. The island's economy, already in a recession lasting more than a decade, suffered a severe setback.

Beyond simply the interruption of production in many realms of the economy, the effects on some sectors was especially severe and lasting—tourism and agriculture provide examples. Also, the large outmigration following the hurricanes has diminished the island's labor force; and the storms certainly did not make Puerto Rico a more attractive site for new investment.

This destruction of lives and of the physical damage, however, did not have to be so extensive. The economic set back did not have to be so great. The impact of the hurricanes could have been less substantial had the Puerto Rican government been better prepared and responded more effectively. Also, the delay and limited adequacy of the federal government’s response made a bad situation worse.

The federal government’s poor response deserves emphasis because it exposes the significance of Puerto Rico’s political status as a territory of the United States. Puerto Rico is under the control of the U.S. government, and, indeed, according to the U.S. Constitution, the island, like all US. territories, is the property of the U.S. government. And even though Puerto Ricans are U.S. citizens, they are not treated as in the same manner as citizens living in the states. (See Chapter 4.)

As already noted, but worth noting again, if Puerto Rico were a state, with two senators, perhaps four congressional representatives, and votes in presidential elections, it is hard to imagine that the island and its people would not have been better treated by the federal government in the wake of the hurricanes.

Chapter 3

The Economy, Policy, and the Making of Myths

The Drive to Industrialize and the Irony of Operation Bootstrap

In 1940, per capita personal income in Puerto Rico was about $2,142 in terms of 2019 buying power. By 1970, per capita personal income had more than quadrupled to about $9,303 (again, in 2019 buying power). This large expansion of income was marked by a shift of the population from predominately rural to predominately urban; the rate of infant mortality plummeted and life expectancy dramatically increased. See Table 3.1.

It was a very rapid economic and social transformation.

Economic growth and the general transformation was substantial during the war years in the 1940s, as Puerto Rico benefited from the stimulus of war spending that drove the U.S. economy upward. Federal expenditures in Puerto Rico rose from $20.6 million in 1940 to $133.6 million in 1945 (in current dollars).[33] Moreover, in the 1940s, the Puerto Rican government, led by Luis Muñoz Marín and with the support of the Washington-appointed governor, Rexford Tugwell, sponsored a program of industrialization, largely based on government-run enterprises.

Indeed, through the subsequent decades, with Muñoz Marín becoming the first Puerto Rican governor of Puerto Rico in 1949, economic development was pushed under what could be called a hyper-industrialization ideology. It was an approach that obtained wide currency in low-income countries in the post-World War II years. In 1947 the Puerto Rican and U.S. governments initiated Operation Bootstrap (*Operación Manos a la Obra* in Spanish)[34], and shifted from a reliance on government-run enterprises to a policy of attracting private firms from the states.

The attraction of U.S. firms was based in part on the Puerto Rican government taking advantage of the pre-existing section of the U.S. tax code, section 931. Under this provision, subsidiaries of U.S. corporations were able to exclude earnings in Puerto Rico (and other U.S. possessions) from their U.S. corporate tax bills (as long as those earning were not returned to the United States). These subsidiaries, however, were

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[33] See James Dietz, *Economic History of Puerto Rico, Institutional Change and Capitalist Development*, Princeton University Press, Princeton, 1986, Table 4.2. This discussion of the 1940s is largely based on Dietz's Chapter 4.

[34] There is an implicit irony and some obfuscation in the term Operation Bootstrap. The term implies self-reliance, as though the people of Puerto Rico pulled themselves up by their bootstraps. In reality, as will be discussed shortly, the program was heavily reliant on investment by firms from off the island—mostly from the states—and tax exemption support from the federal government to attract that investment.

subject to Puerto Rican corporate income taxes, and thus would get no net advantage from section 931. So in May of 1947, the Puerto Rican legislature enacted a bill that exempted U.S. firms' local subsidiaries from the Puerto Rican corporate income tax. The tax incentive for U.S. corporations to establish operations on the island thus became considerable.[35]

Table 3.1 - The Transformation, 1940 to 1970

	1940	1970
Per capita Personal Income (2019 dollars)*	$2,143	$9,303
Share of Population in urban areas	30%	58.3%
Infant Mortality Rate (per 1,000 births)	109.1	30.5**
Life Expectancy	46	71.5

Source: Except for personal income, the 1940 data are from Sergio M. Marxuach, Center for the New Economy, "The Puerto Rican Economy: Historical Perspectives and Current Challenges," 13 March 2007, http://grupocne.org/wp-content/uploads/2012/02/FLMM.pdf. The income data are from *Informe Económico al Gobernado Puerto Rico 1974*, Appendix Table 1 (and have been converted to 2019 dollars as indicated in note 1 below),https://jp.pr.gov/Econom%C3%ADa/Informe-Econ%C3%B3mico-al-Gobernador; rural/urban population, World Bank Data, https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?view=chart; infant mortality, Mary McEniry, "Infant mortality, season of birth and the health of older Puerto Rican adults," *Social Science & Medicine,* March 2011, Vol. 72, No. 6, pp. 1004-1015, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3033963/; life expectancy, World Bank Data, https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=PR.

* The current dollar income figures have been put in 2019 prices by using the Bureau of Labor Statistics inflation calculator, https://www.bls.gov/data/inflation_calculator.htm. This is a very rough procedure. However, the official Puerto Rican adjustment of aggregate current data to real data is even more problematic.

** The figure here is an average of the figure for 1965-69 and the figure for 1970-74.

[35] See Dietz, pp. 209-10. Dietz points out that these subsidiaries were already exempt from Puerto Rican property, excise, and municipal taxes and license fees.

While the tax exemption was important, other factors were also important in attracting U.S. firms to the island. In particular, relative to production in the United States, firms operating in Puerto Rico could employ low-wage workers. And compared to other parts of the world with low-wage labor, Puerto Rico had privileged access to the U.S. market. With the combination of these advantages along with the tax exemptions, an influx of U.S. firms emerged: 16 in 1948, 32 in 1949, 37 in 1950 and the same in 1951, 74 in 1952, and 83 in 1953.[36] In this first decade of Operation Bootstrap, the new firms were primarily in light manufacturing, not requiring a highly skilled labor force—for example, textiles, clothing, footwear, electric wiring, artist's brushes, fishing tackle, artificial flowers, and baseballs. In later years, activity shifted to pharmaceuticals, chemicals, computer and other electronic equipment, and medical equipment.

In terms of economic growth and social transformation, Operation Bootstrap was a great success. Per capita Gross National Product (GNP) (adjusted for inflation) rose by 5.3% annually in the 1950s and even more rapidly, 7.0% annually in the 1960s.[37] It also accomplished a dramatic shift, altering the economy from its traditional rural, agricultural base to a modern industrial base. Indeed, as James Dietz notes in his economic history of Puerto Rico: "At the beginning of the industrialization program, based on private capital, agriculture not only took a back seat; it was even regarded as an obstacle to progress."[38]

The shift from agriculture to industry, and the concomitant shift from a rural to an urban economy, might be viewed as a sign of economic progress, but it is useful to emphasize that the shift was not a consequence of market forces or a working of traditional comparative advantage. It was instead a consequence of policy, implemented by both the Puerto Rican and federal governments. Behind that policy was an ideological commitment to industrialization. The policy might have been justified had Puerto Rican manufacturing evolved to a point where it could prosper without the continued special policies of support—special tax treatments, in particular. Yet, decades later, manufacturing is still dependent on those special policies. Moreover, those policies, and the ideology behind them, appears to have held back the development of the non-manufacturing sectors of the Puerto Rican economy. (See the argument of Chapter 7.)

The Perverse Impact of Success and the Foundations of Dependency

Ironically, the weakness of the Puerto Rican economy in later decades can be traced in substantial part to the success of industrialization in the early post-World War

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[36] See Dietz, p 211. The figures are originally from David Ross, *The Long Uphill Path: A Historical Study of Puerto Rico's Economic Development,* San Juan, Edil, 1969, p. 129.

[37] Calculated from data in Dietz, Table 5.1.

[38] Dietz, p 199. Agriculture "regarded as an obstacle to progress" is a point to which we will return in chapter 7.

II period and of Operation Bootstrap. As just noted, Operation Bootstrap was a success *in terms of economic growth and social transformation*. There were, however, additional impacts that were not so favorable and which, in later years, would undermine economic growth.

The essence of these additional detrimental impacts is summed up in the statement by Sonia Maria Sotomayor quoted in the introductory chapter. Relying on capital from off the island, even at the expense of displacing locally based firms, Puerto Rican policy makers were establishing a dependent economy. They were failing to build up the indigenous foundation for long-run, stable economic development. (Also, while rapid economic growth substantially reduced the poverty rate, income inequality rose a good deal in the Operation Bootstrap era; see Chapter 8.)

In a volume following his valuable history of the Puerto Rican economy, James Dietz sums up the problem in the following terms: "…Puerto Rico's strategy of development lacked a focus on the systematic support or fostering of local entrepreneurs and local sources of finance." As a consequence, "the central role of domestic entrepreneurs, skilled workers and technological progress that underlies sustained economic progress" has been weaker in Puerto Rico than in sovereign nations where sustained economic progress has proceeded more rapidly.[39]

The sovereign nations that Dietz is referring to are the countries of East Asia that experienced such great economic success in the latter half of the 20th century—Taiwan and South Korea being the best examples. These countries were able to shift from an 'easy' early stage of development based on import substitution to a more advanced and more difficult stage of economic progress based on technological advances in which locally-based business and increasingly skilled workers played the leading role. This shift was based on extensive government support, involving restrictions on foreign investment and regulation of foreign commerce, as well as direct support for locally-based business and skill development.[40]

For Puerto Rico, under the control of the U.S. government, this sort of support for local business was greatly constrained, as it necessarily would have meant discrimination against foreign-based (U.S.) business. So Puerto Rican policy makers embraced dependency in its status as a territory of the United States. As a territory, however, Puerto Rico was excluded from many of the benefits that go to states. (See Chapter 4.)

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[39] James L. Dietz, *Puerto Rico: Negotiating Development and Change*, Lynne Rienner Publishers, Boulder and London, 2003, pp. 79.

[40] See Robert Wade, *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, Princeton University Press, Princeton, 1990; and Alice Amsden, *Asia's Next Giant: South Korea and Late Industrialization*, Oxford University Press, Oxford, 1989.

The Tax Incentives Myth—Especially the 936 Myth

Perhaps the tax incentive myth was the most perverse impact of the successful industrialization of the 1950s and 1960s. Because tax incentives provided by the U.S. and Puerto Rican governments had played an important role in Operation Bootstrap, that success created a myth among policy makers on the island—namely that success came from tax breaks, especially tax breaks for investment from off the island, and that a continuation, or expansion, of tax breaks would yield success in later years. The myth was based on the partial truth that tax incentives had played a significant role in that early era. Yet, the myth could exist only because policy makers ignored the other factors that played important roles in the rapid expansion during Operation Bootstrap—Puerto Rico's then low-wage labor force and its privileged access to U.S. markets. The world changed, however, in the post-Operation Bootstrap decades. Successful growth raised wages in Puerto Rico, and other places in the world where wages were much lower gained access to the U.S. market. Tax incentives alone had not generated the rapid growth of the 1950s and 1960s, and they could not do so in later years when these other conditions had changed.

Moreover, the myth depended on the belief that manufacturing firms attracted to Puerto Rico by the tax incentives would have a strong, positive economic growth impact on the island. As it turned out, however, the manufacturing investments attracted to the island by tax incentives fell far short of being drivers of economic growth—a point that will be elaborated shortly (and in later chapters). On top of everything else, the success of manufacturing over the long-run would have depended on a less expensive and more reliable supply of electric power. Yet, over the decades, the price of electric power has remained extremely high and often unreliable. While partly a result of Puerto Rico being an island without its own fossil fuel sources, it has also been a result of the virtually dysfunctional electric power firm, the Puerto Rico Electric Power Authority (PREPA), discussed in Chapter 5.

The persistence of the tax incentive myth is illustrated by the emphasis given by policy makers in Puerto Rico to the role of section 936 of the U.S. tax code. Section 936 was largely a reformulation of section 931 that had played an important role during Operation Bootstrap by allowing the profits of U.S. firms' subsidiaries operating in Puerto Rico to be exempt from U.S. corporate income tax. Those profits could be returned to the U.S. parent corporation, but, if they were returned, they were subject to a "tollgate" tax imposed by the Puerto Rican government. This "tollgate" tax at maximum was 10%, but could be reduced to 4% if a portion was reinvested in financial assets in Puerto Rico. Section 936 was established in 1976 and was phased out in the 1996 to 2005 decade. Many policy makers and analysts, first, credit 936 with driving economic growth during its existence and, second, view its termination as generating the economic downturn that began in 2006.[41]

[41] It is worth keeping in mind why section 936 was terminated—namely that it was a very poor means of generating employment in Puerto Rico and thus, by an efficiency criterion, was expensive for the U.S. Treasury. According to a U.S. Treasury Department report, in 1987 it cost the U.S. government on average at least $1.51 in lost tax revenue for each $1.00 in wages paid in Puerto Rico by firms operating

This view of the impact of 936 has been quite important. It has lead Puerto Rican government officials to beseech the U.S. Congress to create a new 936-like provision in the tax code. A detailed examination of the actual impact of 936 demonstrates *this view is wrong*. Contrary to the “conventional wisdom,” 936 did not spur growth and its termination does not account for the onset of the recession.

During the twenty years from the implementation of 936 in 1976 to the initiation of its phase out in 1996, real (i.e., inflation adjusted) GNP in Puerto Rico grew at an annual average rate of 2.5%, while the U.S. economy grew by 3.0% annually. That is, over this 20-year period, the U.S. economy grew 17% more than the Puerto Rican economy. In the twenty-year 936 era, then, Puerto Rico was falling further and further behind the states.[42] Also, in the 20 years following the implementation of 936, the unemployment rate in Puerto Rico averaged over 17%, two-and-a-half times as high as the unemployment rate in this period in the states. The same is true if we look at the decades from 1950 into the 2000s, as shown in Table 3.2. In terms of GNP growth, the 1980s, the first full decade after the implementation of 936, was the worst decade in the second half of the 20th century. There were, of course, other factors bringing about this poor performance in the 1980s (e.g., the severe U.S. recession in the early part of the decade), and it might be argued that things would have been worse without 936. It is clear, however, that 936 was not a strong driver of growth in the 1980s. The 1990s were better, but growth was still not strong and Puerto Rico growth lagged further behind that of the United States.

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under the provisions of Section 936. Or, put another way, on average it cost at least $26,725 each year to maintain a job that was paying an annual salary of $17,725. For the pharmaceutical industry, the figures were $3.08 per $1.00 in wages, or $81,483 to maintain a job paying $26,471. U.S. Department of the Treasury, “U.S. Possessions Corporations Returns, 1987,” Tables 1 and 2, as cited by J. Tomas Hexner et al., *Puerto Rican Statehood: A Precondition to Sound Economic Growth*, Second Edition, Hex, Inc. Cambridge, 1993, p. 27. The ratios of cost to wage benefits are excessively conservative as they are based on the assumption that the persons employed in the 936 industries would otherwise be unemployed. In the late 1980s and early 1990s, when the program was at the center of economic policy in Puerto Rico, annual costs (in terms of lost revenue to the U.S. Treasury) were running between $2 billion and $2.5 billion. In terms of 2019 dollars, this would amount to between $3.9 billion and $4.8 billion. This figure far exceeds the costs to the Treasury of alternative policies that would stimulate growth of the Puerto Rican economy. Estimates of the costs of 936 to the U.S. Treasury are from Angel L. Ruíz and Edwin Meléndez, “The Economic Impact of Repealing Section 936 on Puerto Rico’s Economy,” in *Economic Impacts of the Political Options for Puerto Rico*, edited by Edwin Meléndez and Angel L. Ruíz, Universidad Interamericana de Puerto Rico, San Germán, Puerto Rico, 1998, p. 126.; P. Morrison, “Testimony before the Committee on Finance, United States Senate,” April 26, 1990, p. 2, as cited by J. Tomas Hexner and Glenn P. Jenkins, “Puerto Rico and Section 936: A Costly Dependence,” *Tax Notes International*, January 16, 1995, p. 236; and United States Department of the Treasury, “U.S. Possessions Corporations Returns, 1987,” Tables 1 and 2, as cited by J. Tomas Hexner et al., “Puerto Rican Statehood: A Precondition to Sound Economic Growth,” Hex, Inc., Cambridge, MA, 1993, pp. 25-26. Also, for a full discussion of the costliness of 936, see the 1995 *Tax Notes International* article by Hexner and Jenkins.

[42] Puerto Rican data are from Dietz, as cited in the previous endnote, Table 5.1, and *Informe Económico al Gobernador Puerto Rico, 2003;* U.S. data are from the *Economic Report of the President 2003*, Table B-2.

Table 3.2: Real GNP Growth in Puerto Rico and the United States, 1950 to 2017,
Percent Change in the Decades and in the Whole Period

	Puerto Rico	United States
1950s	67.7	42.5
1960s	96.9	51.9
1970s	40.5	37.3
1980s	20.9	37.6
1990s	31.6	39.8
2000s	- 3.6	19.9
2000-2017	-7.4	15.7
1950-2017	658.9	793.0

Sources: For Puerto Rico, 1950-1980, James L. Dietz, Economic History of Puerto Rico, Princeton: Princeton University Press, 1986, Table 5.1, 1990-2017, *Informe Económico al Gobernador, Puerto Rico*, various years, http://jp.pr.gov/Econom%C3%ADa/Informe-Econ%C3%B3mico-al-Gobernador. For the United States, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/GNPC96.

The association of 936 with years of relatively poor economic performance is often obscured by the fact that growth of gross domestic product (GDP) was fairly strong in the 1970 to 2000 period. GDP growth, after all, is the standard by which a country's or a region's economic expansion is usually gauged, and between 1970 and 2000 GDP (inflation adjusted) grew at a 3.8% annual rate. Gross national product (GNP), however, expanded at an annual rate of only 2.7% in this thirty-year period. By 2000, GDP was almost 50% greater than GNP. This difference was largely, if not entirely, accounted for by the profits of firms based outside of Puerto Rico—mostly in the states. The growth of GNP is a much better measure of the improvement of the Puerto Rican economy—of the well-being of the Puerto Rican people and the condition of firms based in Puerto Rico—than is GDP. This is especially the case because much of the earnings of the firms based outside of Puerto Rico has been a result of the ownership of their patents being located in Puerto Rico and of transfer pricing, both designed to locate profits, but not real activity, in Puerto Rico. (These points are elaborated later in this chapter and in the appendix to this chapter.)

The "conventional wisdom" not only sees 936 as a driver of growth, but also sees the phase-out and termination of 936 as the major factor bringing about the economic downturn that began in 2006 (immediately after the phase-out was complete). One of the primary bases for this view is that manufacturing employment suffered a large decline during and after the 1996-2005 phase-out period. Manufacturing is the primary site of 936 firms, and between 1996 and 2005, employment in manufacturing fell by 42 thousand jobs, a decline of 27%. Yet, in this period of the 936 phase out, the employment decline was not in those sectors of manufacturing where 936 firms played a major role: pharmaceuticals and medicines, chemicals, computers and electronic goods, and medical equipment.

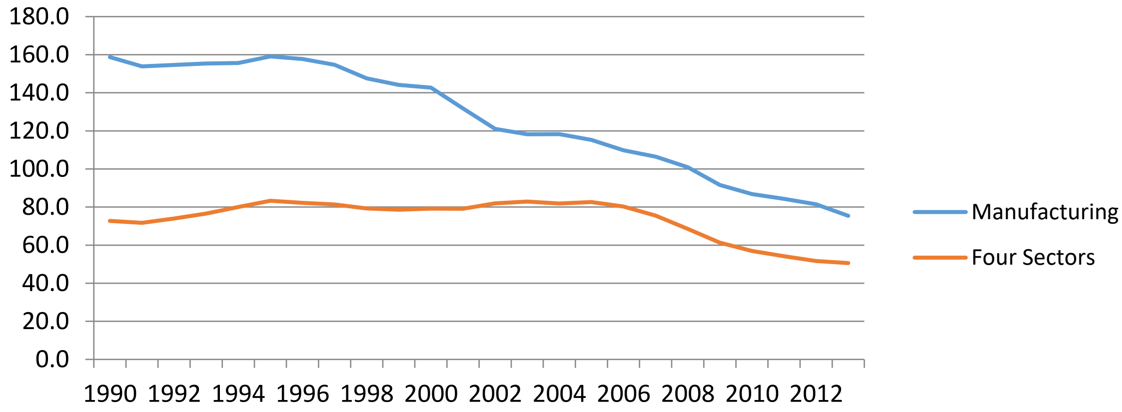
Figure 3.1 and Table 3.3 show employment in all of manufacturing and in these four sectors from 1990 to 2013 (after which the falloff was less extreme). While the data show that, indeed, the decline in manufacturing over all was substantial during the 936 phase-out period, in the four sectors taken together employment was quite stable. In 1995, these four sectors accounted for 52% of employment in manufacturing; in 2006, they accounted for 73%.

Table 3.3:
Manufacturing Employment, Total and in Four 936 Sectors,
1990 - 2013 (thousands)

	All Manufacturing	Pharmaceuticals & Medicine	Chemicals	Computers & Elec. Goods	Medical Equip. & Supplies
1990	158.7	21.1	25.8	15.6	10.2
1991	153.9	20.6	25.3	13.6	12.2
1992	154.6	22.1	26.7	12.6	12.6
1993	155.4	23.5	28.0	11.8	13.3
1994	155.6	24.5	29.2	14.3	12.0
1995	159.1	25.1	29.8	16.1	12.3
1996	157.7	24.5	29.1	16.2	12.4
1997	154.7	23.6	28.3	19.2	10.3
1998	147.6	23.4	28.6	16.9	10.4
1999	144.1	23.8	29.0	15.5	10.3
2000	142.7	24.6	29.6	14.7	10.3
2001	131.8	25.2	29.9	13.0	11.0
2002	121.1	27.1	31.8	11.8	11.3
2003	118.2	28.1	32.4	11.1	11.3
2004	118.3	28.4	32.6	10.3	10.6
2005	115.3	28.3	32.7	11.1	10.5
2006	109.8	27.4	31.6	10.4	10.9
2007	106.5	25.2	29.1	9.5	11.7
2008	100.9	22.8	26.5	7.8	11.4
2009	91.6	20.2	23.6	6.2	11.3
2010	86.8	18.3	21.6	5.9	11.2
2011	84.3	17.0	20.4	5.6	11.2
2012	81.5	16.1	19.4	5.0	11.2
2013	75.4	15.5	18.7	5.0	11.4

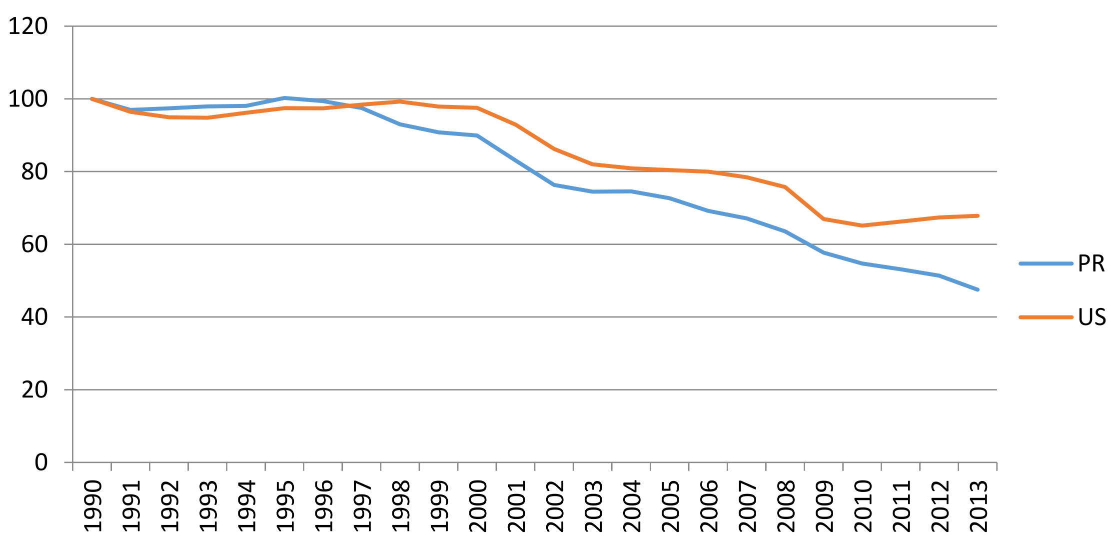
Source: U.S. Bureau of Labor Statistics

Figure 3.1: Employment in All Manufacturing and in Four Heavily 936 Sectors of Manufacturing, 1990 - 2013 (thousands)



Source: U.S. Bureau of Labor Statistics

Figure 3.2: Indexes of Manufacturing Employment in Puerto Rico and the United States, 1990-2012 (1990 = 100)



Source: U.S. Bureau of Labor Statistics

Also, it is useful to compare manufacturing employment in Puerto Rico to manufacturing employment in the states. Figure 3.2 shows indexes of employment in Puerto Rico and the United States, with 1990 equal to 100. Between 1990 and 2010, when recovery from the Great Recession began in the United States, manufacturing employment fell by 35%. In Puerto Rico, for this same period, manufacturing fell by 45%, and no recovery is yet apparent. While the decline in Puerto Rico is somewhat greater, the similar experience in the states suggests that the decline is not primarily explained by factors particular to Puerto Rico—i.e., by the termination of 936. It is more likely that import competition from low-wage areas of the world and technological change account for most of the employment decline in both Puerto Rico and the United States.

One of the reasons that the termination of 936 is not accountable for initiating Puerto Rico's current economic difficulties is that the advantages that U.S.-based corporations obtained from 936 did not end when this section of the federal tax code was terminated. By obtaining Controlled Foreign Corporation (CFC) status, firms were able to retain virtually all of the federal tax advantages they had had with 936. CFC status allowed the U.S.-based firms to continue to avoid U.S. taxes on their Puerto Rican operations as long as they did not return those profits to the parent corporation in the states.

Nonetheless, employment in the group of four 936 sectors shown in Figure 3.1 and Table 3.3 dropped off substantially from 2005 (except in medical supplies and equipment). Some of the employment decline can be attributed to the Great Recession in the United States, which is the principal market for the products of these firms. Something else, however, was going on, and here the switch from 936 to CFC status appears to have made a difference.

In *Pharmaceutical Online* in September 2006, Kevin C. Richards, Group Vice President Life Sciences, Reed Life Sciences/Reed Exhibitions, notes the following:[43]

> Most of the former Section 936 companies have converted to 901 CFC, which converts US companies operating in foreign countries into controlled foreign corporations, or CFCs. This strategy allows manufacturers to enjoy the benefits of operating within a U.S. jurisdiction, with the added tax benefits of operating under a foreign tax structure. It has also helped many facilities to become more productive with state-of-the–art automated systems. Under Section 936, which included wage credits, a typical packaging line was operated manually, by 35 or so employees. Now, under 901 CFC, it is not uncommon for automated lines to be operated by as few as ten employees.

That is, the particular structure of the 936 legislation gave employers credit for maintaining employment, but the CFC provisions did not. What happened in the pharmaceutical sector illustrates the results. Figure 3.3 shows indexes of employment and exports in the pharmaceutical industry from 2002 to 2015. Between 2006 and 2015, exports rose substantially, by 40% (in current dollars); this was an especially favorable

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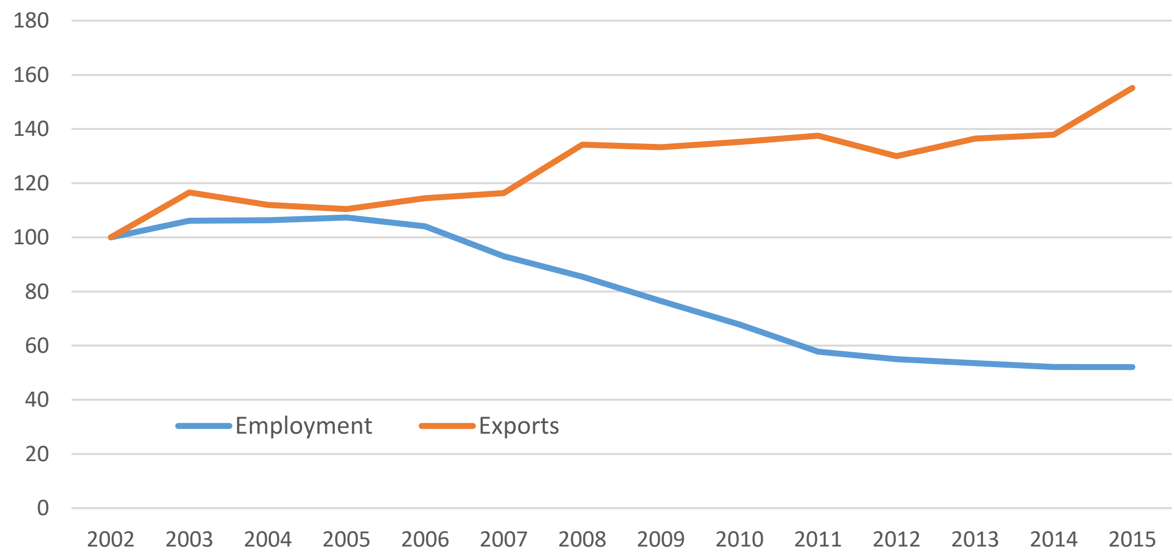
[43] Available at http://www.pharmaceuticalonline.com/doc/puerto-ricos-pharmaceutical-industry-40-years-0003.

expansion in the context of the weak condition of the U.S. market in this period. However, from 2006 to 2015, employment fell by 50%. By 2015 exports per worker were almost 3 times as great as in 2006. (Because the export figures are in current dollars, an adjustment for price changes would reduce the difference between the two indexes, but would not change the difference in the trends.)

Figure 3.3: Indexes of Pharmaceutical and Medicine Sector Employment and Exports, 2002 - 2015 (2002 - 100)



Sources: Exports from Informe al Gobernador, Puerto Rico, various years; Employment, US BLS, Quarterly Census of Employment and Wages.

These figures on the Puerto Rican pharmaceutical industry hardly portray an industry suffering major difficulties from the termination of 936, but they do suggest that the switch from 936 to CFC status harmed employment and contributed to the decline following the 2006 onset of the recession. Nonetheless, they do not provide a basis to view the termination of 936 as a *cause* of the recession.[44]

Yet, in spite of the apparent positive export experience of the pharmaceutical industry, there have been numerous reports of firms,

[44] Although the evidence does not support the view that the termination of 936 was the cause of the recession, the *belief* that the termination of 936 would cause a recession might have been a cause of the recession. That is, as the termination of 936 was being considered and during the period of its phase out, numerous commentators in and outside the government promoted the idea that this would cause serious damage to the Puerto Rican economy. It is likely that at least some potential investors were negatively influenced by this rhetoric, held off or cancelled investment plans, and thereby contributed to the 2006 downturn in the economy.

pharmaceutical firms in particular, departing Puerto Rico in years following the emergence of recession. These departures are sometimes attributed to the termination of 936. It seems, however, that other factors have been major problems for the pharmaceutical industry. According to a report in *Caribbean Business*:[45]

> …the future of the pharmaceutical manufacturing industry in Puerto Rico faces many challenges as many companies have patents on their products that already have or will soon expire, and the number of new drugs in the pipeline are [sic] not enough to replace those with expired patents. One dynamic now at play in the industry is the consolidation and purchasing of companies with promising medicines and patents that will help strengthen a company's overall product pipeline. In addition, local pharmaceutical companies are increasingly turning toward the outsourcing of certain products to India and China to help reduce costs.

And further:

> The expiration of $91 billion in drug patents by 2013 will pose challenges for the pharmaceutical industry, particularly in Puerto Rico, where many of the blockbuster drugs used the world over are made.

A November 22, 2013, article at *PharmaTech.com: Essential Insights for Pharma Manufacturing,* "Pfizer to Close Manufacturing Plant in Puerto Rico by 2017," explained the closing in the following terms:[46]

> Pfizer will close one of its three manufacturing facilities in Puerto Rico by the end of 2017, the company announced in a Nov. 20, 2013 press release. Pfizer has determined that facility consolidation is necessary because of excess capacity in its manufacturing network created by the achievement of greater efficiencies in manufacturing processes and by changing global demand, which has resulted from the loss of *patent exclusivity.* [emphasis added]

On January 30, 2014, *Caribbean Business Online* reported, "Abbott closing one of its plants in PR."[47] According to the article, "The plant is the smallest of several that the drug and medical device maker operates in the north coastal town of Barceloneta…" And further: "The company announced in 2009 a

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[45] The article, "Manufacturing at a crossroads," Caribbean Business, April 18, 2014, is online at https://web.archive.org/web/20140418235458/http://www.caribbeanbusinesspr.com/cbdirectory/cb_manufacturing.php?cat_id=11.

[46] Available at http://www.pharmtech.com/pharmtech/News/Pfizer-to-Close-Manufacturing-Plant-in-Puerto-Rico/ArticleStandard/Article/detail/829210?contextCategoryId=35097.

[47] Available at http://www.caribbeanbusinesspr.com/news/abbott-closing-one-of-its-plants-in-pr-93210.html.

planned expansion in its local operation estimated at $150 million in new investment. In 2007, Abbott inaugurated a $450 million, 330,000-square-foot biotech facility, Abbott Biotechnology Ltd. in Barceloneta, the largest-single capital investment for the company to date. It has another plant in Barceloneta, Abbott Pharmaceuticals P.R. Ltd."

In neither of these examples of plant closings by Pfizer and Abbott is 936 mentioned. Moreover, the expansionary steps mentioned in the Abbott article took place after the termination of 936. It is of course possible that the situation with taxes may have been a factor, but it was at most one of several factors in these cases. While these examples of plant closings are only examples, they do suggest that the termination of 936 or other tax issues were not at the center of firms' decisions to close plants in Puerto Rico.

Following the termination of 936, Puerto Rican authorities stuck to the myth that tax incentives were the key to investment and growth. In addition to its efforts to get the U.S. government to create a new 936-like provision in the tax code, the Puerto Rican government continued to establish its own tax incentives. A prime example is Law 73, "Economic Incentives for the Development of Puerto Rico Act," which was enacted in 2008 to update and expand business incentives. Law 73 was established "with the purpose of providing an adequate environment and opportunities for the continued development of our local industry; providing an attractive tax proposal that appeals to foreign direct investments and fosters the economic development and social betterment in Puerto Rico. . ."[48] Although Law 73 touches on many business activities, its focus is on manufacturing, which the law declares as "vital" for Puerto Rico's economy, and several provisions of Law 73 make this focus clear. For example:

- 4% income tax on industrial development income.
- 0% to 1% tax rate on income for pioneer or novel products manufactured in Puerto Rico.
- Up to 50% tax credit on purchases of products manufactured or recycled locally.
- Up to 50% tax credit on Research and Development activities.
- Special deductions on investments from structures, machinery, and equipment.

The timing of Law 73, enacted in the early stage of what was to become the recession of more than a decade, is especially interesting. The law appears to have

[48] Puerto Rican Industrial Development Corporation (PRIDCO). 2008. *Economic Incentives for the Development of Puerto Rico Act (Act No. 73 of May 28, 2008),* p. 1, https://noticiasmicrojuris.files.wordpress.com/2013/09/2008-economic-incentives-development-puerto-rico-act.pdf.

been quite ineffective in stemming the downturn, tending to verify the futility—the myth—of tax incentives as the key to economic growth.

"Ineffective" in terms of stimulating economic growth in Puerto Rico seems to be the appropriate term for 936 in particular and the tax incentive approach in general. Since the era of Operation Bootstrap when other favorable factors were also present and important, this approach has poor outcomes while imposing substantial costs to the federal and Puerto Rican governments' treasuries. Yet, they were very effective in one way – greatly bolstering the profits of several large manufacturing firms, with pharmaceuticals as the most outstanding example. They have been a prime example of "corporate welfare."

The Manufacturing Myth

The tax incentive myth is, as the foregoing discussion indicates, closely bound up with a myth about manufacturing as "vital" to the Puerto Rican economy. A cursory consideration of the data does suggest that manufacturing plays an extremely large role in the economy. In the period 2008 through 2017, manufacturing accounted for 47% of Gross Domestic Product (GDP). However, figures on employment suggest the existence of an anomaly, as employment in manufacturing accounted for only 8.9% of the total in this same period. (By way of comparison, in recent years in the United States, while manufacturing has accounted for between 11% and 12% of GDP, it has accounted for between 8% and 9% of employment.)

A related set of figures helps explain this strange case of high output and low level of employment in Puerto Rican manufacturing. In manufacturing during the 2008 through 2017 period, labor's share of net domestic income was 8.6%, and proprietors' share was 91.4%. In the rest of the economy in this period, labor's share was 56.8% and proprietors' share was 43.2%. These figures suggest that in manufacturing, dominated as it is by the subsidiaries of large U.S.-based firms, the amount of income accruing to the subsidiaries is much larger than the income being generated by the workers they employ. This can be accounted for by a combination of two phenomena:

(1) The U.S.-based firms are placing ownership of their patents with their Puerto Rican subsidiaries, and the income of those subsidiaries includes royalties paid on those patents. Under the provisions of 936 while it lasted and under CFC provisions since the end of 936, this patent location process allows the firms to reduce their tax bill below what it would be were the patents located with the firm in the U.S.

(2) The U.S.-based firms use transfer pricing in sales between themselves and their subsidiaries, charging low prices for products that go from the firms to their subsidiaries and charging high prices for products that go from the subsidiaries to the firms. The result is that the income of the subsidiaries is inflated. As with the patent location process, through this transfer pricing, the firms tax bills are kept lower than they would otherwise be.

Unfortunately, there appear to be no studies available that would indicate the amount of income of manufacturing firms in Puerto Rico that is due to these practices, but the data noted above on shares of income to labor and to proprietors suggest that the amount is quite large. (There is an extensive literature on these practices as general phenomena.)[49]

The income that accrues to firms based off the island (including subsidiaries of U.S.-based) shows up in the very large gap between Gross Domestic Product (GDP) and Gross National Product (GNP). Puerto Rico's GDP includes all production and associated income attributed to economic activity on the island; this includes profits of firms based off the island but operating in Puerto Rico, and those profits include income arising from the patent location and transfer pricing practices just noted. Puerto Rico's GNP includes production and income attributable to the activities of "nationals" of Puerto Rico. For most countries, the gap between GDP and GNP is quite small, and for the great majority of countries the difference is less than 10%. In Puerto Rico, however, in recent decades GDP has been about 50% larger than GNP; only a very small number of countries have gaps anywhere near as large as Puerto Rico's. (See the appendix to this chapter.)

The large gap between GDP and GNP is accounted for by the large amount of funds (i.e., profits) that goes to firms based off the island. To be sure, some of those funds continue to be held in Puerto Rico (instead of being returned to the states where taxes would, in most cases, then be due). But this does not mean the funds are used in Puerto Rico, as they can be used anywhere in the world aside from the United States. Accordingly, to understand and evaluate real economic activity in Puerto Rico, it is better to focus on GNP rather than GDP—as has been done in Figure 1.1 and Table 3.1. (The issue of the GDP and GNP gap is elaborated further in the appendix to this chapter.)

The implications of this discussion of manufacturing is that it underscores the dependent nature of Puerto Rico's manufacturing sector, in particular, and, of the economy, in general. The great emphasis given to manufacturing by policy makers is an expression of dependency, and represents the failure for Puerto Rico to develop the

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[49] On patent location, see, for example, Rachel Griffith, Helen Miller, and Martin O'Connell, "Corporate taxes and the location of intellectual property," April 2011, https://pdfs.semanticscholar.org/f57c/4723da57e775b79832c443cd75efdeff75d6.pdf, and related papers by the same authors; and Tobias Böhm et al, "Corporate Taxes and Strategic Patent Location within Multinational Firms, March 30, 2015, file:///C:/Users/arthu/Documents/00000%20Hexner/000000000000000%20Need%20for%20Change%202/Patent%20Location/Taxes%20and%20Strategic%20Patent%20Location.pdf. On transfer pricing, see, for example, Prem Sikka and Hugh Willmott, "The dark side of transfer pricing: Its role in tax avoidance and wealth retentiveness," *Critical Perspectives on Accounting*, Vol. 21, Issue 4, April 2010, pp. 342-356; also, see the *Forbes* article, Lee Sheppard, "Transfer Pricing As Tax Avoidance," *Forbes*, June 25, 2010, https://www.forbes.com/2010/06/24/tax-finance-multinational-economics-opinions-columnists-lee-sheppard.html#4df666a46346.

bases for economic activity—local businesses, skilled labor, and a solid, long term infrastructure—that would generate stable and continuing economic growth.

By giving emphasis to supporting manufacturing, Puerto Rican policy makers are not only supporting activity that makes a disproportionately small impact on the local economy—note, particularly, the small amount of employment compared to the income attributable to the sector. More than that, however, the focus on manufacturing appears to have led a lack of focus on other economic activity that would hold out positive potential.

There is no reason to think that Puerto Rico has any particular advantage—comparative or absolute—in manufacturing activity. Insofar as it is important, the role of manufacturing is due primarily to the special tax provisions that have been provided to firms. Yet, other sectors have substantially lacked government support. Tourism is an especially good example, given the island's weather and beaches. Yet, government financial support for tourism has been flat for many years (since well before the long recession). A comparison with the Dominican Republic, where government support and tourist arrivals have grown in a way that puts Puerto Rico to shame. Also, agriculture has been actively neglected for many years, having been viewed as inherently backward by the early promoters of industrialization. And, while government officials talk about Puerto Rico's potential for high tech and business services (e.g., as a bridge between the states and Latin America), the public education system, remains in poor shape.[50]

The Myth of Sustained Economic Success

Closely tied to the myth of manufacturing and the tax incentives myth is the myth of economic success. In Puerto Rico's second decade of continuing recession it may seem strange that it is necessary to debunk the idea that the Puerto Rican economy has been a case of success. Yet, the myth persists with the claim that well beyond the real growth success of the Operation Bootstrap era, on through the beginning of the 21st century, Puerto Rico was a case of successful economic growth—sometimes even put in the East Asian cohort of rapidly growing economies. While the long recession may have put that myth on life support, it remains important in that it supports the tax incentive myth and the manufacturing myth. That is, if the economy was so successful in the period when the focus was on tax incentives and manufacturing, then that focus must be good. Also, the success myth allows policy makers to embrace the long and deep dependency of the island's economy.

The idea that the Puerto Rican economy was a success story at least into the 1990s was given credibility by an important article by two well-respected U.S. economists. In their 1996 article in *World Development*, "Catching Up in the Postwar Period: Puerto Rico as the Fifth 'Tiger'?", William J. Baumol (the 1981 president of the

[50] The argument of how the emphasis on manufacturing has led to the neglect of other promising activity is set out in Chapter 7.

American Economic Association) and his colleague Edward N. Wolff, argued that "in the period since WWII Puerto Rico appears from the available data to have achieved economic progress that places it among the frontrunners of the world's economies." As their title suggest, they compared Puerto Rico favorably with the economic successes of East Asia. Moreover, Baumol and Wolff argued that, unlike important cases in East Asia, Puerto Rico's success was a result of large amounts of investment coming from outside the island, and therefore offered an important alternative to the East Asian route to growth. The dependent condition of the economy was a non-problem for Baumol and Wolff; indeed, they saw it as the foundation of Puerto Rico's success.[51]

Baumol and Wolff were formalizing and providing analytic support for a view that was widely shared among Puerto Rico's policy makers. Yet, their analysis was deeply flawed because they measured the growth of the economy in terms of GDP rather than GNP. The figures and table in the appendix to this chapter show how GDP diverged upward from GNP from the 1950s onward. Even in the 1950s and 1960s, when the rate of growth of GNP was quite high, GDP grew even more rapidly. In the 1970s GDP growth was 76% greater than GNP growth, and 72% greater in the 1980s. (Baumol and Wolff's data run only to 1990.) As pointed out, however, a large share of GDP does not accrue to Puerto Ricans or Puerto Rican firms but is profits of subsidiaries of firms based in the states. Much of those profits do not involve actual production in Puerto Rico; instead, they are accounted for by the royalties on patents placed with the firms' subsidiaries and transfer pricing, both designed to avoid U.S. taxes and take advantage Puerto Rico's tax haven status.

Especially misleading—and, again, based on using GDP as a measure of actual production in Puerto Rico—is the claim by Baumol and Wolff that productivity grew very rapidly. This claim amounts to little more than their observation that GDP grew rapidly combined with a decline in employment—i.e., more GDP per worker. The real problem, however, is using GDP per employee as a measure of productivity when an increasing amount of GDP did not represent actual production in Puerto Rico. This approach leads to some quite strange results that discredit the Baumol-Wolff argument. In particular, using this productivity measure, in 2017 productivity in manufacturing was 3.6 times higher in Puerto Rico than in the United States. Manufacturing in Puerto Rico, it should be recalled, accounts for nearly half of GDP. So the growth of productivity in Puerto Rico, using Baumol and Wolff's approach, would be greatly and erroneously exaggerated.[52]

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[51] William J. Baumol and Edward N. Wolff, "Catching Up in the Postwar Period: Puerto Rico as the Fifth 'Tiger'?" *World Development*, Vol. 24, No. 5, 1996, pp. 869-885.

[52] According to Bureau of Economic Analysis, manufacturing's contribution to U.S. GDP in 2017 was $2,179.6 billion, and according to Bureau of Labor Statistics there were 12.4 million employees in manufacturing in 2017. Thus, in 2017, GDP/employee in the United States was $175.8 thousand. In Puerto Rico in 2017 (the fiscal year ending before the hurricanes), manufacturing's contribution to GDP was $50,188.9 million, and there were 79 thousand employees in manufacturing. Thus, in 2017, GDP/employee in Puerto Rico was $635.3 thousand. Using the Baumol-Wolff definition of productivity, productivity in Puerto Rican manufacturing was 3.6 times as large as productivity in U.S. manufacturing in 2017.

The myth of sustained success has been an important component in arguments that the current territorial status should be maintained. This myth has been the foundation of the argument that under the current status the Puerto Rican economy could move closer to the level of the U.S. economy and thus be in a position to become a state. Since the 1970s, however, as shown in Figure 1.1 and Table 3.2, in terms of GNP, Puerto Rico has fallen further and further behind the United States. Thus, even without considering the recession that emerged in 2006, the myth of sustained economic success cannot be maintained. As this myth dies, so too do the myths of tax incentives and manufacturing. Perhaps most important, once the myth of sustained success is recognized as a myth, there is no basis for the claim that economic progress under territorial status is preparing Puerto Rico for statehood. On the contrary, the evidence presented in subsequent chapters suggests that status change, statehood in particular, is needed for economic progress.

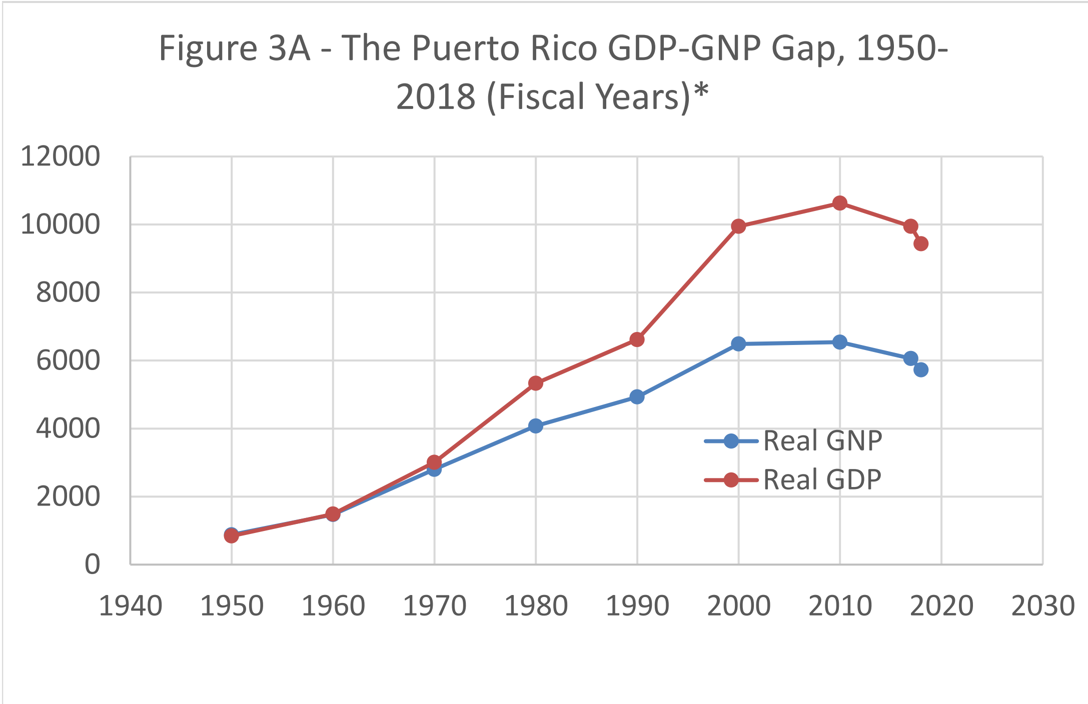
Appendix 3A
The GDP-GNP Gap

An important marker of Puerto Rico's dependency is the very large gap that has existed for decades between the island's gross domestic product (GDP) and gross national product (GNP). GDP is a measure of the amount of production of goods and services and the amount of income associated with that production in a country (or region) in a given time period. Thus GDP includes the profits accruing to firms operating in the country (or region) but owned elsewhere. GNP is a measure of production and the income associated with that production that is attributable to nationals of a country (or region).

Figure 3A shows real GDP and real GNP for Puerto Rico from 1950 to 2018, and the difference between the two lines in the figure is the GDP-GNP gap. The gap increased substantially since 1970—reflecting the rising role of large, externally-based (mainly in the U.S.) firms in Puerto Rico's economy. By 2000, GDP was more than 50% larger than GNP, which is to say that GNP was less than 67% of GDP. And the gap became ever larger in subsequent years, as domestically based economic activity foundered more than externally based activity—or, more precisely, more than the profits from foreign-based activity.

To put the Puerto Rican gap in perspective, for 2004—the most recent year for which comprehensive data are available—for only 15 of 188 countries was GNP less than 90% of GDP; of these 15, for only 3 was GNP less than 80% of GNP, and for only two—Equatorial Africa and Puerto Rico—was GNP less than 70% of GDP.[53]

[53] Alan Heston, Robert Summers, and Bettina Aten, *Penn World Tables 6.2*, http://datacentre2.chass.utoronto.ca/pwt62/alphacountries.html.



* "Real" figures are in 1954 prices. In terms of the size of the gap relative to either GNP or GDP, it is roughly the same whether in real or current terms.

Source: For 1950-1980, Dietz, *Economic History of Puerto Rico,* as previously cited; for these years, real GDP figures were calculated from the current dollar GDP figures provided by Dietz with the assumption that the deflator for GDP was the same as that for GNP. For 1990 – 2018, *Informe,* various years.

The GDP-GNP gap is a measure of the de-territorialization of the Puerto Rican economy (what would be called de-nationalization were Puerto Rico a nation). This de-territorialization is a measure of the degree to which the economy of the island is dependent on outside sources of capital and outside decision-making. While 'outside' forces are not necessarily 'bad,' firms based outside of Puerto Rico are likely, in general, to operate in a different manner than firms based within Puerto Rico. The former face different sets of information and different sets of economic, political, and social connections than do the latter. While both the outside and inside firms may have the same set of goals (profits), they have, as sociologists might say, different sets of "boundaries"; as a consequence, they are likely to behave differently.[54] *The long run economic growth and development of a region is enhanced when there is a substantial group of firms and individual investors who have a strong identity with and an interest in*

[54] This point regarding different "boundaries" of internally based and externally based firms and its implications are useful developed in *Dependent Development: The Alliance of Multinational, State and Local Capital in Brazil* by Peter Evans, Princeton University Press, Princeton, 1979.

the local/national/territorial economy. The large GDP-GNP gap in Puerto Rico reflects the fact that this group is significantly lacking.

While subsidiaries of U.S.-based firms can return profits to their parent corporations in the U.S. or use them anywhere else in the world, there is some incentive to keep profits in Puerto Rico (see text in this chapter). Undoubtedly, some of the profits remain in Puerto Rican financial institutions and some may even be reinvested locally. However, all of these funds are owned elsewhere and can be taken out and used, if not back to the states, anywhere else in the world. Moreover, in the case of the share of these funds than remain in Puerto Rican financial institutions, they may be used effectively elsewhere as collateral for activities taken elsewhere.

In any case, in appraising or simply measuring Puerto Rican economic activity, it is better to use the GNP figures instead of the GDP figures for two reasons. First, a substantial share of GDP—the gap—does not accrue to either Puerto Rican residents or Puerto Rican firms and thus cannot be taken as a measure of well-being of Puerto Ricans or as a basis for generating new activity by Puerto Rican firms. Second, and especially important, much of the gap does not represent real economic activity in Puerto Rico. Much of the profits of the externally based firms is a result of transfer pricing and patent ownership location—two practices discussed in this chapter. Thus to use GDP as a measure of actual economic activity in Puerto Rico would be a substantial distortion of reality.

The GDP-GNP gap emerged from the experience and policies of Operation Bootstrap. When the economic growth surge of the 1950 to mid-1970s period petered out, new tax incentives were established in an effort to reestablish growth. The policy was successful in attracting firms from off the island, and the GDP-GNP blossomed. But the tax incentives were not successful in terms of economic growth. At the core of the policy was Section 936 of the U.S. tax code.

Chapter 4

Treatment by the Federal Government: The Fiction of Support

There is fiction that persists in both Puerto Rico and the United States that the federal government gives quite extensive support to the island's economy. In Puerto Rico, this support is seen as an important basis for economic development, and governments since the era of Operation Bootstrap have looked to Washington for tax incentives to drive investment, for funds to support social programs, and for laws that promote rising incomes. In the states, these supports are generally seen as generous provisions by which the federal government's promotes economic development on the island. Many economic analysts, in fact, have viewed these provisions as *excessively* generous, believing they tend to undermine economic progress in Puerto Rico.[55]

By reasonable standards, however, federal economic support for Puerto Rico is not extensive, is not generous, and is not effective in supporting economic progress.

NOT A "WELFARE ISLAND"

In 2006, *The Economist* magazine published an article dubbing Puerto Rico "Welfare Island" and arguing that "Overbearing government and the welfare state are hurting the United States' poorest citizens."[56] The basic argument, which *The Economist* picked up from critical economists, was that the high level of social support transfers from the federal government to Puerto Ricans undermined their full participation in the labor force. Taxpayers in the United States were being too "generous".

Federal Expenditures and Receipts

Yet, the available data do not support the claim that the U.S. taxpayers—that is, the federal government using taxpayer provided funds—is really so "generous" with regard to Puerto Rico. Some data most useful for examining this issue have not been available for the years since 2010. However, the consistency in the data in the years up to 2010 suggests that the 2010 data are still useful. Moreover, in understanding the

[55] A prime example is the claim by some economists that establishing the minimum wage in Puerto Rico at the same level as the minimum wage in the states is a major cause of the high unemployment rate and of the low labor force participation rate on the island. See, for example, Anne O. Krueger, Ranjit Teja, and Andrew Wolfe, "Puerto Rico: A Way Forward," 2015, a report commissioned to propose ways for dealing with the long recession and rising debt, http://www.gdb.pr.gov/documents/puertoricoawayforward.pdf. Also, various essays in the 2006 volume edited by Collins et al, cited above, make arguments suggesting a negative impact of federal government support programs in Puerto Rico. However, studies of the minimum wage issue, in particular, tend not to support the claim of a negative impact—see below.

[56] *The Economist*, "Trouble on Welfare Island," May 25, 2006, https://www.economist.com/united-states/2006/05/25/trouble-on-welfare-island.

economic difficulties that were well underway in 2010, data for that year and earlier years are useful.[57]

In turns out that both overall and in several particular ways, Puerto Rico is treated relatively poorly in terms of the dispersal of federal funds.[58] Consider the data in Table 4.1. In fiscal year 2010 Puerto Rico received $5,307 per capita from the federal government, less than any state or the District of Columbia (DC). In that year, the average per capita funds going to the states, DC, and Puerto Rico was $10,612—i.e., in per capita terms, Puerto Rico received 50% of the average.

Table 4.1

Federal Government Payments to Puerto Rico Per Capita; Rank of Puerto Rico Among States, DC, and Puerto Rico; and Payments to Puerto Rico as a Percentage of Average of States, DC, and Puerto Rico. Fiscal Year 2010

Category of Payments	**Amount per Capita**	**Rank**	**Percent of Average**
Retirement, Disability & Medicare	$1,998	52	67.4
Other Direct Payments[a]	1,247	52	47.0
Grants[b]	1,587	49	71.7
Salaries and Wages	214	52	19.3
Procurement	262	52	15.7
All Payments	**$5,307**	**52**	**50.0**

Source: *Consolidated Federal Funds Report for Fiscal Year 2010, State and County Areas*, U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, Issued September 2011; and *Statistical Abstract of the United States 2011* for population data.

Notes:
[a] Other Direct Payments consist primarily of direct payments for individuals other than retirement, disability, and Medicare. Major categories of such payments include unemployment compensation, “food stamp” payments, federal employees’ life and health insurance, and agricultural assistance.

[b] Grants include both Formula Grants (allocation of money to states and subdivisions according to a distribution formula prescribed by law and not related to a specific program) and Project Grants (funding of either specific projects or the delivery of specific products and services). Principal funders include the departments of Health and Human Services, Transportation, HUD, Education, and Agriculture.

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[57] An essential source of data for years up to 2010 was the annual *Consolidated Federal Funds Report* from the U.S. Department of Commerce; but this volume is no longer published. Efforts to obtain the data for more recent years from the Department of Commerce have been unsuccessful.

[58] The discussion in this section builds on Arthur MacEwan and Angel Ruiz, “Washington Dollars and the Puerto Rican Economy: Amounts, Impacts, Alternatives,” *Ensayos y Monografías,* No. 135, febrero 2008, Unidad de Investigaciones Económicas, Departamento de Economía, Universidad de Puerto Rico, Recinto de Río Piedras. More extensive discussion is presented there. Online at http://economia.uprrp.edu/ensayo%20135.pdf.

The only category of federal government funds in which Puerto Rico rises from its position below all of the states and DC is in the "grants" category, which includes several programs that are explicitly designed—either by formula or discretionary policy—to support low-income areas. In terms of grants per capita, Puerto Rico, which has an income far below any of the states or DC, ranks 49th. Categories of federal funds dispersal where Puerto Rico's receipts were especially low compared to the states are procurement (15.7% of the average) and salaries and wages (19.3% of the average).

Regardless of the fact that procurements and federal employment (salaries and wages) have their particular purposes, it is well known that the location of such activity is often designed to alleviate poverty and unemployment. Probably more important, the location of federal procurement and employment is highly influenced by the political process, whereby members of Congress bring about the location of this activity in their districts or states. Over the years, particular members of Congress have become famous for their ability to obtain high levels of federal funds for their states or districts; consider the examples of three now deceased figures: Senator Robert Byrd of West Virginia was able to use his seniority to garner extensive federal spending for his home state; John Stennis parlayed his chairmanship of the Senate's armed services committee into large amounts of federal spending in Mississippi; and Congressman John Murtha, as chairman of the House Appropriations Defense Subcommittee, was able to direct many millions to his home district in Pennsylvania. But perhaps first prize should go to Thomas O'Neill, the Massachusetts representative who was the Speaker of the House in the 1980s, and who secured an override of President Reagan's veto of a transportation bill; the result was several billion dollars for Boston's "Big Dig" which took a major highway under the center of the city. As a territory, Puerto Rico has no congressional representatives or senators, only a non-voting "resident commissioner."

If the dispersal of federal funds is viewed in relation to the per capita personal income of the states, DC, and Puerto Rico, the situation might be subject to a different interpretation. After all, in 2010, per capita personal income in Puerto Rico was only 37% of per capita personal income in the states (and DC)—$15,180 as compared to $40,584. Yet, Table 4.2 shows that in 2010, in relation to personal income per capita, Puerto Rico—with federal funds amounting to 35% of per capita personal income—ranked below six states and DC in terms of the funds it received from Washington; each of those states and DC had a level of per capita personal income more than twice as high as did Puerto Rico.[59] Where Puerto Rico ranked highest—number one in the category of "Retirement, Disability, and Medicare—the payments are not "welfare" in the sense of donations from federal government, but are programs into which Puerto Ricans have paid in the same manner as people in the states. (And see Table 4.3a and 4.3b below and the associated discussion.)

[59] The six states were, in order (after DC which was first), Alaska (40%), New Mexico (40%), Kentucky (40%), Virginia (38%), Hawaii (37%), and West Virginia (36%). For the states and DC as a whole, the figure was 26%.

Where Puerto Rico falls below most of the states in Table 4.2, it is in the categories of procurement and salaries and wages. But, again, federal procurement and salaries and wages are influenced by the political process, in which Puerto Rico has no direct role, and are often used to support jobs and income (though DC and perhaps Virginia are special cases).

There is little rationale behind the idea that states and Puerto Rico should receive less federal funds if they have low levels of personal income per capita. Federal payments are designed to serve multiple functions, ranging from providing income and employment in relatively low-income regions to building infrastructure (e.g., highways), to establishing military bases and purchasing military equipment. Because of an implicit federal commitment to support regional income convergence, it is to be expected that low-income regions would have relatively large receipts. Yet Puerto Rico, with a level of income far lower than any of the states, still receives an allotment in relation to income well below several states.

Table 4.2

Federal Government Payments to Puerto Rico Per Capita as a Percentage of Per Capita Personal Income; Rank of Puerto Rico Among States, DC, and Puerto Rico; and Payments to Puerto Rico as a Percentage of Average of States, DC, and Puerto Rico. Fiscal Year 2010

Category of Payments	**Percent of per capita personal income**	**Rank**	**Percent of Average**
Retirement, Disability & Medicare	13.2	1	180.3
Other Direct Payments	8.2	11	125.7
Grants	10.5	3	191.6
Salaries and Wages	1.4	47	51.5
Procurement	1.7	48	41.3
All Payments	**35.0**	**8**	**133.7**

Source: *Consolidated Federal Funds Report for Fiscal Year 2010, State and County Areas*, U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, Issued September 2011; and for personal income for the states *Statistical Abstract of the United States 2012,* and for Puerto Rico Junta de Planificación de Puerto Rico, Apéndice Estadístico, www.jp.gobierno.pr.

Notes: See Table 4.1 notes.

It might be argued that Puerto Rico should receive less funds from Washington than do the states because Puerto Ricans do not pay the federal income tax. Yet, Puerto Ricans do pay Social Security and Medicare taxes to Washington (as well as some other payments), and when Puerto Rico, DC, and the states are ranked by net receipts per capita from the federal government—that is, receipts from the federal government less federal taxes—Puerto Rico is far from the top of the list. In 2010, net federal receipts to Puerto Rico were $4,697 per capita, while seventeen states and DC received larger amounts of net federal receipts per capita, as shown in Table 4.3a. Even when net federal receipts are computed in relation to personal income per capita, Puerto Rico does not move to the top of the list. With net federal receipts per capita amounting to 29% of Puerto Rican per capita personal income, this 29% level was still below that for New Mexico (and DC). Moreover, for seven other states, net federal receipts per capita amounted to more than 20% of per capita personal income.[60] These data show that, like Puerto Rico, many states receive expenditures from the federal government well in excess of the taxes they pay to the federal government, and thus there is no legitimacy to the argument Puerto Rico should receive less than the states because Puerto Ricans do not pay income taxes that would cover what they receive.

As noted above, there is consistency between the data for 2010 and for earlier years. Table 4.3b shows the same data as Table 4.3a, but for 2004. As in 2010, in 2004 seventeen states and DC received larger amounts of net federal receipts per capita than did Puerto Rico.

[60] The figures appear to have been similar for earlier years. See MacEwan and Ruiz as cited above for an analysis of the data for 2004.

Table 4.3a: Net Federal Expenditures Per Capita (Expenditures Minus Taxes), States, the District of Columbia, and Puerto Rico, FY2010

	Net Federal Expenditures	Rank		Net Federal Expenditures	Rank
District of Columbia	72,292.40	1	Utah	3,618.10	27
Alaska	11,123.10	2	Kansas	3,575.04	28
Hawaii	10,732.90	3	Iowa	3,545.22	29
New Mexico	9,906.86	4	North Carolina	3,481.73	30
Virginia	9,761.25	5	Pennsylvania	3,463.92	31
Maryland	8,417.70	6	Oregon	3,367.20	32
West Virginia	8,364.84	7	Connecticut	3,357.49	33
Kentucky	7,812.20	8	Georgia	3,292.85	34
Alabama	7,657.33	9	Washington	3,271.60	35
Mississippi	7,515.26	10	Wisconsin	2,936.53	36
Montana	6,872.75	11	Nevada	2,555.03	37
Vermont	6,712.04	12	Indiana	2,359.73	38
Maine	6,549.42	13	New Hampshire	2,202.86	39
North Dakota	6,541.87	14	Colorado	2,067.92	40
South Dakota	6,386.79	15	Massachusetts	1,695.27	41
South Carolina	6,313.02	16	California	1,621.30	42
Idaho	5,167.19	17	Texas	1,455.53	43
Arizona	5,115.76	18	Rhode Island	1,235.08	44
Puerto Rico	4,696.73	19	Arkansas	240.06	45
Wyoming	4,258.14	20	New York	108.37	46
Louisiana	4,102.91	21	Ohio	-8.67	47
Missouri	4,057.49	22	Illinois	-77.94	48
Oklahoma	4,025.22	23	Nebraska	-602.30	49
Florida	4,005.04	24	New Jersey	-4,310.79	50
Tennessee	3,829.12	25	Minnesota	-4,449.54	51
Michigan	3,753.68	26	Delaware	-8,018.41	52

Source: *Consolidated Federal Funds Report for Fiscal Year 2010, State and County Areas*, U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, and *Internal Revenue Service Data Book, Fiscal Year 2010*, U.S. Department of the Treasury. For population in the states, *Statistical Abstract of the United States 2012*, and for Puerto Rico *Informe Economico al Gobernador*, Statistical Appendix, 2012.

Table 4.3b: Net Federal Expenditures Per Capita (Expenditures Minus Taxes) by State, the District of Columbia, and Puerto Rico, FY2004

	Net Federal Expenditures	Rank		Net Federal Expenditures	Rank
District of Columbia	37,457	1	Missouri	1,381	27
Alaska	8,005	2	Kansas	1,282	28
New Mexico	7,348	3	Indiana	1,019	29
Virginia	5,940	4	Oregon	916	30
West Virginia	5,562	5	New Hampshire	689	31
North Dakota	5,157	6	Pennsylvania	658	32
Montana	4,792	7	Washington	525	33
Mississippi	4,700	8	North Carolina	236	34
Alabama	4,629	9	California	-62	35
South Dakota	4,389	10	Nevada	-129	36
Maryland	4,383	11	Rhode Island	-188	37
Maine	4,175	12	Michigan	-225	38
South Carolina	3,586	13	Arkansas	-310	39
Kentucky	3,514	14	Georgia	-350	40
Hawaii	3,093	15	Texas	-380	41
Arizona	2,984	16	Wisconsin	-473	42
Wyoming	2,980	17	Massachusetts	-837	43
Louisiana	2,887	18	Colorado	-906	44
Puerto Rico	**2,823**	**19**	Ohio	-1,181	45
Vermont	2,596	20	New York	-1,370	46
Idaho	1,887	21	Nebraska	-1,385	46
Oklahoma	1,858	22	Illinois	-2,393	48
Utah	1,826	23	Connecticut	-3,223	49
Iowa	1,768	24	New Jersey	-4,025	50
Florida	1,677	25	Minnesota	-5,639	51
Tennessee	1,557	26	Delaware	-7,010	52

Source: *Consolidated Federal Funds Report for Fiscal Year 2004, State and County Areas*, U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, and *Internal Revenue Service Data Book, Fiscal Year 2004*, U.S. Department of the Treasury. For population in the states, *Statistical Abstract of the United States 2006*, and for Puerto Rico *Informe Economico al Gobernador*, Statistical Appendix, 2006.

In any case, as with the relation between the distribution of federal funds and per capita personal income (of Table 4.2), there is no rationale behind the idea that federal funds should be dispersed to the states in connection with payments (taxes) by the states to the federal authorities. Again, federal fund disbursements are designed to serve multiple functions, and there is no reason that the expenditures in a state or region should equal the tax payments from that state or region. It is to be expected that low-income regions, which make relatively low payments to the federal government, would have relatively large receipts from the federal government.

Federal Support During the Recession

A further refutation of the “welfare island” sobriquet for Puerto Rico, a refutation more up to date, lies in the data on federal transfers to Puerto Rico during the years of the island’s long recession. Regardless of the amount of support that Puerto Rico receives from the federal government, whether or not the “welfare island” label is appropriate depends on what those funds are for. As it turns out, the great bulk of the increase in federal transfers to Puerto Rico during the island’s recession do not fall in the category of what is usually termed “welfare.”

Between 2006, when the recession began, and 2017, just before the hurricanes, federal transfer payments to individuals in Puerto Rico rose 79%. These federal transfers were 18.7% of personal income in 2006, but they had risen to 27.5% in 2017. This change might be erroneously taken as evidence that Puerto Ricans were receiving more federal welfare support in response to worsening economic conditions on the island. *The great majority of these payments, however, were not special “welfare” payments brought about by federal programs designed to reduce the impact of economic decline and poverty. Instead, 86.6% of the increase was in Veterans’ Benefits (14.7%), Medicare (41.7%), and Social Security (30.2%). These are programs into which Puerto Rican had made payments, as did people in the states, or, in the case of Veterans Benefits, had served in the military (at higher rates that people in most of the states). The only “welfare” program that contributed a substantial share of the increase in federal transfers was Nutritional Assistance (6.6%).*[61]

The Minimum Wage

Then there is the minimum wage issue, which constitutes an important part of the claim that federal efforts to treat Puerto Rico well (what critics call excessive support), actually harm the island’s economy through discouraging employment—a claim that appears to be supported by the low labor force participation rate and the high unemployment rate. The argument that the minimum wage harms employment in Puerto Rico is a variant of the general argument, which had been widely accepted by economists in the United States, that political establishment of a minimum wage generally (maybe even always) harms employment, especially employment of low-wage workers. According to this view, if the price of something—tomatoes, cars, or labor—is

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[61] In understanding the federal transfers received by Puerto Rican’s it is useful to distinguish between (a) funds that come *through* the government, such as Social Security, where people pay into a fund and later receive payments form that fund and (b) where the payments come *from* the government in the sense that the funds have been raised by the government through taxes or borrowing. Transfers in category “a” would certainly not be what is usually considered “welfare.” “Welfare” would be transfers in category “b”, but not everything in category “b” would be “welfare,” as is the case with Veterans Benefits.

politically increased, people will buy less of that something; employers, in particular, will employ fewer workers.

As it applied to the United States, however, this general argument was severely undermined, if not fully destroyed, by a study undertaken in the early 1990s by David Card and Alan Krueger. Card and Krueger examined employment in the adjacent states of New Jersey and Pennsylvania, after the former had increased the minimum wage and the latter had not. Their findings indicated that low-wage employment increased more in New Jersey, where the wage had been raised, than in Pennsylvania, where it had not been raised.[62] Since that landmark study, numerous additional studies have been published showing no or very small negative impact on employment from increases in the minimum wage.[63]

Labor, not surprisingly, is very different from tomatoes or cars. If a higher price is paid for the same tomato, that doesn't mean the tomato will become tastier. The same with the car; paying more for the same car won't make it run any better. But pay the same worker more and things change. Workers who are paid better tend to be more productive, either because they feel better about their jobs or they now have a greater desire to keep that job or both. Also, higher productivity might be obtained because the employer has a stronger incentive to supply workers with more or better machinery. Greater productivity—which is to say, greater efficiency—lowers costs per unit of output. Also, better pay means less turnover, which can also lower employers' costs. While these cost reductions may not outweigh the higher wage, they certainly reduce any negative impact of the higher wage on employers' bottom lines.

But what about Puerto Rico? The minimum wage in Puerto Rico has been the same as the federal minimum wage in the states since 1983, and the island had its own minimum wage in earlier years. The federal minimum wage was raised to $7.25 per

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[62] David Card and Alan B. Krueger, "Minimum Wages and Employment: A Case Study of the Fast Food Industry in New Jersey and Pennsylvania," National Bureau of Economic Research Working Paper No. 4509, October 1993, https://www.nber.org/papers/w4509. Card and Krueger elaborated their argument in a book: *Myth and Measurement: The New Economics of the Minimum Wage*, Princeton University Press, Princeton, 1995.

[63] See, for example, Sylvia Allegretto et al, *The New Wave of Local Minimum Wage Policies: Evidence from Six Cities*, Center on Wage and Employment Dynamics, Institute for Research on Labor and Employment, University of California Berkeley, September 6, 2018, https://irle.berkeley.edu/files/2018/09/The-New-Wave-of-Local-Minimum-Wage-Policies.pdf. Also: Arindrajit Dube et al, "Minimum Wage Effects Across State Borders: Estimates Using Contiguous Counties," *Review of Economics and Statistics,* Vol. 92, No.4, 2010. For a contrary view, see, for example, David Neumark et al, "Revisiting the Minimum Wage Employment Debate: Throwing out the Baby with the Bathwater?" *Industrial and Labor Relations Review,* Vol. 67, No. 3 suppl., 2014. And for a response to Neumark et al: Sylvia Allegretto et al, "Credible Research Designs for Minimum Wage Studies: Response to Neumark, Salas and Wascher." *Industrial and Labor Relations Review*, Vol. 70, No. 3, 2017. Neumark and Wascher's further response is in the same issue.

hour in 2009 and remains at that level in 2019.[64] (Many states and some cities in the states have established higher, sometimes much higher, minimum wages.) In 2017, working 2,000 hours (40 hours a week for 50 weeks a year), at the minimum wage, a worker in Puerto Rico would have been earning 75% of the median household income on the island. The worker would have been earning only 24% of the median household income in the states; and even compared to Mississippi, the lowest income state, the figure would have been just 33%. Thus, in Puerto Rico, the minimum wage is much higher relative to general economic conditions than in the states. This difference in the economic context between Puerto Rico and the states could mean that the minimum wage would have a different impact in Puerto Rico than that indicated by studies undertaken on economic activity in the states.

Yet, the various analyses of the impact of the minimum wage in Puerto Rico do not provide clear support for the claim that the minimum wage has had a negative effect on employment. A 1994 paper by Alan Krueger is especially important for having called into question the until-then widely held view that the minimum wage harmed employment in Puerto Rico.[65] Krueger points out, first, that the 1965 study by Reynolds and Gregory,[66] which was widely referred to as supporting the negative relation between the minimum wage and employment, in fact did not find clear support for such a relation. Using different methods to examine the relation, Reynolds and Gregory found different results with the different methods. According to Krueger, "Although Reynolds and Gregory have been frequently cited as support for the standard model of the minimum wage, their evidence on the employment effect of minimum wages is surprisingly mixed. Moreover, Reynolds and Gregory conclude that minimum wage increases in Puerto Rico often brought about large efficiency improvements in companies with the same capital and labor."

Krueger also calls into question the more recent study (1992) by Alida Castilo-Freeman and Richard Freeman, which has also been cited as showing the existence of a negative impact of the minimum wage on employment in Puerto Rico.[67] Reexamining the data used by Castillo-Freeman and Freeman, Krueger shows that, while one change in the minimum wage does appear to have had a negative impact on employment, other changes appear to have had no discernable employment impact. He

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[64] In inflation adjusted terms, the federal minimum wage had dropped by about 15% between 2009 and 2019.

[65] Alan B. Krueger, "The Effect of the Minimum Wage When It Really Bites: A Reexamination of the Evidence from Puerto Rico," National Bureau of Economic Research, Working Paper No. 4757, June 1994, https://www.nber.org/papers/w4757.

[66] Lloyd Reynolds and Peter Gregory, *Wages. Productivity, and Industrialization in Rico*, Richard Irwin, Inc., Homewood, Illinois, 1965.

[67] Castillo-Freeman Alida, and Richard Freeman. 1992. "When the Minimum Wage Really Bites: The Effect of the U.S.-Level Minimum on Puerto Rico." *In Immigration and the Work Force*, edited by George Borjas and Richard Freeman, University of Chicago Press, Chicago.

also points out the methodology of their study yields results that are "found to be extremely sensitive to plausible, minor changes in specification" (that is, minor changes in Freeman and Freeman's econometric model).

Krueger concludes: "…the evidence on minimum wage effects stemming from Puerto Rico is quite fragile," which is to say that it does not lead to confidence regarding conclusions about the impact of the minimum wage in Puerto Rico. This reading of the evidence from the mid-1990s has not been effectively contradicted by any more recent studies. The lack of evidence, however, has not stopped others from not only claiming that Puerto Rico's minimum wage harms employment, but also that it is an important factor bringing about the decline of the Puerto Rican economy since 2006.[68] This latter claim has been used as a basis of an argument for lowering the minimum wage as a means to overcome the island's long economic decline.[69]

Yet, a role for the minimum wage in bringing about the recession cannot be sustained simply because the timing doesn't work. Writing in 2015, Arindajit Dube and Ben Zipperer point out that, "There has been no change in the relative minimum wage between Puerto Rico and the mainland over the past 32 years. And since the federal standard has not kept up with wage growth on the island, the [impact] of the minimum wage in Puerto Rico has eroded over this period." Also, they note that in the period leading up to the onset of the recession the inflation adjusted minimum wage was lower than it had been in earlier years when the economy was doing relatively well; and since the mid-1980s, the ratio of the minimum wage to the average wage in manufacturing has been falling, and falling relatively steeply in the 1995 to 2005 period. Dube and Zipperer's points make it difficult to believe that the minimum wage in Puerto Rico has had any major negative impacts on the course of the economy.[70]

In his 1994 article, Krueger provides some speculation about the structure of the Puerto Rican economy that may help explain why minimum wage in Puerto Rico has not had a clear negative impact on employment.[71] He does not, however, note an aspect of the context in which the Puerto Rican economy operates that could be of

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[68] See the 2015 report, "Puerto Rico: A Way Forward," cited at the beginning of this chapter.

[69] Resisting the proposal in "Puerto Rico: A Way Forward," that the minimum wage be lowered (or eliminated entirely), the government of Puerto Rico has pointed out that, if this proposal were carried out, it would damage the economy further as many more people would seek employment in the states.

[70] Arindajit Dube and Ben Zipperer, "Puerto Rico's predicaments: Is its minimum wage the culprit?" Washington Center for Equitable Growth, https://equitablegrowth.org/puerto-ricos-predicaments-minimum-wage-culprit/.

[71] He suggests that there may be a good deal of "inefficiency of production in Puerto Rico, and that the minimum wage may have shocked employers into realizing efficiency improvements." Also, "massive disequilibrium strikes me as another possible consideration for interpreting Puerto Rico's experience in the 1950s." And, "…in many industries there were relatively few employers in Puerto Rico. These employers may have been able to monopolize the labor market." Krueger emphasizes that these are only speculations.

some importance—namely the role of the "informal economy" or "underground economy" in Puerto Rico. This is the activity that falls outside the rules, regulations, and effective data accounting of economic activity on the island. It is generally recognized that the informal economy accounts for about 25% of economic activity in Puerto Rico.[72] It seems likely that there is a large amount of employment that does not get effectively counted in the official statistics, and, especially important here, does not abide by the minimum wage regulations. Indeed, much activity is likely to be "informal" precisely because it does not pay a minimum wage (and also does not pay taxes). In other words, the minimum wage may not "bite"—that is, does not have a significant negative impact on employment—because a sizeable portion of economic activity operates with employees being paid below the minimum wage.

While controversy continues regarding the effects of the minimum wage in Puerto Rico, the existing minimum wage policy cannot be taken as a case of U.S. law being overly generous and thus harming the economy.

THE UNLEVEL PLAYING FIELD

The data in the tables above demonstrate that Puerto Rico is not treated especially well—"generously"—by the federal government. The case, however, is made stronger by the structure of several programs by which the federal government supports people and governments in the states and Puerto Rico. In important programs, Puerto Rico is treated differently, and differently generally means worse. Quite simply, Puerto Rico is on an unlevel playing field relative to the states. The details of the differences are set out in the December 2016 *Report to the House and Senate* of the "Congressional Task Force on Economic Growth in Puerto Rico."[73] Large programs where Puerto Rico is treated less favorably than the states include the Earned Income Tax Credit, the Child Tax Credit, Medicare, Medicaid, and Supplemental Nutritional Assistance.

The Earned Income Tax Credit and the Child Tax Credit

The Earned Income Tax Credit (EITC) is not available to Puerto Ricans on the island, and the Child Tax Credit (CTC) is available to families in Puerto Ricans only if they have three or more children (whereas families in the states with any number of children are eligible for the CTC).

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[72] See, for example, "The Informal or Underground Economy in Puerto Rico," Estudios Técnicos, August 9, 2012, https://www.slideshare.net/jacmpr/the-informal-economy-in-puerto-rico.

[73] In Appendix 2 of the *Report*, "Federal Programs Under Which Puerto Rico Receives Differential Treatment," https://www.finance.senate.gov/imo/media/doc/Bipartisan%20Congressional%20Task%20Force%20on%20Economic%20Growth%20in%20Puerto%20Rico%20Releases%20Final%20Report.pdf.

Residents of the states receive the EITC and CTC through filing their federal income tax returns. Puerto Rican residents, however, are not liable for federal income taxes and, thus, do not file federal income tax returns (unless they have income from sources in the states). The fact that Puerto Ricans island residents do not pay federal income tax has sometimes been cited to justify their exclusion from the EITC and the CTC. In fact, in the states, many (perhaps most) current recipients of EITC and CTC do not pay any federal income taxes simply because their incomes are too low. (See the example below.) Also, the EITC was established in part to offset the regressive payroll taxes—the Social Security and Medicare taxes—for low-income families. Puerto Rican residents pay these federal payroll taxes at the same rates as do residents of the states.

Moreover, both the EITC and CTC were put in place and then expanded in order to alleviate poverty by supplementing earned income and thus providing an incentive for people to take part in the paid labor force and draw a paycheck. The poverty rate in Puerto Rico is substantially higher than on the mainland, with almost fifty percent of Puerto Ricans living below the poverty line.

There is, furthermore, no technical need to tie these credits to federal income tax filing and payment. Puerto Ricans who have three or more children can claim the CTC by filing a federal income tax form but paying no federal income taxes. A similar procedure could be adopted for the EITC and for the CTC for families with one or two children. Existing EITC and CTC legislation could be readily amended to accomplish the change.

Stimulus to the Economy

Beyond its impact on individual families—the improvement of their living standards and moving them from welfare roles to paid employment—extending the EITC and CTC would provide a significant stimulus to the Puerto Rican economy. The stimulus would be both direct, by increasing consumer demand, and indirect, by encouraging a higher labor force participation rate. When all eligible Puerto Ricans are applying for and receiving these credits (which could take a number of years), the direct stimulus could be as much as $1.8 billion per year. When multiplier effects are taken into account, the overall impact of the infusion of these funds could raise income by close to 4%. Together, the infusion of funds and the greater engagement in productive work could make a major contribution towards transforming the island’s economy out of its long decline and onto a healthy growth path.[74]

Labor Force Participation

It is especially important that the EITC has been designed to encourage people to participate in the paid labor force. The labor force participation rate in Puerto Rico

[74] The figure here for amount of stimulus that these credits could provide, and also the figures below on the number of families potentially affected, the inflow of the credits over time, and the costs to the federal government are based on an unofficial scoring of the effect of these programs.

has been below 50% since the 1950s and has dropped precipitously during the current recession, varying around 40% since 2014. (By way of comparison, the U.S. labor force participation rate has been above 62% in every year since 2014.) In its 2006 report on the Puerto Rican economy, the General Accountability Office (perhaps with irony intended) took note of "the fact that government programs that are in place [in Puerto Rico], such as the Nutrition Assistance Program … and disability insurance, can discourage work, while the U.S. program that encourages labor force participation—the Earned Income Tax Credit—is not a part of the tax system in Puerto Rico."[75] A stimulus to labor force participation would be, of course, a stimulus to economic growth.

Furthermore, in Puerto Rico's large "informal" or "underground" economy, workers and firms pay local taxes only to a very limited extent, regulations are not in force, and activity is poorly tracked. With the EITC and CTC in effect for Puerto Rican residents, these programs would provide a strong incentive for workers to come out of informal activity because they could only receive the credits by reporting earned income. As a result, the informal economy would shrink, the tax base would be enlarged, and local tax payments would increase. Moreover, in moving from informal to formal activity, workers would tend to move to more productive activity.

Fairness

Because residents of Puerto Rico are not eligible for the EITC and CTC, while residents of the states are eligible, there is a substantial difference—a lack of fairness—in the income they end up with after federal taxes and credits. Consider the hypothetical case of two families in 2018 whose members are all citizens of the United States. One family is in the states and one in Puerto Rico. Each consists of two parents and two young children. Both families have earned income of $24,000 in 2018. Each family pays $1,488 in Social Security taxes and $348 in Medicare taxes. Neither family has any federal income tax liability, the Puerto Rican family because it is not covered by federal income tax requirements and the family in the states because its income is so low.

The family in the states, however, receives an EITC of $5,716 and a CTC of $2.800. Thus, after federal taxes and credits, this family has income of $30,680.

The family in Puerto Rico, not eligible for the EITC and CTC, after federal taxes and federal credits (i.e., none) has an income of $22,164.

The family in Puerto Rico, earning the same as the family in the states, and the same as the family in the states in terms of family members and earned income, has an income $8,516 less than the family in the states after both families' tax and credit interaction with the federal government. In percentage terms, the family in the states has a 38.4% greater income than the Puerto Rican family after federal taxes and

[75] United States Government Accountability Office, *Puerto Rico: Fiscal Relations with the Federal Government and Economic Trends during the Phaseout of the Possessions Tax Credit,* May 2006. https://www.gao.gov/assets/160/157687.pdf.

credits. (This particular example tends to show a larger difference between the two families that would be the case at some other earnings levels and other family structures. Nonetheless, the difference would be substantial in most cases where families would be eligible for the credits.)[76]

Costs

Estimates of the impact of extending the EITC and CTC to Puerto Ricans on the island indicate that over ten years the costs would be approximately between $12 billion and $13 billion—or somewhat over $1 billion annually on average. This estimate is based on the assumption that in the early years of implementation, many eligible Puerto Ricans would not take advantage of the credits but would "learn" to do so as time progressed. When fully in place, with most eligible families engaged, as many as 60% of families would be receiving these credits. This cost estimate is on the high side because it does not take into account the degree to which extending these programs to Puerto Rico would raise the rate of economic growth on the island, as noted above, through both direct stimulus and greater labor force participation. More rapid economic growth would raise incomes and move many Puerto Ricans to positions where they would no longer receive these credits. Thus, the extension of the EITC and CTC to Puerto Rico would in effect be partially self-reducing.

The costs of extending these credits to Puerto Rico would be small compared, for example, to the costs that have been incurred by the U.S. Treasury (in terms of lost tax revenue) as U.S. firms operating in Puerto Rico took advantage of Section 936 of the U.S. tax code in the 1976 to 2006 period. In the late 1980s and early 1990s, when the program was at the center of economic policy in Puerto Rico, *annual* costs were running between $3.8 billion and $4.7 billion (in terms of 2019 dollars)[77]—that is, about four

[76] A caveat is necessary. While the current situation is unfair, as just pointed out, there is an additional and different issue of fairness that could arise were the EITC and CTC extended to Puerto Rican island residents with no adjustment to take account of the fact that Puerto Rican residents are not liable for the federal income tax. In the states, when the income level of a family is high enough so that the family would be paying some income tax, the family's refund from these programs would amount to the credits minus the income tax owed. Applied to Puerto Rico, where a family with the same earned income would not be liable for any federal income tax, the refund would be larger. In the example above of the two families, each with earnings of $24,000, this issue was irrelevant because at that level there would be no income tax liability for the family in the states. However, if the two families had earned enough so that the family in the states had some tax liability, then, if the EITC and CTC were available without modification to the family in Puerto Rico, it would end up with a higher income (after federal taxes and credits) than the family in the states. It would seem appropriate, therefore, in extending the EITC and CTC to Puerto Rico that that total of these credits be "capped" at an amount equal to the credits less the federal tax that the equivalent family (in terms of income and structure) in the states would have received. This would not involve any great complexity, but could be readily computed from the information the Puerto Rican family would have to provide simply to obtain the credits.

[77] Estimates of the costs of 936 to the U.S. Treasury are from Angel L. Ruíz and Edwin Meléndez, "The Economic Impact of Repealing Section 936 on Puerto Rico's Economy," in *Economic Impacts of the Political Options for Puerto Rico*, edited by Edwin Meléndez and Angel L. Ruíz, Universidad Interamericana de Puerto Rico, San Germán, Puerto Rico, 1998, p. 126; P. Morrison, "Testimony before the Committee on Finance, United States Senate," April 26, 1990, p. 2, as cited by J. Tomas Hexner and Glenn P. Jenkins,

times as much as would be the costs associated with the EITC and CTC. And in terms of job growth, output expansion, and poverty reduction, the 936 program had very weak results. (For more on 936, see the discussion in Chapter 3.)

As well as being a relatively inexpensive boost to the Puerto Rican economy, these credit programs would have a virtually immediate impact. The injection of funds would go directly to low-income families, who would tend to spend the money quickly. And, finally, extending the credits to Puerto Rico would be relatively simple, requiring no new legislation but only a relatively small amendment to existing legislation. Yet, there has been no movement in Congress to extend the EITC and the full CTC to Puerto Rico. With regard to these credits, the island continues to be on an unlevel playing field.

Medicare, Medicaid, and Nutritional Assistance

While the federal EITC does not exist for Puerto Ricans on the island and the CTC exist only in a limited manner (for families with three or more children), the federal Medicare, Medicaid and Nutritional Assistance programs all exist in Puerto Rico. However, in the states, federal funding of these programs is determined by actual needs (i.e., by their usage), but in Puerto Rico the amount of federal funding is either "capped" or provided at lower rates that in the states.

For all three of these health-related programs, moreover, the different contexts in the states and Puerto Rico are important. Puerto Rico's much lower household income and much higher poverty rate are associated with a much poorer health situation. Consider the data for 2016 and some earlier years in Table 4.4:

"Puerto Rico and Section 936: A Costly Dependence," *Tax Notes International*, January 16, 1995, p. 236; and United States Department of the Treasury, "U.S. Possessions Corporations Returns, 1987," Tables 1 and 2, as cited by J. Tomas Hexner et al., "Puerto Rican Statehood: A Precondition to Sound Economic Growth," Hex, Inc., Cambridge, MA, 1993, pp. 25-26. Also, for a full discussion of the costliness of 936, see the 1995 *Tax Notes International* article by Hexner and Jenkins.

Table 4.4: Puerto Rico and the United States:
Selected Health Statistics, 2016 and Some Earlier Years

	Puerto Rico	United States
Adults Reporting Fair/Poor General Health (2016)	34%	18%
Adults Reporting Diabetes (2016)	15%	11%
Adults Reporting Heart Attack or Heart Disease (2016)	11%	7%
Locally-Acquired Zika Virus Disease Cases (2016)	34,963	224
HIV Diagnosis Rate per 100,000 People (2015)	17.1	14.7
Infant Mortality Rate per 1,000 Live Births (2013)	7.1	6.0

Source: *Puerto Rico: Fast Facts*, The Kaiser Family Foundation, http://files.kff.org/attachment/Fact-Sheet-Puerto-Rico-Fast-Facts.

Medicare

In 2017, federal government Medicare expenditures per beneficiary in Puerto Rico were $6,998, while the figure for the states was $10,731—53% higher than for Puerto Rico.[78] Perhaps part of this difference is accounted for by a lower cost of some aspects of medical care in Puerto Rico than in the states. However, the different treatment of Puerto Rico in Medicare regulations as compared to the states—the lack of a level playing field—certainly contributes to this difference.

One significant difference between Puerto Rico and the states is that Puerto Rico's Medicare Advantage (Medicare Part C) reimbursements are smaller, 43% below the national average. In 2017, 574 thousand of Puerto Rico's 776 thousand Medicare

[78] The Puerto Rico figure is calculated from the $5,429.6 million in Medicare benefits transfers to Puerto Rico from the federal government reported in *Informes Económicos al Gobernador Puerto Rico 2018*, Statistical Appendix, Table 21. The U.S. figure is calculated from the $609,541 million Medicare Budget Outlays reported in U.S. Department of Health and Human Services, "HHS FY 2017 Budget in Brief - CMS – Medicare," as "Current Law Outlays, Net of Offsetting Receipts" (principally premiums), https://www.hhs.gov/about/budget/fy2017/budget-in-brief/cms/medicare/index.html. The total beneficiaries, 56,800,280 in the states and 775,837 in Puerto Rico, are from Kaiser Family Foundation, "Total Number of Medicare Beneficiaries," https://www.kff.org/medicare/state-indicator/total-medicare-beneficiaries/?currentTimeframe=1&selectedRows=%7B%22wrapups%22:%7B%22united-states%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D. Some of these figures, however, are somewhat different in other sources, but the general order of magnitude seems consistent among sources.

beneficiaries were on Advantage plans (that is 74%, compared to 32% in the states). Thus, this difference in the reimbursement rate is especially important. In March, 2018, the Puerto Rican resident commissioner and 24 members of Congress urged the Centers for Medicare and Medicaid Services to raise Puerto Rico's rate and thus address this disparity. This urging, however, did not lead to any change.[79]

The December 2016 *Report to the House and Senate* of the "Congressional Task Force on Economic Growth in Puerto Rico"[80] notes additional disadvantages of Puerto Rico with regard to support of Medicare. These include:

- With regard to Medicare Part A (which provides coverage for inpatient hospital services, as well as services like skilled nursing, home health, and hospice care), Medicare provides additional payments to hospitals to offset the costs of treating low-income patients. In the U.S., these additional payments are based on a "hospital's share of low-income patients, defined as the share of Medicare inpatient days for individuals entitled to federal Supplemental Security Income (SSI) benefits out of a hospital's total Medicare inpatient days." However, SSI has not been extended to Puerto Rico. "Therefore, using Medicare SSI days as a portion of total Medicare days to calculate the [additional payments] …—along with the failure to design a payment methodology that appropriately accounts for days provided to patients in both the Puerto Rico disability program and the SSI program—*do* [sic] *place Puerto Rico hospitals at a disadvantage*. (pp. 22-23, emphasis added)

- With regard to Medicare Part B (which provides coverage for physicians' services, outpatient hospital services, durable medical equipment, outpatient dialysis, and other medical services), "Residents of every state and territory *other than Puerto Rico* who are receiving Social Security benefits are automatically enrolled in both Part A and Part B, with coverage beginning the first day of the month they turn 65…. When residents of Puerto Rico turn 65 and start receiving Social Security benefits, they are automatically enrolled in Part A, but not automatically enrolled in Part B. Instead, beneficiaries in Puerto Rico are required to take the affirmative step of enrolling in Part B during their seven-month initial enrollment period. If they fail to enroll, they are subject to a lifetime late-enrollment penalty." [Emphasis in the original.]

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[79] Virgil Dickson, "Lawmakers urge CMS to increase Puerto Rico's Medicare Advantage rates," *Modern Healthcare,* March 20, 108, https://www.modernhealthcare.com/article/20180320/NEWS/180329993/lawmakers-urge-cms-to-increase-puerto-rico-s-medicare-advantage-rates. The numbers of beneficiaries in the Puerto Rican and U.S. programs are from Kaiser Family Foundation, "Total Number of Medicare Beneficiaries" as previously cited.

[80] As previously cited.

"The lack of an automatic Part B enrollment process in Puerto Rico has resulted in a disproportionate number of Medicare beneficiaries in Puerto Rico paying the lifetime late-enrollment penalty…According to CMS [the Centers for Medicare and Medicaid Services] there are currently 5,739 Medicare beneficiaries in Puerto Rico who are paying a lifetime penalty for enrolling late in Part B. In addition, according to CMS, there are 108,678 individuals in Puerto Rico who are currently enrolled in Part A only, not Part B. Many of those individuals, if they do elect to enroll in Part B, will be subject to a lifetime late-enrollment penalty." (p.23-24)

- With regard to Medicare Part D (which provides an outpatient prescription drug benefit), "Medicare beneficiaries with incomes up to 150 percent of the federal poverty level are eligible to receive a low-income subsidy (LIS) from the federal government, which reduces or eliminates their monthly premium and other out-of-pocket costs associated with Part D…. [However,] residents of the territories are not eligible for the LIS. In lieu of the LIS, federal law provides a fixed amount of funding to each territory to provide Medicaid coverage of prescription drugs for low-income Medicare beneficiaries. This funding is … referred to as the enhanced allotment program (EAP). Currently [i.e., in 2016], annual EAP funding to Puerto Rico is between $40 million and $50 million. *This is substantially less than the aggregate amount of financial support that low-income Medicare beneficiaries in Puerto Rico would receive if residents of the territories were eligible for the LIS*." (p. 26, emphasis added.)

Thus, in each part of Medicare—A, B, C, and D—major provisions treat Puerto Rico and Puerto Ricans poorly relative to the states and people living in the states. Yet, Puerto Ricans pay Medicare taxes at the same rate as do residents of the states.

Medicaid

Medicaid is the joint federal-state program financing the medical care of low-income people in the states and territories. In 2017, reflecting the relatively low incomes of people on the island, Medicaid (including the Child Health Insurance Program, CHIP) provided health care services to 49% of the Puerto Rican population, approximately 1.69 million people. In the states, in 2017, Medicaid served 20% of the population.[81]

The difference between Medicaid in the states and Medicaid in Puerto Rico (and the other U.S. territories) most relevant here is the extent of and procedure for federal support. In the states, the amount of federal Medicare payment is not limited and is set in a range from 50% to 83% of the total payments in the state. The state government picks up what is not covered by the federal government. The federal share—the federal medical assistance percentage, or FMAP—of total expenditures varies by state, with a higher FMAP for states with lower per capita incomes. In Fiscal Year 2016, eight states

[81] *Puerto Rico: Fast Facts*, The Kaiser Family Foundation, http://files.kff.org/attachment/Fact-Sheet-Puerto-Rico-Fast-Facts.

and the District of Columbia, had an FMAP rate of 70% or above, with Mississippi having the highest at 74.17%. If the FMAP for Puerto Rico was determined in the same manner, it would be in the 70% to 80% range.[82]

But the federal share of Medicare payments in Puerto Rico is not determined in this same manner. There is a "cap" on these payments to Puerto Rico, which was $347.4 million in 2017.[83] (The "cap" is changed each year according to the consumer price index for all urban consumers.) Also, the total federal payments are set at 55% of the total (i.e., the federal payments for 2017 were $347.4 million or 55%, which ever was less—but see below.) The Puerto Rican government has said that, had it been receiving federal Medicaid payments in the same manner as the states, it would not have built up the debt obligations that have been a central part of the island's economic crisis. Indeed, the Congressional Task Force comments: "While it would be wrong to attribute Puerto Rico's annual deficits and accumulated debt solely, or even mainly, to the disproportionate burden it bears in financing its Medicaid program, it would also be wrong to deny that this funding disparity has been a meaningful factor contributing to Puerto Rico's fiscal condition."[84]

Federal authorities have recognized that the procedures for provision of Medicare funds for Puerto Rico have resulted in a substantial shortfall of what is needed to support adequate healthcare on the island, a shortfall that has become especially clear as the economy has deteriorated. Consequently, since 2011, particular acts by Congress have provided more than six billion dollars of additional funding, beyond the "cap" for Medicaid in Puerto Rico. Most of this was provided in the Affordable Care Act, put in place in 2010, and was specified to be used over the 2011 to 2019 period. These special provisions have greatly raised the federal share of payments into 2019. For example, in 2016, of the $2,462.5 billion of Medicaid spending in Puerto Rico, 67% was provided by the federal government.[85]

However, as important as these additional funds have been, there has been no change in the procedures for determining federal funding for Medicaid in Puerto Rico. The "cap" remains as does the FMAP. As these funds run out, Congress will have to act again to prevent a shortfall and healthcare crisis. In other words, the continuation of this more adequate funding will depend each year on the particular situation in the U.S. Congress, and of course will depend on support by the president. Moreover, as the example of 2016 demonstrates, the special provisions (67%) do not provide Puerto Rico

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[82] Congressional Task Force on Economic Growth in Puerto Rico, as previously cited, pp. 17-22. The discussion of Medicaid here draws heavily on the material presented by the Task Force.

[83] Medicaid and CHIP Payment and Access Commission, "Medicaid Financing and Spending in Puerto Rico," August 2017, https://www.macpac.gov/wp-content/uploads/2017/09/Medicaid-Financing-and-Spending-in-Puerto-Rico.pdf.

[84] As previously cited, p. 19.

[85] Medicaid and CHIP Payment and Access Commission, as previously cited.

with as much support (70% to 80%) as it would receive if the island were treated in the same manner as the states.[86,87]

Nutritional Assistance

From 1974 to 1982, Puerto Rico was provided nutritional assistance along with the states in the then-called Food Stamp Program (FSP), which later became the Supplemental Nutritional Assistance Program (SNAP). The FSP was and the SNAP is an open-ended program, where the amount of funds provided goes up and down in accord with needs. However, in 1982, Congress replaced the FSP in Puerto Rico with a block grant, which significantly reduced the amount of funds going to the island compared to what would have been provided in the FSP and later SNAP. The Puerto Rican block grant program is called the Nutritional Assistance Program (NAP), while SNAP continues in the states as an open-ended program (a so-called "entitlement").

In 2008, Congress directed the Secretary of Agriculture (SNAP being administered by the Department of Agriculture) to conduct a study of the feasibility and effects of including Puerto Rico in SNAP as though it were a state instead of continuing the provide nutritional assistance through the block grant. The study, which was released in 2010, provides useful information regarding the different (the poorer) nutritional assistance treatment of Puerto Rico as compared to the states—then and now, as the system was not changed following the report.[88]

Principal findings from the 2010 report underscore the poorer treatment of Puerto Ricans in the NAP program as compared to the treatment of people in the states in the SNAP program. The quotation from the report's summary in the box below presents several of the findings.

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[86] Medicaid and CHIP Payment and Access Commission, "Medicaid Financing and Spending in Puerto Rico," August 2017, https://www.macpac.gov/wp-content/uploads/2017/09/Medicaid-Financing-and-Spending-in-Puerto-Rico.pdf.

[87] The Congressional Task Force (as previously cited) notes "the often-heard argument that Puerto Rico does not receive state-like treatment under Medicaid because the program is financed from the general fund of the United States, and individuals and businesses in Puerto Rico are not required under federal law to contribute to the general fund to the same degree and extent as their counterparts in the states." That is, Puerto Rican individuals and businesses are not subject to the federal income tax. "However, all members of the Task Force believe that, even if differential tax treatment may potentially serve as an argument against *equal* treatment for Puerto Rico under Medicaid, more *equitable* treatment should still be considered." (p. 19)

[88] Food and Nutrition Service, U.S. Department of Agriculture, *Implementing Supplemental Nutrition Assistance Program in Puerto Rico: A Feasibility Study*, June 2010, https://fns-prod.azureedge.net/sites/default/files/PuertoRico.pdf.

Based on the Federal SNAP rules for fiscal year (FY) 2009 and policy assumptions made specifically for this analysis, a transition to SNAP in Puerto Rico is expected to raise the income limits for eligibility, increase the number of applicants, and correspondingly expand the number of households that receive benefits. In summary, implementation of the SNAP in Puerto Rico is anticipated to:

- Increase the number of households that receive nutrition assistance by 15.3 percent. In a typical month in FY 2009, approximately 554,000 household units participated in NAP. It is estimated that approximately 721,000 households would be eligible for SNAP in a typical month and that approximately 639,000 would actually participate.

- Increase nutrition assistance coverage from 30 percent to approximately 43 percent of the population.

- Change the composition of the caseload. The number and percentage of households that have an elderly member, income over 85 percent of the poverty guideline, and earnings are expected to increase. In contrast, reductions in the number and percentage are anticipated for households with a disabled member and those composed of single mothers and children.

- Increase the average monthly benefit for all types of households except for those with earnings or composed entirely of elderly persons. The average monthly benefit per household would go up 9.6 percent, from $240 per month to $263 per month in FY 2009 dollars.

The report also points out that including Puerto Rico in the SNAP would "increase total annual costs by almost $457.3 million in FY 2009 dollars or 23 percent." The share of this increase covered by the U.S. government would be $439.2 million (95%), while the remaining $18.1 million (administrative costs) would be borne by the Puerto Rican government.

The difference between the Puerto Rican NAP and the SNAP in the states can be seen in Table 4.5, showing benefits by household size for 2017. The differences should be evaluated in light of the relatively high cost of living in Puerto Rico. According to the Instituto de Estadísticas de Puerto Rico, the San Juan metropolitan area ranked 51st of 296 American metropolitan areas in terms of cost of living, and 15th in cost of grocery items.[89]

[89] With the average cost of living index for the United State cities as 100, the overall index for San Juan was 108.0 and for grocery items was 120.7. Instituto de Estadísticas de Puerto Rico, "Índice de Costo de Vida de Puerto Rico Primer Trimestre (enero a marzo) de 2017," https://estadisticas.pr/files/Documentos/384B97B9-5A0A-4C51-9ED0-AAE0F43C449E/One_pager_COLI_2016Q1_2017Q1.pdf. Cited in Elizabeth Wokomir, "How is Food

Table 4.5: Benefits by Household Size,
SNAP in the States and NAP in Puerto Rico, 2017

Household Size	SNAP Maximum Monthly Benefit, FY 2017	NAP Maximum Monthly Benefit, FY 2017
1	$194	$112
2	$357	$216
3	$511	$315
4	$649	$410
5	$771	$499

Source: Department of Agriculture, SNAP FY 2017 cost of living adjustment information; Puerto Rico Department of the Family, *State Plan of Operation – Nutrition Assistance Program, Fiscal Year 2017*, amended September 9, 2017. From Elizabeth Wokomir, “How is Food Assistance Different in Puerto Rico Than in the Rest of the United States?” Center for Budget and Policy Priorities, November 27, 2017, https://www.cbpp.org/research/food-assistance/how-is-food-assistance-different-in-puerto-rico-than-in-the-rest-of-the.

As with Medicaid, Congress has provided additional funds for NAP in certain circumstances—in particular after 2009 in the American Recovery and Reinvestment Act. More recently, following the hurricanes and the continued poor performance of the Puerto Rican economy, some additional funds were provided. In all of these cases, however, the additional funds have come only by particular decisions in Washington, and in the spring of 2019 it appeared that partisan disputes in Washington, particularly the president’s objection to more funds for Puerto Rico, would make the provision of addition funding unlikely.

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The discussion in this chapter belies the claims that Puerto Rico has been treated “generously” by the federal government, Overall, the provision of funds to Puerto Rico is not large compared to what the states receive from Washington, and, in particular, in terms of net receipts from the federal government, Puerto Rico falls below many states. During the island’s recession, the rise of funds from Washington has been largely in categories that cannot be counted as “welfare.” In major programs that provide income and health support—EITC, CTC, Medicare, Medicaid, and Nutritional

Assistance Different in Puerto Rico Than in the Rest of the United States?” Center for Budget and Policy Priorities, November 27, 2017, https://www.cbpp.org/research/food-assistance/how-is-food-assistance-different-in-puerto-rico-than-in-the-rest-of-the.

Assistance—Puerto Rico is treated substantially more poorly than the states. Puerto Rico’s status does not serve its people well in terms of federal support.

Chapter 5

The Emergence of the Debt

Before the hurricanes of September 2017, it was Puerto Rico's public debt that captured the attention of the U.S. media and Congress. The government and public enterprises had increasingly taken on debt to pay their bills as the economy declined and tax revenues payments for services failed to cover expenditures. Yet, serving the growing debt, the government was cutting into its ability to provide basic services and to develop the public programs that would keep the economy from sinking further. And once the hurricanes had gone—though not their impacts—it again was the debt that dominated concern and the course of the Puerto Rican economy.

The U.S. Congress had already become concerned about the debt, viewing it as a crisis situation. While part of congressional concern was for the dire situation of the Puerto Ricans, it became clear that principal preoccupation of Congress was the debt due to financial institution in the states (as well as other bond holders). In 2016, Congress had enacted the Puerto Rican Oversight, Management, and Economic Stability Act (PROMESA), which created the Financial Oversight and Management Board (FOMB). The content of PROMESA and the actions of the FOMB have made clear that the primary goal was to assure, insofar as possible, payment of the debt—though economic recovery of Puerto Rico was also professed as a goal. The impact of PROMESA and the FOMB will be examined in the next chapter, Chapter 6.

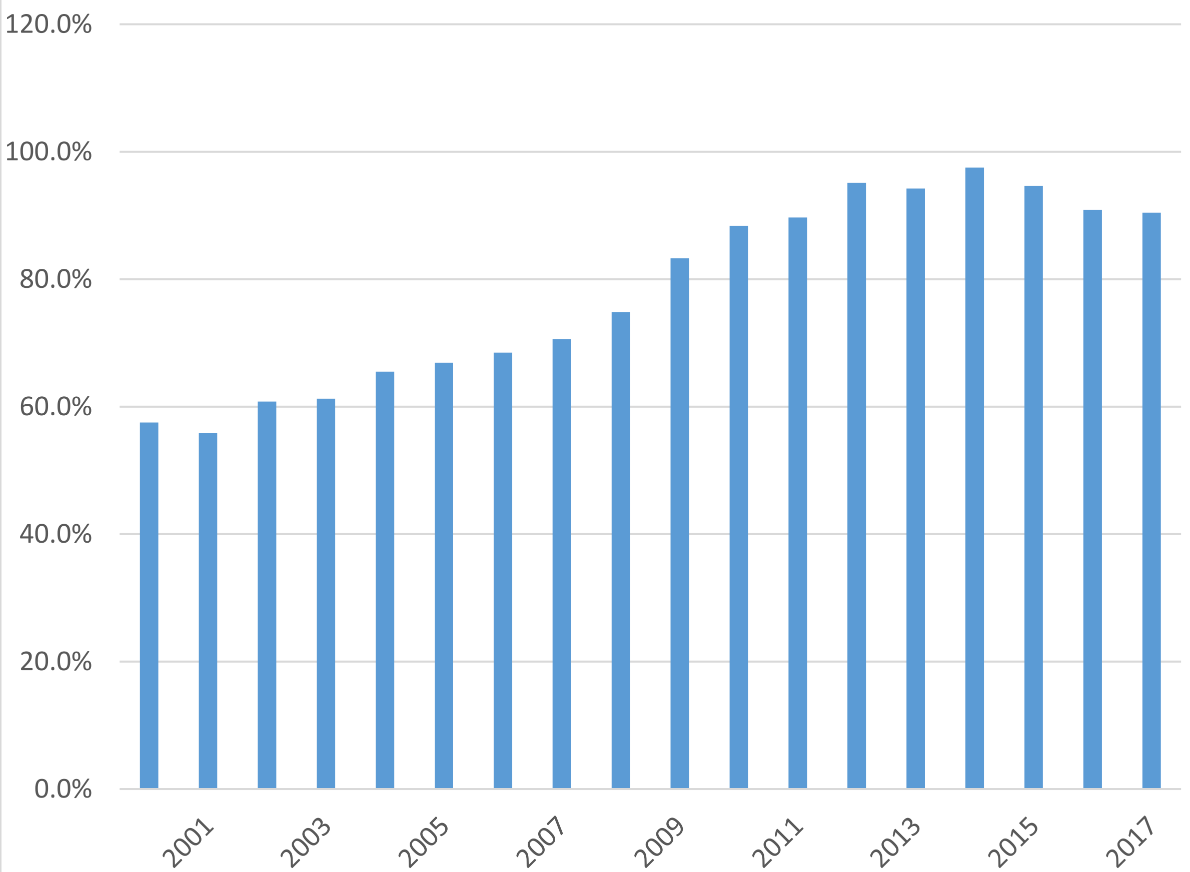
The Buildup of the Debt

During the 1990s, when real GNP (i.e., adjusted for inflation) was growing reasonably if not rapidly (2.8% per year), the total public debt as a percentage of GNP was fairly stable, fluctuating round 60%. Figure 5.1, however, shows that from 2001, and especially as the economy went into decline from 2006 onward, the debt grew fairly steadily in relation to GNP, reaching a peak of almost 100% in 2014. In absolute terms, 2014 was also the peak year as the debt reached $67.1 billion.[90] Nominal GNP in the years from 2001 to 2017 rose by 59%, but the debt rose by 155%. (Real GNP, of course, fell in this period—by 8.8%.) The amount of debt fell somewhat after 2014, as Puerto Rican bonds were classified as "junk" and the government was effectively excluded from the capital markets.

[90] Figures on the amount of debt are reported differently in different sources, with a figure of over $70 billion often cited. That figure would have made the volume of debt at its peak slightly higher than GNP, but the pattern of change would not be altered. However, the higher figure includes debt paid with federal funds from the Housing and Urban Development Department and the funds received through a federal agreement with the tobacco companies. This amount was $5 billion in 2014 and $4.7 billion in 2017. We are grateful to Juan Castañer for pointing this out. The total gross public debt figures used here are consistent with (though not identical to) those reported in the *Informe Económico al Gobernador Puerto Rico*, Statistical Appendix, various years.

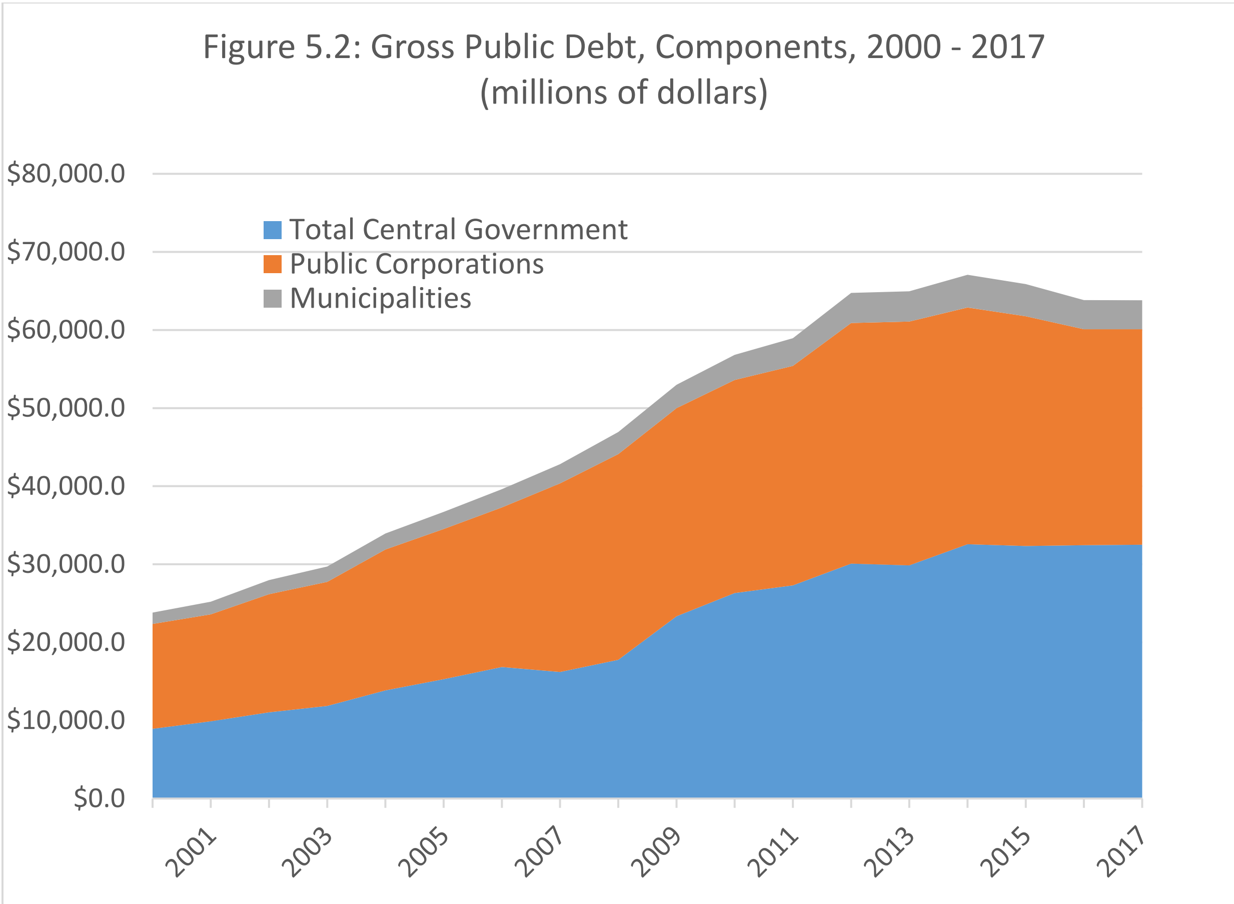
In understanding the particular causes of the debt—beyond the general cause of attempts to bolster a foundering economy—it is useful to recognize the different major components of the debt, which are accounted for by the central government, by the municipalities, and by public enterprises (the Electric Power Authority, the Highway and Transportation Authority, and some 50 others[91]). The components of Puerto Rico's gross public debt are shown in Figure 5.2 and Table 5.1. The table also shows the rate of growth of the components of the debt from 2000 to 2017.

Figure 5.1: Gross Public Debt as Percentage of GNP, 2000 - 2017



Source: See the source notes for Table 5.1.

[91] A list of the 52 Puerto Rican public enterprises that existed in 2012 is provided at Wikipedia, "List of government-owned corporations in Puerto Rico," https://en.wikipedia.org/wiki/List_of_government-owned_corporations_of_Puerto_Rico.



Source: See the source notes for Table 5.1.

Table 5.1 – Gross Public Debt, Components, and as a Percent of GNP, 2000 – 2017 (millions of dollars)

	Total Central Government	Public Corporations	Municipalities	Gross Public Debt	Gross Public Debt as Percent of GNP
2000	$8,925.7	$13,431.6	$1,464.4	$23,821.7	57.5%
2001	$9,883.5	$13,699.1	$1,632.2	$25,214.8	55.9%
2002	$11,046.5	$15,124.1	$1,795.8	$27,966.4	60.8%
2003	$11,862.1	$15,889.8	$1,955.1	$29,707.0	61.3%
2004	$13,856.0	$18,040.6	$2,046.0	$33,942.6	65.5%
2005	$15,287.6	$19,234.1	$2,181.3	$36,703.0	66.9%
2006	$16,833.8	$20,449.5	$2,330.3	$39,613.6	68.5%
2007	$16,195.9	$24,159.4	$2,463.0	$42,818.3	70.6%
2008	$17,770.4	$26,342.4	$2,819.4	$46,932.2	74.8%
2009	$23,341.9	$26,640.8	$2,997.3	$52,980.0	83.3%
2010	$26,303.7	$27,287.9	$3,231.4	$56,823.0	88.4%
2011	$27,287.0	$28,118.1	$3,537.0	$58,942.1	89.7%
2012	$30,087.0	$30,801.0	$3,872.0	$64,760.0	95.1%
2013	$29,866.3	$31,208.8	$3,882.0	$64,957.0	94.2%
2014	$32,568.4	$30,311.8	$4,193.0	$67,073.2	97.5%
2015	$32,332.1	$29,424.2	$4,126.1	$65,882.4	94.7%
2016	$32,447.5	$27,641.2	$3,732.7	$63,821.4	90.9%
2017	$32,503.4	$27,591.1	$3,724.0	$63,818.5	90.4%
CAGR*	7.9%	4.3%	5.6%	6.0%	

*Compound Annual Growth Rate. The GAGR of nominal GNP in this period was 3.1%.

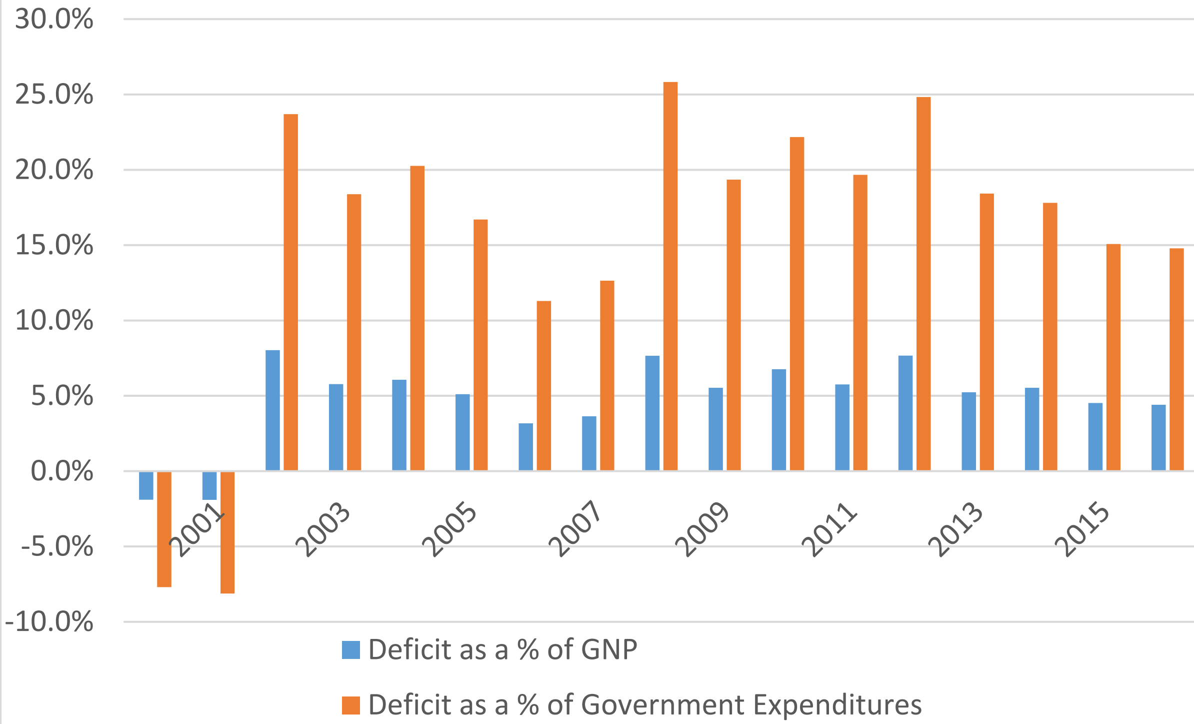
Source: Government Development Bank; OMB, Budget Requests, various years. These data were compiled by Juan Castañer, and we are grateful to him for providing the data to us.

The proximate cause of the debt buildup is quite clear, and it is virtually tautological to point out—namely that the debt grew as the government (at both the central and municipal levels) and its components (the public enterprises) ran budget deficits through most of the 2000s.[92] Moreover, some of these deficits were large. In particular, in the period from 2008 up through 2014, the peak year of the total debt, the budget deficit was especially large in relation to both GNP and total government expenditures. As shown in Figure 5.3, the deficit reached over 7.7% of GNP in both 2008 and 2013, and was over 25% of government expenditures in 2008. (In 2000 and 2001, there was a budget surplus. Also, the deficit was large in 2002, but declined in relation to GNP and expenditures over the next five years.)[93]

[92] As the Government Accountability Office notes in its May 2018 report, "Puerto Rico's government has operated with a deficit—where expenses exceed revenues—in each fiscal year since 2002, and its deficits grew over time." United States Government Accountability Office, Report to Congress, *PUERTO RICO Factors Contributing to the Debt Crisis and Potential Federal Actions to Address Them*, May 2018, https://www.gao.gov/assets/700/691675.pdf, p. 8.

[93] Government expenditures and GNP are two measures of the government's and the society's capacity to repay the debt. Yet, "large" is, of course, a relative concept. In 2009, in the midst of the Great Recession, the U.S. government's deficit was 9.8% of GDP and 40.2% of the government's outlays. On the other hand, virtually all the states have not run budget deficits (on current account), as they are prohibited from doing so by provisions in their constitutions. But neither the federal or state governments are good comparisons for the Puerto Rican government because of differences in their obligations and, in the case of the federal government, the crucial difference is the ability to create the money supply.

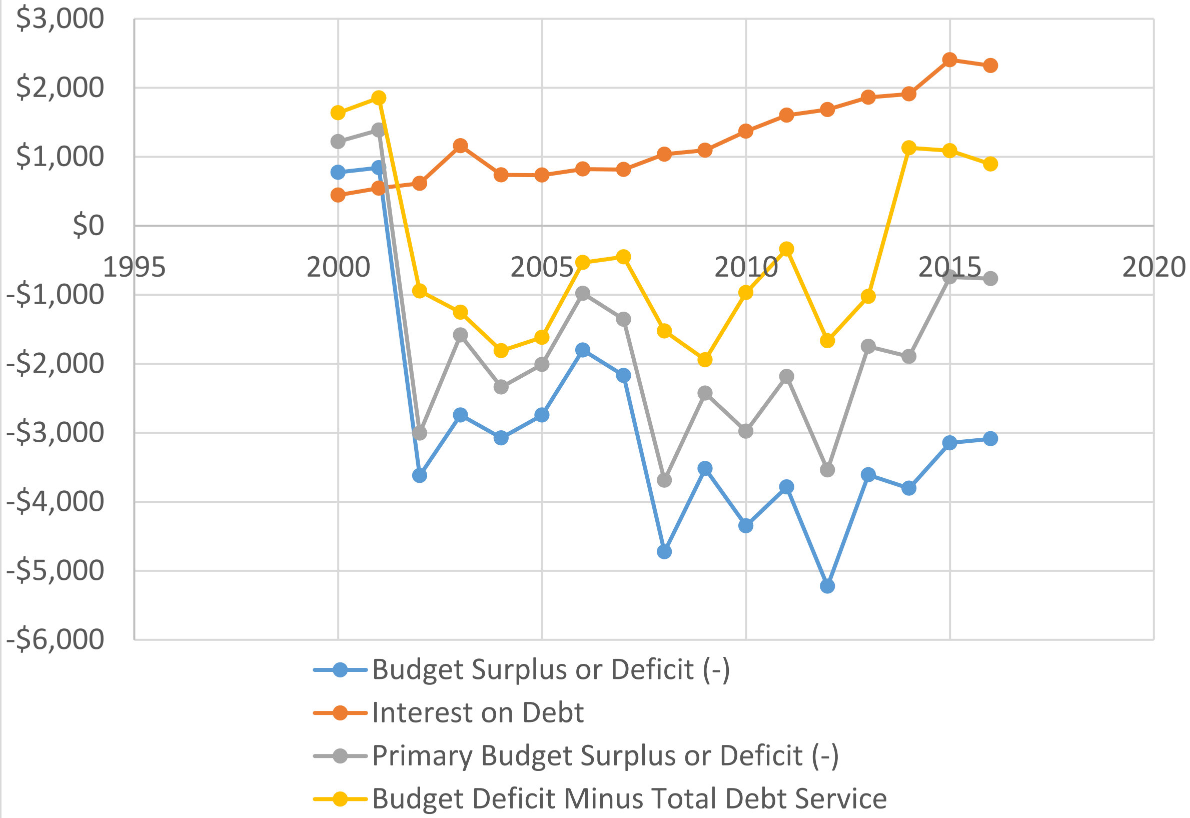
Figure 5.3: Budget Deficit as a Percentage of GNP and as a Percentage of Total Government Expenditures, 2000 - 2016



Source: Commonwealth of Puerto Rico*, Financial Information and Operating Data Report,* December 18, 2016; Commonwealth of Puerto Rico, *Comprehensive Annual Financial Report*, for year ended June 30, 2012, and for year ended, June 30, 2007. More recent data are not available and the 2015 and 2016

Figure 5.4 shows the budget deficit along with the interest paid on the debt, the primary budget deficit (the deficit minus the interest), and the deficit minus all debt service (interest plus principal). Figure 5.4 brings out the extent to which the deficit was due to paying the obligations created by taking on the debt. Clearly, servicing the debt has been a substantial portion of the deficit. Nonetheless, regardless of debt service, the Puerto Rican government was running a deficit from 2002 through 2013, and the primary budget deficit existed through 2016.

Figure 5.4: Budget Surplus or Deficit (-), Interest on the Debt, Primary Budget Surplus or Deficit (-), and Budget Surplus or Deficit Minus Total Debt Service, 2000 - 2016 (millions of Dollars)



Source: See the source note for Figure 5.3.

The Central Government's Deficits and Debt

The data in Table 5.1 (and Figure 5.2) show the debt of the central government was the most rapidly rising component of the total public debt, with its debt rising 3.6 fold over the 2000 to 2017 period. The question remains, however, as to why the central government—and also the public enterprises and municipal governments—ran deficits to finance activities, and here multiple factors can be identified. These factors will be noted shortly.

It is important, however, to recognize that when an economy goes into recession, as the Puerto Rican economy did in 2006, it can be beneficial for the government to run a budget deficit as a means of stimulating aggregate demand and restoring economic growth. The deficits in Puerto Rico, however, did not come into existence as a policy of stimulation, but, instead, were a result of ineffective fiscal policy, a failure to raise the revenue needed to finance government activities. Also, contrary to what one might expect from a simplistic application the Keynesian argument, this deficit spending could not have a significant growth impact in Puerto Rico. For deficit spending to stimulate the economy of a territory (or country), the spending must take place within the territory (or country). Yet, in Puerto Rico, as indicated by the data of Figure 5.4, from the inception of the recession in 2006 through 2017, the potential stimulus of the deficit was greatly reduced by the large debt service payments that were mostly going to holders of the debt off the island. From 2006 through 2016, the total deficit (the sum of the annual deficits) was $39.222 billion, or an average of $3.566 billion per year. However, debt service payments (interest plus principal) in this period amounted to 84% of the total deficit, and the great majority of these payments was going out of Puerto Rico. Thus, the total remaining deficit spent within Puerto Rico was $6.276 billion, or only an average of $570 million per year.[94] Thus, the stimulus would have been much less than the size of the deficit per se indicates, as much of the impact of the deficit "leaked" out of Puerto Rico. In other words, it was spent outside of Puerto Rico and any stimulatory impact thus would have been outside of Puerto Rico.

Also, much of the impact of other government spending "leaked" out simply because Puerto Rico has a highly open economy; in 2017, for example, imports exceeded GNP by almost 30%. Moreover, for deficit spending to accomplish a substantial stimulatory purpose, it must be accompanied by a set of policies that are likely to restore growth. Much of the buildup of the public debt in Puerto Rico was simply used to keep the government operating. In particular, between 2006 and 2017 public investments dropped off dramatically, by 65% (in nominal terms). Without growth policies and with continued economic decline, it became increasingly clear in Puerto Rico that the debt could not be paid and the debt itself became a burden on the economy. Deficit spending alone is seldom an effective recovery policy.

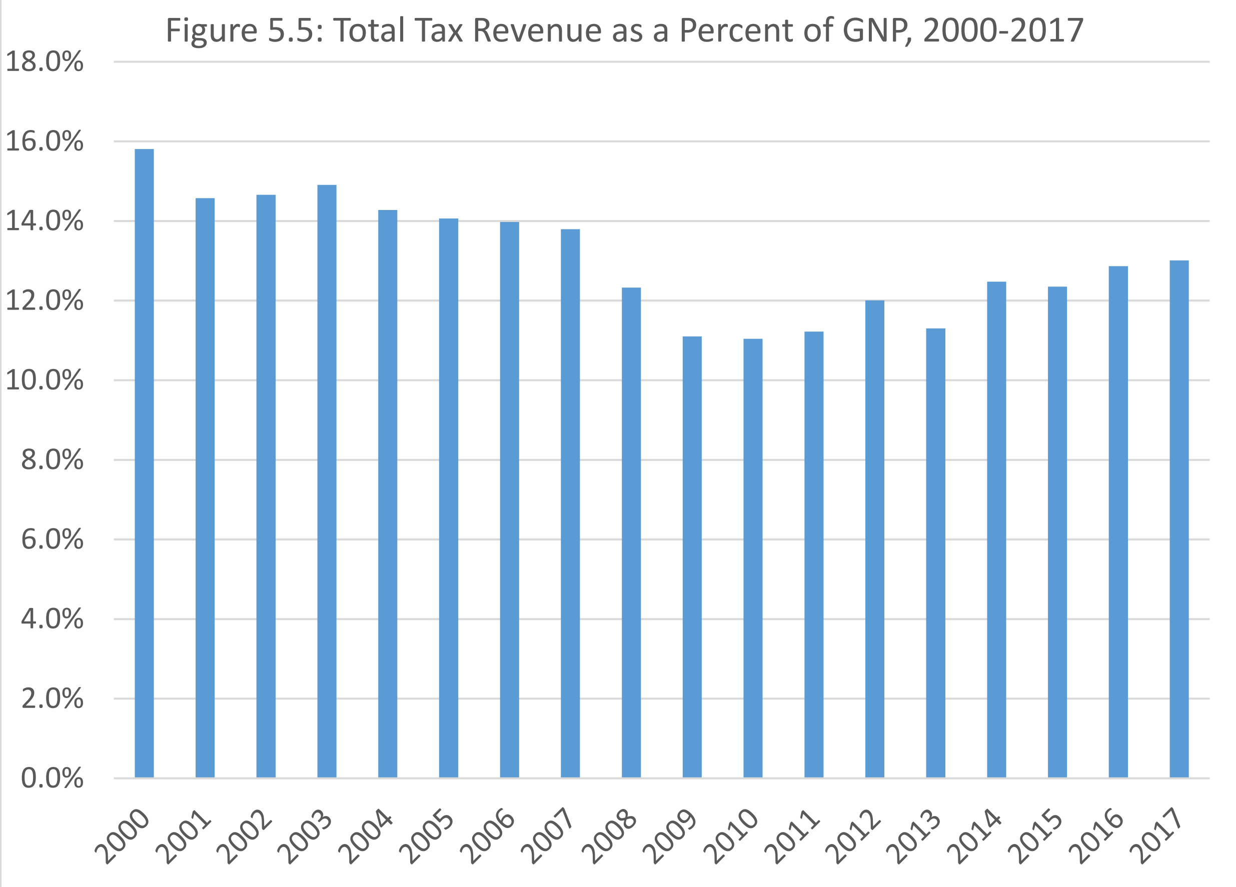
The particular factors that contributed to the growth of the deficit include, first, that Puerto Rico has long had an inadequate tax collection system. As the economy fell into recession, the principal source of tax revenue—the income tax on both individuals and corporations and partnerships—took a nose dive. While the economy grew in nominal terms by 23% between 2006 and 2017, the income tax on individuals fell by 29% and on corporations and partnerships by 37%. These two income taxes had accounted for 77% of total tax revenue in 2006, but only 48% in 2017. The government, it would seem, had virtually given up on maintaining income tax revenues. Countering this decline, the government introduced two new taxes, the Sales and Use tax (SUT) in 2007 and, in 2011, an excise tax on products and services purchased by corporations in the states from their Puerto Rican subsidiaries. Together, these two taxes, which did not

[94] See Figure 5.4. The debt service figures present a problem. Consider the figures for 2014, for example. On the one hand, the relation of interest payments to total debt implies an interest rate of only 2.85%, which seems unrealistically low. On the other hand, if the debt service figures reported are only on the debt of the central government, then the interest rate would be 5.86%, which seems more in line with what would be expected. However, if the reported debt service payments were only for the central government, this would imply total debt service payment obligations—i.e., including those of the public enterprises—of over $9 billion, which does not seem realistic. One possible explanation of the problem is that all debt service was not being paid in these years. Another possible explanation is that the data are faulty.

exist in 2006, accounted for almost half of total tax revenue in 2017. The SUT is a highly regressive tax, which, aside from considerations of fairness, has a relatively high negative impact on purchasing power. The excise tax, while effective in the short run, amounts to a shift in revenue from the U.S. Treasury to Puerto Rico, and is thus dependent on continuing cooperation by the federal government.[95]

As shown in Figure 5.5, total tax revenue in relation to GNP was falling slightly before the onset of the recession, and then fell sharply after 2007 as the recession developed. In subsequent years, there was some recovery in the tax-to-GNP ratio, as the SUT and the new excise tax had their impacts, but the ratio remained well below what it had been at the beginning of the century. The figures on which Figure 5.5 is based are in nominal terms. As real GNP fell by 18.3% and tax revenue fell from 14% of GNP to 13%, this means that real tax revenue fell by 24.3%—a very large decline.

[95] The SUT was originally set at 7% and then raised to 11.5% at the beginning of fiscal year 2016. The SUT was put in place in late 2006, but began to generate revenue in 2007. The excise tax on sales from Puerto Rican subsidiaries to the states-based parent corporations is 4%. As this tax paid to Puerto Rico can be deducted from the corporations' U.S. tax liability, the firms' total tax bills did not change and they did not oppose this new tax. However, it remains an open question as to how long the federal government will tolerate what is effectively a transfer from the U.S. Treasury to Puerto Rico.



Source: *Informe*.

Another factor aggravating the deficit was the rising government expenditure on health care, which would largely be Medicaid. While this was a common problem in the budgets of states, the Puerto Rican government as compared to the state governments was required to pay a disproportionately large share of Medicaid (as explained in Chapter 4). Starting in fiscal year 2012 and lasting through fiscal year 2018, the Affordable Care Act provided an additional $5.4 billion to Puerto Rico for Medicaid expenses. In the initial years of the recession, however, before these funds became available, the Puerto Rican government's health care expenditures virtually exploded, rising by over 100% between 2006 and 2011. This increase was roughly $1.5 billion, and increased health expenditures as a share of total government expenditure rose from 11.3% to 15.2%. This was the period when the deficit was increasing quite sharply.

It worth quoting again the statement in the report of the "Congressional Task Force on Economic Growth in Puerto Rico" cited in Chapter 4: "While it would be wrong to attribute Puerto Rico's annual deficits and accumulated debt solely, or even mainly, to the disproportionate burden it bears in financing its Medicaid program, it would also be wrong to deny that this funding disparity [as compared to the states] has been a meaningful factor contributing to Puerto Rico's fiscal condition."[96]

Still another factor contributing to the Puerto Rican government's deficit was a failure to anticipate the Great Recession in the United States and the negative impact on the fiscal situation, as well as on economic growth, on the island. Puerto Ricans can hardly be faulted for this failure, as almost no economists or government officials in the states foresaw the Great Recession. While information regarding the Puerto Rican's expectations are not available, we do know that the decline in real GNP was especially great at that time, falling by 8.8% in the three years 2008 to 2011; this was almost half of the decline of 18.3% in the eleven years from 2006 to 2017. Surely, a failure to foresee this large drop pushed up the deficit.

And then there is the other side of the demand-supply relationship regarding the Puerto Rican government's debt. While the factors noted above explain the deficit and thereby explain the rising demand for funds, the triple tax exemption of Puerto Rican bonds is important in explaining the ease with which those funds were available. Puerto Rican bonds are exempt from federal, state, and local taxes (including Puerto Rican taxes), making those bonds more attractive to buyers and thus easier for the Puerto Rican government to raise funds than it would otherwise be. Virtually until June of 2015, when the governor declared that "The debt is not payable," the bond market was still readily providing funds to Puerto Rico. Until the bonds were deemed "junk," it was relatively easy for the government to cover its excess of expenditures over revenue by borrowing, and kick the fiscal problems into the future.

The Public Enterprises

Since 2000, the debt of Puerto Rico's public enterprises did not rise as rapidly as that of the central government. Yet, in 2014, when the total public debt peaked, 45% was accounted for by the public enterprises. (See Table 5.1.) Though there are some 50 public enterprises, the debt has been concentrated in only a few. In 2015, four enterprises accounted for 70% of the total, and the Puerto Rico Electric Power Authority (PREPA) alone with an $8.1 billion debt accounting for 28% of the total. The other three were the Puerto Rico Highways and Transportation Authority ($4.6 billion), the Puerto Rico Aqueduct and Sewer Authority ($4.1 billion), and the Puerto Rico Building Authority ($4.0 billion).[97]

PREPA, partly because it has been the largest of these public enterprise debtors, has received most of the attention. Also, PREPA has been the focus of attention because of its long-run difficulties and its disastrous showing during the hurricanes of September 2017. The events during the hurricanes are well known. The entire electric

[96] Congressional Task Force report of December 20, 2014, as previously cited, p. 19.

[97] Michelle Kaske, "Puerto Rico's Debt," Bloomberg, Updated on October 4, 2017, https://www.bloomberg.com/quicktake/puerto-ricos-slide.

power system was knocked out, virtually all of the island was without power in the wake of the hurricanes. It was many, many months before the power was fully restored throughout Puerto Rico. PREPA's grid and generation facilities were far too vulnerable, and its de facto monopoly meant that there were no alternatives (aside from small private generators and some roof-top solar panels).

A pair of papers by Sergio Marxuach at the Center for the New Economy, released in 2005 and 2009, are especially useful in describing and explaining the long-standing problems at PREPA.[98] The 2005 paper, notes that the 1941 act creating PREPA, "…charters PREPA as a vertically integrated, self-regulated, tax-exempt, publicly owned monopoly with broad powers to issue regulations that govern its business and to set rates at which its services must be purchased by its clients." There is little, if any, reason to think that a self-regulated monopoly would be an efficient and effective provider of power. These two papers by Marxuach set out the poor functioning of PREPA and show how there were no improvements in the years between the reports. The particulars include, for example:

- Power purchasers are substantially overcharged. For example, in the earlier report, prices (industrial and household) per kilowatt hour in Puerto Rico are compared with eight other island countries; only Jamaica had higher prices.[99]

- PREPA's operations are seriously inefficient. For example, "PREPA is substantially less efficient than its U.S. counterparts and it underperforms in virtually every area of operations...The amount of energy lost and unaccounted for has increased by 23% [between 2003 and 2006] and PREPA actually loses 14% of its product along its transmission and distribution system, a rate that is 3.3 times the average loss rate for government owned utilities in the United States."

- PREPA's five-year plan [at the time of the second report] included spending $900 million on capital improvements. But the spending would be directed mostly toward retrofitting of oil-based generators—i.e., old technology.

- In spite of its monopoly position and legal authority to set prices, PREPA reported a net loss of $39 million in fiscal year 2007.

This performance is what one would expect from a self-regulated monopoly. Also, this performance along with a lack of oversight readily explains why PREPA

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[98] Sergio Marxuach, Center for the New Economy, "Restructuring the Puerto Rico Electricity Sector," August 22, 2005, https://grupocne.org/2005/08/22/restructuring-the-puerto-rico-electricity-sector/; and "A New Look at Puerto Rico's Electricity Sector," January 2009, https://issuu.com/grupocne/docs/23_prepa-paper-update.

[99] The eight island countries in the comparison are: China Taipei (Taiwan), Dominican Republic, Haiti, Ireland, Jamaica, New Zealand, Trinidad & Tobago, and the UK.

continually turned to debt financing to maintain its operations and cover its losses. While, as the Marxuach papers demonstrate, little has changed at PREPA over the years. The earlier paper notes: "…the legal monopoly that gave birth to PREPA has also given rise to a diverse set of groups and organizations (management, labor unions, suppliers) whose survival depends on the perpetuation of the Authority's monopoly and which we can expect to devote substantial resources to preventing any alteration that threatens the status quo." Perhaps, however, the disastrous performance of PREPA in and after the hurricanes of September 2017 will force change.

Other public enterprises, have also taken on substantial amounts of debt, but their performance has not been as thoroughly examined as that of PREPA. And, of course, there are good reasons why such organizations as the Highways and Transportation Authority and the Aqueduct and Sewer Authority need to take on debt. Nonetheless, the structure and experience of PREPA and the generally poor state of PR infrastructure suggest PREPA's experience represents a general pattern of operations among Puerto Rico's public enterprises.

Underfunded Public Pensions

Beyond the public debt, which is by and large in the form of bonds, there is another aspect of the Puerto Rican government's financial obligations. Over many years, the government has underfunded public pensions. Unlike bond payments, governments, including state governments and the Puerto Rican government, can choose not to pay the full actuarially determined amounts to public pension funds without facing legal constraints. Doing so can develop into a problem over time, as governments eventually must either pay pensions out of current income or take some action that would reduce pensions. The latter presents both legal and political problems. Nonetheless, many state governments have underfunded their public pensions in recent decades. Doing so appears as an easy option when finances are "tight."

In 2017, for example, measured by the cost of unfunded state government pension liabilities per state resident, New Jersey stood at the top of the list at $16,000. The figure for Illinois, in second place, was $11,000. The comparable figure for Puerto Rico was $12,000. However, all of the states, New Jersey and Illinois especially, have much higher incomes per person that does Puerto Rico. For New Jersey, the underfunded debt per resident was 25% of per capita personal income, and for Illinois the figure was 20%. For Puerto Rico, however, the amount per resident that the government owed to the pension funds was over 50% of per capita personal income.[100]

[100] The data for the states are from Foundation for Economic Education, "The 5 States with the Most Underfunded Public Employee Pensions, Marcy 13, 2019,

The rising amount of Puerto Rico's underfunding of its public pension funds has the same general explanation as does the rising amount of public debt. Faced with a weakening economy and unable to raise sufficient revenue to fund government programs, the government both borrowed by issuing bonds and de facto borrowed from its pension funds. As with the bonds, meeting pension obligations places continuing pressure on government finances. Because government funds were insufficient to meet needs, the government borrowed; because the government borrowed, which meant taking on future payment obligations, the insufficiency of funds became worse.

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By 2017, before the hurricanes, the Puerto Rican economy was in virtual shambles. Output, measured by GNP (adjusted for inflation), had fallen by 18.3% since the onset of the recession in 2006. Gross investment had declined from 20% of GNP in 2006 to 11% of GNP in 2017 (and investment had already been falling relative to GNP in the first years of the 21st century; see Figure 1.2). In inflation adjusted terms, investment had fallen by more than 50% during the recession, portending a continuing economic decline. Investors, along with large segments of population, were forsaking Puerto Rico.

The debt—both the bond debt and the pension debt—made the situation all the worse, for Puerto Rico especially, but also for the bond holders. It increasingly appeared that the government would be unable to provide basic services to the population and that Puerto Rico's creditors would suffer large losses. The U.S. Congress had come to recognize the crisis when the governor of Puerto Rico had declared the debt unpayable, and was forced to act. Thus, PROMESA was enacted, and the FOMB created. Congressional leaders emphasized that the bill provided no "bailout" for Puerto Rico. The FOMB was ostensibly to direct the island's economy towards renewed growth. It was clear, however, both from its mandate and as it began to act, that the FOMB's primary role was to assure to the extent possible that the creditors were paid. The next chapter examines the actions of the FOMB and the austerity that followed.

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https://fee.org/articles/the-5-states-with-the-most-underfunded-public-employee-pensions/; and St. Louis Federal Reserve Bank, Per Capita Personal Income by State, Annual, https://fred.stlouisfed.org/release/tables?rid=151&eid=257197. The amount of Puerto Rico's underfunding of public pensions is reported at various amounts between $40 billion and $50 billion. See, for example, Reuters, "Puerto Rico's other crisis: impoverished pensions," April 7, 2016, and WTOP via the Associated Press, "Board orders Puerto Rico to pay $340M owed to pension system," April 30, 2019, https://wtop.com/latin-america/2019/04/board-orders-puerto-rico-to-pay-340m-owed-to-pension-system/. Other data from *Informe*.

Chapter 6

Austerity, the Paradox of Austerity, and the Program of the Financial Oversight and Management Board

At least by 2004, Puerto Rico's debt problem should have been evident to anyone who was paying attention. Economic growth, slow since the mid-1970s, was notably slower in the first years of the 21st century. To cover the resulting gaps in its operations, the government had begun to increase its debt obligations. The gross public debt grew almost twice as fast as GNP in these first four years of the 2000s, and rose from 57.5% of GNP to 65.5%. (See Table 5.1.)[101]

The government's response to the weakening economic situation was to continue to take on more debt. Between 2004 and 2006, the debt rose by 17% to 68.5% of GNP. The situation was aggravated by the failure of the governor and the legislature, dominated by the opposition party, to reach an agreement on a budget. In fiscal years 2005 and 2006, the government was operating with the 2004 budget. Towards the end of the 2006 fiscal year, the governor declared that the government was running out of funds and would not be able to meet payroll in May 2006. The legislature refused to meet the governor's demand for a new tax, which would have allowed the government to take on new loans, and declared there were sufficient funds available to meet the government's payment obligations into June.

On May 1, the governor shut down much of the government. One hundred thousand public workers were, at least temporarily, unemployed and 500,000 school children were given an unscheduled vacation. The shutdown lasted two weeks and was resolved only when the governor was able to attain a tax plan, establishing a new sales tax, and thus obtain new loans. In those two weeks, the laid off workers did not receive their pay and government purchases did not take place. Furthermore, in the middle of the shutdown, Moody's downgraded Puerto Rico's bonds, a substantial portion of which fell below investment grade.[102] Little of this was given attention in the states, either in the media or among Washington officials.

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[101] In the 1990s, real GNP had grown at an annual rate of 2.7%, but only at 1.5% in the 2000 to 2004 period. The Economic Activity Index, which had increased by 2.3% a year in the 1990s, grew less than 1% a year in those four years of the new century. Government revenue was growing less rapidly than GNP, and, especially important for what was to come later, gross fixed domestic investment, which had peaked in 2000 at 28% of GNP, was starting to fall off. (See Figure 1.2.)

[102] The Wikipedia account of the shutdown provides a useful narrative, complete with references from the press, https://en.wikipedia.org/wiki/2006_Puerto_Rico_budget_crisis. And, regarding the Moody's downgrade, see http://www.gdb.pr.gov/communications/PressReleases/cpMoodysdowngradesPRcreditMay8-06.pdf.

Yet, the government shutdown of May 2006, however much the contribution of partisan conflict, reflected the government budget and debt crisis that was becoming more and more obvious. The shutdown also had a lasting impact and can be credited with contributing to the onset of the recession, which became evident a few months later. This longer-run effect of the shutdown emanated from a couple factors. First, simply the cutoff of a substantial amount of government spending—principally the salaries of laid off government workers—combined with its multiplier impact was a downward shock to the economy of perhaps $150 million. In an economy with $50 billion annually in consumption expenditures this was not large, but, in an already weakening economy, neither was it inconsequential. Second, with investment already ebbing, the shutdown sent a negative message to business, a message of uncertainty and continual conflict over economic policy.

The government shutdown of 2006 can be viewed as the first notable act in what would become a pattern of policy-driven austerity, imposing on the general public the costs economic adjustment—the layoffs and the highly regressive new tax. There was, however, a certain irony in the outcome. The government's imposition of austerity was designed to placate the credit agencies, showing them that fiscal affairs were being put in order. The agencies would then, the government believed, make it possible for new loans to be obtained at a reasonable rate. Yet, Moody's downgrading in the middle of the shutdown showed how the effort could be futile or even counterproductive.

Law 7

Not surprisingly, the governor who had imposed the shutdown, Anibal Acevedo Vilá, was not re-elected in 2008. His party, the Popular Democratic Party (PPD) was defined largely by its advocacy of continuation of Puerto Rico's status as a territory of the United States. In the elections of 2008, the New Progressive Party (PNP), the pro-statehood party, came to power. Although the two parties had long been (and continue to be) at loggerheads over the fundamental issue of the island's political status, the PNP pursued fiscal policies very similar to those of the PPD—i.e., more debt and more austerity.

Virtually on taking office, the new government, headed by Governor Luis Fortuño, put in place Law 7, which mandated large cuts in government employment. Law 7 was presented as a means to reduce expenditures, thereby reduce the budget deficit, and thus reduce the need for borrowing. Regardless of the debt-reducing intent of the new law, however, it was also motivated by a wide-spread perception that government employment in Puerto Rico was very excessive.

This view of an employment-bloated government sector seemed to be supported by a comparison with the states. State and local government employment in the states accounts for a much lower percentage of total employment than in Puerto Rico. This difference, however, is largely a function of the failure of the private sector in Puerto Rico to provide employment, and the labor force participation rate in the Puerto Rico has been about two-thirds of that in the United States, roughly 40% as compared to roughly 60%. In any case, the needs and functions of government employment in Puerto Rico and in state and local governments are determined largely by the size of the population—teachers, public safety officers, health professionals, tax processors, and many other administrators. The U.S. Government Accountability Office points out that:

> Government employment represented 27.3 percent of total nonfarm employment in Puerto Rico in July 2012, compared to 16.5 percent in the states, according to Bureau of Labor Statistics estimates. Government employment as a share of the population over the age of 15 was 8.7 percent in Puerto Rico and 8.9 percent in the states, respectively, based on Census Bureau population estimates for July 2012. Government employment includes employment at the federal, state, and local government levels.[103]

While the Puerto Rican government does not have a military as well as some other functions performed by the federal government, and a more appropriate comparison would probably lower the figure for the states, the same basic conclusion would not be altered—namely, that the simplistic claim that Puerto Rico has had a severely employment-bloated government is not warranted.[104]

The point here, however, is not to claim that Puerto Rico's government workforce has been the "right" size. Also, even if the workforce has been of an appropriate size, this does not mean it has been efficient in providing services. The point is to suggest, however, that cutting the public workforce is likely to have costs in terms of the services provided to the people and businesses on the island. That, of course, is the essence of austerity. To whatever extent the public workforce has been efficient or inefficient, there is no reason to believe that shrinking that workforce will raise the level of efficiency.

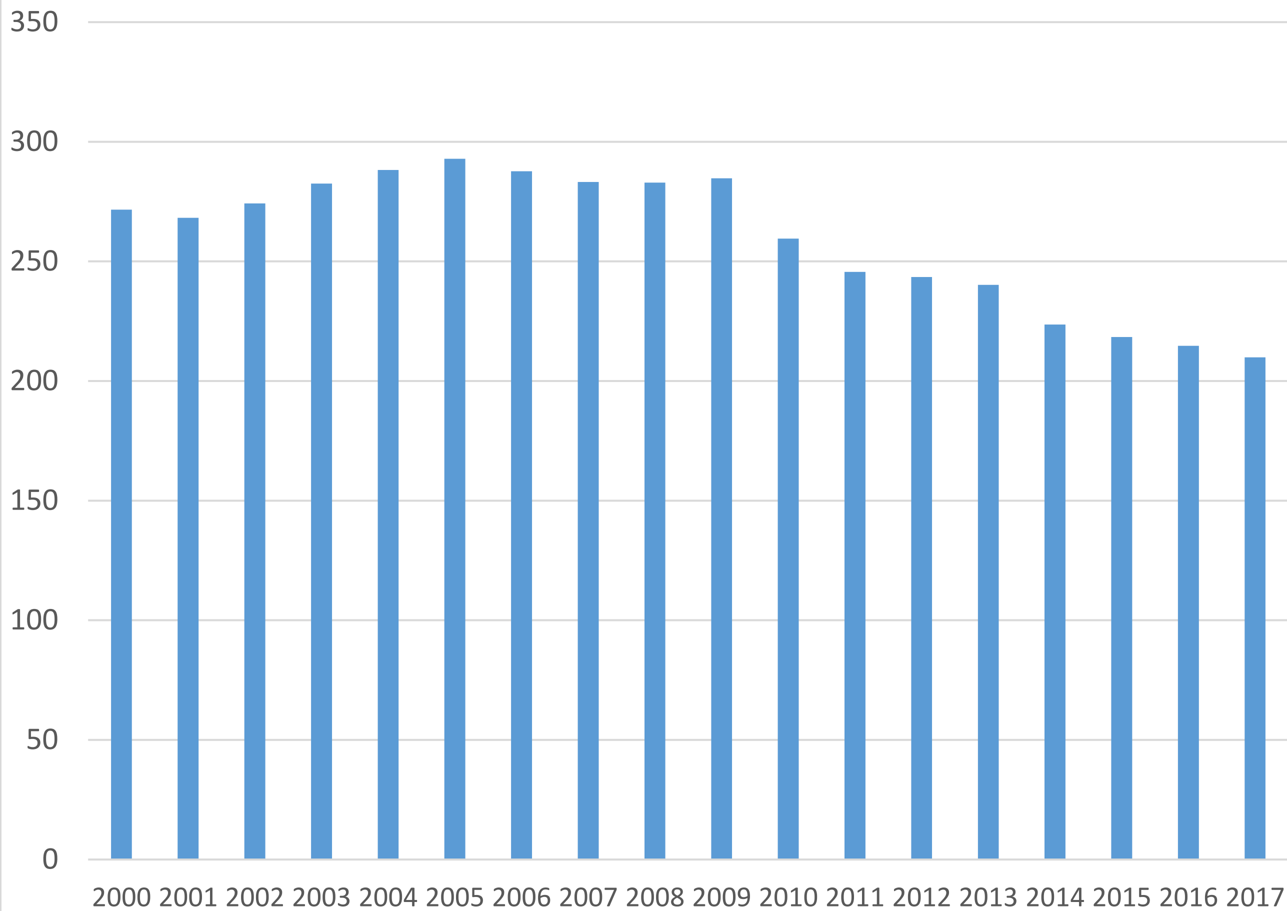
Law 7 set in motion a process that continued through at least 2017. As shown in Figure 6.1, total government employment rose in the early 2000s, in

[103] U.S. Government Accountability Office, *PUERTO RICO: Information on How Statehood Would Potentially Affect Selected Federal Programs and Revenue Sources*, March 2014, footnote 27, p. 13. https://www.gao.gov/assets/670/661334.pdf. (The employment data are presented for nonfarm activity simply because farm employment is not readily counted, as it often includes substantial amounts of unpaid family labor, and, in any case, is a very small share of total employment.) The reference is pointed out by Sergio Marxuach, "Puerto Rico and Congress: Rhetoric and Facts," Center for a New Economy, December 1, 2015, https://grupocne.org/2015/12/01/puerto-rico-and-congress-rhetoric-and-facts/. Marxuach is making the same point that is being made here. And the same point is made by P. Carrillo, A. Yezer, and J. Kalaj in "Could Austerity Collapse the Economy of Puerto Rico?" Institute for International Economic Policy, George Washington University, Working Paper. IIEP-WP-2017-17, September 2017 (see particularly Table 1), https://www2.gwu.edu/~iiep/assets/docs/papers/2017WP/CarrilloIIEP2017-17.pdf.

[104] Also, the figures must be qualified by the fact that by 2012 Law 7 had led to some reduction in the government workforce. That reduction, however, would not alter the basic conclusion.

spite of the emerging budget and debt difficulties. But from a peak of 293 thousand in 2005, government employment fell virtually continuously to 210 thousand in 2017, a decline of 28%.[105]

Figure 6.1: Government Employment, 2000 - 2017 (thousands)



Source: *Informe.* The employment figures are from the establishment survey.

A particularly important example of the impact of personnel reduction is provided by the experience in Internal Revenue (at Hacienda). Internal Revenue itself had been exempted from Law 7, for the obvious reason that cutting its workforce would have hampered efforts to raise revenues, worsening the deficit and undercutting the intent of the law. However, over 200 employees were lost

[105] In these same years, however, the population fell by 13%. So, insofar as the function of government employees is to provide services to the population, the decline in government employment might not be viewed as dramatic as it appears at first sight. Still, the declining provision of government services was likely one of the factors that brought about the population decline, largely a migration to the states.

from government areas that supported revenue collection. Moreover, throughout the government, it was not Law 7 alone that did the damage. For example, a 2011 law provided early retirement incentives, leading to a further exodus from government positions. This time, while Internal Revenue employees had originally been exempted from the early retirement provisions, the law was changed to include them. As a result, many experienced, knowledgeable staff members left Internal Revenue, and the agency has continued to suffer for several years.[106] (See the discussion in Chapter 5 regarding the inadequacies of tax collection.)

The damage of austerity implemented by cuts in government employment is perhaps most obvious in the case of Internal Revenue. However, the counterproductive impacts of this sort of austerity policies also take place in other ways. Between the beginning of the recession in 2006 and 2016, while GNP fell by 15.8%, real government spending minus debt service fell by 21.6%.[107] Thus, the falloff in government demand—government spending on salaries, goods, and services—was contributing to the general decline of the economy. Also, the cut back in government expenditures is the budgetary counterpart of the cut back of government employment, undermining the provision of government services.

The Paradox of Austerity

Among economists, the paradox of thrift is well known. When people see the economy turning down, they protect themselves from the expected hard times by saving more of their income—that is, by being thrifty. Yet, by saving more, they are spending less, contributing to a decline in aggregate demand and thus contributing to the economic decline. Acting in a reasonable—a thrifty—manner when an economic downturn emerges, people are contributing to the downturn, threatening their own situation. This is the paradox of thrift.

There is a similar paradox of austerity. When an economic downturn emerges accompanied by a buildup of debt, governments often choose, or are forced to choose, to cut their spending or raise taxes or both.[108] These actions

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[106] These statements are based on communications from former Hacienda officials.

[107] Real and current GNP figures are from *Informe*, various years. Current government expenditure figures are from are from Commonwealth of Puerto Rico, *Financial Information and Operating Data Report*, various years. Government expenditures minus debt service payments (principal and interest) was 25.9% of current GNP in 2006 and fell to 24.1% in 2016. Real GNP fell by 15.8% in this period. If the relation between real and current is the same for GNP as for government expenditures, then real government expenditures minus debt service fell by 21.6%. The calculations do not include 2017 because no debt service figures are available for 2017.

[108] Sovereign governments have been forced to choose such policies by the International Monetary Fund as a condition of receiving support from the Fund. Greece was forced to move along these lines by the "troika" of the Fund, the European Central Bank, and European Commission. (Neither Greece nor Puerto Rico, it should be noted, controls its own money supply and therefore could not devaluated as a means to

release funds to meet debt obligations. As the debt burden is seen as a major factor negatively affecting the economy, the government sees meeting the debt obligations (and reducing further buildup of debt) as a means to counter the downturn. Yet, these government actions also generate a reduction in aggregate demand, which tends to exacerbate the downturn. Further, when the thrift involves cutting government services, it can also exacerbate the downturn as many services are designed to support economic expansion. Indeed, the failure to fully support some government services—especially, for example, education and physical infrastructure—can have long-lasting negative effects on economic growth. Finally, when the austerity program negatively affects growth, it harms the ability to meet payments on the public debt. Like the paradox of thrift, government policy that appears to be prudent makes matters worse, and thus the paradox of austerity.[109]

It is not possible to separate the impacts of austerity from other factors effecting the downward trend of the Puerto Rican economy over the years since 2006. Clearly, however, austerity has not been effective in halting—to say nothing of reversing—the trend or in making it possible for Puerto Rico to meet payments on the public debt.

Enter the Financial Oversight and Management Board

A year after the Puerto Rican governor declared that the debt could not be paid, the U.S. Congress enacted the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA), which was signed into law on June 30, 2016. PROMESA created the Financial Oversight and Management Board (FOMB), consisting of seven members appointed by the President, that would have control over the fiscal and economic policies of the Puerto Rican government.[110] Leaving aside the large and important political implications of

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boost economic activity.) Puerto Rico would soon be forced to accept such policies by the U.S. government, operating through the Financial Oversight and Management Board—see below. However, it could be argued that when Puerto Rico embarked on the approach of austerity it was forced by circumstances, that with its large debt and declining economy it had no alternative but to act in this manner with the hope of being able to pay its debt obligations. After all, prior to the enactment of PROMESA, Puerto Rico could not file for bankruptcy. This issue of what choices have existed for Puerto Rico will be taken up at the end of this chapter and in Chapter 9.

[109] This issue is developed with regard to the austerity imposed on Puerto Rico by the Financial Oversight and Management Board (about which, see below) by P. Carrillo, A. Yezer, and J. Kalaj in "Could Austerity Collapse the Economy of Puerto Rico?" as cited above. Also, several commentators have noted the counterproductive impact of austerity; see, in particular, various statements in "REPORT: A Discussion on the Future of Puerto Rico's Economy, Compiled Statements," August 2017 (A Congressional Hearing organized by Representative Nydia M. Velázquez), https://velazquez.house.gov/sites/velazquez.house.gov/files/FINAL%20-%20A%20Discussion%20on%20Puerto%20Rico's%20Future%20Event.pdf.

[110] Of the seven members of the FOMB, the president was required to choose six from a list provided by congress and had sole discretion over the appointment of the seventh.

FOMB's authority—which many in Puerto Rico saw as an affirmation of Puerto Rico as simply a colony of the United States, its actions have been to impose continuing austerity.

The FOMB's imposition of austerity was quickly apparent. However, its original program for Puerto Rico was interrupted by the hurricanes of September 2017. Undaunted, the FOMB continued to be guided by the austerity principle in the subsequent period. This approach was set out in the *New Fiscal Plan for Puerto Rico, Growth and Prosperity* of April 19, 2018, "As Certified by The Financial Oversight and Management Board for Puerto Rico."[111]

The best way to understand the New Fiscal Plan is to recognize that it was guided by two incompatible goals. On the one hand, the Oversight Board wanted to establish a foundation for growth of the Puerto Rican economy. On the other hand, the Board was intent on assuring that the Puerto Rican government would move quickly toward meeting its debt obligations. In order to set aside sufficient funds to pay the debt, the government would be required to swiftly establish a surplus in its primary budget. To the extent that this is done there would be insufficient funds to support the provision of essential services and the public investments that are critical for establishing economic growth (i.e., investments in social and physical infrastructure). Moreover, aggregate demand would be weakened.

The Board attempted to overcome this contradiction by making a set of unrealistically favorable assumptions regarding the speed and impact of structural changes in the economy, the availability of federal funds for hurricane recovery, and the size of the long-run impact of post-hurricane recovery. The assumptions regarding structural changes are especially problematic. These changes are in labor regulations, education and human capital creation, tax collection, and government regulations and the consolidation of government agencies. The assumptions rest on a view of the economy as a well-oiled machine, where the machine operators (the Oversight Board or maybe the Puerto Rican government) can simply push buttons or pull levers and the desired results will emerge. Real people are absent from the story.

The FOMB, then, dealt with the conundrum created by its incompatible goals by, first, imposing an austerity plan. The austerity plan was apparently intended to drive towards a surplus in the primary budget. It would, however, also weaken aggregate demand, squeeze the well-being of the Puerto Rican population, bring about an increase in population decline, and reduce tax collection. In short, it would undermine the bases of growth. Second, the FOMB would, on paper, rescue the economy from austerity-imposed decline by imposing a set of structural reforms that would counterbalance the austerity program's impact and thus create growth. It seems most likely, however, that impact of the structural reforms, if actually implemented (but see

[111] Available at https://drive.google.com/file/d/1X3JdAwbfo47oZ__6_1aABcmfyzhPFrjE/view.

below), would be minimal. Consequently, neither of the Board's goals—neither debt payback nor economic growth—is likely to be accomplished.

The Growth and Fiscal Framework

Although the Oversight Board made a number of unrealistic assumptions in an attempt to present a plan that achieves the contradictory goals of economic growth and movement toward meeting debt service obligations, the accomplishments projected in the Plan over five years (through 2023) are not impressive. In the Plan's growth projections, GNP in 2023 would still be below the level of 2017 (p. 9). And even with the stringent restraints on government spending and the excessively favorable expectations regarding tax collection, the 2023 primary budget would still not be sufficient to meet contractual debt service (p.16). Moreover, the Plan's assumptions regarding debt service obligations depend on a debt restructuring that had not yet taken place when the Plan was formulated and in mid-2019 have only partially been determined by the court.

The Plan's projections of economic growth are highly dependent on a combination of assumptions about the impact of the austerity it would impose on the Puerto Rican government's fiscal operation and of the structural reforms it proposes. That is, in a very few years—clearly by 2023—the Plan projects that the positive impact on economic growth of the structural reforms would outweigh the negative impact of austerity. The unrealistic impact of the structural reforms will be taken up shortly.

The austerity imposed by the Plan, if implemented, would have significant negative effects on economic growth and would have those effects relatively quickly. By 2020, government spending would be cut by over 4.5% relative to the pre-New Fiscal Plan baseline, and by 2023 the cut in government spending would be as much as 16% below the baseline. In addition, by 2023 taxes would be increased by 6% above the baseline, contributing further to the reduction in aggregate demand.[112] In the context of Puerto Rico's economic decline over more than a decade, this is austerity with a vengeance. Even with the its assumptions about the positive impact on growth of structural reforms, the Plan projects that by 2023 the primary fiscal surplus would be 2% of GNP (p. 16).

It challenges one's imagination to understand how such austerity policies might support economic expansion, regardless of structural reforms. Both in theory and practice, government primary surpluses—which mean the government is spending less (aside from interest) than it is taking in as taxes—aggravate the economic decline of a weak economy, sometimes to a near disastrous degree. The demand reduction generated by government spending cuts and tax increases can contribute to a

[112] The "baseline" is the estimate of what the situation would be without the structural changes and other measures in the Plan. (p. 15) The figures here on the cuts in spending and the increase of taxes are estimated from the graph on page 4 of the Plan.

downward spiral, as demand reductions undermine economic growth and curtail private investment, leading to population reduction (out-migrations), reduction in tax revenue, further spending cuts, and a new round of demand reductions. A prime example is the situation that developed in 2009 and subsequent years in Greece, which, in spite of the significant differences from the Puerto Rican situation, provides a cautionary tale.

There is one factor, however, that might make the Plan's projections for 2023 and beyond a bit more realistic than they appeared at the time of the Plan's release—namely, that it seems that the downturn in 2018, associated with the hurricanes, was less severe than the Plan had assumed. The Plan posited that GNP would decline in 2018 by 13.2%, but the preliminary figure for 2018 indicates that decline was "only" 4.7%. This does not alter the basic flaws in the Plan, but it does make it likely that the short-run projections (through 2023) may not be so unachievable as they first appeared. In other words, with the economy higher in 2018 than the FOMB had assumed, there is less distance to go to meet the otherwise unrealistic estimates of GNP in the immediately subsequent years.

Structural Reforms

The New Fiscal Plan elides the destructive outcome of its austerity program by positing that structural reforms will more than offset any negative impacts of fiscal consolidation. These reforms, the Plan claims, will lead to substantial increases in GNP and will do so relatively quickly: "The New Fiscal Plan proposes a series of major reforms ('structural reforms') to fundamentally improve the trajectory of the economy and drive growth" (p. 3). By 2023, the cumulative impact of these reforms, the Plan projects, will add over $1 billion to GNP. An examination of a few of the proposed reforms, simply as examples, leads to considerable skepticism, to say the least, regarding the speed with which they will have their impact and the extent of this impact. Moreover, the Plan's failure to discuss why structural problems exist and why there are barriers to change appears to demonstrate a lack of understanding of how structural changes might be implemented.

<u>Labor Reforms</u>

Consider first the labor reforms, which the Plan views as the "most critical" of its list of reforms (p. 2). These reforms, all of which were projected for implementation either immediately or by the beginning of calendar year 2019, involve several changes that (with the exception of the EITC change and limited increase of the minimum wage[113]) come at the expense of Puerto Rico's workers. The reforms include:

- Institution of at-will employment (which means workers can be much more easily fired);

[113] The increase of the minimum wage in exchange for elimination of the Christmas bonus would not be beneficial to most Puerto Rican workers, in large part because most workers in the formal sector, earning more than the minimum wage, would not be directly affected.

- Reduction of mandated paid leave, including 50% reduction in sick leave and vacation pay;
- Shift of Christmas bonus from mandatory to voluntary status;
- Increase of the minimum wage for workers 25 and over by $0.25 per hour (effective along with the Christmas bonus elimination);
- Creation of a new Earned Income Tax Credit; and
- Institution of a PAN [Nutritional Assistance Program] work requirement and work bonus.

Of course, one might well object to these “reforms” because they place the burden of adjustment on workers (a common practice in austerity programs). Also, the FOMB calls for these actions to be taken either immediately or by January 1, 2019 at the latest. And the favorable projections of economic change in the Plan are based on the assumption that such quick implementation would take place. Yet, by mid-2019, with the sole exception of the reduction in paid leave time for government employees, none have been implemented. The Puerto Rican government has declined to put them in place.

But leaving the biased impact and the implementation issue aside, the Plan ignores the question: How would workers themselves react to these reforms?[114] On the basis of recent experience—for example, the reaction of teachers to the large reduction in the number of schools—it seems unlikely that these changes would be accepted without conflict. Workers, through their unions or independently, are likely to resist most of these changes, which significantly reduce their incomes and job-security. [115]

Conflict and the economic disruption that comes with conflict would reduce, if not eliminate, the benefits of these changes to economic growth—or, at the least, delay any growth benefits. Moreover, the benefits that would be reduced apply only in the formal sector, and thus their elimination would reduce the incentive for workers to move from the informal to the formal sector. Insofar as these changes were effective, they would also increase the incentive for Puerto Ricans to leave the island for the states. Finally, these changes would tend to increase income inequality in Puerto Rico, which is already greater than in any state and greater than many countries in Latin America. In addition to ethical objections to worsening the distribution of income, considerable evidence exists (including from the International Monetary Fund) that, at the levels of inequality in Puerto Rico, increases of inequality tend to yield slower economic growth (see chapter 8).

[114] It is reasonable to assume that one of the reasons for the government’s unwillingness to implement these “reforms” is a recognition that workers and the general public would find them odious and respond accordingly.

[115] After this chapter was drafted, in the summer of 2019 massive demonstrations took place demanding the governor’s ousting. While the immediate impetus to these demonstrations was the revelation that the governor and his closest colleague had engaged in offensive online exchanges, it has been widely recognized that the demonstrations were so large and effective because of the economic failures and corruption that had long-plagued Puerto Rico.

These problems with the labor reforms do not mean they cannot be implemented. The problems do mean, however, that much greater attention would need to be given to how and how quickly they could be implemented and have their projected impact.

Education and Human Capital Reform

As with workers' likely reaction to labor reforms, the Plan's proposals for education, along with the Puerto Rican government's actions, are likely to meet with considerable resistance—as the teachers' actions noted above indicate. Furthermore, with some individual schools' accomplishments notwithstanding, system-wide educational changes do not take place quickly. Both teachers and the educational bureaucracy have considerable inertia in their practices, and attempts to rapidly change school practices will often be ineffective. Most important, the Plan appears to ignore the social context in which the schools operate. The poor performance of students who go through Puerto Rico's educational system is surely affected by the high degree of economic inequality and poverty on the island.

Also, the Plan's expressed expectations regarding how quickly educational and human capital formation reforms will have an impact on economic growth defy credulity. The Plan claims that these reforms will increase GNP by $64 million by 2021 and $247 million by 2023 (p. 33). This is hardly enough time for the reforms to be implemented, let alone have a substantial impact. Even if changes in the schools are effectively implemented immediately, students entering high school in 2019 will have just entered the workforce by 2023 (though there could be some small impact in this period from reforms of training programs and other aspects of the Plan's proposed programs).

Tax Reforms

Another striking example of the Plan's unreasonable expectations about the impact of structural reforms is in the realm of tax collection. It is widely believed that there is considerable tax avoidance and tax evasion in Puerto Rico, but the Plan's proposals for dealing with these issues is wholly inadequate and the expectations regarding results are unrealistic.

The problem is revealed in the first sentences in the Plan's section on "Tax Law Initiatives": "Puerto Rico's current tax system suffers from its structural complexity, instability, internal inconsistency, inefficient administration and inadequate enforcement. This has fueled *a culture of tax evasion*, promoted by a lack of adequate enforcement personnel, technology and process" (p. 97, emphasis added). Yet, having recognized that the tax collection problems are rooted in a culture of tax evasion, the Plan fails to take into account the difficulties, particularly the time it takes, to alter a culture-based problem. Even if the particular proposals—tax rate changes, more effective enforcement, etc.—are implemented, the change in the culture of tax evasion will be slow to follow. For example, one aspect of this culture is the practice of payments for services often taking place in cash, making tracking of service providers' incomes difficult. The Plan's proposals do not mention this issue, let alone offer means for dealing with it.

Furthermore, it seems likely that political factors contribute in two ways to Puerto Rico's tax collection shortcomings. First, it appears that there has long been a reluctance of the government to pursue tax collection (perhaps through prosecution) of high income, well-connected tax evaders. Second, many of the particulars aspects of the tax system that would be changed by the Plan's proposals exist because of the power of special interests. Neither of these factors, affecting any effort to effectively reform the tax system, is addressed in the Plan.

Government Regulations and the Consolidation of Government Agencies

As with other realms of reform, there is no dispute over the need for changes in government regulations and the organization of government agencies, and the Plan cites several regulations that have negative economic impacts. However, the proposals in the Plan ignore the complexities of eliminating or altering regulations and fail to distinguish between useful and inappropriate regulations. Instead of using a cautious and deliberate approach, the Plan seems to be advocating blowing up Puerto Rico's regulatory system.

The blow-it-up approach could be especially problematic because of the Plan's advocacy for a very rapid approach to regulatory reform: "To achieve the New Fiscal Plan's growth projections, ease of doing business reforms must be implemented *immediately*, with targeted operationalization of most initiatives by FY2019" (p. 48, emphasis added). This virtually cavalier approach is likely to wipe away valuable regulations—e.g., regulations that are intended to protect the natural environment (of which there seems to be no mention in the Plan)[116]—as well as those regulations that have negative impacts.

Furthermore, in advocating speed in the implementation of regulatory reform, and in basing its estimates of impact on the assumption that the implementation will, indeed, be rapid, the Plan ignores the problems of bringing about change in government bureaucracies—which, after all, are staffed by real people. Simply excising a regulation from a list does not mean that actual practices will be altered immediately.

This lack of appreciation of the limits of change—and especially on the speed of change—in government bureaucracies is also apparent in the Plan's assumptions regarding what can be accomplished through the consolidation of government agencies.

[116] The Plan's lack of attention to the natural environment is underscored in its discussion of PREPA by the absence of consideration of alternative energy sources—e.g., solar and wind electricity generation. Also, except for a mention of the possible desirability of considering microgrids (p. 52), the connection between protecting the power system from the impact of future hurricanes, action that would likely be associated with the development of alternative energy sources, appears to be ignored.

At least in the short run, the disruption of agency consolidation is likely to create costs, and simply bringing different agencies into one operation is unlikely to quickly have positive efficiency impacts. The Plan's problem in this regard is illustrated by the following statement: "… DDEC [Department of Economic Development and Commerce] should reduce front-line personnel by 20% to ensure a streamlined, efficient organization, leading to $5.4 million in annual savings by FY2023" (p. 85). Apparently, it is assumed that this reduction in personnel will automatically force greater efficiency. This assumption, however, at best reveals a naivety regarding the operation of bureaucracies. More likely, this is an illustration of the Oversight Board's effort to overcome the incompatible assumptions that lie at the foundation of its Plan.

Are There Alternatives to Austerity?

Regardless of the particulars of this critique of austerity, the policy followed by Puerto Rican governments and the FOMB, there are the obvious questions: Are there alternatives to austerity? Given the emergence and then the continuation of economic decline and the heavy public debt obligations, what else could be done? Is there any solution to the economic problems of Puerto Rico other than austerity?

Part of the response to this set of questions is that austerity itself will not lead to improvement in the economic situation. Indeed, that is a central implication of the critique that has been developed here. Austerity places severe burdens on the people of Puerto Rico, and it has led to continued decline. There is no reason to believe that the austerity program of the Oversight Board will have a more positive outcome. Many Puerto Ricans have simply chosen to leave. In fact, Paul Krugman, the economist and *New York Times* columnist, has suggested that, like Appalachia, there is no future for the Puerto Rican economy, and those who can should leave while those who can't should rely on federal safety net programs.[117]

There are, however, alternatives to austerity for Puerto Rico. To find those alternatives, it is necessary to first recognize the origins of the Puerto Rico's economic malaise in the island's political status. There have certainly been poor policies followed by various Puerto Rican governments. Yet, the subordinate position of the island in the U.S. polity and the second class citizenship of the population have created the context for those poor policies and have systematically deprived the island of resources (as set out in Chapter 4). As long as there is no change in Puerto Rico's political status, economic progress will continue to be severely handicapped.

Yet, even within confines of the current status, there are routes to improvement. Improvement, however, would depend largely on the U.S. government recognizing its responsibility for the situation in Puerto Rico. So far, through PROMESA, the federal authorities have told the Puerto Ricans what to do; that has been the role of the

[117] Paul Krugman, "America's Un-Greek Tragedies in Puerto Rico and Appalachia," *The New York Times*, August 3, 2015, https://www.nytimes.com/2015/08/03/opinion/paul-krugman-americas-un-greek-tragedies-in-puerto-rico-and-appalachia.html.

Oversight Board. But Congress and the President have done nothing to provide support for Puerto Rico. In establishing PROMESA, congressional leaders emphasized that it would not be a “bailout” for the island. Even the costs of the Oversight Board’s operations are billed to the Puerto Rican government. Progress for Puerto Rico will depend to a large extent on the federal government’s reversal of this approach.

As a useful first step, the federal government could accept responsibility of Puerto Rico and enact laws and regulations that would, in effect, start treating U.S. citizens in Puerto Rico in the same manner as U.S. citizens in the states with regard to all federal programs—for example, Medicare, Nutritional Assistance, the Earned Income Tax Credit, and the Child Tax Credit. Such action, putting Puerto Rico on a level playing field with the states, would generate an inflow of funds to the island and would begin to make it possible for the island to achieve both economic growth and servicing the debt.

There are other steps that could move Puerto Rico forward, and they too would require forms of support from the federal government. Chapter 9, sets out these other steps, these other alternatives to austerity.[118]

[118] There is, still, another means by which Puerto Rico’s economic situation could be greatly improved. The court currently handling Puerto Rico’s de facto bankruptcy case could issue a finding highly favorable to Puerto Rico. This outcome, however, is highly unlikely, and the resolutions of parts of the debt that have been determined at this writing are far from favorable to Puerto Rico.

Chapter 7

The Failure of Puerto Rican Economic Policy: The "Dutch Disease" in Reverse[119]

For 196 countries and territories, the World Bank provides recent data on the manufacturing's contribution to GDP—that is, the value added in manufacturing as a share of GDP. For 176 of these countries and territories, manufacturing accounts for less than 20% of GDP. In only five is the figure more than 30%. For the world, the figure is 16%. There is only one among these 196 countries and territories where more than 40% of GDP is accounted for by manufacturing—Puerto Rico, where value added in manufacturing accounts for 47% of GDP.[120]

This 47% figure, which makes Puerto Rico an extreme outlier, is especially startling because less than 10% of Puerto Rico's employed work force is engaged in manufacturing. By way of comparison, in the United States, manufacturing accounts for about 11% of GDP and about 8% of employment.

The explanation of Puerto Rico's very unusual situation with regard to manufacturing has been set out in previous chapters (especially in chapter 3). Both the U.S. government and the Puerto Rican government have long-pursued policies of promoting manufacturing in Puerto Rico, largely by providing tax incentives. After the era of Operation Bootstrap, the firms attracted by the tax incentives have been relatively capital intensive, involving little employment per unit of value added. Moreover, much of the GDP accounted for by manufacturing is not actual production activity that takes place in Puerto Rico, but is a result of the tax avoidance strategies of U.S.-based firms. These firms engage in both transfer pricing and locating patents—and thus the revenue from patents—with their Puerto Rican subsidiaries. The bloated nature of Puerto Rican manufacturing is, then, a consequence of the combination of efforts by the U.S. and Puerto Rican governments, pursing policies that have made the island's economy especially dependent on attracting manufacturing operations of U.S.-based firms. Yet, the impact on employment, the ostensible justification for these policies, has been minimal.

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[119] This chapter draws heavily on Arthur MacEwan, "Puerto Rico: Suffering the 'Dutch Disease' in Reverse," *Social and Economic Studies*, Vol. 66, No. 3&4, 2017. Some points, particularly the mechanisms involved in the operation of the Dutch Disease, are elaborated there.

[120] The World Bank, Manufacturing, value added (% of GDP), https://data.worldbank.org/indicator/NV.IND.MANF.ZS?view=map. For China, the figure is 29%, for the United States and the Russian Federation it is 12%, for the United Kingdom, the one-time "workshop of the world," it is 9%. The figures are for the most recent year available; for most that is 2017 or 2018. For Puerto Rico, the figure is for 2018.

The particular nature of these policies was in part driven by two ideological factors. In Washington, many aspects of economic policy have been based on the idea that the way to build the economy was to provide incentives to large firms. The subsequent success of those firms, supposedly, would yield greater employment and general economic growth. In many cases—and the application of this policy in Puerto Rico provides a good example—this approach had little impact on employment or growth but substantial impact on the firms' profits. Thus, the policies have often been dubbed "corporate welfare." In San Juan, the vision of the political leadership—especially of Luis Muñoz Marín, the first democratically elected governor of Puerto Rico—was that economic progress meant industrialization in general and manufacturing in particular. Agriculture was denigrated as hopelessly backward, and employment in tourism (and other service activities) was viewed as inherently degrading. Thus, an ideology of hyper-industrialization guided the government's approach to the economy.

The policies and the practices that have resulted from these approaches have created a "Dutch Disease" in reverse. "Dutch Disease" is generally understood as a situation where the development of a natural resource industry (e.g. natural gas, petroleum, or other products classified under mining) leads to a weakening of other sectors of the economy, particularly manufacturing. The mechanism by which exploitation of a natural resource yields weakening elsewhere in an economy is usually seen as operating through changes in currency values.[121] Other mechanisms, however, are also at work, particularly through the role of the government in supporting or neglecting various activities.[122] (As Puerto Rico does not have its own currency and economic activity in Puerto Rico has virtually no impact on the value of the dollar, these other mechanisms are at the center of the process discussed below.)

Puerto Rico has none of the major oil, gas, and mineral natural resources that are generally associated with the Dutch Disease. And, as just pointed out, Puerto Rico has a manufacturing sector that is especially large in relation to the rest of the economy. The contribution of mining to GDP and mining's share of employment have been less than 1%. This is not a typical picture of the Dutch Disease. Yet, the very large manufacturing sector in Puerto Rico—or, perhaps more precisely, the policies that have created that large manufacturing sector—appears to have had the impact of weakening other sectors of the island's economy. Instead of a Dutch Disease bringing about a weakness of manufacturing, as in the classic pattern, Puerto Rico's Dutch Disease has

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[121] That is, when a major source of a natural resource is developed in a country, the rest of the world buys that resource. Buyers must obtain the currency of the country in order to buy its natural resource. This drives up the value of the currency (in terms of the currencies of the buyer countries). But, with its currency more costly, the other products that it might sell become more costly for foreign buyers. Thus, the other industries—particularly manufacturing—in the country where the natural resource has been developed suffer, losing some of their market because their products are more expensive to buyers in other countries.

[122] The term "Dutch Disease" derives from the situation that developed in the Netherlands when large deposits of natural gas were developed in the North Sea during the late 1950s and 1960s. Exploitation of this natural resource weakened the expansion of the manufacturing sector in the Netherlands.

operated in reverse, with the expansion of manufacturing and the policies supporting that expansion bringing about weakness elsewhere.

The Dutch Disease, operating in its forward manner, is often the consequence of natural resource development, but it can be aggravated by government promotion. In the case of Puerto Rico's Dutch Disease in reverse, however, it is government promotion that is primary, both setting the process in motion and assuring the continuation of that motion. It has been, in other words, an outcome of Puerto Rico's dependent position in relation to the U.S. economy and of Puerto Rico's subordinate position—its status—in the U.S. polity.

The examination of Puerto Rico's Dutch Disease in reverse takes on special importance in light of the island's long-lasting recession. While various factors have contributed to the recession's emergence and duration, Puerto Rico's Dutch Disease in reverse has been a contributing factor. The dominance of manufacturing in Puerto Rico, a dominance based on federal and local government support through tax incentives, has had an impact of weakening other economic activities on the island.

Tourism

A prime example is tourism. If Puerto Rico can be said to have any natural resource-based economic activity, tourism would stand at the top of the list. The island's climate and beaches as well as ecologically interesting sites offer opportunities that are akin to the opportunities offered by deposits of gas, oil, and other mineral resources elsewhere.

But, with its focus on manufacturing, the Puerto Rican government has done little to support tourism. A comparison with the Dominican Republic over the period since 1995 illustrates the point. Since 1995, Dominican Republic tourist arrivals have risen almost continually, while Puerto Rico tourist arrivals have been relatively flat in this period. See Figure 7.1. In the same period, the Dominican Republic government spending in support of tourism has also risen almost continually, while in Puerto Rico government spending has been relatively flat. See Figure 7.2.[123] Indeed Figures 7.1 and 7.2 show such similar trends in arrivals and spending that the two could be easily mistaken for one another. A causal connection, running from government support to tourist arrivals, is strongly suggested by the two figures.

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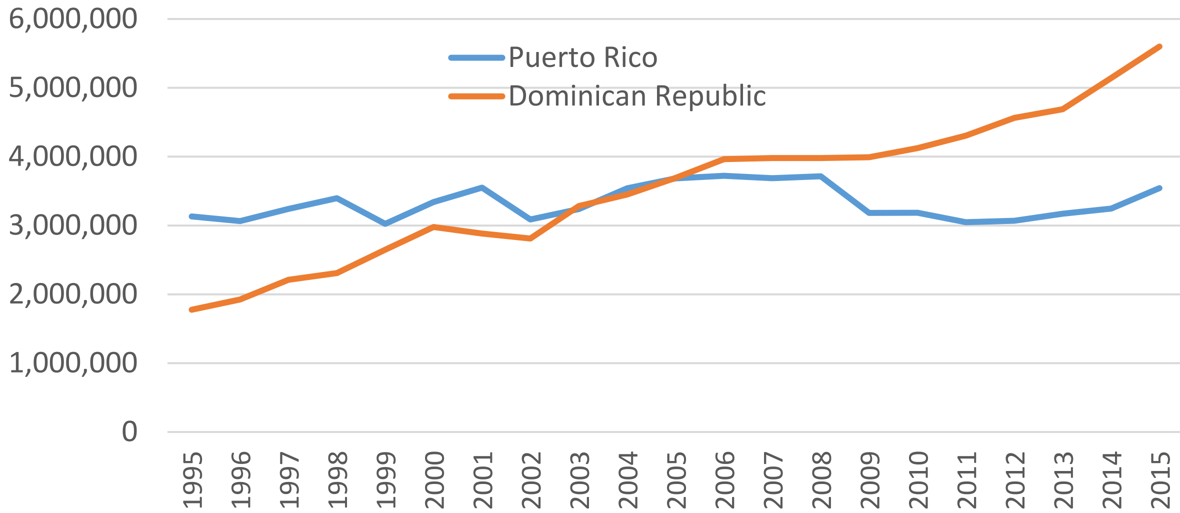
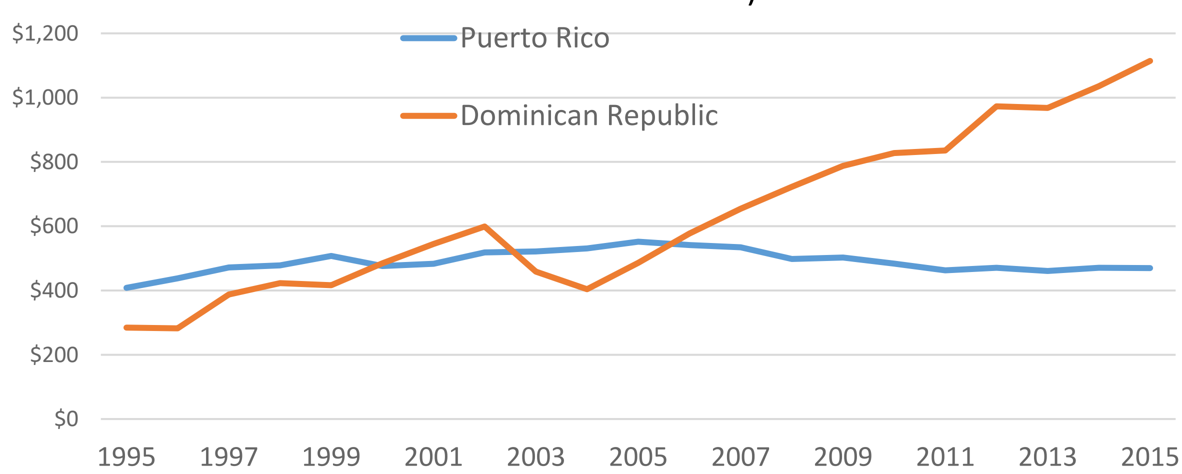
[123] The measure of government spending support for tourism, from the World Travel & Tourism Council, https://www.wttc.org/, includes two categories of spending: (1) "Government Collective Spending: Government spending in support of general tourism activity. This can include national as well as regional and local government spending. For example, it includes tourism promotion, visitor information services, administrative services and other public services." (2) "Government Individual Spending: Government spending on Travel & Tourism services directly linked to visitors, such as cultural services (e.g., museums) or recreational services (e.g., national parks)."

Figure 7.1: Tourist Arrivals, Puerto Rico and the Dominican Republic, 1995-2015



Source: World Bank, International tourism, number of arrivals, http://data.worldbank.org/indicator/ST.INT.ARVL?paage=6.

Figure 7.2: Government Spending in Support of Tourism, Puerto Rico and the Dominican Republic, 1995-2015 (millions of 2016 dollars)



Source: World Travel & Tourism Council, https://www.wttc.org.

The tourism success of the Dominican Republic compared to Puerto Rico might be attributed to the much lower wages in the former, making the costs to tourism much less. This cost advantage, however, existed throughout the period and cannot explain the change in the relative positions of the Dominican Republic and Puerto Rico. Moreover, at least in part the cost advantage might be balanced by Puerto Rico's advantage as part of the United States. (As Puerto Rico is a U.S. territory, no visa is needed for U.S. citizens, the U.S. dollar is the currency, and U.S. law has ultimate authority.) We are left with the data, which strongly suggest that the poor performance of tourism in Puerto Rico relative to that in the Dominican Republic is explained in significant part by the relatively meagre support for tourism provided by the Puerto Rican government.

Agriculture

The situation with agriculture in Puerto Rico provides another case where government neglect has contributed to poor performance. Although the transformation of the Puerto Rican economy from a rural-agricultural base to an urban-manufacturing base in the post-World War II decades has been viewed largely as a sign of rapid progress, as an example of Schumpeterian "creative destruction,"[124] two factors about this transformation need to be recognized.

- First, for better or for worse, this transformation was promoted by government policies, as noted above. Tax incentives for manufacturing, supported by a hyper-industrialization ideology, drove the change away from agriculture (to say nothing of the very large scale migration to the United States). This was not a simple market driven change, not a classical process of Schumpeterian "creative destruction."

- Second, this transformation not only involved a diminution of Puerto Rican agriculture, but led to a virtual elimination of Puerto Rican agriculture, as value added in agriculture in 2016 was only 1.2% of GNP. It is easy to maintain that the transformation—again, not a "natural" process, but one driven by policy—went far too far.

In recent years, it is often noted that Puerto Rico imports 85% of its food. While this figure might be somewhat of an exaggeration, there is no doubt that the island is

[124] The term "creative destruction" has its origins with the economist Joseph Schumpeter, who described the process by which capitalist development progresses through the natural and normal operation of markets: "The opening up of new markets, foreign or domestic, and the organizational development from the craft shop to such concerns as U.S. Steel illustrate the same process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism." *Capitalism, Socialism, and Democracy*, Harper & Row, New York, 1942, p. 83. The point here, however, is that what happened in Puerto Rico was neither a natural nor normal process.

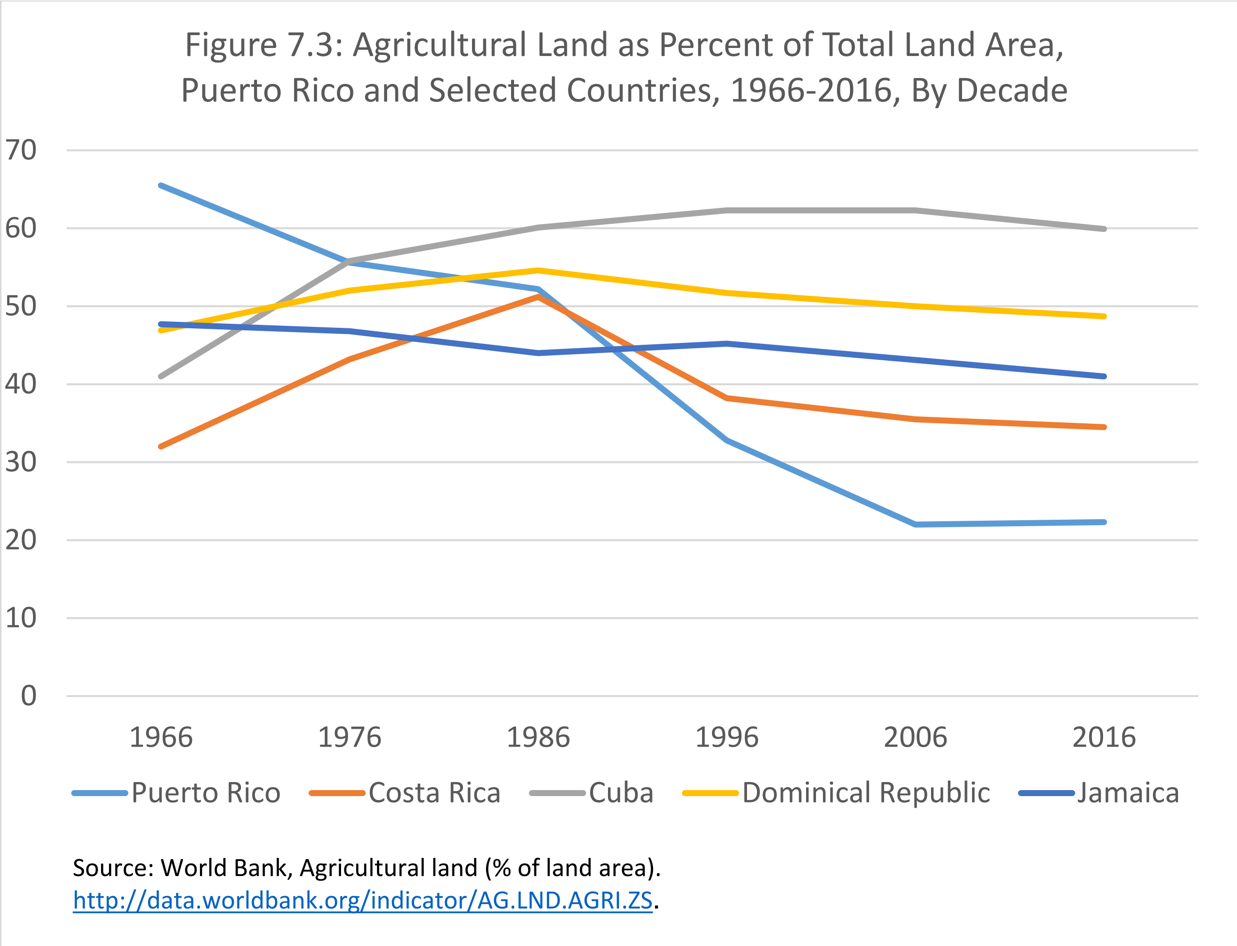
very highly dependent on food imports.[125] Of course, not all countries are able to grow a large share of their food, and, with its density of population and substantial mountain terrain, there is no reason to expect Puerto Rico to be a major agricultural power.

Nonetheless, as illustrated in Figure 7.3, the sharp decline in the percentage of Puerto Rico's land that is devoted to agriculture makes it an outlier by this measure. The percentage of Puerto Rico's land that has been devoted to agriculture fell from 65.5% in 1966 to 22% by 2006 and stayed roughly at that level in subsequent years.[126] Compared to the other countries in Figure 7.3, in the 1960s a larger share of land was devoted to agriculture in Puerto Rico than in any of the other countries, and by the 2000s a smaller share was devoted to agriculture in Puerto Rico than in any of the other countries. Beyond the particular countries used in Figure 7.3 to illustrate Puerto Rico's outlier position, in large aggregates of countries, land devoted to agriculture increased between1966 and 2016, at least slightly: in Latin America and the Caribbean, East Asia and the Pacific, Sub-Sahara Africa, and the Middle East and North Africa. In the United States and in the European Union, land devoted to agriculture has declined but not by a great amount—i.e., from 47.6% to 44.4% in the United States and from 54% to 42.8% in the European Union countries. In the world, land devoted to agriculture rose from 36.1% to 37.4% in this fifty-year period.[127]

[125] The 85% figure is reported by Javier Rivera, Secretary of Agriculture in the Fortuño administration in an on-line *Latin American Herald Tribune* article, undated but clearly published in the 2009 to 2012 period, *Latin American Herald Tribune*, online, undated (2009-2012 period). "Puerto Rico Imports 85% of Its Food," http://www.laht.com/article.asp?CategoryId=14092&ArticleId=342325. And an October 8, 2015, report from the U.S. Department of Agriculture's National Institute of Food and Agriculture quotes Dr. Myrna Comas Pagan, Secretary of Puerto Rico's Department of Agriculture saying, "We needed to develop a food security plan for the island. Our island depends on food imports – that's a point of vulnerability. We have a critical situation." The article (not the Comas Pagan quotation) continues, "Puerto Rico imports about 85 percent of its food from 52 countries" National Institute of Food and Agriculture, U.S. Department of Agriculture, "Puerto Rico's Secretary of Agriculture visits NIFA," October 8, 2015, https://nifa.usda.gov/announcement/puerto-rico%E2%80%99s-secretary-agriculture-visits-nifa-addresses-food-security-issues. Our own calculations, comparing data on food imports with expenditures on food consumption suggest a somewhat smaller import share. However, without knowledge of the mark-ups on the various food imports, it is not possible to make a meaningful calculation, and no source is supplied to support the statements by the Secretaries of Agriculture.

[126] I. K. Parés-Ramos, W. A. Gould, and T. Mitchell Aide, examining the period of substantial decline in land devoted to agriculture in the 1990s (see Figure 7.3), point out that while some of the decline is attributable to urbanization, a much larger share has involved an increase in forestation. Much of the decline is explained by abandonment, which resulted in conversion to grasslands and then from grasslands to forest. "Agricultural abandonment, suburban growth, and forest expansion in Puerto Rico between 1991 and 2000," *Ecology and Society* 13 (2), 2008, http://www.ecologyandsociety.org/vol13/iss2/art1/. Also, see William A. Gould et al, "Land Use, Conservation, Forestry, and Agriculture in Puerto Rico," *Forests 8* (7), 242, 2017, http://www.mdpi.com/1999-4907/8/7/242.

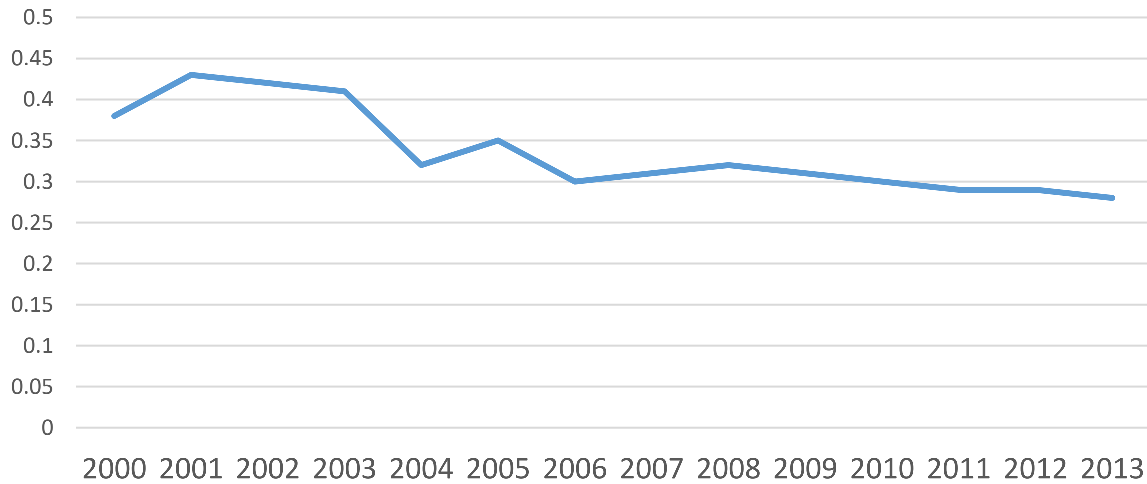
[127] World Bank, Agricultural land (% of land area). http://data.worldbank.org/indicator/AG.LND.AGRI.ZS.



The long term decline of agriculture in Puerto Rico has been a transformation from large scale production of export crops—sugar, tobacco, coffee—to small scale farms producing a great variety of crops. The small size of production units in recent years might be cited as the basis of Puerto Rico's weakness in agriculture (an alleged inability to compete with large operations in the United States). Small scale agriculture, however, can be very productive if it is provided with support in terms of agricultural extension, marketing, and finance. Such services are not totally absent in Puerto Rico, but neither are they readily available at a sufficient level.

While data are available only from the beginning of this century, from 2000 onward the Puerto Rican government's support for its Department of Agriculture has been in decline, falling sharply relative to total government expenditures up to the emergence of the current recession, and then slowly declining further during the recession years. This decline is shown in Figure 7.4. (The high point was forty-three one-hundredths of one percent in 2001, and the figure fell to twenty-eight one-hundredths of one percent in 2013.) Also, aside from the direction of change, the low level of spending on the Department of Agriculture tends to indicate that it is given low priority by the government.[128]

Figure 7.4: Actual Government Expenditures on the Department of Agriculture as a Percent of Actual Total Government Expenditures, Three Year Moving Averages, 2000 - 2013



Source: *Comprehensive Annual Financial Report*, 1998-99 through 2011-12, Commonwealth of Puerto Rico, http://www.gdb-pur.com/investors_resources/commonwealth-cafr.html. *Basic Financial Statements and Required Supplementary Information,* 2012-13 and 2013-14, Commonwealth of Puerto Rico, http://www.gdb-pur.com/investors_resources/commonwealthcafr.html.

Neither agriculture nor tourism would provide a panacea for Puerto Rico's economic problems. Together, these two sectors account for only between 2% and 3% of GNP (and less than 2% of GDP), though they account for over 4% of employment. Nonetheless, if their expansion were given reasonable support, they could likely make significant contributions to the expansion of GNP and, especially, employment growth.[129]

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[128] While the data shown in Figure 7.4 do suggest a low priority given to agriculture by the government, it needs to be noted that the U.S. Department of Agriculture is active in Puerto Rico, with its net operating expenditures in Puerto Rico exceeding the budget of the Puerto Rican Department of Agriculture in almost all years from 2000 to 2014 and sometimes more than twice as large. Also, in this 2000 to 2016 period, the U.S. Department of Agriculture has provided grants to Puerto Rico for agricultural extension and the agricultural experiment station of $10 to $12 million annually until 2005, after which the grants fell off sharply to below $1 million in 2015 and 2016. *Informe*, 2007 and 2016: Tables 20 and 22).

[129] Various small agricultural programs are underway and changes that might prove significant are taking place, leading to some reports of major developments. For example, according to an NBC news report: "For the first time in nearly 30 years, Puerto Ricans are buying rice, vegetables and traditional crops such as plantains and pineapples, that are produced on the island. As new farms spring across the island, the

Education

A much greater contribution to output and employment expansion could come from improvements in education in Puerto Rico, which would establish a much stronger social infrastructure on which economic growth could take place. It is widely recognized that effective education is an important—probably a necessary—foundation for many economic activities. Certainly, this is the case for activities based on modern information technology or biotechnology, but also for the operations of business in virtually all sectors of the economy. Yet, here too the bloated manufacturing sector and the policies that were focused on investment from off the island appear to have hindered educational advancement.

The largest firms in manufacturing, largely subsidiaries of firms based on the U.S. mainland, are those firms that have located operations in Puerto Rico to take advantage of federal and local tax incentives. Indeed, as James Dietz has pointed out, "Fomento's [i.e., the Puerto Rican Industrial Development Corporation's] efforts were aimed at attracting large, capital intensive, externally oriented U.S. multinational investors in pharmaceuticals, chemicals, and electronics…"[130]

The low employment rate (high capital intensity) of Puerto Rican manufacturing and the heavy role of U.S. multinational investors gives these firms limited motivation to be concerned about the development of a broad-based, high-quality educational system on the island. To the extent that local authorities are affected by the interests of these important investors, they are likely to be less motivated than would otherwise be the case to assure continual improvement of the public education system.

The Puerto Rican population is often viewed as relatively highly educated with 24% of people twenty-five and over having a bachelor's degree or higher degree, as compared to 30% in the United States; and the figure for Puerto Rico is higher than for some individual states. However, in the population of Puerto Rico twenty-five and over, 27% have not attained a high school degree, while in the United States the figure is 13.3% and does not exceed 18% for any state.[131] These data suggest that in terms of educational attainment, the Puerto Rican population has a bi-modal structure—i.e., a

U.S. territory is seeing something of an agricultural renaissance...'More and more people have noticed that this is one of the only successful ways of living on the island right now,' said Tara Rodriguez Besosa, a farming advocate and owner of an organic restaurant in San Juan…Agriculture is a small part of the economy in Puerto Rico… Yet the growth is notable simply because things are so bad overall." "Puerto Rico Experiences an Agricultural Renaissance," NBC News, September 28, 2016, http://www.nbcnews.com/news/latino/puerto-rico-experiences-agricultural-renaissance-n656001. These changes, however, might be ephemeral results of hard times, and they would need to be scaled up significantly to alter the trend evident in aggregate statistics.

[130] James L. Dietz, *Puerto Rico: Negotiating Development and Change*, Lynne Reiner Publisher, Boulder and London, 2003, p. 53.

[131] American Fact Finder, U.S. Census, https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml#.

substantial share of the population is relatively highly educated (in terms of years of schooling), but also a substantial share, a larger share, has relatively little schooling.[132]

Years of schooling and degrees, however, are poor measures of the educational level of a population. The impact of schooling has to be taken into account, and all indications suggest that the Puerto Rican public schools do not generate strong academic accomplishments. For example, a test on which the performance of Puerto Rican public school students can be compared to the performance of students in the United States is the National Assessment of Educational Progress Mathematics exam (which is administered in Spanish in Puerto Rico). Results for public school students in Puerto Rico and the states are shown in Table 7.1 for 4th and 8th graders in 2003, 2005, and 2013. In all categories shown in the table, the performance scores of students in Puerto Rico are extremely far below those of students in the states. For example, the average score for Puerto Rican 4th graders in 2013 was 182, 21% below the score for the state with the lowest score. As another example from Table 7.1, in 2013, 73% of 8th graders in the states scored above "Basic," but only 5% in Puerto Rico scored above "Basic."

Test scores alone are a poor measure of students' abilities. And, of course, conditions outside the schools have major impacts on students' abilities. Yet, the test scores are consistent with widespread views of the limitations of the public schools in Puerto Rico. And, whether it is poor quality of the schools, poor conditions outside the schools (e.g., wide spread poverty and economic inequality, described in chapter 8), or some combination of both, the data suggest that, in general, Puerto Rican students are not coming out of the public schools as a well-educated labor force.

Aside from test scores, the actions of Puerto Rican families also indicate the poor accomplishments of the public school system. Table 7.2 shows the decline of enrollment in the public schools from 1980 to 2015. In recent years, some of this decline is the result of the large migration from Puerto Rico to the United States. (See chapter 8.) Yet, the enrollment decline was going on well before the recession and migration. Also, the data in Table 7.2 suggest that a large part of the decline is due to parents lacking confidence in the public schools, and those who could afford to do so increasingly choosing private schools for their children. As the data in Table 7.2 indicate, about 30% of students in elementary and primary schools attend private schools. The comparable figure in the United States is about 10%.[133]

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[132] Of course, part of the explanation of the low level of high school completion in Puerto Rico is that schooling has expanded more recently than in the states, and thus it is largely among the elderly that the rate of high school completion is low. Nonetheless, these data need to be considered as part of the whole story of the labor force's level of education.

[133] National Center for Education Statistics, *Private School Enrollment*, https://nces.ed.gov/programs/coe/indicator_cgc.asp. When public school attendance falls as far as it has in Puerto Rico, the spectre arises of a negative downward spiral. As public school enrollment falls, support for public education tends to fall. As support falls, quality tends to fall. If quality falls, more families send their children to private schools. And so on.

Table 7.1: National Assessment of Educational Progress, Mathematics, Results for Puerto Rico, the United States, 2003, 2005 and 2013, and State with Lowest Score, 2013; and for 2013, Percent Performing at or above "Basic" and Percent Performing at or above "Proficient"

	Average Score for Puerto Rico		Average Score for States		State with Lowest Score	
	4th Grade	8th Grade	4th Grade	8th Grade	4th Grade	8th Grade
2003	178	234	234	276		
2005	183	218	237	278		
2013	182	218	241	284	231 (Miss.& Mont.)	269 (Ala.)

2013

	Percent at or above "Basic"			Percent at or above "Proficient"		
	Puerto Rico	States	Lowest State	Puerto Rico	States	Lowest State
4th Grade	11%	82%	74% (Miss.)	1%*	41%	26% (Miss.)
8th Grade	5%	73%	60% (Ala.)	1%*	34%	20% (Ala.)

* Reported as "one percent or less."

Sources: For 2003 and 2005: National Center for Education Statistics, *The Nation's Report Card: Mathematics 2003 and 2005 Performance in Puerto Rico—Highlights*, https://nces.ed.gov/nationsreportcard/pubs/studies/2007459.asp. For 2013: National Center for Educational Statistics, *Private School Enrollment*, https://nces.ed.gov/programs/coe/indicator_cgc.asp; and *Search for Public School Districts*, https://nces.ed.gov/ccd/districtsearch/district_detail.asp?Search=1&details=1&InstName=Puerto+Rico&State=72&DistrictType=1&DistrictType=2&DistrictType=3&DistrictType=4&DistrictType=5&DistrictType=6&DistrictType=7&DistrictType=8&NumOfStudentsRange=more&NumOfSchoolsRange=more&ID2=7200030.

Table 7.2: Enrollment in K-12 Schools in Puerto Rico, 1980-2015*

	Total Enrollment (in thousands)	In Public Schools (in thousands)	In Public Schools (percentage of total)
1980	811.3	716.1	88.3
1985	795.6	692.9	87.1
1990	797.0	651.2	81.7
1995	767.3	621.4	81.0
2000	796.0	612.3	76.9
2005	750.7	575.6	76.7
2010	703.0	493.3	70.2
2012	588.4	434.6	73.9
2015	n.a.	411.0	n.a.

* The different sources for the most recent years and the lack of systematic collection of data for private schools limit the reliability of the changes in the total and percent in public and private schools from 2010 onward.

Source: For 1980-2010: U.S. Census Bureau, *Statistical Abstract of the United States 2012, Table 1321*. For 2012: *Comprehensive Annual Financial Reports* 2012, Commonwealth of Puerto Rico, p. 299. http://www.gdb-pur.com/investors_resources/commonwealth-cafr.html. For 2015, National Center for Education Statistics, *Search for Public School Districts*. https://nces.ed.gov/ccd/districtsearch/district_detail.asp?Search=1&details=1&InstName=Puerto+Rico&State=72&DistrictType=1&DistrictType=2&DistrictType=3&DistrictType=4&DistrictType=5&DistrictType=6&DistrictType=7&DistrictType=8&NumOfStudentsRange=more&NumOfSchoolsRange=more&ID2=7200030.

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The Puerto Rican policy weakness with regard to public schools, evident in the data, is illustrated by a failure to deal with the bureaucratic condition of educational administration. Puerto Rico schools have been administered as a single school district, exceeded in size (based on enrolment) by only New York City, Los Angeles, and perhaps Chicago.[134] Considerable evidence indicates, however, that large school districts are ineffective. Numerous studies show a negative correlation between district size (in terms of number of students) and student performance. Also, larger districts do not provide cost savings through economies of scale.[135]

[134] National Center for Education Statistics, *Characteristics of the 100 Largest Public Elementary and Secondary School Districts in the United States: 2008–09, Statistical Analysis Report*, https://nces.ed.gov/pubs2011/2011301.pdf.

[135] See, for example, Donna Driscoll, Dennis Halcoussis, and Shirley Svorny, "School District Size and Student Performance," *Economics of Education Review,* 22: 2003; Noah E. Friedkin and Juan Necochea,"School System Size and Performance: A Contingency Perspective," *Educational Evaluation and Policy Analysis.* 10 (3), 1988; Craig Howley, "Compounding Disadvantage: The Effects of School and

A specific example, indicating the disproportionately large nature of school administration in Puerto Rico, is the share of per pupil current expenditures that goes to instruction. In Puerto Rico, the figure is 43.6%, while for the United States the figure is 60.8% and 54.5% for the lowest state, Arizona.[136]

Perhaps a broad-based, high-quality public education system is not essential for a manufacturing sector with a relatively small labor force, as is the case with Puerto Rican manufacturing. Schooling, however, if effectively organized and developed, provides a vital foundation for economic progress. It is a central aspect of an economy's social infrastructure. Yet, rhetoric notwithstanding, in Puerto Rico, policy makers act as though a public educational system that serves the great majority of students is not important.

Weakening the Whole Economy

It would be difficult, if not impossible, to find an economic justification for government to provide special favorable treatment—e.g., tax incentives, subsidies, tariff protection—of a particular activity over a seventy-year period. One might appeal to the infant industry argument for a few decades, but not for seventy years. Yet, the U.S. federal government, along with the Puerto Rican government, has been providing special treatment for manufacturing on the island since at least the late 1940s. If the "infants" cannot manage on their own by this time, there is little reason to believe they ever will. Furthermore, the Puerto Rican government appears to desire to continue the favorable treatment of manufacturing indefinitely and asks the federal government to continue, indeed enhance, the policies of the past.

Perhaps the long-lasting recession that has plagued Puerto Rico since 2006 might provide the basis for an argument for giving special treatment to employment-creating activities. Yet, as has been pointed out here, manufacturing in Puerto Rico is not much of a job creator. Indeed, the Puerto Rican government's devotion to manufacturing appears to have inhibited the development of economic activities that are more labor intensive. The employment-generating examples of tourism and agriculture used here demonstrate the point. Also, the state of public education tends to reveal a lack of interest on the part of the government to build a labor force that could support a diversity of economic activity and drive balanced expansion of employment and economic growth. Reliance on a tried-and-failed policy is hardly a prescription for bringing Puerto Rico out of the economic doldrums.

District Size on Student Achievement in West Virginia," *Journal of Research in Rural Education* 12 (1), 1996, and "School District Size and School Performance." *Rural Education Issues Digest*, 2000, https://catalogue.nla.gov.au/Record/5676829; and Frank W. Robertson, "Economies of Scale for Large School Districts: A National Study with Local Implications," *The Social Science Journal,* 44, 2007.

[136] National Center for Education Statistics, *Digest of Education Statistics*, 2016, Table 236.80, https://nces.ed.gov/programs/digest/d16/tables/dt16_236.80.asp?current=yes.

Puerto Rico's experience has been dubbed here as the Dutch Disease in reverse, with manufacturing as the bloated sector bringing about weakness elsewhere, instead of manufacturing being weakened by a bloated natural resource sector. Perhaps, however, an understanding of what is happening with the Dutch Disease, forward or in reverse, should be broadened. When a country or territory becomes highly dependent on a single industry or particular sector of its economy, especially when that sector has become bloated by government policies, over time the repercussions can weaken the whole economy.

The policy implications are relatively straightforward. The Puerto Rican and U.S. governments should recognize the limited role that manufacturing can play in the advance of the island's economy and give attention to providing greater support for other realms of economic activity. This means moving away from the policy focus of continuing tax incentives for manufacturing, as that focus deprives those other realms of activity of the attention and support that they need. There is a role for some manufacturing in Puerto Rico, but not as the driver of economic expansion, as it has been in the minds—but only in the minds—of policy makers. A more balanced approach to economic development policy would likely yield more favorable outcomes.

Chapter 8

Consequences and Implications of Dependence: Poverty, Inequality, Emigration

One upon a time, Puerto Rico was touted as an economic success story. During World War II, the era of Operation Bootstrap, and on into the early 1970s, the economy grew quite rapidly. Between 1940 and 1970 per capita personal income (adjusted for inflation) more than quadrupled, and the number of people living in poverty greatly declined. Even as economic growth slowed in the last decades of the 20th century, the poverty rate continued to fall—dropping from 62.8% in 1970 to 44.6% in 2000.[137] The success story, however, far outlasted the reality of success. (See the discussion in Chapter 3.)

The reality began to change in the late part of the 20th century. In spite of the claims by some that Puerto Rico's economy continued to grow strongly into the 1990s, by then the slowdown was substantial. Moreover, the earlier years of rapid growth had been accompanied by a sharp rise of income inequality. Though the rise of inequality in subsequent years was not smooth, by 2000 income inequality was at an all-time high. Inequality has since continued at a high level and, from 2000 on, the poverty rate has been flat.

Even during the years of rapid economic growth, residents of Puerto Rico migrated to the states at high rates. After all, even with incomes rising, average incomes on the island were still far below those in the states. Also, the creation of jobs in the rising manufacturing industries did not match the displacement from the rural economy, and unemployment ranged between 13% and 15% during the 1950s.[138] As citizens of the United States, Puerto Ricans have long been able to move to the mainland without restriction. In the 1950s, a decade of rapid economic growth in Puerto Rico, some 470 thousand people emigrated from the island, over 20% of the 1950 population.[139] No other period, until the long-lasting recession that began in 2006, has matched this number of departures.

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[137] See Table 3.1 and the associated references. The poverty rates for early post-World War II years are from the Marxuach piece cited in the source notes of Table 3.1.

[138] Dietz, *Economic History of Puerto Rico*, as previously cited, Table 5.13. Unemployment data for all years of the decade are not available.

[139] From José L. Vázquez Calzada, *La población de Puerto Rico y su trayectoria histórica* (Río Piedras, P.R.: Escuela Graduada de Salud Pública, Recinto de Ciencias Médicas, Universidad de Puerto Rico, 1988), p. 286, as reported by the Department of Latin American & Puerto Rican Studies, Lehman College, http://lcw.lehman.edu/lehman/depts/latinampuertorican/latinoweb/PuertoRico/1950s.htm.

Since the beginning of the 21st century, the economic situation in Puerto Rico has generally deteriorated. By 2017, in terms of GNP, relative to the United States, Puerto Rico had lost all the ground it gained in previous decades. In 2017, Puerto Rico's GNP (adjusted for inflation) was six and half times as large as it was in 1950, but U.S. GNP (adjusted for inflation) was almost eight times as large as it was in in 1950. However, by different measures, the Puerto Rican situation does not look quite so bad. For example, simply comparing nominal GNP in the two years, Puerto Rico appears not quite as far behind in 2017 as it was in 1950. Also, because population growth was slower in Puerto Rico than in the states, per capita income (inflation adjusted) rose more in Puerto Rico than in the states, by 356% as compared to 269%.[140] Nonetheless, however one parses the data, Puerto Rico's positive economic growth experience ended in the 1970s, and it has been weak in subsequent decades and declined sharply in the 21st century.

While economic growth has been discussed in earlier chapters, it will be useful here to examine poverty, inequality, and migration in more detail.

Poverty

In the states, as awareness spread of Puerto Rico's long recession capped by the hurricane devastation of September 2017, commentators often noted the island's high poverty rate to illustrate how bad things were. In mid-2017, 44.4% of the Puerto Rican population lived below the poverty line.[141] This figure is very high compared to the 2017 poverty rate for the United States as a whole, 12.3%, and more than twice the 19.8% rate for Mississippi, the lowest-income state.[142]

In the period of the recession, however, Puerto Rico's poverty rate did not rise. Even while GNP (inflation adjusted) fell by more than 18% between 2006 and 2017 and per capita GNP fell by 7.4%, the poverty rate was virtually unchanged, as shown in Table 8.1. (The GNP figures are inflation adjusted.) Indeed, in 2017, the poverty rate was slightly lower than in 2006. It is important that the poverty rate did not rise in this period. Yet, *this should not obscure the basic fact that very many people, an extremely*

[140] See Table 3.2 for the GNP growth data. The poor quality of Puerto Rico's economic data, especially the continued use of 1954 as a base year for inflation adjustment, makes the comparison tenuous and may explain the slightly different results obtained using real growth figures and using nominal GNP figures for the comparison. The two results could be consistent if inflation over the 67 year period was more rapid in Puerto Rico than in the United States. While population in the U.S. grew by 116%, Puerto Rico's population increased by only 50%. The slower population growth in Puerto Rico was in large part due to net migration to the states.

[141] U.S. Census Bureau, https://www.census.gov/quickfacts/pr. The 2017 poverty rates are the most recent available. The income level (the "poverty line") below which people are defined as "in poverty," is the same for Puerto Rico as tor the states. The poverty line varies with the size of household. For example, in 2017, the poverty line for a household of 4 was $24,600 and for a household of 2 was $16,240, https://www.peoplekeep.com/blog/2017-federal-poverty-level-guidelines.

[142] U.S. Census Bureau, https://www.census.gov/quickfacts/fact/table/US/PST045217.

high share of the population, are in dire economic conditions. This fact alone underscores the weakness of the island's economy over a long period.

Table 8.1: The Poverty Rate in Puerto Rico, Selected Years 2006 to 2017

Calendar Year	Poverty Rate
2006	45.4%
2007	45.5%
2009	45.0%
2010	45.0%
2012	45.4%
2014	46.2%
2017	44.4%

Source: U.S. Census Bureau

Yet, the stability of the poverty rate during a period of general economic decline begs explanation.

The reason that the poverty rate did not rise between 2006 and 2017 is that transfers to individuals in Puerto Rico from the federal government, the Puerto Rican government, and municipality governments in Puerto Rico rose a great deal.[143] Total federal transfers to individuals in this period rose by 79%. Federal transfers are part of personal income, but they do not count in GNP (because they are not connected to production). These federal transfers were 18.7% of personal income in 2006, but they had risen to 27.5% in 2017. Thus, even though both GNP per capita and compensation per employee actually fell in current dollar terms in these years—phenomena that taken by themselves would contribute to a rise of the poverty rate—the increase of federal transfer was sufficient to stave off a rise of poverty.[144]

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143 Transfers, or transfer payments, are money or other aid given to individuals or businesses by government without any good or service in return. Social Security, Medicare, social welfare programs, and subsidies to businesses are example.

144 Adjusting for, on the one hand, the decline in the number of people employed, and, on the other hand, the rise in the consumer price index, real (i.e., inflation adjusted) compensation per employee fell by between 7% and 12%. This wide range is due to the fact that the establishment survey and the household survey report quite different figure for the decline of employment. Real GNP per capita fell by only 7.4%, so, again, the federal transfers on a per capita basis would prevent a rise in the poverty rate.

As pointed out in Chapter 4, the increase in federal transfers to individuals in Puerto Rico was only in small part an increase in "welfare" payments in response to the economic decline on the island. Eighty-six percent was accounted for by increases in Medicare payments, Social Security payments, and Veterans' benefits. The only substantial rise in payments that could be considered "welfare" in the standard usage of the term was Nutritional Assistance ("food stamps"), which accounted for 6.6% of the increase.

While smaller than the federal transfers to individuals in Puerto Rico, the increase in transfers from the Puerto Rican government and from governments of Puerto Rican municipalities were nonetheless substantial, rising between 2006 and 2017 by 75% (in current dollars). In 2006, these local transfers were 6.5% of personal income, but rose to 9.2% in 2017. Data showing the components of these local transfers are not available, but the growth of pension payments was probably a major factor.[145] (As with federal transfers, these local transfers were part of personal income but not counted in GNP.)

Although the federal and local transfers to individuals during the recession have not, by and large, been "welfare" payments in the standard sense of the term, it is important to recognize that the fall in employment and earnings from employment would, without these transfers, have led to a sharp rise in Puerto Rico's poverty rate. And, regardless of the fact that the poverty rate did not rise between 2006 and 2017, Puerto Rico's poverty rate remains very high in the U.S. context, and, after all, as a territory of the United Stated, Puerto Rico is part of the United States.[146]

Income Inequality

Not only are many Puerto Ricans living below the poverty line, which is to say that their absolute income levels are very low, but in addition income is distributed very unequally on the island. In 2017, the Gini coefficient for household income, measuring the degree of income inequality for Puerto Rico, was 0.551 (Table 8.2). For the United

[145] The importance of pension payments in these local transfers, as well as in the federal transfers, would reflect the aging of the Puerto Rican population; see below. Between 2005 and 2015, the population over 65 increased by 30.8% while all other population groups declined. Also, in this period, the "old age dependency ratio" rose from 20.3% to 29.7%; see Ana J. Montalvo and Lynda Laughlin, *An Island in Crisis? A Statistical Portrait of Recent Puerto Rican Migration and Socioeconomic Outcomes between 2005 and 2015,* Social, Economic, and Housing Statistics Division, U.S. Census Bureau, https://www.census.gov/content/dam/Census/library/working-papers/2017/demo/SEHSD-WP2017-21.pdf. A dramatic indication of the aging of the Puerto Rican population is that between 2009 and 2017, the median age rose from 35.3 to 40.1, according to the U.S. Census Bureau, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF. All of these data are for times before the large exodus following the hurricanes of September 2017.

[146] While federal transfers have been important to Puerto Ricans, it is useful to keep in mind, as pointed out in Chapter 4, that on a per capita basis Puerto Rico receives less federal expenditures, including transfer payments, than do many states.

States, this coefficient was 0.482. Only one state had a Gini coefficient higher than 5 in 2017, New York at 0.516.[147] (The Gini coefficient is a measure of the distribution of income, ranging from 0, all people having the same income, to 1.0, all income going to one person. Almost all countries have Gini coefficients for the distribution of income between 0.250 and 0.650.)

Gini coefficients are not available for all years. The data that are available and presented in Table 8.2 suggest that the coefficient has seldom fallen below 0.5 since the early 1960s. After rising substantially from the early 1950s to the late 1960s (Puerto Rico's period of rapid urbanization and industrialization), the coefficient appears to have taken a slight downward trend (equalization) until 1990. By the end of the century, however, the coefficient moved back up (greater inequality) to or near its current level. *The conclusion seems clear: for several decades, income has been distributed quite unequally in Puerto Rico, more unequally than in the United States or any of the states.* (In the states, over the last fifty years, there has been a clear and substantial rise in the Gini coefficient, a move toward a higher level of inequality. Puerto Rico has been at a high level all along.)[148]

In the same way that transfers from the federal and Puerto Rican governments have made the Puerto Rican poverty rate lower than it would otherwise be and have prevented the rate from rising during the recession, the degree of income inequality is affected similarly by those transfers. Separate estimates of the Gini coefficients for incomes and for earnings have shown a substantial difference, with the latter much higher than the former. No recent estimates of this difference are available, but for 2000 Eileen V. Segarra Alméstica estimated that the Gini for household income was 0.564 and the Gini for household earnings was 0.691—indicating a large equalizing role for transfers in that year.[149] While estimates of the Gini coefficient for household earnings do not appear to exist for more recent years, there is every reason to believe that a similar relationship continues to exist, especially with the rising role of transfers during the recession.

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[147] Gloria G. Guzman, Household Income: 2017, American Community Survey Briefs, Issued September 2018, https://www.census.gov/content/dam/Census/library/publications/2018/acs/acsbr17-01.pdf. Washington, DC, did have a 2017 Gini coefficient for income distribution of 0.528.

[148] According to World Bank data, Puerto Rico appears to be highly unequal even in comparison to Latin American countries. Of the 17 Latin American countries for which the World Bank reports Gini coefficients for recent years (2014 or more recent), none has as high a Gini coefficient as does Puerto Rico. It should be noted, however, that for several of the Latin American countries, the coefficient has declined a great deal in recent decades. For example, between 1990 and 2016, the Gini for the Dominican Republic fell from 0.572 to 0.453, for Mexico from 0.572 to 0.434, and for Brazil from 0.605 to 0.513. https://data.worldbank.org/indicator/SI.POV.GINI?locations=CL-HN.

[149] Eileen V. Segarra Alméstica, "What happened to the distribution of income in Puerto Rico during the last three decades of the XX century? A statistical point of view," Table 2, *Ensayos y Monografías*, Número 129, julio 2006, Unidad de Investigaciones Económicas, Departamento de Economía, Universidad de Puerto Rico, Recinto de Río Piedras, http://economia.uprrp.edu/ensayo%20129.pdf.

Moreover, data on the compensation of employees and the income of proprietors suggest that inequality of earnings has risen substantially. Between 2006 and 2017, in current dollars, proprietors' income rose by 33.0%, while employees' compensation fell by 5.9%. Also, between 2006 and 2017, proprietors' share of net domestic income rose from 62% to 70%, while employees' share fell from 38% to 30%, indicating the high degree of inequality as well as the increase of inequality. The difference between the change in proprietors' income and employees' compensation indicates a rising inequality in the distribution of earnings. Also, this is further evidence of the importance of transfers in maintaining personal income levels in the period of the recession.

Table 8.2: Gini Coefficients Measuring Income Inequality in Puerto Rico, 1953 to 2017, Selected Years

Year	Gini Coefficient	Year	Gini Coefficient
1953	0.440	1999	0.558
1963	0.455	2000	0.564
1969	0.550	2008	0.541
1970	0.545	2009	0.532
1979	0.516	2010	0.537
1980	0.512	2015	0.559
1989	0.499	2016	0.542
1990	0.506	2017	0.551

Sources: 1953-1969, 1979, 1989, 1999: Orlando J. Sotomayor, "Development and Income Distribution: The Case of Puerto Rico," *World Development*, Vol. 32, No, 8, 2004; for 1970, 1980, 1990, and 2000: Eileen V. Segarra Alméstica, "What happened to the distribution of income in Puerto Rico during the last three decades of the XX century? A statistical point of view," *Ensayos y Monografías*, Número 129, julio 2006, Unidad de Investigaciones Económicas, Departamento de Economía, Universidad de Puerto Rico, Recinto de Río Piedras, http://economia.uprrp.edu/ensayo%20129.pdf; 2008-2010: Amanda Noss, *Household Income for States: 2008 and 2009*, American Community Survey Briefs, U.S. Census Bureau, September 2010, https://www2.census.gov/library/publications/2010/acs/acsbr09-02.pdf and *Household Income for States: 2009 and 2010,* American Community Survey Briefs, U.S. Census Bureau, September 2011, https://www2.census.gov/library/publications/2011/acs/acsbr10-02.pdf; 2015-2017: Gloria G. Guzman, *Household Income: 2016*, American Community Survey Briefs, U.S. Census Bureau, September 2017, https://www.census.gov/content/dam/Census/library/publications/2017/acs/acsbr16-02.pdf and *Household Income: 2017*, American Community Survey Briefs, U.S. Census Bureau, September 2018, https://www.census.gov/content/dam/Census/library/publications/2018/acs/acsbr17-01.pdf.

Poverty and Inequality – Implications

In the discussion here, poverty is measured by peoples' absolute level of income and is distinct from the distribution of income. The two phenomena are, however, related. The anthropologist Marshal Sahlins has pointed out that:

> The world's most primitive people have few possessions, but they are not poor. Poverty is not a certain amount of goods, nor is it just a relation between means and ends; above all it is a relation among people. Poverty is a social status.[150]

Insofar as poverty is a social status, it is where people stand economically in relation to other people. This implies that income distribution is a, if not the, primary determinant of poverty. One does not have to reject the importance of the absolute level of peoples' incomes in examining poverty, but neither should one reject the importance of income inequality.[151] The two concepts are bound up with each other.

Beyond the conceptual, income distribution along with absolute poverty has substantial implications for a society's economic well-being. It has, in particular, become widely recognized that extreme inequality—and Puerto Rico's situation is one that can be described as extreme—is detrimental to economic growth. This negative relationship between extreme inequality and growth is recognized in a 2014 study by the International Monetary Fund, which both empirically establishes this relationship and suggests some of the reasons for this negative relationship. The study:

> … builds on a tentative consensus in the growth literature that inequality can undermine progress in health and education, cause investment-reducing political and economic instability, and undercut the social consensus required to adjust in the face of major shocks, and thus that it tends to reduce the pace and durability of growth.[152]

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[150] Marshall Sahlins. 1974. *Stone Age Economics*, Aldine Atherton, Inc. Chicago and New York, p. 37.

[151] Further on this point, see Arthur MacEwan, "The Meaning of Poverty: Questions of Distribution and Power," in *Development Experience and Emerging Challenges, Bangladesh*, Q. Shahabuddin and R. I. Rahman, eds., University Press and the Bangladesh Institute of Development Studies, Dhaka, 2009, and published in Spanish as "El significado de la pobreza: cuestiones de distribución y poder," *Investigación Económica,* Vol LXIX, No. 272*,* abril-junio de 2010, and on line in English at http://www.peri.umass.edu/fileadmin/pdf/working_papers/working_papers_101-150/WP148.pdf, and in Spanish at http://www.scielo.org.mx/pdf/ineco/v69n272/v69n272a2.pdf.

[152] Jonathan D. Ostry, Andrew Berg, and Charalambos G. Tsangarides, "Redistribution, Inequality, and Growth," IMF Staff Discussion Note, February 2014, https://www.imf.org/external/pubs/ft/sdn/2014/sdn1402.pdf.

Additional factors include: the weakness of consumer demand resulting from inequality, as the rich tend to spend a smaller share of their income than do lower income people; and the increasing political power of the rich, who tend to support the financial excesses (e.g., the deregulation of banking) that can lead into growth-disrupting crises.[153]

But perhaps the greatest damage that severe inequality can inflict upon the economy is when it generates widespread discontent, political disruption, and instability. While some popular disruption of a highly unequal society could have good long-run results, it would almost certainly curtail economic growth in the short-run. And the political polarization and policy shifts in the United States—the emergence of which have been in part a consequence of rising inequality—is likely to bring disruption and instability with only very bad results.[154]

The connections between inequality and absolute poverty, on the one hand, and economic growth and further negative social impacts, on the other hand, is not automatic and varies among societies. Nonetheless, both for understanding the condition of the Puerto Rican economy and for developing Puerto Rican economic policy, the connections provide a cautionary tale and require consideration.

Emigration and the Changing Population Structure

One of the consequences of the recession that emerged in 2006 has been a substantial increase in movement of Puerto Ricans to the states, and this movement greatly increased following the devastating hurricanes of September 2017. Indeed, along with the debt crisis, this migration to the states has captured substantial attention—as least in states to which Puerto Ricans have relocated. Six states accounted for about two-thirds of the 130 thousand to 140 thousand post-hurricanes migrants: Florida, New York, Pennsylvania, New Jersey, Massachusetts, and Connecticut (in order of the number of new residents from Puerto Rico).[155]

Puerto Rico has experienced large movements of its population to the states over many decades, especially during the 1950s. This migration has been motivated by

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[153] See Joseph Stiglitz, *The Price of Inequality: How Today's Divided Society Endangers Our Future*, W. W. Norton & Company, New York, 2012.

[154] For elaboration of the social and economic impacts of extreme economic inequality, see Richard Wilkinson and Kate Pickett, *The Spirit Level: Why Greater Equality Makes Societies Stronger, Bloomsbury Press*, New York, 2009; and Arthur MacEwan, "An End in Itself and a Means to Good Ends: Why Income Equality is Important," in *Development, Equity And Poverty: Essays in Honour of Azizur Rahman Khan*, L. Banerje et al, eds., Macmillan Publishers India, New Delhi, 2010. On line at http://www.umb.edu/editor_uploads/images/centers_institutes/center_social_policy/An_End_in_Itself_and_a_Means_to_Good_Ends-_Why_Income_Equality_is_Important.pdf.

[155] The ranking of states in based on the estimates in Jennifer Hinojosa, Nashia Román, and Edwin Meléndez, "Puerto Rican Post-Maria Relocation by States," *Research* Brief, Center for Puerto Rican Studies, Hunter College, March 2018, https://centropr.hunter.cuny.edu/sites/default/files/PDF/Schoolenroll-v4-27-2018.pdf.

the large income differentials between the island and the states, and the decline of the population during the ongoing recession was brought about by the same factors (plus, of course, the hurricanes). There is, however, a difference between the recent and earlier migration. The existence of social media has greatly advanced the knowledge people on the island have of opportunities in the states and also has made their connections to friends and relatives in the states more firmly maintained. Information comes quickly and can be expected to add to the ease of migration.

The population of Puerto Rico peaked in 2002, at 3,859 thousand. While this was four years before the onset of the recession, the economic growth rate had already been declining and the annual rate of growth of real GNP was only 1.4% in the 2000 to 2006 period. (The annual rate was 2.8% in the 1990s.) The population fell to 3,805 thousand in 2006, a rate of decline of about 0.35% a year. Between 2006 and 2017 (before the hurricanes), the population dropped to 3,325 thousand—which amounts to a fall-off of 12.6% or about 1.35% per year. With the impact of the hurricanes, the population had dropped to 3,195 thousand, a decline of 3.9% in one year. The population from 2000 to 2018 is shown in Table 8.3.

The population change in Puerto Rico is largely accounted for by the large net out migration brought about by the worsening economic situation (and the population decline probably contributed to the worsening economic situation).[156] Surely, out migration was the dominating factor. The population change in the years of recession, however, has also been brought about by a rising death rate and a substantial fall in the birth rate, to the extent that in 2017 the natural rate of population increase (NRPI, births minus deaths) became negative. See Figure 8.1.

[156] The large net outmigration was surely primarily driven by the deteriorating economic situation in Puerto Rico. However, other factors could also have contributed to the upsurge of movement to the states. The rise of social media gave people on the island closer contact to and more information about opportunities on the mainland. Also, in this period polls and the 2012 referendum indicate there was a rise in dissatisfaction with the political status of Puerto Rico, which may have contributed to the outmigration.

Table 8.3 – Population of Puerto Rico, 2000-2018, Thousands*

	Total Population	Population over 15	Population under 16
2000	3,816	**	**
2001	3,840	**	**
2002	3,859	**	**
2003	3,826	2,870	956
2004	3,827	2,884	943
2005	3,821	2,886	935
2006	3,805	2,899	906
2007	3,783	2,906	877
2008	3,761	2,908	853
2009	3,740	2,910	830
2010	3,722	2,915	807
2011	3,679	2,911	768
2012	3,634	2,895	739
2013	3,593	2,880	713
2014	3,535	2,859	676
2015	3,473	2,829	644
2016	3,407	2,799	608
2017	3,325	2,763	574
2018	3,195	2,710	485

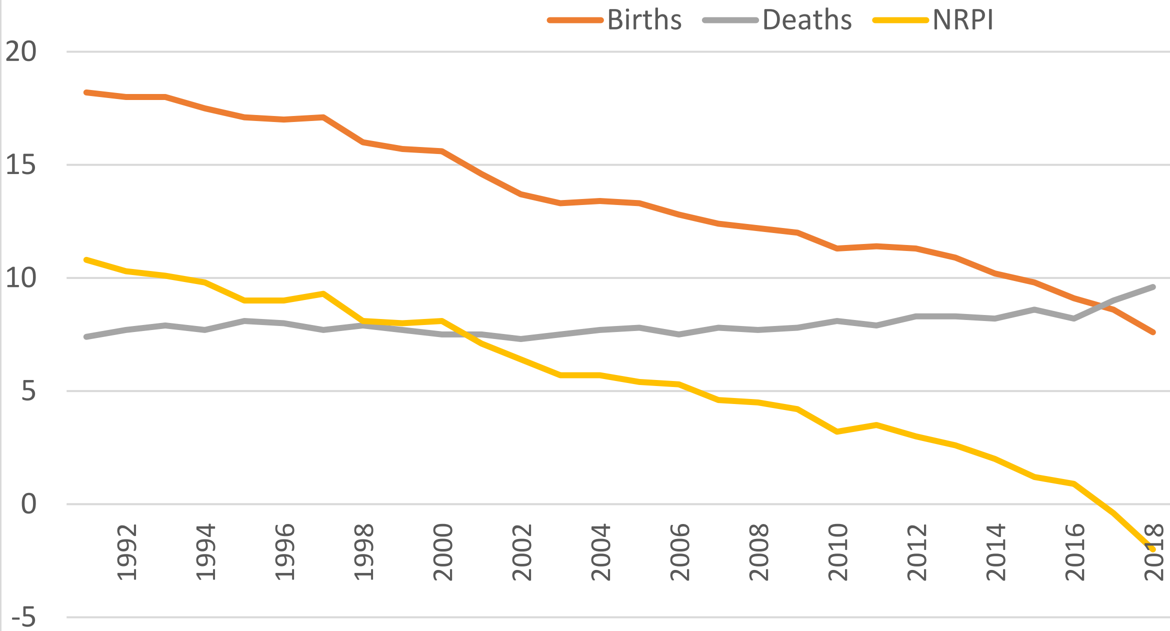
Source: *Informe,* various years.
* The figures are for July 1 of the year.
** For 2000 through 2002, data for persons under 16, and thus also for persons over 15, are inconsistent with the data for later years and are therefore excluded here

As Figure 8.1 indicates, the birth rate has fallen steadily since (at least) the early 1990s. It seems likely, however, that the driving forces in this decline changed with the development of the recession. The decline up to 2006 was associated with a long-term rise in the female labor force participation rate, which increased from 30.5% in 1990 to 38.0% in 2006.[157] The phenomenon of economic growth (even relatively slow growth as experienced by Puerto Rico in these years) and a rising female labor participation rate bringing about a decline in the birth rate is a global phenomenon. After 2006, however, in Puerto Rico both the economic growth became negative—real GNP fell by over 18% between 2006 and 2017 and another 4.7% in 2018—and the female labor force

[157] World Bank data, https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS.

participation rate dropped from 38.0% to 32.25%. While birth choices in this period could have been affected by the changing practices of the preceding years, it seems likely that the declining economy became an important causal factor. Also, the declining economy seems to have brought about a rise in the death rate, as evident in Figure 8.1—and then the hurricanes.

Figure 8.1: Births per 1,000 Population, Deaths per 1,000 Population,
and Natural Rate of Population Increase, 1991-2018*



Source: *Informe*, various years.
* The natural rate of population increase (NRPI) is simply the birth rate minus the death rate. Note that these are fiscal years, and thus the hurricanes of September 2017 are shown in the figure as occurring in 2018.

The natural rate of population increase (births minus deaths) actually became negative in 2017 and 2018. If the NRPI had remained at its 2006 level and there had been no out-migration, the population would have risen to 4,052 thousand in 2018. If, still no out migration, and the NPRI had changed as it did change, the population in 2018 would have been 3,910 thousand. So with no out-migration, the decline of the NPRI would account for 142 thousand “missing people.” The actual difference between reality and what the population would have been with no change in NRPI and no out migration was 857 thousand (4,052 - 3,195). So the out-migration accounted for 715 thousand (83%) of the “missing people” and the decline of the NRPI accounted for 142 thousand (17%). (This is, of course, simply a hypothetical example to show the importance of the two factors—the fall in the NPRI and out-migration—in explaining the population decline in Puerto Rico.)

While the impact of out-migration on overall population was clearly much larger than the impact of the decline of the NPRI, the combination of these factors had a profound impact on the structure of the Puerto Rican population— a dramatic (and ominous) decline in the share of the population under 16—evident in Table 8.3—and a large increase in the percent of the population over 65.

Between 2005 and 2017, the median age of the population rose from 33.4 to 41.6. In the period from 2010 to 2017, the percent of the population 65 and over rose from 14.5% to 19.7%.[158] But the really shocking figures are those for the population under sixteen. While there were 956 thousand persons in this category in 2003, the number had dropped to 495 thousand in 2018, a decline of 49%. Even while the total population declined by 16.5% in this fifteen-year period, the share of total population under sixteen fell from 25% to 15%.[159]

This set of population shifts raises substantial questions about the economic future of Puerto Rico. At the very least, the aging of the population is likely to undermine the productivity of the workforce and raise the need for social service.[160] The drastic decline in the number of children holds out the specter of a major labor shortage and of wide changes in the nature of society. The situation has become even more ominous with the out migration that has taken place following the hurricanes.

[158] The 2005 median age figure is from *Statistica*, https://www.statista.com/statistics/397700/average-age-of-the-population-in-puerto-rico/. Other figures in this sentence are from the U.S. Census Bureau, "Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2017," https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk#.

[159] Calculated from data in *Informes*, 2012 and 2017, Tables 31 and 32. Data from *Informes, Statistica* and the U.S. Census Bureau are often not the same. They are, however, close enough so as not to affect confidence in the basic inferences that can be drawn from the data presented here. It was not possible to obtain data for the same set of years for all the data presented in this paragraph.

[160] While the need for social services will raise costs for the Puerto Rican government for some of those services, rising Social Security, Medicare, and Veterans' Benefits payments will not be an issue for the Puerto Rican government, as these are federal programs. If, however, these federal programs falter (e.g., by reduction in benefits), greater burdens will fall on the Puerto Rican population, the Puerto Rican government, or both.

Chapter 9

Reviving the Economy

Puerto Rico needs a game changer. The island has suffered decades of economic stagnation and then more than a decade of economic decline, failure of traditional economic policies, the unresolved debt crisis, the damage of austerity programs, and the abandonment of the island by hundreds of thousands of people. On top of all this came the devastation of the hurricanes in September 2017, and then, in mid-2019, a political scandal that led to massive demonstrations and resignation of the governor. It would seem that a miracle is needed to build a viable economy.

In fact, what might be considered a miracle can be created. There are actions that could put Puerto Rico on the path of solid economic growth. These actions would require a new set of supports from the federal government and forceful initiatives by the Puerto Rican government. The essential government actions that could generate a "Puerto Rican Economic Miracle" would include:

- A major push in public infrastructure investment of $20 billion over the 2021 to 2030 decade. This would be the foundation of change that would spur an era of new private investment. This investment program would require an effective administrative structure—an Economic Rehabilitation Board (ERB)—that could arrange financing and assure that the investment would be effective.

- Two substantial supports from the federal government – treating Puerto Rico in the same manner as the states in all federal programs; and providing the backing for a reasonable resolution of Puerto Rico's public debt crisis, which would allow re-entry to credit markets.

- Reform of Puerto Rico's regulatory system, with immediate attention to the long delays in clearing regulations—i.e., completing compliance with regulations.

- Repair of Puerto Rico's public education system, assuring a labor force that has the capabilities to support a widening range of business activity over the long-run.

- Improvement in Puerto Rico's tax collection, principally by more effective enforcement of existing tax laws (as opposed to raising rates).

These actions would provide a substantial boost to the Puerto Rican economy, both immediately and over the long-run. They would then have the crucial impact of changing the investment environment in Puerto Rico, providing a strong impetus to private investment. The resulting surge of private investment, in turn, would not only add to the economic growth, but would also provide the foundation for sustaining the growth.

Indeed, it is in the impact on private investment, the major change in the business environment, that the governments' actions would become fully justified.

If these essentials are all met, the economy could expand by 18% over the 2021 to 2030 decade (an annual average rate of 1.7%). More than half of this 18% would be attributable to the public infrastructure investment, directly and by the multiplier effect (see Table 9.1). The remainder would be the result of the infrastructure improvement's impacts on private activity and from the impacts of the other essentials, as explained below. In subsequent years, implementation of the essentials could yield the more rapid rate of 4% annually. The increases in employment would be similar. (The changes in the economic growth rate from the different causes are summarized in Table 9.4.)

To sustain this rate of economic growth over the long-run, however, Puerto Rico's political status must change. There is almost no likelihood that status change will come in the near future. But Puerto Rico cannot wait. Under the current status, the policies set out here need to be set in motion, which could at least stop the decline and establish some economic progress. Status change, the movement of Puerto Rico to statehood, however, would be necessary for that progress to continue.

The Essentials for Economic Growth

<u>Essential #1: A Major Push in Public Infrastructure Investment</u>

The Program and Its Impact

The foundation of a Puerto Rican Economic Miracle would be public infrastructure investment of $20 billion over the 2021 to 2030 decade, with the largest investments of $3.0 billion taking place in each of the first two years of the decade (FY2021 and FY2022), $2.5 billion in each of the next two years, three years with investment at $2 billion, and the final three years of the decade at $1 billion. A *conservative* estimate of the accomplishments is presented in Table 9.1 and includes:

- An upsurge of output and employment, as this investment gets underway. Within five years, total production (GNP) and employment could each increase by 8%.

- At the end of the decade, even under the assumption that the public investment ceases at that point, lasting output capacity would have increased by $6.7 billion, about 10% higher than current GNP. And the lasting jobs created would have increased by over 90 thousand, also a roughly 10% increase.

- Moreover, during the decade, while this substantial public investment is underway, the cumulative addition to output would be over $60 billion and over 800 thousand job-years of employment would have been created.

Appendix 9A explains the basis for these estimates, and the appendix Table 9A shows how these changes would take place on a year-by-year basis.

Table 9.1: Investment and Outcomes of the Public Infrastructure Investment Boosting the Economy Over the FY2021 to FY2030 Decade

	The Big Push
Public Infrastructure Investment	$20 billion
New Lasting Output Capacity	$6.67 billion
New Lasting Jobs Created	92.5 thousand
Total Addition to Output During the Decade	$60.5 billion
Job-Years of Employment Created During the Decade	834 thousand
Increase of GNP in First Five Years*	8%**
Increase of GNP at the end of the Decade Onward*	10%**

* These figures are approximations. The small difference between the growth over the first five years and the growth over the whole ten years is accounted for by the fact that in the earlier half of the decade output is greatly expanded by the investment activity itself. At the end of the decade, however, the investment activity is assumed to cease, and the output expansion is only the result of the new capacity that has been created.
** These figures are equivalent to annual rates of growth of 1.55% in the first five years and 0.4% in the second five years of the decade. See Table 9.4.

The GNP growth estimates in Table 9.1 are conservative and only a starting point because they do not take account of the large amount of new private activity that would undoubtedly take place as the program greatly alters the economic environment in Puerto Rico (though the simple multiplier impact of the investment is taken into account in these estimates). *Indeed, it is the gains in private activity, which would result from the alteration of the economic environment, that is the primary justification for the program and the assurance that a strong, viable economy will be the result*.

The impacts on private activity would have two forms. The larger would be a result of the change in the economic environment, as the major infrastructure investment would demonstrate that a change has come. By the second half of the decade of investment this economic environment effect should raise the growth rate by 0.5% per year and by 1% per year in the period beyond the decade. The second impact would come from the existence of a more extensive and better infrastructure, reducing the costs of business activity. This better infrastructure effect should add 0.25% per year to the growth rate in the second half of the decade and 0.75% per year in the period beyond the decade. (See Table 9.4 below.)[161]

The Sources of the Funds

This proposal for public infrastructure investment immediately raises a question: Where would the $20 billion come from? There are four sources of the $20 billion: funds diverted from debt servicing as debt service obligations are reduced; funds obtained as the federal government shifts policy to treat Puerto Ricans in the same manner as U.S. citizens living in the states; additional government revenue obtained through initial improvement in Puerto Rico's tax collection; and new debt directly connected to the public infrastructure investments. The amounts on an annual basis for each of these sources are set out in Table 9.2 and explained in the following paragraphs.

[161] These estimates of the impacts on the economic growth rate are only those that result from the direct and indirect impacts of the infrastructure investment. The impacts of the other essentials will be noted as those essentials are discussed below.

Table 9.2: Sources of $2 Billion Annually for New Public Infrastructure Investment

Reduction of Debt Service Payments
(one-half of reduction in debt service
on debt not constitutionally guaranteed)……………………….$800 million

Revenue from Equal Treatment in
Federal Programs (share that accrues
to the government)……………………………………………….$400 million

Increased Effectiveness of Tax Collection
(5% increase in collection of the individual
income tax and an additional $100 million
from all other taxes)…….……………………………………..…$200 million

New Annual Borrowing
(ERB bonds at 5%)……..……………………………………..…$639 million

Interest on First Year's Debt*..……………………..…………-$39 million

Total……..………..$2,000 million

* Because the expenditures on the public infrastructure would be "front loaded," the actual amount of funds needed would vary from year to year. However, the source of the funds here is shown for the "average" year—that is, for $2 billion. Clearly, in the early years of the decade, with the very large amounts of investment, a larger amount of funds would be needed, but the larger amounts of these years would be offset by the lesser needs of later years. Also, this set of sources of funds does not include funds to pay the interest on the new debt beyond the interest on the first year's debt. It seems reasonable to assume, however, that, as the economy begins to grow and creates an impetus for private investment, the increased economic activity will generate sufficient government revenue to pay the interest on the new debt of subsequent years. Finally, the $39 million annual debt servicing is based on 30 year bonds.

Reduction of Debt Service Payments. A reasonable initial resolution of Puerto Rico's debt crisis through restructuring would result in a halving of the debt service payments of public enterprises, municipalities, and central government debt not constitutionally guaranteed. In recent years when Puerto Rico was still meeting its contractual obligations (i.e., before the beginning of restructuring the debt), total debt servicing payments expended on the public debt were about $4.0 billion annually. However, about 20% of the debt was "General Obligation, Guaranteed and Publicly Issued Appropriation Debt." It is assumed here that, leaving aside this "Guaranteed" portion (but see below), debt servicing on the remainder would amount to about $3.2 billion.

Then, a reasonable resolution would lead to this $3.2 billion of debt servicing being halved, freeing up $1.6 billion annually. Also, it is assumed that, although much of the savings of $1.6 billion will directly accrue to public enterprises and municipalities, it will be available for general government use. It is further assumed that half of this, $800 million, will go to meet current needs (e.g., schools, medical facilities and other public services, maintenance of existing infrastructure, and the immediate needs of public enterprises). This leaves $800 million that could be devoted to new public infrastructure investment. (It would be highly desirable, facilitating more positive economic growth possibilities, if a greater amount of debt service reduction than assumed here were obtained. The figure used here is a minimum of what might be expected. Again, see below.)

Revenue from Equal Treatment in Federal Programs. Any program for economic growth will depend in significant part on Puerto Rico being treated in the same manner as the states (i.e., U.S. citizens in Puerto Rico being treated in the same manner as U.S. citizens in the states). One aspect of this equal treatment would be to extend the Earned Income Tax Credit and the Child Tax Credit fully to Puerto Rico. Equal treatment would also affect Medicare, Medicaid. Nutritional Assistance, federal procurement expenditures, and other social support programs. Taken together, equal treatment in this set of six programs specifically noted here could inject $6.5 billion annually to the Puerto Rican economy. (See Table 9.3.) However, partly because it would take time to inaugurate and implement this equal treatment, here it is assumed that only $2 billion would be injected annually. Also, as these programs become fully operational in Puerto Rico, the funds beyond the $2 million would go to other activities.

Most of this injection of funds would go to families and directly to services (e.g., medical services). Some, however, would offset medical services currently funded by the government. Also, this injection of funds would yield some tax income for the government and would induce a higher level of economic activity, which would also raise tax revenue. All in all, it is reasonable to estimate that equal treatment would result in a $400 million increase in government revenue that could be directed towards new infrastructure investment.

Increased Effectiveness of Tax Collection. Any program to alleviate the current debt crisis will require steps by the Puerto Rican government to increase the effectiveness of its economic policies, most importantly its tax collection policies. More effective tax collection policies should raise collection of the individual income tax by 5%, or roughly $100 million. From increased effectiveness in the collection of all other taxes, an additional $100 million could be raised. (See below regarding more on tax collection.)

New Annual Borrowing. While these three sources of funds totaling $1,400 million would be important, they would not be sufficient to fund the amount of infrastructure investment that would generate substantial growth and employment increases. New borrowing will be needed. With the existing debt burden greatly reduced and with the role of the Economic Rehabilitation Board (see below), bond investors should have a level of confidence that would make new borrowing possible at lower interest rates (as compared to the over 8% interest rate that was being charged on Puerto Rico's bonds before the governor declared the debt "unpayable" in 2015). Moreover, repairing the Puerto Rican economy would be most effective if the U.S. Treasury would guarantee payment on the new bonds. (The possibility of federal guarantees is suggested in PROMESA, Title V, Sec. 505, Paragraph b.) Assuming the Puerto Rican government could borrow under these circumstances at 5%, it would need to borrow $639 million each year. After allowing for the $39 million for first-year servicing of the 5% payment on this new debt (see note to Table 9.2), the net addition to funds would be $600 million and would bring the total available for new infrastructure investment to $2 billion each year.

The Administration of the Public Infrastructure Investment Program

PROMESA created the Financial Oversight and Management Board (FOMB) to oversee fiscal operations of the Puerto Rican government, including restructuring of the debt and any new borrowing. Yet, the FOMB has proven to be a failure, apparently more concerned with assuring that holders of Puerto Rican bonds would be well cared for than with establishing a viable economy in Puerto Rico, let alone the miracle that is needed. PROMESA also provided for a Revitalization Coordinator, tied to the FOMB, who would oversee new infrastructure investment. Here too, however, there has not been positive action. Yet, Puerto Rico cannot simply rely on long-discredited institutions within its own government to oversee both the public infrastructure investment proposed here and the new borrowing that will be necessary for that investment.

A new administrative unit needs to be created, an Economic Rehabilitation Board (ERB) that would have two functions: overseeing the selection of particular infrastructure investments and their implementation; and organizing the issuing of the new debt and other financing of the investment program set out above. To perform these functions, the ERB would need a staff including two sets of experts: those with experience in finance and those with experience in infrastructure investment.

The Board itself would be made up primarily of Puerto Rican residents. They must be drawn, however, from across the political spectrum. They cannot be simply the representatives of the party in power. A board made up in this way is necessary to assure public confidence, as well as to reduce both the perception and the reality of corruption. Moreover, it is essential that the operations of the ERB be as transparent as possible.

While public confidence is important, it is also important that the ERB generate confidence in the financial markets. New borrowing at reasonable rates is an essential component of the infrastructure investment program. This component can be assured only if bond purchasers have confidence that the borrowed funds will be used effectively, that projects will be appropriately selected and will be completed on schedule. Only then will it be clear that the infrastructure improvements will yield the promised positive outcome, that the economy will grow accordingly, and that the bonds will be secure.

There are many details that will need to be specified before an ERB can be created. No attempt will be made here to determine those details. Those details, however, must be consistent with the principles set out here: Board members must be primarily Puerto Ricans, drawn from across the political spectrum; the Board must have a staff with the necessary expertise; and the Board must operate with the utmost transparency.

Essential #2: Support from the Federal Government

Creating a Level Playing Field

The federal government has excluded Puerto Ricans from important federal programs and limited the support provided by other programs; Puerto Rico has not been on a level playing field with the states. Prime examples of this exclusion and limited support include: the Earned Income Tax Credit, the Child Tax Credit, Medicare, Medicaid, Nutritional Assistance, and federal procurement policies. Treating Puerto Rico the same as the states in the programs listed here could provide over $6 billion annually, generating a strong stimulus to economic growth.[162] (Chapter 4 provides more discussion of the exclusion of Puerto Rico from these programs.) Estimates of the amounts that would come to Puerto Rico in each of these six programs when fully implemented in Puerto Rico as they are in the states are provided in Table 9.3. The sources and methods for the figures in Table 9.3 are presented in Appendix 9B.

Not only would full inclusion of Puerto Rico in these programs create a strong stimulus to the island's economy, but it would also create fairness in the federal treatment of U.S. citizens in Puerto Rico and U.S. citizens in the states.[163]

The impact of this additional influx of funds to Puerto Rico should add 0.5% to the annual growth rate in the second half of the 2021-2030 decade and 1% in subsequent years.[164] (See Table 9.4.)

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[162] A full listing of these and other federal programs in which Puerto Rico is treated differently than the states, along with extensive discussion, is included in the December 20, 2016, Report to the House and Senate of the *Congressional Task Force on Economic Growth in Puerto Rico*, Appendix 2: "Federal Programs Under Which Puerto Rico Receives Differential Treatment," https://www.finance.senate.gov/imo/media/doc/Bipartisan%20Congressional%20Task%20Force%20on%20Economic%20Growth%20in%20Puerto%20Rico%20Releases%20Final%20Report.pdf.

[163] See, for example, Arthur MacEwan and J. Tomas Hexner, "Including Puerto Rico in the Earned Income Tax Credit and the Full Child Tax Credit," Paper submitted to the Congressional Task Force on Economic Growth in Puerto Rico of December 20, 2016, available online at puertoricofax.com.

[164] This projection takes into account that a share of the funds would be used to finance the infrastructure investment.

Table 9.3: Estimates of the Additional Funds that Would Come to Puerto Rico Were Puerto Rico Treated in the Same Manner as the States in Six Major Programs, Billions of Dollars*

Earned Income Tax Credit and Child Tax Credit	$1.8
Medicare	$1.5
Medicaid	$1.7
Nutritional Assistance	$0.5
Federal Procurement	$1.0
Total	$6.5

* The figures here should be viewed as rough approximations.
Sources and Methods: See Appendix 9B.

Assuring a Reasonable Resolution of Puerto Rico's Public Debt Crisis

Without a reasonable resolution of its public debt crisis, the Puerto Rican government can neither provide business and the public with the basic services that they need in order to function effectively nor make the public infrastructure investments needed as the foundation for economic growth. If the Puerto Rican government is to fulfill these vital functions, it cannot pay the debt service as originally contracted.

In the cases of sovereign countries with major debt problems, the International Monetary Fund or coalitions of high-income countries (including the U.S. government) have provided support for resolution of those problems. With large U.S. firms in severe difficulties, the federal government has stepped in to prevent their demise; the case of financial firms and the auto companies in the 2008 financial crisis provide prime examples. The federal government will need to provide support for Puerto Rico to resolve its public debt crisis in a favorable manner. This will, of course, mean that bond holders will bear a share, a major share, of the cost.

Even if restructuring of Puerto Rico's debt were sufficient to provide the funds for the public infrastructure investment, as described above, there would still be annual debt servicing obligations of roughly $2.4 billion. An annual outflow of funds this large would threaten the growth of the Puerto Rican economy, notwithstanding the infrastructure investment. For Puerto Rico to move forward debt service obligations need to be more than halved, to a maximum of $2 billion annually. Thus, beyond the restructuring of the debt set out above, a mechanism must be found to reduce the debt service by at least another $400 million. Restructuring of the constitutionally guaranteed debt needs to be put on the table.

The federal government, largely through the U.S. Treasury can take a major role in moving Puerto Rico to this goal, as it has done in its role with loans to sovereign countries and major U.S. corporations (for example, again, the bailout of large banks and auto companies at the end of 2008). Also, the Treasury could guarantee bonds issued to support the major infrastructure program described here.

Essential #3: Reform of Puerto Rico's Regulatory System

Most important in stimulating private investment is the impact of the public infrastructure investment described above. However, more is needed to improve the environment in Puerto Rico for private investment. In particular, there is a need for reform in the Puerto Rican regulatory regime. The regulatory system in Puerto Rico appears to hamper the development of businesses beyond what is necessary to prevent corruption, protect the environment, assure the health and safety of workers and the general public, and prevent firms from engaging in practices that are unfair to the public. In its *Doing Business* report for 2019, the World Bank ranks Puerto Rico 64th, out of 190 countries, in terms of the "Ease of Doing Business," right behind Morocco, Kenya, Bahrain, and Albania. The United States ranks 8th. No attempt will be made here to sort out which regulations serve positive social functions and which are unnecessary and create an excessive burden on business. Yet, doing so, and eliminating the excessive burdens on business is a necessary part of supporting the private sector and its growth in establishing viable economy.

Moreover, it is clear that, whether particular regulations are good or bad, clearing regulations—for example, obtaining permits—involves lengthy, unreasonable delays in Puerto Rico. For example, in "dealing with construction permits" *Doing Business* reports that the average length of time is 165 days; Puerto Rico ranks 141st in this category. And in "registering property" the time it takes is 191 days, with Puerto Rico ranking 159th. A good first step in regulatory reform would be to focus on greatly reducing these waiting periods. (The accuracy of *Doing Business* has come under criticism in recent years. But, even allowing for a wide margin of error, the problems it identifies for Puerto Rico with regard to clearing regulations are substantial.)

These reforms of the regulatory regime should add 0.25% to the growth rate in the second half of the 2021-2030 decade and 0.5% in subsequent years. (See Table 9.4.)

Essential #4: Repair of Puerto Rico's Public Education System

Over the long-run, business cannot prosper and grow without a well-educated populace. Yet, the record of public education in Puerto Rico is not good. In terms of years of schooling and higher degrees obtained, the Puerto Rican population appears to be well educated. Years of schooling and degrees, however, are poor measures of the educational level of a population. The impact of schooling has to be taken into account, and all indications suggest that the Puerto Rican public schools do not generate strong academic accomplishments.

As pointed out in Chapter 7, on tests that can be compared with those taken by students in the states, Puerto Rico fares very poorly, with students scoring far below their counterparts even in the worst performing states. Test scores, of course, can be a poor measure of students' abilities. However, the quality of the public schools is also called into question by the reaction of parents, who appear to have been increasingly losing confidence in the public schools and, when they can afford it, sending their children to private schools. (See Table 7.2 and the associated discussion.)

Of course, poverty and economic inequality, as well as what goes on in the schools, have contributed to the poor educational outcomes in Puerto Rico, but improvements can still be obtained through reforms of the public school system. Education reform is clearly needed.

While more funds for the schools would help, there are relatively costless administrative changes that could also lead to improvements. One aspect of reform should be a cessation of administering all the public schools in Puerto Rico as a single district. Not only is there a negative relation between district size and student achievement, but in Puerto Rico the large school district is associated with excessive administrative expenditures, with less than half of per pupil expenditures going to instruction. (Again, see Chapter 7.)

In recent years, there have been some efforts to improve Puerto Rico's public school system. These efforts, however, have been imposed from the top, without involvement of important, knowledgeable stakeholders—teachers, the teachers' union, parents, and community leaders. Moreover, at the center of the imposed reforms were the introduction of charter schools and choice options, which seemed to have been adopted without consideration of the record of such efforts in the states. They appeared to be driven more by ideology than by evidence-based considerations. Further, the efforts to change the public schools were associated with a massive closing of schools, again without consultation with stakeholders, and the result was widespread alienation from the educational authorities. Few educational reforms will have positive impacts when introduced in this manner.[165]

[165] It has not helped the government's efforts to reform the public education system that in early July 2019, "Puerto Rico's former secretary of education [who oversaw the initiation of the reforms] and five other people have been arrested on charges of steering federal money to unqualified, politically connected contractors." The arrested "face 32 counts of money laundering, fraud, and other related charges." NBC News, "Puerto Rico's Former Education Secretary, Others Arrested in Federal Fraud Probe," July 12, 2019, https://www.nbcnews.com/news/latino/puerto-rico-s-former-education-secretary-others-arrested-federal-fraud-n1028251.

Efforts to improve Puerto Rico's public schools are, nonetheless, possible. Those efforts need to draw on positive experiences in the states and in some other countries, and they should involve stakeholders in the process of change. Yet, under the best of circumstances, reforms in the schools take time. And even if immediately implemented, changes would only have long-run impacts on economic growth—none within the 2021-2030 decade. But they should add 0.5% annually in subsequent years. (See Table 9.4.)

Essential #5: Improvement in Puerto Rico's Tax Collection

In order to provide the revenue that is needed for activities that support the private sector and for the provision of public services, it is essential to improve tax collection in Puerto Rico. Moreover, economic growth is aided when people see the tax system as fair.

In the years of recession, as pointed out in Chapter 5, Puerto Rico virtually gave up on collection of income taxes, both individual and corporate. Other taxes have been introduced—the sales and use tax (SUT) and an excise tax on the products and services purchased by a corporation in the states from its Puerto Rican subsidiary. Aside from highly regressive nature of the SUT and the precarious nature of the excise tax (which simply shifts money from the U.S. Treasury to Puerto Rico), these new taxes have not filled the gap left by the decline in the income taxes. Overall, as pointed out in Chapter 5 (see Figure 5.5 and related discussion), tax collections have not kept pass with the nominal growth of income and have fallen in real terms.

The major public infrastructure proposed here, a major support for the private sector, requires some first steps toward a well operating tax collection system. Also, educational (and training) reforms and other social programs are continually in need of more funding, both as a foundation for economic growth and to maintain adequate living conditions for a large share of the population. A substantial first step in tax reform would not mean an increase in tax rates, but could be accomplished by more effective enforcement. It is, for example, widely known that fees for services are frequently paid in cash, not tracked, and not reported for tax purposes. Also, it is widely believed that many high-income individuals are able to hide income or understate income on tax returns. These sorts of actions continue to limit tax collections, largely because of a lack of political will to support enforcement. Also, as noted in Chapter 6, the capacity of Internal Revenue to improve tax collection has been undermined by austerity measures.

If there is the political will to improve collection and Internal Revenue is protected from austerity measures, tax collections could be increased without any rate increases. Improvements in tax collection, perhaps accompanied by other tax reforms, would have no effect on the growth rate during the 2021-2030 decade, except insofar as they contribute to financing the public infrastructure investment. However, by providing funds for the government services to support business and the development of the workforce (e.g., in training programs) as well as generating wider public confidence in the fairness of the system, the tax reform should raise the growth rate by 0.25% in subsequent years. (See Table 9.4.)

Status

To repeat and thus give emphasis to the point stated at the beginning of this chapter: If the steps proposed here are implemented, under the existing status of Puerto Rico, they are unlikely to endure. For them to endure and yield the projected advances—the rates of growth of Table 9.4—at some point in the foreseeable future the status of Puerto Rico must change. Statehood provides the status that could lead to an era of economic growth—that, in particular, could sustain the programs set forth here. Statehood would give Puerto Rio a much needed voice in Washington, and would shift the island off of its dependent status and establish a basis for economic expansion.

Table 9.4: Projection of Annual Percent Rates of Growth in a Puerto Rican Miracle

Attributable to:	Years 1-5	Years 6-10	Onward
Direct impact of public infrastructure investment (including multiplier impact)	1.55%	0.4%	0
Existence of a better	-	0.25	0.75
infrastructure			
Private sector reaction to change in business environment due to public infrastructure investment	-	0.50	1.00
Inflow of funds from equal treatment in federal programs	-	0.50	1.00
Deregulation	-	0.25	0.50
Education reform	-	-	0.50
Tax reform	-	-	0.25
Total	**1.55**	**1.90**	**4.00**

Appendix 9A
Impacts of the Public Infrastructure Investment

The estimates of the impacts of the major public infrastructure investment are based on three relationships:

- *The amount of output and employment created with $1 billion in public infrastructure investment.* The $1 billion of investment would directly add $1 billion to GNP, and, assuming a multiplier of 1.5, the total increase of GNP would be $1.5 billion. On the basis of past experience in Puerto Rico, $1 billion of new construction investment is associated with 13,700 new jobs, and public investment in infrastructure would be largely construction. Applying the 1.5 multiplier to this job creation yields a figure of 20,550 for both the direct and indirect jobs created. (These construction-related jobs, would not be permanent jobs. While important—for the workers and for the growth of the economy—they would only exist as long as the new investment was maintained.)

- *The amount of new, continuing output capacity created by that $1 billion infrastructure investment*. This figure is referred to as the incremental capital output ratio (ICOR). Evidence from many countries under many circumstances indicates that ICORs vary widely. However, it seems reasonable, as the basis for a rough estimate, to use an ICOR of 3.0 for Puerto Rico. This means that for $1 billion of new investment, the level of economic activity would rise by $333 million and would stay at that level as long as the capital created by this new investment is maintained. It is assumed here that there is a lag of two years between when investment takes place and when the productive capacity created by that investment comes on line.

- *The number of jobs that would be created by the new, continuing production*. This figure is obtained by assuming the ratio of GNP to employment in FY2016 remains unchanged. Thus a 1% increase in output over current output yields a 1% increase in employment over the current employment. The output and employment figures for FY2016 used here are $72 billion and 1 million, respectively. (These are, of course, rough figures.)

Table 9A below sets out the year-by-year impact of the public infrastructure investment.

Table 9A: The Public Infrastructure Investment, Year-by-Year

	Billions of dollars of new public investment in infrastructure	Direct and indirect increase of GNP billion dollars	Direct and indirect increase of employment	Increase of output due to new investment billion dollars	Cumulative increase of output due to new investment billion dollars	Increase of employment due to the new production	Cumulative increase of employment due to new production	Total increase of output billion dollars	Total increase of employment
2021	3	4.5	61,650	0.00	0.00	0	0	4.50	61,650
2022	3	4.5	61,650	0.00	0.00	0	0	4.50	61,650
2023	2.5	3.75	51,375	1.00	1.00	13,875	13,875	4.75	65,250
2024	2.5	3.75	51,375	1.00	2.00	13,875	27,750	5.75	79,125
2025	2	3	41,100	0.83	2.83	11,563	39,313	5.83	80,413
2026	2	3	41,100	0.83	3.66	11,563	50,875	6.66	91,975
2027	2	3	41,100	0.67	4.33	9,264	60,139	7.33	101,239
2028	1	1.5	20,550	0.67	5.00	9,264	69,403	6.50	89,953
2029	1	1.5	20,550	0.67	5.66	9,264	78,667	7.16	99,217
2030	1	1.5	20,550	0.33	6.00	4,625	83,292	7.50	103,842
2031				0.33	6.33	4,625	87,917	6.33	
2032				0.33	6.66	4,625	92,542	6.33	

Appendix 9B
Sources and Methods for the Estimates in Table 9.3, Showing Estimates of the Additional Funds that Would Come to Puerto Rico Were Puerto Rico Treated in the Same Manner as the States in Six Major Programs, Billions of Dollars

Sources: Medicare: Kaiser Family Foundation, "Total Number of Medicare Beneficiaries," https://www.kff.org/medicare/state-indicator/total-medicare-beneficiaries/?currentTimeframe=1&selectedRows=%7B%22wrapups%22:%7B%22united-states%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D; and Kaiser Family Foundation, "Puerto Rico: Fast Facts," http://files.kff.org/attachment/Fact-Sheet-Puerto-Rico-Fast-Facts. Medicaid: Judith Solomon, "Puerto Rico's Medicaid Program Needs an Ongoing Commitment of Federal Funds," Center for Budget and Policy Priorities, April 22, 2019, https://www.cbpp.org/research/health/puerto-ricos-medicaid-program-needs-an-ongoing-commitment-of-federal-funds; and U.S. Government, Medicaid.gov, Puerto Rico, Medicaid Overview, https://www.medicaid.gov/state-overviews/puerto-rico.html. Nutritional Assistance, Food and Nutrition Service, U.S. Department of Agriculture, *Implementing Supplemental Nutrition Assistance Program in Puerto Rico: A Feasibility Study*, June 2010, https://fns-prod.azureedge.net/sites/default/files/PuertoRico.pdf. Federal procurement data for Puerto Rico and the states for 2010 (the most recent year the data are available) are from *Consolidated Federal Funds Report for Fiscal Year 2010, State and County Areas*, U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau, Issued September 2011.

Methods: For EITC and CTC, the estimate is based on unofficial scoring of the impact of these two programs. With regard to Medicare, the difference between benefits per recipient in Puerto Rico and the states is $3,733. There are 775 thousand Medicare recipients in Puerto Rico. With an additional $2,000 per recipient in Puerto Rico, the total increase would be about $1.5 billion. Medicaid: There are about 1.5 million Puerto Ricans receiving Medicaid, with benefits per enrollee $2,144. In the state with the lowest benefits per enrollee, the figure is $3,341. If (1) the federal share of Medicaid expenditures were raised to 70% (from the current 57%), which would roughly treat Puerto Rico by the same formula as is used for the states, and (2) if the total benefits per enrollee were raised to the level of the state with the least benefits, the federal government would be providing $1,117 more per enrollee. Multiplying this figure by the number of enrollees yields about $1.7 billion. For Nutritional Assistance, the figure is taken directly from the report cited above. All figures for earlier years (e.g., the Nutritional Assistance figure) are updated to 2019 dollars. For federal procurement, data are not available since 2010. It has been assumed here that total federal procurement rose in proportion to federal government expenditures. In 2010, Puerto Rico received on a per capita basis about 15% of the average for the states. Assuming that this would increase to 30% of the state average and adjusting for the population decline in Puerto Rico, the total amount of federal procurement would increase by about $1 billion over the current level.

Chapter 10

Moving Upward or Spiraling Downward?

The economic condition in Puerto Rico can no longer be ignored or wished away by the repetition of false myths drawn from the past. The long recession, the unpayable debt, and the hurricanes' devastation have become the face of the island. The continuing out-migration, large since the early 2000s and huge in the wake of the hurricanes, suggests that many island residents, overwhelmed by the seemingly unending adversity, have decided to look for a better life in the states.

Without some dramatic change, there is little likelihood of economic progress. In fact, a continuing downward spiral is quite possible. The migration of recent years has combined with a falling birth rate to sharply reduce the population of children and greatly increase the share of the population that is aged. As pointed out in Chapter 8, the changing age-structure of the population portends a society where, on the one hand, a larger and larger number of people need to be cared for but, on the other hand, a shrinking number of people who can build the economy and provide that care.

The foundation for lasting economic progress will require a major and continuing increase of investment, both in the island's physical and social infrastructure and in private businesses. This investment would, in turn, depend on overcoming the uncertainty and dependence that have hindered economic progress for many years. Yet, uncertainty and dependence are the products of Puerto Rico's "territorial" status—which implies that the creation of a foundation for lasting economic progress will require a change in status. For Puerto Rico, as for other parts of the world, economic cannot be separated from politics—and for Puerto Rico, politics means, first of all, status. As the analysis of earlier chapters stresses, statehood is the status that could most effectively lead to sustainable economic progress.

The Path to Progress

In their 1996 article, William Baumol and Edward Wolff suggested that Puerto Rico might be viewed as "the fifth tiger" – that is, put in the same category as the group of strong-growth countries in East Asia. Their analysis was seriously flawed, as has been explained in Chapter 3. In retrospect, it seems remarkable that Puerto Rico could be viewed as an example of strong growth along with the economies of such countries as the Republic of Korea and Taiwan. Having failed to accurately portray what had been happening in Puerto Rico—the economic slowdown from the mid-1970s onward, Baumol and Wolff compounded their error by arguing that Puerto Rico, unlike the East Asian countries, was an example of strong economic progress through its openness to investment from off the island (what has been characterized here as dependence).

When Puerto Rican economic growth is compared to that of South Korea, for example, the stark difference becomes clear. Between 1980 and 2000, per capita national income in Korea roughly quadrupled, while in Puerto Rico there was only a 33% increase. Then, while Puerto Rico per capita national income remained essentially unchanged between 2000 and 2017, in Korea there was a 73% expansion. (These figures are inflation adjusted.) There are many differences between South Korea and Puerto Rico, one of which should have worked very much to Puerto Rico's advantage—namely being thoroughly connected to the largest and richest economy in the world. Yet, the comparison not only shames Puerto Rico, but demonstrates what can be done in a country where economic policies are not shackled by uncertainty, dependence, and a lack of control over relations with the international economy.

Could Puerto Rico do something similar? Or, perhaps, it is better to ask simply, could Puerto Rico get on a growth path that would at least start its economy in the direction achieved by Korea and the actual "tigers" of East Asia?

The comparison suggests some of the conditions that might make economic progress possible in Puerto Rico. These conditions include:

- A quite plausible set of actions that would inject large amounts of investment and that would begin essential economic reforms. Such actions were described in Chapter 9, where a large push in public infrastructure investment and reforms in business regulations, tax collection, and education were proposed. Other particular proposals might serve similar functions, but these sorts of changes are essential.

- A leveling of the playing field with the states, which would lead to Puerto Rico being treated the same as the states in federal economic programs. Several of these programs were noted in Chapter 4 and in Chapter 9, where Table 9.1 shows the amount of funds that would come to Puerto Rico were it on a level playing field. This change is what is referred to in Chapter 1 as "simulating statehood."

- A change in Puerto Rico's political status, from territory to state. While new economic programs could be introduced immediately (i.e., simulating statehood), there is little reason to believe that these programs could be sustained and effective without actual statehood in the foreseeable future. (While the political situation in Washington at this writing in late 2019 is not auspicious regarding statehood for Puerto Rico, the push for status change should not be delayed.)

- An active program to generate systematic support for locally based business, for the development of an active Puerto Rican entrepreneurial base, and for a focus on skill development in the Puerto Rican workforce (which would include both improvement in the public school system and in technical training programs).

This set of actions would start to eliminate the dependence and uncertainty that have been at the root of Puerto Rico's weak economic growth for decades. The actions might not bring Puerto Rico in line with Korea and the other countries of East Asia that have grown so rapidly. They would, however, greatly change the economic situation on the island.

Abandoning Dependence, Adopting New Approaches

The actions proposed here that could lead Puerto Rico towards economic progress are feasible but very different than the economic policies that have been pursued to date. Those policies have focused on tax cuts and tax breaks—for example, Law 73, discussed in Chapter 3—implemented to support manufacturing and attract investment from off the island. For several decades, this approach by the Puerto Rican government was supported and complemented by tax policy adopted in Washington. Section 931, first, and later Section 936 of the U.S. tax code are primary examples. Attempts to rely heavily on foreign firms to drive the economy upward were tied to the belief that manufacturing would be the key, the crucial force, in Puerto Rico's economic development. This approach to development, based on false myths, was a manifestation of Puerto Rico's dependence. These sorts of policies failed to build up and build on Puerto Rico's own capacity for economic progress.

The argument developed in this volume is that Puerto Rico has to start doing things differently, and the U.S. government has to start treating Puerto Rico differently. Puerto Rico's economic doldrums—including but not limited to the long recession—are products of the island's political status. In the past, some commentators have argued that Puerto Rico must achieve a level of economic development that would bring it much closer to economic conditions in the states before Puerto Rico should become a state. Yet, the evidence demonstrates that substantial economic progress is not going to come until Puerto Rico becomes a state.

Once again, economics and politics cannot be separated. In Puerto Rico, economic policy needs to change and politics, a move toward statehood, needs to change. It is time to start doing things differently. To conclude with a statement attributed to Albert Einstein:

> "The definition of insanity is doing the same thing
> over and over and expecting different results."

An Afterword

Economic Growth and Climate Change

In early November, 2019, as we were completing this manuscript, one more warning came from the scientific community. The headline in *BioScience*, a publication of the American Institute of Biological Sciences, read: "World Scientists' Warning of a Climate Emergency."[166] Over 11,000 scientists from 153 countries signed on to a statement that reads in part:

> …greenhouse gas emissions are still rapidly rising, with increasingly damaging effects on the Earth's climate. An immense increase of scale in endeavors to conserve our biosphere is needed to avoid untold suffering due to the climate crisis.
>
> The climate crisis has arrived and is accelerating faster than most scientists expected... It is more severe than anticipated, threatening natural ecosystems and the fate of humanity. Especially worrisome are potential irreversible climate tipping points and nature's reinforcing feedbacks (atmospheric, marine, and terrestrial) that could lead to a catastrophic "hothouse Earth," well beyond the control of humans. These climate chain reactions could cause significant disruptions to ecosystems, society, and economies, potentially making large areas of Earth uninhabitable.

There have been many such warnings. Several reports from the Intergovernmental Panel on Climate Change have been especially important in describing the change in the earth's climate and calling attention to the existential threat that this change presents to humanity.[167]

Climate change, brought about by the emission of greenhouse gases from the burning of fossil fuel, has been associated with the huge increase in the world's economic output since the 18th century. Economic growth, then, appears to be the cause of climate change, threatening the existence of human society as we know it.

Yet, we have argued throughout these chapters that Puerto Rico's economic problems lie in weak growth and the recent decline of its economy. In Chapter 9, we

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[166] *BioScience*, November 5, 2019, https://academic.oup.com/bioscience/advance-article/doi/10.1093/biosci/biz088/5610806.

[167] See, for example, International Panel on Climate Change (IPCC), *SPECIAL REPORT: Global Warming of 1.5 ºC*, 2018, https://www.ipcc.ch/sr15/; and IPCC, *Climate Change and Land, 2019*, https://www.ipcc.ch/report/srccl/.

have advocated actions that would lead to substantial economic growth on the island. Have we been advocating actions that would exacerbate climate change?

Our answer to this question is two-fold. First, in responding to climate change, the lower income parts of the world cannot be relegated to cease economic growth and accept their current level of poverty as their permanent lot.

Second, and of great practical importance, it is not economic growth per se that has been so detrimental to the earth's climate. *The damage has been done by the particular nature of growth, by the heavy reliance on fossil fuels to drive economic activity.*

Puerto Rico can and should grow its economy while minimizing its contribution to climate change by, insofar as possible, reducing its use of fossil fuels. This can be accomplished in large part by changing the way electricity is generated on the island. Instead of relying on fossil fuels, Puerto Rico has the opportunity to provide its electric power by solar power. Instead of looking backward to rebuilding and improving the old system based on fossil fuels, Puerto Rico should look forward and embrace the new and necessary modes of electricity generation.[168]

The opportunity exists at this time because of the well-recognized failures of PREPA and the need to bring great changes in the island's system of electricity supply. PREPA's problems and the need for change have long been evident, but the experience of the hurricanes in September 2017 has made a chronic problem into an acute problem. Change has become possible.

The advantage of a shift to solar power in Puerto Rico is not only that it will reduce the island's negative climate impact. In addition, it will:

- cut electricity prices, as cost of generation by solar panels and windmills has declined dramatically in recent years;

- reduce the probability of electricity disasters following hurricanes, as solar power can be organized effectively in micro-grids (including roof-top panels) that can be delinked during weather threats;

- encourage private investment, as less expensive electricity will reduce the costs of businesses, providing an investment incentive more substantial than the tax breaks that have long been ineffective; and

- provide an immediate boost to employment, as the new system is constructed.

[168] For an analysis and proposal, see Amanda Page-Hoongrajok, Shouvik Chakraborty, and Robert Pollin, "Austerity Versus Green Growth for Puerto Rico," *Challenge*, Vol. 60, No. 6, 2017, which was written before the hurricanes.

Economic growth is possible in Puerto Rico, growth that would not contradict the need to reduce the negative climate impact that has long-been associated with economic expansion on the island and elsewhere. “Green growth” in Puerto Rico, moreover, can have multiple benefits.[169]

Puerto Rico is, however, a small economy in a larger world. Its actions, however effective, will do little to alter the course of climate change. Indeed, even if the world’s large economies move rapidly to alter their activity towards halting climate change, extensive change will take place because of the practices of the past. As a small island Puerto Rico will suffer substantially from a rising sea level. Also, the island’s location all but assures that it will be hit more frequently and more severely by hurricanes.

Climate change creates difficult challenges for Puerto Rico, as it does for the rest of the world. But with a forward looking, proactive approach to these challenges, the island can prosper.

[169] Although major changes in the electric power system is essential, it is not all that needs to be done in the face of climate change. Investment in public transportation, driven by electricity, can reduce automobile use and is another important example of the changes that are needed.