Frameworks for Evaluating Puerto Rico's Debt Sustainability

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Keywords
Puerto Rico, framework, debt sustainability analysis

Disciplines
Business

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FRAMEWORKS FOR EVALUATING PUERTO RICO’S DEBT SUSTAINABILITY

By

Zihan Xiong

An Undergraduate Thesis submitted in partial fulfillment of the requirements for the

JOSEPH WHARTON SCHOLARS

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# Table of Contents

Abstract ........................................................................................................................................... 3  
Introduction ..................................................................................................................................... 4  
Methodology ................................................................................................................................... 5  
Literature Review on Puerto Rico ................................................................................................... 6  
  Literature on Puerto Rico ............................................................................................................ 6  
  Comparative Literature on Puerto Rico and Greece ................................................................. 11  
Debt Sustainability Frameworks ................................................................................................... 12  
  Concepts in Fiscal and Debt Sustainability .............................................................................. 12  
  Common Metrics in a Debt Sustainability Analysis ................................................................ 14  
  IMF Debt Sustainability Thresholds ......................................................................................... 16  
  Sovereign Nations as Comparable Peers .................................................................................. 19  
  U.S. States as Comparable Peers .............................................................................................. 21  
  Municipality Thresholds ........................................................................................................... 25  
Proposed Comparison for Puerto Rico ......................................................................................... 28  
  In Consideration of Municipalities ........................................................................................... 28  
  In Consideration of Detroit ....................................................................................................... 31  
  Detroit as Comparable Peer ...................................................................................................... 33  
Discussion and Areas for Future Research ................................................................................... 37  
Appendices .................................................................................................................................... 39  
  Appendix A: Basics of Municipal Bankruptcy ......................................................................... 39  
  Appendix B: Overview of Puerto Rico’s Debt Crisis and PROMESA .................................... 41  
  Appendix C: Summary of Causal Factors of Puerto Rico’s Bankruptcy .................................. 44  
  Appendix D: Is Puerto Rico Fiscally Sustainable? ................................................................... 45  
  Appendix E: Long-Term, Possible Solutions for Greater Fiscal Sustainability and Debt Capacity ................................................................................................................................. 47
Abstract

The Commonwealth of Puerto Rico’s New Fiscal Plan’s debt sustainability analysis is evaluated in conjunction with existing metrics and frameworks for understanding debt sustainability. This includes the IMF’s Debt Sustainability Framework and the rating agencies’ methodologies in rating General Obligation bonds. Different peer comparison groups—sovereign nations, U.S. states, and municipalities—and their relevant statistics are considered and discussed. This paper proposes a peer group of municipalities, specifically of the City of Detroit, to establish a sustainable level of debt for Puerto Rico. Ratio metrics are calculated from the City of Detroit’s Comprehensive Annual Financial Reports to offer a comparative look at Puerto Rico’s debt levels. All metrics demonstrate that Puerto Rico’s current debt obligations must be greatly adjusted to result in a successful restructuring and feasible plan moving forward.

Keywords: Puerto Rico, framework, debt sustainability analysis
Introduction

The Commonwealth of Puerto Rico’s debt crisis brought many issues to light. Given its status as a U.S. territory, prior to the implementation of PROMESA, Puerto Rico had no access to any debt restructuring mechanisms to address their financial distress. With Title III of PROMESA, a procedure and a federal oversight board was established to give Puerto Rico a method to address the restructuring of their debt and a process to expedite the approval of critical infrastructure projects. While largely based off Chapter 9 bankruptcy, Title III most notably included a fiscal plan requirement.

In this paper, existing frameworks and benchmarks for determining a sustainable level of debt are utilized to evaluate the Commonwealth of Puerto Rico to better understand how much debt needs to be restructured. The restructuring process will ensure that future debt service payments can be met while ideally still allowing for Puerto Rican economic growth. This is necessary during bankruptcy proceedings in order to argue for a greater restructuring of debt to ensure Puerto Rico is on the path of recovery.

This paper also proposes for municipalities, specifically the City of Detroit, to be considered as an important additional point of comparison when establishing a baseline for the extent of debt that Puerto Rico can sustain. Given the similarity of their experiences in population loss, default on debt, and loss of local financial control, Detroit offers valuable insight into what is potentially feasible for an exit out of bankruptcy and then towards the path of recovery. The analysis reveals that Puerto Rico must restructure a large portion of its current debt obligations in order to be sustainable in the long run.

The literature review demonstrates how much of the research in the realm of Puerto Rico is disparate, and few papers address the topic of debt sustainability. As such, this paper
contributes to the limited discussion surrounding the evaluation of Puerto Rico’s debt capacity and the actions that need to be taken to ensure its future sustainability.

**Methodology**

Primarily using Puerto Rico’s New Fiscal Plan of the Commonwealth of Puerto Rico (“New Fiscal Plan”), approved October 2018, this paper evaluates the debt sustainability analysis presented in the plan in conjunction with other existing frameworks. The New Fiscal Plan’s projections and assumptions are held to be true in this paper, such that the ratio metrics produced on Puerto Rico in the New Fiscal Plan are utilized in the analysis and comparisons. The other various debt sustainability frameworks, including the Government Finance Officers Association’s Budgeting Series for municipalities and the International Monetary Fund’s guidance notes on debt sustainability frameworks for sovereignties, serve as another basis for evaluating Puerto Rico’s debt levels.

This paper’s proposal to use Detroit as a comparison to Puerto Rico relies heavily on the City of Detroit’s Comprehensive Annual Fiscal Plans to compute ratio metrics for Detroit for the years during and following its exit out of bankruptcy. These indicators are then used to evaluate Puerto Rico’s current debt level and potential debt capacity with Detroit’s sustained debt burden.

These measures of debt capacity provide evidence that Puerto Rico’s debt levels are beyond sustainable on all measures and that drastic reform is necessary. The academic literature provides the context for this debt sustainability analysis, to establish an understanding of where this paper contributes to the conversation.
Literature Review on Puerto Rico

For background information on municipal bankruptcy, see Appendix A. For a brief history on the progression of Puerto Rico’s debt crisis and PROMESA, see Appendix B. For a summary of the causal factors in Puerto Rico’s bankruptcy, see Appendix C.

Literature on Puerto Rico

The research on Puerto Rico has primarily been disparate rather than in conversation with each other. In the academic literature surrounding the Puerto Rican government, most of the earlier research that exists explores the historical progression of Puerto Rico’s economy as institutional and political factors changed.1 There is also substantial work on the legal status of Puerto Rico in its relation to the United States as a territory.2

More recently, researchers have begun to evaluate the debt crisis and the options the government has in order to resolve the issues at hand, including arguing for bankruptcy law through evaluating what it can and cannot do3 and proposing a two-step strategy of an oversight board and a mechanism for adjusting debts4. Cooper, Barefoot, McBridge, and Pietrantoni use that investigation as a method of providing an expectation of how the crisis will progress, arguing that the Puerto Rican administration and the oversight board would choose to utilize

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Title III of PROMESA as opposed to Title VI. In a different paper, Cooper, Barefoot, Soltman and Pietrantoni identifies two legal mechanisms for the Commonwealth to reform its public pension systems and recommends Title III proceedings. These works, however, were either written prior to the implementation of PROMESA, as it stands currently, or do not evaluate how it is panning out.

After the initial implementation, much less research and analysis can be found on the present implementation of Title III and the New Fiscal Plan for the Commonwealth. There are some arguments on the power of Congress in its reach over the Commonwealth as well as an analysis of the treatment of subnational governments in cases of financial distress, including that of states and Puerto Rico. There is an argument made regarding the regressive nature of PROMESA’s choice in containing no formal role for bankruptcy judges with experience in dealing with government debt, utilizing instead a district judge without putting forth circumstances in which a district judge may enlist help from bankruptcy judges. Lubben analyzes PROMESA in context with the Bankruptcy Clause, arguing that there is inconsistency as Title III of PROMESA violates the Clause by being applied too narrowly. Once again, however, these do not examine the actualized implications of Title III as it has been

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implemented, such as the consequences of the New Fiscal Plan’s cash flow projections for the Commonwealth or its authorities, merely pointing out potential areas of concern.

Recent working papers have addressed the Puerto Rican debt crisis through financial lenses. Chari, Leary, and Phan have evaluated the impact of anticipation of Puerto Rico’s default on its measures of risk, finding significantly higher employment growth declines in government demand and external finance dependent industries with default risk exposure. Their event study analysis confirms that the increased default risk also increases the cost of capital for both the Puerto Rican government and its publicly traded firms. A PhD dissertation looked at the pricing of contract provisions, as affected by credit risk, and the economic effects of (sub) sovereign default risk. Investors were found to price contract provisions most when credit risk was highest. In agreement with Chari, Leary, and Phan, increased default risk was found to reduce employment, cause divergence of Puerto Rico’s economy from the rest of the U.S. and increase the cost of capital. Both these analyses offer a quantitative look at the effects of subsovereign default risk on various aspects of the market, but do not evaluate PROMESA, restructuring deals, or the New Fiscal Plans.

Some of the more recent and relevant works on Puerto Rico are written by Skeel, Park, Samples, Cooper, Barefoot, Brenneman, McBride, and Pietrantoni. Skeel reflects on the developments that allowed PROMESA to be enacted in its current form: the rise of oversight boards with New York City’s crisis and the subsequent D.C. Control Board, and the increased use of Chapter 9 to resolve municipal distress of notable cities. He also reflects on the

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13 Skeel, David A. "Reflections on Two Years of PROMESA." (2018).
experience in being on the Federal Oversight Board both before Hurricane Maria and afterwards, addressing criticisms on the decision making of the boards. While Skeel’s article address the current implementation of PROMESA, it is primarily focused on the Federal Oversight Board.

Park and Samples’ article analyzes private creditor engagement in Puerto Rico’s restructuring, arguing that the case may offer insights into creditor engagements and coordination for sovereign debt restructuring processes. In doing so, he assesses the potential impact of PROMESA on debtor-creditor cooperation, specifically through the Puerto Rico Electric Power Authority (PREPA) bond restructuring. While this presents the dynamics of negotiations and engagement, it doesn’t analyze the fiscal assumptions of the restructuring deal and is written prior to the completion of the first consensual deal with creditors in November 2018.

Cooper, Barefoot, Brenneman, and Pietrantoni’s look at PROMESA reveals that the certified fiscal plans for reform foresee private-public partnerships (PPPs) playing a large role in Puerto Rico’s turnaround. They argue that these PPP projects may contribute to long-term growth although the difficulty of these projects are large in the face of capital, legal and operational uncertainties. Accordingly, the restructuring tools under Title III of PROMESA can help facilitate these transactions and possibility mitigate some risks through the structures they analyze, including DIP financing and pledging special revenues. Cooper, Barefoot, and McBride also offer recommendations to the Commonwealth for what should be offered to creditors in the restructuring deal. They present four recommendations for the reconstituted debt, arguing that

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the form and nature of the restructuring may be more important than the size of the debt that creditors will receive on the dollar. Most notably, they recommend a “growth bond” or a contingent value instrument in order to give creditors the opportunity to recoup their losses while also participating in the future upside of economic growth and recovery. While these articles do look at the implications of PROMESA, they are not directly comparative to municipal finance in how the processes play out. They also do not offer a look at the current general obligation and revenue bonds or offer an evaluation of what is or can be sustainable.

Caraballo-Cueto and Lara’s extensive analysis covers how the deindustrialization of Puerto Rico created a structural change in the economy, consequently shaping Puerto Rico’s current debt crisis. The authors demonstrate how the tax-incentivized industrialization created an unsustainable system. They point out how the deindustrialization process, triggered by the change in U.S. tax system, and the island’s government and private sector’s inability to quickly adapt led to declining economic production, decreasing the government revenues and increasing debt. While the research presents a look at the progression and causes of the debt crisis, it does not evaluate the current debt or fiscal sustainability of Puerto Rico.

The most relevant literature is a working paper by Gluzmann, Guzman and Stiglitz. The authors examine the macroeconomic implications and assumptions of Puerto Rico’s Fiscal Plan, and they perform a stochastic debt sustainability analysis that is consistent with the macroeconomic dynamics put forth by the Fiscal Plan. Their analysis provides evidence that the Plan is based on “assumptions that are not aligned with economic theory or evidence”, including the Plan’s overly optimistic values of fiscal multipliers used in GNP projections. Furthermore,

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their debt sustainability analysis computes the amount of debt relief necessary to restore Puerto Rico’s public debt sustainability, keeping in line with the Fiscal Plan’s assumptions. The calculations show that the necessary debt reduction is a substantial percentage of the relevant debt stock, depending on which assumptions for fiscal multipliers and structural reform effects are used. The percentages of the relevant debt stock that must be reduced ranges from 44.4% to 79.9%. This is a considerable amount of debt write-off and is even considered conservative by the authors on the side of “too little” debt relief. The relevant statistics from this research will be analyzed in further detail in the analysis presented below to serve as a comparison for the proposed comparable group analysis.

**Comparative Literature on Puerto Rico and Greece**

While no literature exists that directly compares the implementation of Puerto Rican proceedings with Chapter 9 proceedings, there does exist some comparative literature on Puerto Rico and Greece. A publication from the Centre for European Policy Studies points out the similarities in both cases using economic and social indicators like GNP per capita, public debt/revenues and poverty rates.\(^\text{19}\) It concludes that the differences between the two cases lie in the political contexts. For Greece, liquidity provisions and debt problems are controlled by official institutions while in Puerto Rico, they are determined by the market. Thus, while Greece must work in conjunction with the power of other political institutions, Puerto Rico’s issue lies more with anonymous investors and market forces.

Pantojas-Garcia takes a slightly different route, noting that while both instances of financial distress were rooted in bad governance, they differ significantly “in the contexts, nature, and magnitude of their debts”.20 He argues consequently that the Puerto Rican crisis is ultimately one of poor governance, and the solution thus must also include something greater than a mere bandage onto the wound. He claims federal assistance and debt restructuring are not sufficient for a long-term solution, recommending that reform include “a redefinition of the status of Puerto Rico and a cleansing from the corrupt political elite that has ruled the island over the past two and a half decades”.21

**Debt Sustainability Frameworks**

**Concepts in Fiscal and Debt Sustainability**

To understand whether a government is suffering a structural deficit that will potentially lead to a fiscal crisis, it is often a simple accounting question. In coming to understand the government as a service provider, there are two sides of the equation: revenues and expenses. Revenues include taxes, fees, and federal grants-in-aid. Expenses include spending on programmatic services and contractual obligations from public employee wages, benefits, and pension plans.22 Simply put, the maximum tax revenues must exceed the total mandated spending less the amount of aid receive less other revenues to prevent a fiscal crisis.

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While fiscal sustainability evaluates whether the government is suffering from a structural deficit from being consistently unable to pay for its expenses without borrowing, debt sustainability is whether the government can keep up with its debt service payments. Fiscal sustainability, thus, is inclusive of debt sustainability as the calculated expenses include and go beyond contractual debt obligations.

In other words, the net present value (NPV) of the government’s future revenues must be at least as high as the NPV of the outstanding government debt to have debt sustainability. The NPV of the government’s future revenues must be at least as high as the NPV of the government’s future expenses, including that of debt service, to be fiscally sustainable. This equivalence criteria between the present value of liabilities in comparison to the present value of assets is also referred to as the “stock concept”. As long as the government is able to generate sufficient primary budget surpluses to repay outstanding debt, the government is sufficient “solvent” and debt sustainable.

A debt capacity analysis attempts to strike a balance between a government’s capital needs and its ability to pay. When forward-looking, the analysis helps a government ensure that the debt it issues is affordable and cost-effective. In a restructuring process like Chapter 9, a debt capacity analysis can help determine if outstanding debt is sustainable and can be used to ultimately determine feasibility when proposing an adjustment of debt. For instance, in the case of Detroit, “Is it likely that the City of Detroit, after the confirmation of the Plan of Adjustment, will be able to sustainably provide basic municipal services to the citizens of Detroit and to meet the obligations contemplated in the Plan without the significant probability of a default?”

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24 See “An Answer to the Question”. 3.
Common Metrics in a Debt Sustainability Analysis

The process for measuring debt sustainability typically involves a ratio metrics analysis as debt indicators. The Government Finance Officers Association’s (GFAO) framework for measuring debt capacity, the recommended budget practices of the National Advisory Council on State and Local Budgeting (NACSLB), involves the following steps: determining objectives, data collection, debt indicator construction, peer group construction, comparing key indicators against the peer group, establishing debt issuance scenario, utilizing break-even year methodology, and developing/revising formal debt policy.

There are a few common indicators within the GFAO framework that can be used to measure debt. They can generally be separated into two categories: debt outstanding measurements and debt service measurements. Whereas debt outstanding measures the present value of the total amount of principal that must be paid, debt service is the amount of payment that includes both principal and interest (and potentially new debt issuance fees) that must be allocated as its own expenditure on a regular budgetary basis. Key metrics include but are not limited to debt outstanding per capita, debt outstanding per capita as percentage of personal income per capita, debt service as percentage of property tax revenue, debt service per capital, debt service per capita as percentage of personal income per capita, and debt service as percentage of general fund budgeted expenditures.

The Mercatus Center at George Mason University’s ranking of the states by fiscal condition utilizes thirteen separate financial metrics: cash ratio, quick ratio, current ratio, operating ratio, surplus per capita, net asset ratio, long-term liability ratio, long-term liability per capita, taxes to income, revenue to income, expenses to income, pension affordability ratio, and
other post-employment benefits affordability ratio.\textsuperscript{25} Not all metrics are equally significant or reflective of impending financial distress, but they do reveal a component of the overall fiscal condition.

Comparison groups are effectively established based on shared characteristics to offer a baseline or viable comparison for a government’s debt burden. GFAO puts forth that a comparison group can be established on the basis of population, geographic region, or alternatively, on the basis of a similarity of experience. Designing the best comparison group is important when attempting to use it as the grounds for changing debt policies or restructuring debt burden to a sustainable level.

Not all debt sustainability analyses use comparison groups to establish thresholds or benchmarks for an appropriate level of debt. Certain frameworks like the IMF Framework and rating agencies’ approach evaluates the present debt burden in conjunction with other macroeconomic projections to label the government’s risk of debt distress or ability to carry debt based on its own thresholds and benchmarks. They may also conduct individualized analyses to customize thresholds to a government’s own policies. While those frameworks are complementary and important to consider when conducting any given debt sustainability analysis, the comparative approach presents empirical evidence to what has worked or not worked in the past. Comparisons offer a look at the levels of debt burden that similar governments faced through distress, through the restructuring process, and while on their way to recovery. This gives a different perspective for any crisis at hand.

Given that any debt restructuring plan or sustainability analysis is subject to stochastic variations, there is no clear delineation of what is feasible and what is not. Therefore, it is

important to consider not only what various models that are predicated on a given number of assumptions project, but also what has previously worked for different governments in a comparable situation.

**IMF Debt Sustainability Thresholds**

The International Monetary Fund (IMF)’s Debt Sustainability Framework (DSF) and various rating agencies’ methodologies seek to establish the feasibility and “health” of an entity’s debt outstanding on an individual basis.

The IMF and World Bank developed DSF for low-income countries, which was introduced in April 2005 and reviewed periodically to update when necessary. The IMF also has a debt sustainability analysis (DSA) tool for market-access countries. The two approaches differ in that market-access countries have established access to international capital markets whereas low-income countries must meet financing options through concessional financing, which have more generous terms than market loans.

For low-income countries, the IMF DSA is conducted regularly to assess the risk of external and overall debt distress. The DSA analyzes a country’s projected debt burden over the following ten years and conducts a baseline analysis with stress tests to determine its vulnerability to economic and policy shocks.26 The DSA also includes an assessment based on certain debt burden thresholds and benchmarks, which may vary depending on country-specific circumstances.

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The analysis includes both external and public sector debt. Whereas external debt is the total amount of debt owed by the government and the private sector—including corporations and individuals—to a foreign creditor, public sector debt, which is also known as national debt, is the accumulated level of debt owed by the government. Public debt is created through the issuance of bonds in order to compensate for a budgetary or fiscal deficit.

While the IMF framework evaluates both national debt and external debt, the more relevant metric of analysis here in the context of Puerto Rico would be of national debt. The IMF framework presents varied ratings for risk of external public debt: low, moderate, high, debt distress. Debt distress is usually evidenced by outstanding debt payments, ongoing or impending debt restructuring. The DSF classifies countries into three different debt-carrying capacity categories (“strong”, “medium”, “weak”) using a composite indicator based on country’s historical performance and outlook for real growth, reserves coverage, remittance inflows, state of global environment and World Bank’s Country Policy and Institutional Assessment (CPIA) index. In Exhibit #1, the World Bank and IMF presents the thresholds based on a country’s categorization and flags those with significant public domestic debt to assess the overall risk of public debt distress. High thresholds indicate a strong performer—a country that has good macroeconomic performance and policies—that can handle greater amounts of debt.

<table>
<thead>
<tr>
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<th>PV of total public debt as percent of GDP</th>
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<tbody>
<tr>
<td>Weak</td>
<td>35</td>
</tr>
<tr>
<td>Medium</td>
<td>55</td>
</tr>
<tr>
<td>Strong</td>
<td>70</td>
</tr>
</tbody>
</table>

Exhibit #1: Debt Burden Thresholds and Benchmarks under the DSF
Source: Joint World Bank-IMF Debt Sustainability Framework for Low-Income Countries²⁷

Although Puerto Rico is not a low-income country, it is interesting to compare Puerto Rico with the thresholds that the IMF has put forth. Since Puerto Rico’s Comprehensive Annual Financial Reports (CAFRs) are unavailable, cumulative deficits may be around 60 to 70 billion. While exact numbers are uncertain, the New Fiscal Plan of the Commonwealth of Puerto Rico from October 2018 estimates over $70 billion in public debt. Utilizing Kobre & Kim LLC’s Final Report that approximates $74 billion of bond debt and $48 billion of unfunded pension obligations\(^{28}\), and a GNP of 70.6 billion which has declined over 14% since 2007\(^{29}\), the PV of total public debt as a percent of GNP is around 172.8%. While GNP differs from GDP, GNP is used as a better measure of the economic value generated within the island since much of the island’s economic profits gets “exported” to mainland U.S.

Puerto Rico’s ratio metric is much greater than the 70% threshold for even the strongest low-income countries. Reinhard and Rogoff’s research titled “Growth in a Time of Debt” finds that GDP growth cuts nearly in half when levels external debt are excess of 90% of GDP.\(^{30}\) They do not distinguish between total external debt thresholds and public debt thresholds in their research. While there is a lot of contention surrounding this finding, high debt is still found to correlate with low growth, although there are always exceptions.\(^{31}\) In looking at 90% as a very rough threshold, Puerto Rico’s ratio metric for public debt is still higher. This suggests that on all measures, Puerto Rico’s debt is unsustainable. This assessment, however, is a very crude one since Puerto Rico and sovereigns have access to very different capital markets. Sovereign governments also have the capability to control their own currency through monetary policy,


which affects borrowing rates and money supply, whereas Puerto Rico cannot control such things as it shares the currency with the U.S. mainland.

**Sovereign Nations as Comparable Peers**

As mentioned previously, a comparative debt sustainability analysis (DSA) is informed by the debt sustained by the most appropriate peer group to benchmark a specific governmental entity. Relevant metrics for that benchmark group are then applied to said governmental entity, to assess its appropriate debt levels in light of its long-term macroeconomic and revenue projections. Although Puerto Rico is not a sovereign, it still may be insightful to evaluate the Commonwealth’s debt burden relative to the most similar sovereign nation’s sustained debt levels.

Since Puerto Rico cannot control its own currency nor request funding from the IMF, and the Commonwealth’s public debt market is separate, the IMF framework is a flawed benchmark for Puerto Rico by itself. The New Fiscal Plan recognizes the distinction in debt markets and monetary flexibility, so it offers E.U. sovereigns as the most comparable out of all sovereigns, as they similarly cannot control their own currency.\(^{32}\)

When evaluating Puerto Rico’s public debt levels in comparison to the existing debt levels of E.U. countries, through the net tax-supported debt as a percentage of its own collected revenues and the gross public debts a percentage of its GNP, Puerto Rico’s debt levels greatly supersede those of E.U. nations, even surpassing Slovenia’s high debt burden. This is displayed in Exhibit #2.

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\(^{32}\) Commonwealth of Puerto Rico. *New Fiscal Plan for Puerto Rico, As certified by the Financial Oversight Board for Puerto Rico.* https://drive.google.com/file/d/17ca0ALE7vpYn0jEzTz3RfykpsFSM0ujK/view.
Exhibit #2: European Union Sovereigns as Comparable
Source: The New Fiscal Plan for the Commonwealth of Puerto Rico 33

These comparative results demonstrate the necessity for Puerto Rico to restructure its debt to a significantly lower level.

While Greece may seem like it is a comparable peer within the sovereign nations’ context, its current situation does not suggest a successful recovery upon its exit out of the bailout program. It is uncertain whether Greece is even on the path to recovery. 34 As such, it cannot serve as a viable comparison for what amount of debt is sustainable. On the contrary, it demonstrates that such a high level of debt is unsustainable.

Even if Greece can be deemed on its way to recovery, as previously mentioned, the Center for European Policy Studies concluded that the cases of Greece and Puerto Rico differed

33 See Commonwealth of Puerto Rico. 37.
in that Greece must work in conjunction with the power of other official institutions while Puerto Rico’s issue is carried out in court with investors and subject to general market forces. Such a comparison would have drastic political and administrative differences.

While the New Fiscal Plan includes an evaluation of the Eurozone’s countries, the use of existing sovereigns’ debt ratios is an imperfect comparison for Puerto Rico, so this analysis should only be considered in conjunction with other potential comparison groups.

**U.S. States as Comparable Peers**

The New Fiscal Plan, approved October 23, 2018, outlines a rough debt sustainability analysis by using U.S. states as the comparison group for benchmarking a sustainable debt level for Puerto Rico. Within the analysis, the percentage of net tax-supported debt, net tax-supported debt to state personal income, net tax-supported debt per capita, and debt service as a percentage of all Commonwealth-collected revenues are all compared to the lowest 10 states’ average, the U.S. average, and the highest 10 states’ average.

The reasoning within the New Fiscal Plan for using states as a rough comparison group for Puerto Rico effectively argues against using sovereigns as a comparison group. Like U.S. states, Puerto Rico does not control its own currency. The Commonwealth also has no access to IMF restructuring support programs or other similar relief funding packages that are traditionally available to sovereigns. Instead, the public debt market that Puerto Rico has access to is the same as those used by states: the long-term municipal bond market. Furthermore, the same rating agencies that conduct analysis and assign ratings to the U.S. states do the same for Puerto Rico.

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However, much of this reasoning, instead of positively arguing in favor of states, merely rejects sovereigns as a viable comparison group without effectively considering municipalities as a possible alternative approach.

There are a few glaring issues that the New Fiscal Plan acknowledges with this choice of using states as the comparable peer group for debt sustainability. First, unlike U.S. states, Puerto Rican residents do not pay federal income taxes. Although Puerto Ricans pay Social Security and Medicare taxes, the Commonwealth receives less federal support for some of its largest spending programs, such as Medicaid and transportation. The New Fiscal Plan points out how federal reimbursement levels for Puerto Rico fall considerably below the Federal Medical Assistance Percentage (FMAP) and federal highway reimbursement levels provided to comparably-sized and wealthier states. This affects the way that states are able to budget in comparison to Puerto Rico.

It’s worth noting that Puerto Rico’s local graduated income tax brackets are comparable to federal income tax rates, providing the Commonwealth with revenue to fund local services. They are comparable in that the taxes are about the same share of personal income, albeit the taxes paid per capita are much lower in Puerto Rico than in the States. This demonstrates how Puerto Rico’s average income is much lower, resulting in a smaller tax base than in the States.

If federal income taxes are introduced, it may be that Puerto Rico will not be able to tax its own citizens as much, given that the overall average tax rate will increase. Given the theoretical framework of a tax revenue hill, increasing tax rates do not always result in higher tax revenues, as tax bases change when collection and evasion rates change. Hence, Puerto Rico may have less taxing ability with the addition of federal income taxes.
Some have argued, however, that the Commonwealth’s relatively low per-capita income levels would place most Puerto Ricans in a tax bracket where they would pay little or no federal income tax. In 2005, Puerto Rico’s per capita GNP was roughly $14,000 in comparison to $41,000 for the U.S. mainland. This would effectively not impact the Commonwealth’s taxing ability on the majority of Puerto Ricans. All this is to evaluate the comparability of the Commonwealth’s tax revenues to that of the States, such that the viability of a comparison in the various ratios (percentage of net tax-supported debt, net tax-supported debt to state personal income, net tax-supported debt per capita, and debt service as a percentage of all Commonwealth-collected revenues) can be determined.

In the New Fiscal Plan, the use of the U.S. states as a comparable peer group led to the conclusion that Puerto Rico’s current debt levels were significantly higher than the sustained debt levels of the States on all ratio metrics. Utilizing Moody’s Investors Service reports on state debt ratio averages from 2018, the New Fiscal Plan generated Exhibit #3.

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Exhibit #3: U.S. States as Comparable
Source: The New Fiscal Plan for the Commonwealth of Puerto Rico

Exhibit #4: Revised U.S. States as Comparable

37 See Commonwealth of Puerto Rico. 36.
Source: Revised Draft of the New Fiscal Plan, Proposed by the Governor of Puerto Rico

In March, the Commonwealth’s Governor submitted a revised Fiscal Plan for approval to the Oversight Board. The approximate net-tax supported debt is seen to have decreased from $45 billion to $41 billion where the net of COFINA debt, subject to its own Plan of Adjustment, has increased from $27 billion to $28 billion. Given the decrease in net-tax supported debt, the ratio metrics evaluated have decreased. However, as seen in the Exhibit #4, placed here for comparison purposes, Puerto Rico’s debt levels still greatly surpass that of the its state comparison groups.

Municipality Thresholds

Rating agencies also have their own frameworks to rate a debt issuance, based off the government’s current financial stability and its level of risk to shocks and fluctuations against its revenues and expenditures. Moody’s methodology considers the size, strength and diversity of the local economy and its tax base to measure the ability of the government to generate revenues. It also considers finances, management, debt and pension liabilities of the local government. Scores are assigned to sub-factors, converted to a numerical value, and then assigned a rating.

Standard and Poor’s (S&P) assigns ratings to municipal-issued general obligation bonds based on seven key factors’ scores: institutional framework, economy, management, budgetary flexibility, budgetary performance, liquidity, and debt and contingent liabilities. Each factor is

scored from 1, being the strongest, to 5, being the weakest. These scores are combined in a weighted average to create an overall rating. The institution framework score assesses the municipalities’ predictability, revenue and expenditure balance, transparency and accountability, and system support. The economic score evaluates the health of the tax base and likelihood for increased service demands that result from decreased economic activity. The other factors evaluate the management practices of the government, the flexibility to raise additional revenues or reduce expenditures and the current fiscal state of the government.

With S&P, there are a few key general obligation credit ratios that contribute to their analysis and ratings. In Exhibit #5, the metrics of debt service as percentage of expenditures, overall net debt per capita, and overall net debt as percentage of the taxable market value of the tax base are shown.

<table>
<thead>
<tr>
<th></th>
<th>Debt Service as % of Expenditures</th>
<th>Overall Net Debt Per Capita</th>
<th>Overall Net Debt as % of Market Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>&lt; 8%</td>
<td>&lt; $1,000</td>
<td>Low</td>
</tr>
<tr>
<td>Moderate</td>
<td>8% - 15%</td>
<td>$1,000 - $2,000</td>
<td>Moderate</td>
</tr>
<tr>
<td>Elevated</td>
<td>15% - 20%</td>
<td>$2,000 - $5,000</td>
<td>Moderately High</td>
</tr>
<tr>
<td>High</td>
<td>&gt; 25%</td>
<td>&gt; $5,000</td>
<td>High</td>
</tr>
</tbody>
</table>

Exhibit #5: S&P General Obligation Ratio Credit Ranges
Source: S&P’s “U.S. Public Finance: Key General Obligation Ratio Credit Ranges”41

The metric that can most easily be compared with Puerto Rico is the overall net general obligation debt per capita. While Puerto Rico’s net tax-supported debt includes more than just general obligation bonds that total around $45 billion, its general obligation bonds are estimated

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to be around $13 billion. Based on the Commonwealth’s net tax-supported debt per capita of $16,662 per person, that means its net general obligation debt per capita is around $4,813/person. This would categorize the Commonwealth as a moderate level of debt. However, S&P cautions that ratios may be outweighed by economic, administrative, financial, debt, structural or other qualitative factors when assigning ratings.

While these threshold criteria do represent part of the credit rating process, they do not demonstrate a government’s willingness to meet obligations or reflect a history of late budgets or operational restraints. As such, rating agencies’ thresholds only serve as a starting point when trying to evaluate the whole picture.

Gluzmann, Guzman, and Stiglitz’s computations, as mentioned earlier, provide a range to the amount of debt that must be written-off for Puerto Rico to be fiscally sustainable given a chosen set of assumptions. The numbers range greatly, as the authors contest the assumptions made in the Fiscal Plan about structural reforms generating substantial GNP growth and other values used, such as the fiscal multiplier used. The relevant statistic to be analyzed is the amount of debt left after the debt write-off that can be successfully sustained. The authors’ calculations display a maximum sustainable debt range from $18.5 to $62.4 billion under the assumption that structural reforms have no effects on GNP growth and range from $19.9 to $69.8 billion under the assumption that structural reforms will substantially affect GNP growth as assumed by the Fiscal Plan; they generate an analysis of what would be sustainable without those assumptions in addition to calculating what would be sustainable under those (poorly-assumed) conditions. With

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the current estimate of a GNP around 70.6 billion\textsuperscript{43}, that means a public debt to GNP percentage of 28.19\% to 98.87\% is sustainable. Puerto Rico’s current total public debt as a percentage of GNP was found to be 172.8\%, so this analytic framework demonstrates the extent to which Puerto Rico must restructure. It is important to note that these calculations are based on projections made prior to both hurricanes and any prospective emergency aid.

\textbf{Proposed Comparison for Puerto Rico}

\textbf{In Consideration of Municipalities}

While the use of states as a peer group offers a simplified estimate for benchmarking Puerto Rico’s debt capacity, the reasoning for utilizing states as the comparison in the New Fiscal Plan neglected the viability of using municipalities as the benchmarking group. Municipalities offer an important alternative source of insight into Puerto Rico’s debt capacity. Much of the same reasoning that can be applied in the case for states can also be applied toward local governments.

Municipalities similarly do not own their own currency and are subject to taxing authorities beyond their control. They access the same debt market as that of Puerto Rico, subject to the same rating agencies. While the use of municipalities has similar faults to that of states when it comes to federal taxation, municipalities offer a better comparison in other ways.

Under the U.S. Constitution, state governments have the ability to establish their own tax structures and expenditure responsibilities. However, they are not eligible to file for bankruptcy. Instead, they can adjust revenues, alter disbursements, access various reserves and other liquidity

measures to restore budgetary balance. While the inability for states to formally restructure debt through a bankruptcy process may seem concerning, the state financial system is generally considered mature by rating agencies such as Standard & Poor and has well-developed standards for management and transparency.

After eight states defaulted in the Panic of 1837, states’ borrowing capacities were more greatly restricted. The responsibility for economic development and the debt issuance necessary for said policies and programs shifted primarily to local governments. While states still have the ability to interfere with local government revenue and impose limits or regulations around taxation and debt issuance, in practice, local governments have had much fiscal flexibility. Local governments are known to rely on their own sources of funding to pay for the level of services of their own choosing. Therefore, local governments can perhaps provide a more comparable level of taxing autonomy and debt issuance ability in comparison to the Commonwealth.

Municipalities may also offer a more comparable level of administrative flexibility when considering the Commonwealth’s jurisdiction over the island. The GAO has concluded that in comparison to U.S. state and local governments, the Commonwealth’s greater outstanding amount of debt per capita is attributed partly to the Commonwealth’s “wider range of responsibilities”. Although the GAO did not further specify the scope of responsibility, it can be seen that where U.S. counties, townships, municipalities, and special-purpose local governments provide essential services such as education and public utilities in conjunction with

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each other, the single jurisdiction of the Commonwealth of Puerto Rico and its owned corporations carry out a large part of the basic and public services to its citizens, including public utilities, transportation, education, and law enforcement activities.

State governments also generally do not concern themselves with providing electricity, water, parks and recreational services, police and fire departments, housing services, transportation services and public works; the provision of services are delegated to municipalities while the state commissions and authorities oversee ordinances and rules.47 Puerto Rico’s government-owned corporations, on the other hand, heavily deal with providing services including electricity, water, waste removal, and transportation services (e.g. Puerto Rico Electricity Power Authority (PREPA), Puerto Rico Aqueducts and Sewers Authority (PRASA), Puerto Rico Metropolitan Bus Authority). Most notably, perhaps, is that PREPA and PRASA are the only entities authorized to provide their respective public utilities on the island, whereas that is not the case within an entire U.S. state. Hence, the use of municipalities as a comparison group given its provision of services may offer additional insight which states do not provide by themselves.

In addition, states have not defaulted for a considerably long period of time. While some argue that certain states may be trending towards becoming fiscally distressed in the near future, even if a state does default on its debt obligation, it would be considered a contractual violation for which creditor may sue under the Contract Clause as there is no formal bankruptcy procedure

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for states. States may also simply have the legal authority to shed its unmet liabilities, in effect forcing creditors to take a deal on the state’s terms.48

On the other hand, municipalities have a formalized bankruptcy process through Chapter 9 in the U.S. Bankruptcy Code. Given that Puerto Rico’s bankruptcy claim under Title III of PROMESA is based off Chapter 9 processes, municipalities serve as a good comparison in experience. While it may be argued that other territories could present similar sociopolitical and geographic characteristics to that of Puerto Rico, none of them have had to go through bankruptcy to restructure debt. As such, it may be important to establish a peer comparison group that has had to go through similar legal processes and exited bankruptcy successfully to determine how much debt can be managed while investing sufficiently to stimulate the economy back on the path to recovery.

In Consideration of Detroit

In March 2013, Kevyn Orr was appointed by the Local Emergency Financial Assistance Loan Board as the Emergency Financial Manager of the City of Detroit. Given the financial and budgetary crisis that the city was going through, Detroit was able to file for a petition of relief through Chapter 9, reducing long-term debt and retirement liabilities. Through the bankruptcy process, Detroit was also able to reinvest in its tax base through an approximately $1.5 billion reinvestment plan on services and create a new management team.49

Upon exiting out of bankruptcy in December 2014, Detroit shed about net $8.3 billion of its total outstanding obligations.\(^{50}\) Total bonded debt dropped from 7.2 billion to 1.85 billion.\(^{51}\) Given that the Detroit bankruptcy consisted largely of unfunded pension liabilities, the bankruptcy judge effectively determined to prioritize those obligations over the contractual obligations in the GO bonds. At that time, it was uncertain how much the GO bond holders would be able to recover. Looking back at proceedings, there were recoveries of 74% of unlimited-tax GO bonds and 34% of limited-tax GO bonds.\(^{52}\)

While the City of Detroit’s current state is considered generally successful in recovering, Moody’s still reports economic problems. Most notably, the city is still facing weak demographic statistics, a declining population, a high unemployment rate (13.0% as of November 2014), and falling key revenues from property taxes that could result in weaker credit quality in the short to middle term.\(^{53}\)

Detroit offers a much better comparison to Puerto Rico in comparable experiences leading up to bankruptcy. Whereas in other municipal bankruptcies, often there was one or two causal factors, Detroit’s multiple cumulative problems that led to its demise is like the multitudes of problems faced by Puerto Rico. Detroit suffered from a similar lack of fiscal transparency with chronically late financial audits. Economic recession, changing demographics, high unemployment and low household income are also all common factors between the two government’s fiscal declines.


Since Puerto Rico’s bankruptcy process was based on Chapter 9 procedures, Detroit’s experience through that process can demonstrate how a municipality is able to rebound out of its dismal condition. The difference in a standard Chapter 9 process and Title III of PROMESA lies mainly in the Oversight Board and the fiscal plan requirement. Since Detroit also had an emergency financial manager that acted as oversight with a plan of adjustment requirement, Detroit can provide a more comparable experience to Puerto Rico’s situation than states that do not go and have not gone through the restructuring process.

The size of the problem is different, with Detroit roughly at $18 billion of total debt (including bonds and unfunded liabilities like pensions and healthcare) and Puerto Rico at around $74 billion in outstanding bonds and $49 billion in owed pensions. However, numbers become a bit more comparable when looking at the relative size of the debt outstanding with respect to their population sizes. Detroit had a population in 2014 of 713,777 whereas Puerto Rico had a population in 2018 of around 3.166 million. As such, Puerto Rico is seen to have a larger but more comparable debt burden per resident than Detroit: at $38,850 per capita in comparison to $25,218 per capita.

**Detroit as Comparable Peer**

Detroit did not provide a formal debt sustainability analysis in their bankruptcy proceedings. Instead, expert testimony was used to determine the relative feasibility of the Plan

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of Adjustment, set forth by the presiding Judge with projections provided by Ernst & Young and the Emergency Manager. In the expert’s report, titled the Second Supplemental Report of Martha E.M. Kpacz Regarding the Feasibility of the City of Detroit Plan of Adjustment, it states “There is no single data point that defines feasibility… the reasonableness of the quantitative and qualitative components of the Standard can be a range of values. When looking at the reasonableness of assumptions and projections, most people understand that ‘reasonable’ can exist along a continuum. The concept remains true with respect to the current projections.” In other words, the expert determined that the proposed Plan of Adjustment was sufficiently reasonable and feasible without a formal analysis.

Although the extent of debt differ, Detroit is already on its path to recovery. In April 2018, it reclaimed control of its own finances from the Emergency Manager by delivering three consecutive years of audited balanced budgets. While it still must file monthly financial reports to the commission and face continual monitoring for the next ten years, including potential resumed oversight if a budget deficit reoccurs, the City appears to be on the upward trend.

Exhibit #7 displays the calculations of the City of Detroit’s various ratios in the years during their restructuring processes and following the exit out of bankruptcy. All data originates from the City of Detroit’s published Comprehensive Annual Financial Reports (CAFRs) for the

respective fiscal years, between 2014 and 2018. Since the percentages of debt to income and of debt to revenue are in that year’s dollars, discounting is unnecessary, since it would apply equally to the numerator and denominator. There was no data available in the CAFRs for the total personal income in years following 2009, so the net tax-supported debt to personal income ratio is not calculated here.

<table>
<thead>
<tr>
<th></th>
<th>FY ending June 30, 2014</th>
<th>FY ending June 30, 2015</th>
<th>FY ending June 30, 2016</th>
<th>FY ending June 30, 2017</th>
<th>FY ending June 30, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total bonded debt ($)</td>
<td>6.4 billion</td>
<td>7.2 billion</td>
<td>1.85 billion</td>
<td>1.9 billion</td>
<td>1.7 billion</td>
</tr>
<tr>
<td>General bonded debt ($)</td>
<td>2.170 billion</td>
<td>1.591 billion</td>
<td>1.509 billion</td>
<td>1.442 billion</td>
<td>1.335 billion</td>
</tr>
<tr>
<td>Population (persons)</td>
<td>713,777</td>
<td>713,777</td>
<td>677,116</td>
<td>672,795</td>
<td>672,795</td>
</tr>
<tr>
<td>Revenues(^1) ($)</td>
<td>2.335 billion</td>
<td>2.345 billion</td>
<td>2.107 billion</td>
<td>1.916 billion</td>
<td>1.881 billion</td>
</tr>
<tr>
<td>Debt service expenditures (principal + interest + bond issuance costs)(^2) ($)</td>
<td>77.008 million</td>
<td>173.980 million</td>
<td>69.244 million</td>
<td>87.269 million</td>
<td>108.346 million</td>
</tr>
</tbody>
</table>

Exhibit #6: Detroit’s Financial Information (all units are dollars, except for population)
Source: City of Detroit’s CAFRs from 2014 through 2018

\(^1\) Revenues include both Governmental Activities and Business-Type Activities to form Total Primary Government revenues

\(^2\) Debt service expenditures is from “Required Supplementary Information) Schedule of Revenue, Expenditures, and Changes in Fund Balance – Budget and Actual – General Fund”, Note: FY 2015 and 2016 numbers are unaudited
<table>
<thead>
<tr>
<th></th>
<th>FY ending June 30, 2014</th>
<th>FY ending June 30, 2015</th>
<th>FY ending June 30, 2016</th>
<th>FY ending June 30, 2017</th>
<th>FY ending June 30, 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total debt per capita ($/person)</td>
<td>8,966</td>
<td>10,087</td>
<td>2,732</td>
<td>2,824</td>
<td>2,527</td>
</tr>
<tr>
<td>Net tax-supported debt per capita ($/person)</td>
<td>3,040.71</td>
<td>2,229.45</td>
<td>2,233.41</td>
<td>2,142.99</td>
<td>1,983.86</td>
</tr>
<tr>
<td>Debt service as % of own-source revenues</td>
<td>3.297%</td>
<td>7.421%</td>
<td>3.287%</td>
<td>4.554%</td>
<td>5.760%</td>
</tr>
</tbody>
</table>

Exhibit #7: Detroit’s Debt Ratios

1 Net tax-supported debt per capita from City of Detroit, Michigan CAFR for FY 2018, “Schedule 10 – Debt Capacity – Ratios of General Bonded Debt Outstanding (Unaudited)”
2 Own revenues include all primary government revenues, both governmental activities and business-type activities (i.e. revenue from providing services)

Total bonded debt consists of both general obligation bonds backed by full faith and credit of the government and revenue bonds backed by the related enterprises, like public utilities. The general bonded debt is used here as the net tax-support debt, to exclude revenue bonds. Once calculated, these metrics can then be compared to the state analysis conducted earlier in the New Fiscal Plan. The drastic increase of debt service obligations in 2015 comes from the increase in principal payments due: $134.341 million as compared to $4.547 million in 2014. This is reflected in the drastic increase of debt service to own-source revenues ratio from 2014 to 2015. The second drastic change between FY 2015 and FY 2016 is due the carried through restructuring of Detroit’s bonds. As such, only FY 2016 onwards should be utilized to obtain what is feasible for Puerto Rico as it seeks to recover, rather go into further deficit.

These results demonstrate a similar or even smaller capacity for debt than the state results suggest. The highest 10 state average for debt service as a percentage of the government’s own-
source revenues is 9.2%, and Detroit’s ratios all fall under that average at 3.287%, 4.554%, and 5.760%. This is partly due to Detroit’s high percentage of revenue bonds in comparison to its tax-supported bonds. Detroit’s ratio of debt service to own-source revenues is more comparable to the U.S. state average at 4.5%.

The net tax-supported debt per capita in the case of Detroit ($3,040.71/person) is also significantly lower than the highest 10 state average ($3,779/person) even before its debt was restructured. Since Detroit offers another comparison for Puerto Rico in terms of debt sustainability while during recovery, this suggests that Puerto Rico may need to further restructure its debt to a greater extent than the state comparison group.

Discussion and Areas for Future Research

Although Detroit may present as a better peer comparison to Puerto Rico than states, it is only a singular base of comparison. As comparisons offer a rough estimate of what is potentially feasible, it may be additionally beneficial to consider a larger comparison group with more cities to establish a better average and baseline. However, it would have to be a selected and tailored set of cities as opposed to the U.S. average or ten most-indebted, which includes too large a pool of cities that greatly vary depending on the demographics of the city residents and the extent of the services demanded.

While there is research into the various metrics that more strongly corroborated the progression of the financial crisis in Detroit,59 similar research for Puerto Rico does not exist. In

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looking at the most revealing metrics to Puerto Rico’s decline ex-ante, those metrics may then be more heavily emphasized and monitored when creating a plan for sustainability.

The proposal to use Detroit as the peer comparable group is not to completely rid of other potential metrics and peer comparison groups. Rather, the reasoning is to provide an additional or alternative data point in which to consider the feasibility and viability of current restructuring negotiations, to inform current fights over how to distribute the existing pie. Furthermore, the question of feasibility ultimately falls on a spectrum. There is no definite economic model for what is distinctly feasible and what is not. External shocks to the system, such as an economic recession may be better provided for in one plan of adjustment than another.

All the various DSA frameworks evaluated in this paper can be taken in conjunction with each other to create a new DSA that argues for a certain level of debt write-off like the work of Gluzmann, Guzman, and Stiglitz. This research would have to reflect the updated circumstances of Puerto Rico, after both Hurricanes and potential federal aid revenues. Restructuring negotiations would be able to utilize those figures to the Commonwealth’s advantage.

In-depth policy proposals building off Appendix E can also be created to increase the future debt capacity of the Commonwealth: through stimulating the economy, increasing trust in the government, and funding or incentivizing development in industries with the strongest growth potential.

The Puerto Rican Governor’s proposed fiscal plans also heavily push for statehood, arguing that becoming a state would greatly aid the island in recovery and require the federal government to provide greater structural support. Should Puerto Rico become a state, then its debt sustainability framework would likewise change. However, the viability of this is primarily a political issue, and it is uncertain how likely statehood would be, especially since it has been a
topic of conversation for many years even before the bankruptcy. It is worth noting that the certified plans omit these pleas for statehood.

The consequences of this process may impact potential future proceedings for the other territories: Guam, U.S. Virgin Islands, American Samoa and Northern Mariana Islands. According to the GAO, U.S. Virgin Islands’ debt grew to 72% of its GDP.\(^60\) Given that Puerto Rico’s debt had only grown to 66% of its GDP in 2015, and the Commonwealth is now in default, the projections for U.S. Virgin Islands may be rather dismal. Financial reform in the U.S. as it pertains to the U.S. Territories may allow U.S. Virgin Islands to borrow at more favorable rates. However, this generally suggests a need for investors and the governments to be wary around potential defaults and general economic stability.

### Appendices

#### Appendix A: Basics of Municipal Bankruptcy

Under the United States Bankruptcy Code, Title 11 of the United States Code (U.S.C.), one of the bankruptcy courts’ fundamental goals is to give debtors a “fresh start”, an opportunity to move forward from burdensome debts, and maximize the value creditors can receive. Chapter 11 of the Bankruptcy Code, entitled Reorganization, is the process for companies that want to repay their creditors while continuing to operate their business. Chapter 9, entitled Adjustment of Debts of a Municipality, is the comparable process for municipalities. Under Chapter 9, entities deemed as a “municipality” can file for reorganizational bankruptcy with state approval. “Municipalities” allowed to file under Chapter 9 generally include cities, towns, villages,

counties, taxing districts, municipal utilities, and school districts.\textsuperscript{61} States are prohibited from filing from bankruptcy under the Code because federal courts have exclusive jurisdiction over bankruptcy cases and would infringe upon state sovereignty as provided by the 10th and 11th Constitutional amendments.

Chapter 9 bankruptcy, however, was not always an option. Prior to 1933, there was neither state nor federal bankruptcy legislation.\textsuperscript{62} In the absence of federal statutory law, municipal default relied on state statutes, as well as state and federal common law. While cities were unable to declare bankruptcy, they could and proceeded to fail to pay their debts.\textsuperscript{63}

The vast majority of Chapter 9 filings until the 2010’s were “used by tiny municipalities under peculiar circumstances”.\textsuperscript{64} After Vallejo, California filed in 2008 for $50 million in debt, a string of cities filed for increasingly large amounts in the following few years: Jefferson County, Alabama, and Stockton, California in 2011; San Bernardino, California in 2012; and Detroit, Michigan in 2013. While there were fears that Chapter 9 would be unable to handle the fiscal distress of such large cities, the exit of these cities from bankruptcy has demonstrated that the courts are able to balance the interests of the various stakeholders involved.\textsuperscript{65}

\textsuperscript{61} Dubrow, David L. "Chapter 9 of the Bankruptcy Code: A Viable Option for Municipalities in Fiscal Crisis?" The Urban Lawyer 24, no. 3 (1992): 539-88.
Appendix B: Overview of Puerto Rico’s Debt Crisis and PROMESA

Puerto Rico has long-faced faced many issues that led it into its present-day fiscal crisis, including its complicated relationship with the United States, a declining population, increasing unemployment, and poor financial management. In the face of these problems that have exacerbated budgetary issues, its government turned towards debt markets for short-term fixes. In doing so, Puerto Rico incurred billions of dollars of liability.

While there is a constitutional debt limit in place for its general obligation (GO) bonds, such that GO bonds cannot be issued if payments of principal and interest on the total GO debt for the proposed fiscal year and prior fiscal year exceed 15% of average annual Puerto Rico revenues\(^6\), the short-term fixes that the Puerto Rican government implemented were not included in those calculations to see how close the government was to the limit. To make matters worse, in September 2017, Hurricane Irma and Maria ravaged much of the existing Puerto Rican infrastructure, increasing the severity of the structural crisis. From a financial point of view, however, Hurricane Maria will generate disaster relief funding from the federal government, estimated by Puerto Rico to be around $82 billion, which will likely create a stimulus effect.\(^6\)

As Puerto Rico is defined as a “territory” rather than a “municipality” or a “state”, its government and its authorities were unable to file for bankruptcy under Chapter 9. In 1984, Puerto Rico was excluded from the definition of “State” in the amended Chapter 9 due to the Territorial Clause.\(^6\) Fundamentally, the Puerto Rican government has greater sovereignty than a municipality and state, yet it still exists as partially subsovereign to the federal government. For

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66 Section 2 of Article VI of the Constitution of Puerto Rico
instance, Puerto Ricans are considered U.S. citizens, but they are ineligible to vote in national elections and their representatives do not have full voting power in Congress.

While much literature points to the failures of the Puerto Rican government, some have argued that its current economic problems may not be solely attributed to its decisions.\textsuperscript{69} The U.S. government may also have some liability in contributing to Puerto Rico’s current crisis. Ultimately, it is argued that the federal government maintains a responsibility towards the people under Puerto Rican jurisdiction and therefore needs to provide support in dire circumstances.

Given the extent of Puerto Rico’s insolvency and the extreme need for restructuring, Congress passed the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA) in 2016, which contained a new restructuring process under its Title III. This in-court restructuring process resembles the bankruptcy option used by Detroit, Stockton, and San Bernardino.\textsuperscript{70} PROMESA also gave the Commonwealth of Puerto Rico a second restructuring tool through Title VI, which focused on financial debt through a largely out-of-court process.

One of the most significant components was that PROMESA created a federal oversight board and put a hold on creditor lawsuits until the appointed board had been assembled. This federal board was given the responsibility for the restructuring negotiations and oversight of the Commonwealth’s finances, resembling the District of Columbia’s Control Board from 1995 to 2001.

Puerto Rico ultimately filed for the largest government bankruptcy in history in May 2017 through Title III of PROMESA, owing approximately $74 billion in bond debt and $49

\textsuperscript{69} See Block, Cheryl D., Federal Policy for Finan- cially-Distressed Subnational Governments: The U.S. States and Puerto Rico.

\textsuperscript{70} See Jacoby, Melissa B., Presiding Over Municipal Bankruptcies: Then, Now, and Puerto Rico.
billion in unfunded pension liabilities. In comparison, Detroit’s bankruptcy filing was for roughly $18 billion.

More recently, the oversight board worked with the Puerto Rican governor to alter the structure of the public utility system, including Puerto Rico Electric Power Authority (PREPA) which was moved toward a more privatized structure.\footnote{Slavin, Robert. "Puerto Rico Senate Passes PREPA Privatization Bill." Bond Buyer. November 07, 2018. https://www.bondbuyer.com/news/puerto-rico-senate-passes-prepa-privatization-bill.} Negotiations for the restructuring of various other types of debt are still ongoing. The first debt-restructuring deal was completed in November 29, 2018 for the debt issued by the now-defunct Government Development Bank (GDB).\footnote{Coto, Danica. "Puerto Rico Completes Its First Debt Restructuring Deal." AP NEWS. November 29, 2018. https://www.apnews.com/5cc17113f2ba47f6aca7657aa5345c01.} Since the GDB was dissolved, responsibilities including government auditing and publishing the Comprehensive Annual Financial Report (CAFR) now fall to the Department of Treasury. The second debt-restructuring deal was completed February 12, 2019 for the sales-tax backed bonds known as COFINA bonds.

In a February 15, 2019 ruling, the U.S. First Circuit Court of Appeals declared the Oversight Board to be unconstitutionally appointed as its members were not confirmed by the Senate, as required by the Appointments Clause. While the Boards’ actions were validated by the court, the First Circuit granted a 90-stay of the mandate for the President and Senate to nominate and confirm a new oversight board. Under the current course of action, the Board will be discontinued on May 17, 2019. Thus, the Board is requesting that the Circuit Court stay its issued mandate, pending the Supreme Court disposition on the motion.\footnote{Aurelius Investments, LLC v. Commonwealth of Puerto Rico, Assured Guaranty Corporation v. FOMB, UTIER v. PR Electric Power Auth., No. 18-1671, 18-1746, 18-1787 (1st Cir. 2019).}
Appendix C: Summary of Causal Factors of Puerto Rico’s Bankruptcy

The Possession Tax Credit under Code section 936 was part of a U.S. tax incentive system for domestic corporations to locate operations in Puerto Rico. Companies under section 936 were spared U.S. taxes, regardless of local taxes.\(^7^4\) When the phase-out period ended for taxable years beginning after December 31, 2005, businesses had much less incentive to operate in Puerto Rico, contributing to issues of a declining population, increasing unemployment, and other budgetary issues with decreased tax revenues. The government and the other businesses operating in Puerto Rico did not react and recover sufficiently fast in the face of the deindustrialization, further contributing to decreased economic activity and lower government revenues.\(^7^5\) Furthermore, the Government Development Bank (GDB) was operating in a dual capacity, as both fiscal agent and lender for Puerto Rico-Related Entities such as its public utilities. The conflicting nature of this role enabled the problematic debt management and poor fiscal responsibility of the Puerto Rico-Related Entities.\(^7^6\)

The Government Accountability Office (GAO) categorizes Puerto Rico’s deficits into three categories: (1) inadequate financial management and oversight practices, (2) poor policy decisions, (3) prolonged economic contraction.\(^7^7\) The Puerto Rican government’s overall lack of fiscal transparency was evident through the delayed disclosure of audited financial reports. Furthermore, poor budgetary management led to overestimates of revenues and underestimates of expenditures. The struggling economy was perpetuated by outmigration and a smaller pool of

labor, regulatory challenges facing businesses in Puerto Rico, the high cost of importing goods and energy, and banking and housing struggles. While some of these factors result from federal policies on Puerto Rico, Puerto Rico’s internal characteristics including changing demographics and heavy local regulations contributed significantly as well to the faltering economy.

Appendix D: Is Puerto Rico Fiscally Sustainable?

Under the New Fiscal Plan, approved Oct. 23, 2018, the projected surpluses are insufficient to keep Puerto Rico fiscally sustainable after fiscal year (FY) 2034, even with the fiscal measures and structural reforms proposed. Reforms include infrastructure reform, healthcare reform, enhanced tax compliance, and pension reform. The early surpluses are attributed to enhanced revenues from fiscal measures and structural reforms, including funding for Medicaid and disaster relief. In the long run, healthcare costs are projected to outpace GNP growth, contributing to the fiscal gap. The inability to structurally reform in a significant manner will cause significant deficits. There were additional risks found to the projections. Namely, a sensitivity analysis of the change in Medicaid costs (growth rate of 4.6% in long term as opposed to current projections between 4.85% and 5.1% between FY 2023 and FY 2058) may decrease surplus by 35 billion after FY 2023. Baseline revenue projections are detailed in Exhibit i.
Under the revised fiscal plan draft, from March 2019, pre-contractual deficits after measures and reforms will begin a year later than previous projections: in FY 2035. In spite of the newly drafted fiscal plan’s changed projections of increased expenditures, reduced revenues, and reduced benefits from fiscal measures that seek to “optimize Government revenues”, the structural reforms that “improve the economy and drive growth” are estimated to have a much greater total impact over the six years on total annual GNP. Structural reforms include human capital and welfare reform, ease of doing business, power sector reform, and infrastructure reform. K-12 Education reforms is anticipated to also have an additional cumulative impact on GNP. This results in the one-year delay of the Commonwealth’s projected return to deficit. Although the draft fiscal plan has not yet been certified by the Oversight Board, its projections

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78 See Commonwealth of Puerto Rico. 33.
are intended to be a more accurate reflection of the current situation than the previously approved New Fiscal Plan.

On a more positive note, revenues to the commonwealth general fund totaled $259.1 million above Oct. 23 projections in March 2019. The strong performance was attributed to the corporate income tax and foreign corporate excise (Act 154) tax and the recovery of economic activity after the hurricanes. Holding other projections constant, Puerto Rico is still not fiscally sustainable and able to meet all contractual debt obligations. Ongoing negotiations and structural reforms, including targeted investments, will increase Puerto Rico’s GNP growth rate, increasing its future economic stability.

Appendix E: Long-Term, Possible Solutions for Greater Fiscal Sustainability and Debt Capacity

Puerto Rico’s Comprehensive Annual Financial Reports have been largely delayed, with the most recent released on June 30, 2018 for fiscal year 2015. The report for fiscal year 2016 has yet to be published, as the Commonwealth missed the recent March 31 deadline. While overdue information loses relevance over time, these behaviors do not facilitate trust. These problems are severely damaging the credibility of the Commonwealth, forcing creditors to look towards the Oversight Board for accountability and insurance. Citizens are similarly unlikely to be confident in Puerto Rican government’s ability to recover and grow.

There needs to be a structure set in place to increase the transparency of the government and increase Puerto Rican citizens’ and creditors’ confidence. The GAO makes three distinct recommendations for Puerto Rico to increase budgetary transparency and reliability of Puerto
Rican debt. First recommendation is to modify the tax-exempt status for Puerto Rico municipal debt. Although this would temporarily increase tax revenues from interest income from Puerto Rico bonds earned by investors residing outside of Puerto Rico, this policy would also decrease the demand for Puerto Rican debt. This may be problematic in this instance as there currently is not a high confidence in Puerto Rican debt, and Puerto Rico needs to regenerate its ability to borrow funds for capital investments and simply to generate liquidity.

The second recommendation is to apply federal investor protection laws to Puerto Rico, which require investment companies to disclose the risks associated with a bond in addition to adhering to other requirements. This may similarly lower the demand for Puerto Rican bonds.

The third recommendation is to modify SEC authority over muni-bond disclosure requirements, including the timely disclosure of audited financial reports. This disclosure would help investors make better informed decisions.

While all three of these recommendations may provide for greater budgetary transparency and reliability of Puerto Rican debt in the future, establishing a more trustworthy system, it cannot help Puerto Rico out of its current situation of prolonged economic contraction, inadequate financial management and oversight practices, poor policy decisions of deficits in budgets and public pension funding shortfalls. In the short-run, these policies may also lower the demand for Puerto Rican bonds, which could be undesirable with the current economic contraction. Although the need for greater transparency is clear, to create a more sustainable and accountable system in the future, Puerto Rico will also need to pursue economic policies. In looking at the projection provided by the New Fiscal Plan, the government is suffering from structural deficits and will be unable to be fiscally sustainable (See Appendix D). As such,

Puerto Rico needs to reinvest in its economy to stimulate growth to ensure a stronger, more diverse tax base.

When seeking ways to increase fiscal sustainability, a government may attempt to either increase revenues or reduce expenditures. A federal bailout on the side of revenues is politically unlikely. While tax increases may increase the government’s revenues, the tax revenue hill demonstrates that after a certain point, further increases cause a reduction in tax revenues, due to shrinking of the collectable tax base through tax evasion. Increasing tax rates is also unlikely to be politically salient, so a different solution should be considered. Since a reduction in essential services is also unlikely to be supported by the public, it may be worth looking at sectors or industries where there’s much growth potential. What type of agglomeration economy would be best fitted for Puerto Rico in the current market? Investing in Puerto Rico’s strength would increase the tax base and thereby also increase tax revenues.

A potential industry to consider is the tourism industry, given Puerto Rico’s geographical and natural resources advantage. Puerto Rico needs to increase its GNP rather than its GDP; Puerto Rico needs to generate economic value and keep that money on the island. Since the tourism industry brings in “new” money from the U.S. mainland or abroad, this injection of money may help stimulate consumption and overall economic activity. Potential incentives for innovation and growth in the tourism industry can include prizes, contests, targeted funding, tax breaks and publicity. In fact, much is already underway to increase tourism to Puerto Rico.

With Tourism, World Travel & Tourism Council 2020 Global Summit will take place in Puerto Rico, bringing many travelers and visibility to the location. Puerto Rico has officially created a Destination Marketing Organization, Discover Puerto Rico, which is a nonprofit entity that promotes destination and enhances long-term economic development of communities.
through travel and tourism. Discover Puerto Rico is responsible for promoting the island as a place for leisure travel, meetings, and conventions. A recent partnership between NYC & Company (New York City’s official DMO) and Discover Puerto Rico\textsuperscript{80} will encourage San Juan trips from NYC and NYC trips from Puerto Rico in addition to a sharing of business practices.

These recent activities have generated much publicity for Puerto Rico as a tourism designation. However, more can still be done to invest in a growing industry. Most notably, public utilities and infrastructure need to be developed to be reliable for citizens and visitors. While this requires an upfront investment and short-run loss, its potential to stimulate the local economy would result in a substantial long-term benefit. Politicians would need to be upfront to garner support from citizens and frame it as an investment into a booming industry that’ll produce future benefits.