Reviving the Puerto Rican Economy Requires A Big Push of Public Infrastructure Investment[1]

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Without a large infusion of investment the Puerto Rican economy will continue to slide downward and be a problem for United States. To bring about this investment, the Oversight Board and Revitalization Coordinator should support a Big Push of public infrastructure investment. This Big Push would entail $20 billion of investment during the FY2018 to FY2027 decade and would raise GNP by more than 10%, establish close to $7 billion of lasting annual production capacity, and create close to one hundred thousand new jobs. *Most important, this public infrastructure investment would alter the economic environment, laying the foundation for a lasting upsurge of private investment*.

Much of the $20 billion could be raised at reasonable interest rates once the current debt crisis is resolved and appropriate support from the federal government is established. One mechanism to accomplish the funding would be through the creation of a Rehabilitation Trust Fund (RTF). The RTF would be guided by the Oversight Board, and, under the Revitalization Coordinator, could both select and oversee infrastructure projects. Beyond borrowing for the projects, additional contributions to this $20 billion could come from reductions in debt service payments on existing debt, revenue from equal treatment in federal programs, and increased effectiveness of tax collection.

This Big Push proposal should be seen as an extension of Title V of PROMESA and could be promoted by a recommendation from the Task Force.

Overcoming Puerto Rico's immediate debt crisis is essential. Fixing the severe debt problems, however, will be little more than putting a bandage on a chronically ill patient. The real need is to revive the economy, to begin to generate sustainable growth.

Effective policies and major reforms must be initiated *immediately*. Private investment is essential, but conditions must be altered to attract private investment. *Puerto Rico cannot wait.*

Over the next decade public investment will be indispensable to re-establish economic growth. Not only will public investment increase growth and generate jobs, but, if targeted on much-needed infrastructure investment, it will create conditions that will directly support private activity, which will continue over the long-run.

The purpose here is to show the impact on economic growth and employment expansion of a decade-long, $20 billion Big Push of public investment. In addition, the potential sources of funding this investment will be laid out. The role that a Rehabilitation Trust Fund (RTF) could play in both the funding and implementation of the Big Push will be explained. To a large extent, this Big Push would be the implementation of Title V of PROMESA, "Puerto Rico Infrastructure Revitalization," and an RTF is a mechanism through which the Revitalization Coordinator could operate.

The Big Push for Economic Growth

Puerto Rico needs a game changer. The Big Push of public investment in infrastructure is the game changer that could set the economy on a rehabilitated path of development.

The Big Push would involve an immediate, very large increase of public infrastructure investment, followed by a tapering off towards a lower, but still substantial amount of public investment in subsequent years. In particular, this scenario calls for $20 billion of new public investment over ten years, with FY2018 as the first year. Twenty billion is an amount that is necessary to generate a substantial upsurge in the Puerto Rican economy, sharply raising output and employment, *and, crucially, providing a catalyst to a resurgence of private investment*. At the same time, when spread over a decade, $20 billion is a feasible amount, an amount that could be raised (as explained below) through borrowing and from other sources and that could be effectively spent.

Over the decade, the Big Push would raise GNP by more than 10% and would yield employment growth of nearly 100,000, roughly 10% above the FY2016 level. Yet, these estimates of the GNP and employment impacts are conservative *because they do not include the extent and impact of new private investment, which would surely be substantial. Indeed, the surge of public infrastructure investment, while valuable in terms of immediate growth and employment effects, is justified largely because of the impetus it will create for private sector development.*

The Big Push calls for $3 billion of new public infrastructure investment in each of the first two years of the decade (FY2018 and FY2019), $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. The results would be an immediate increase of GNP (as investment is part of GNP) and the creation of over 60,000 jobs connected, directly and indirectly (through the multiplier process), to the investment activity in each of those first two years. The levels of expanded output and of job creation generated by the investment activity itself would taper off in subsequent years as the level of new investment declines. However, by the third year, the investment activity would start giving rise to new production activity, as the new capacity comes on line. This new production would then augment the level of GNP and the level of employment.

By the end of the 10 year period, output and employment would be more than 10% higher than in FY2017, including both output from the new productive capacity created by the investment over the decade and the investment activity itself in that last year. As the new productive capacity from investment in the last two years of the decade comes on line in the subsequent two years, production and employment from new capacity would have risen by almost 7% as compared to FY2017. This would be continuing output and employment (assuming the productive capacity is maintained).

A summary of the investment and outcomes of the Big Push over the decade are shown in Table 1. Year to year investments and outcomes and explanation of the assumptions on which the figures are based are provided in Appendix A.

Table 1: Investment and Outcomes of the Big Push for Boosting the Puerto Rican Economy Over the FY2018 to FY2027 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

Beyond these gains by the end of the decade, two additional consequences of the Big Push should be emphasized. First, much of the increase comes in the first years of the decade, as the investment level is very high at the outset. By the five-year mark, output and employment would have each increased by over 8%. Second, and *especially important, this surge of new activity, by significantly altering the economic climate in Puerto Rico, would give rise early-on to new private activity, bringing gains well beyond those attributable to the public investment alone. While private activity resulting from the multiplier process generated by the investment spending is included in the impact estimates, the rise in private activity resulting from the improved investment climate is not included. Therefore, the expansion estimates in Table 1 should be viewed as conservative.*

Questions might exist as to whether or not Puerto Rico would be able to absorb the high rate of investment called for in the Big Push. That is, it might not be able to effectively invest funds in new infrastructure at such a high rate. Yet, given the starved condition of the economy, the large amounts of investment seem both necessary and reasonable. The roles of the Revitalization Coordinator, working under the Oversight Board, in exercising oversight of the choice and operation of projects, would reduce the likelihood of ineffective investments. Nonetheless, if the Big Push is rejected as unrealistic, more moderate approaches to rehabilitation of the Puerto Rican economy could be undertaken. In Appendix B one such more moderate approach is laid out.

The Source of Funds

The Big Push set out above would require $20 billion in new funds over the FY2018 to FY2027 decade, for an average of $2 billion each year. While the actual amount of funds needed would vary from year to year, 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.

The funds would come from four sources:

- Reduction in debt service payments on pre-existing debt;
- Government revenue from equal treatment in federal programs;
- Increased effectiveness of tax collection; and
- New bonds.

Table 2 lists the amount from each source for the “average” year (i.e., for $2 billion). Explanation of each category follow.

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

Reduction of Debt Service Payments
(one-third of reduction in debt service
of public enterprises and municipalities)………………………$450 million

Revenue from Equal Treatment in
Federal Programs (share that accrues
to the government)……………………………………………$200 million

Increased Effectiveness of Tax Collection
(10% increase in collection of individual
Income tax and an additional $100 million
from all other taxes)……………………………………..…$300 million

New Annual Borrowing
(RTF bonds at 5%)……...……………………………………$1,105.3 million

First Year's Interest on New Debt*..………………..…………-$55.3 million

Total………………..$2,000 million

* This set of sources of funds does not include funds to pay the interest on the new debt beyond the initial year of that 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 in subsequent years.

Reduction of Debt Service Payments. A reasonable resolution of Puerto Rico's debt crisis would result in a halving of the debt service payments of public enterprises and municipalities through some form of restructuring. In FY2016 (i.e., before any restructuring), total debt servicing payments due on Puerto Rico's public debt were about $4.7 billion. However, as much as $2 billion of this is servicing "General Obligation, Guaranteed and Publically Issued Appropriation Debt." The assumption here is that only the remaining debt service—i.e., $2.7 billion—will be halved. Also, it is assumed that, although the savings of $1.35 billion will directly accrue to public enterprises and municipalities, it will be available for general government use. Here it is further assumed that two-thirds of this, $900 million, will go to meet current needs (e.g., schools and other public services, maintenance of existing infrastructure, and the immediate needs of public enterprises). This will leave $450 million that that could be devoted to new public infrastructure investment.

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. Also, equal treatment would affect Medicare and Medicaid programs and other social support programs, "food stamps" in particular. Taken together, equal treatment in this set of programs would inject up to $1 billion annually to the Puerto Rican economy. 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 $200 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 10%, or roughly $200 million. From increased effectiveness in the collection of all other taxes, which accounted for $6.6 billion in revenue in FY2015, an additional $100 million could be raised. (The shift from the sales and use tax to a value added tax is ignored here, as its implementation is too uncertain at this time.)

New Annual Borrowing. While these three sources of funds totaling $950 million would be important, they would not be sufficient to fund the level 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 Oversight Board and Revitalization Coordinator well established, 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 has been charged recently on Puerto Rico's bonds). 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 $1,105.3 million each year. After allowing for the $55.3 million for first-year servicing of the 5% payment on this new debt (see note to Table 2), the net addition to funds would be $1,050 million and would bring the total available for new infrastructure investment to $2 billion each year. (If a Rehabilitation Trust Fund were created—see below—one of its major roles would be to manage the issuing of these new bonds, which should create additional confidence in the bond market.)

A Rehabilitation Trust Fund (RTF)

Through PROMESA, Congress has created the Oversight Board for Puerto Rico. This Oversight Board is to play a major role in restructuring the Puerto Rican government's debt and in guiding the government's fiscal and financial actions for some period to come. While there has been controversy regarding the extent of the Oversight Board's authority and duration, as conceived its purview seems to be limited to the two realms of debt restructuring and fiscal and financial oversight. These two realms are not enough.

As the discussion above indicates, a third realm must be added to the Oversight Board's charge: the rehabilitation of the Puerto Rican economy. Recognizing this need for setting the Puerto Rican economy on a path to economic growth, Congress also established in PROMESA the Task Force on Economic Growth in Puerto Rico with the charge of making recommendations, particularly on federal laws and programs, that would advance economic growth in Puerto Rico. Also, PROMESA specifies the establishment of a Revitalization Coordinator, who would have a major role in selecting and supporting major infrastructure investments in Puerto Rico.

A Rehabilitation Trust Fund, which is being proposed here for the Task Force to recommend, could be the instrument by which the Revitalization Coordinator could most effectively advance a growth agenda. Congress should authorize the Oversight Board to create and oversee the operations of the RTF. The RTF, under the direction of the Revitalization Coordinator and working with the Puerto Rican government, would play a determining role in selecting investments, organizing the financing of those investments, and overseeing their implementation. *This combination of roles is critical. The projects cannot proceed without financing, and the roles of the RTF selection and oversight of projects could create the confidence in bond markets that would facilitate raising funds at a moderate cost.*

Because the Oversight Board would be an instrument of the U.S. government and would be made up of people with widely recognized credentials of expertise and integrity, its roles overseeing the RTF would provide a foundation for confidence among potential investors. Those investors—i.e., purchasers of bonds floated by the RTF—would expect that the funds would be used for projects with substantial payoff in terms of economic expansion and catalyzing private investment. Moreover, they would expect that the projects would be run efficiently, eliminating concerns about waste and corruption. The economic growth generated by the RTF investments would yield rising tax revenue that would be the basis for paying off the bonds.

The confidence in RTF bonds by potential investors, based on their confidence in the Oversight Board, would make it feasible for the RTF bonds to pay reasonable interest rates—as opposed to the very high interest rates that have of late been demanded by investors on other Puerto Rican bonds. In the calculations used here to examine the impact and costs of a Big Push program, a rate of 5% on the RTF bonds is used.

Necessary Provisions

Because the payments on RTF bonds would come from the Puerto Rican government's tax revenue, some additional provisions are necessary in order to justify the assumption of a 5% rate of return on those bonds:

- Of primary importance is that the federal government will act to create a mechanism for restructuring a substantial part—half is assumed in the calculations above—of the Puerto Rican government's debt, resulting in a large reduction of the government's debt service obligations. This federal action is a necessary condition for Puerto Rico to re-enter the bond market.

- Furthermore, to ensure reasonable rates, the credibility and the reputation of the Oversight Board must be behind the bonds. In fact, after testing the market the Oversight Board may determine that U.S. Treasury assurance, perhaps a guarantee, is necessary. (Again, the possibility of federal guarantees is suggested in PROMESA.)

- Confidence in the RTF bonds (or any other Puerto Rican bonds) will also depend on the extent to which the government undertakes fiscal reforms. While these reforms should affect significant areas of government spending, *the primary change will need to be an increased effectiveness of tax collection*.

- Substantial improvement in the economy could be accomplished forthwith if the federal government would enact changes that would treat Puerto Rico in the same manner as the states with regard to major social support programs—in particular, the Earned Income Tax Credit, the Child Tax Credit, Medicare, Medicaid, the Supplemental Security Income program, and the Supplemental Nutritional Assistance Program.

Appendix A: Details of the Big Push

The estimates of the impacts of the Big Push 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. Applying the 1.5 multiplier to this job creation yields a figure of 20,550 for both the direct and indirect jobs created. (The rationale for this figure is explained below.)

- *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 because FY2016 data are not yet fully available.)

As to employment, past experience in Puerto Rico indicates that each $1 billion of investment is associated with 13,700 construction jobs in the year in which the investment is taking place, and public investment in infrastructure would be largely in construction. If the multiplier is 1.5, an additional 6,850 jobs would be created elsewhere in the economy in the year of the investment—thus a total of 20,550 jobs associated with the higher level of investment. 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.

Table A below sets out the year-by-year impact of the Big Push scenario.

Table A: The Big Push to Bolster the Puerto Rican Economy and Its Impact on Output and Employment

Fiscal Year	New public investment in infrastructure, billions of dollars	Direct and indirect increase of GNP, billions of dollars	Direct and indirect increase of employment	Increase of output due to new investment, billions of dollars	Cumulative increase of output due to the new investment, billions of dollars	Increase of employment due to the production	Cumulative increase of employment due to the production	Total increase of Output, billions of dollars	Total increase of employment
2018	3	4.5	61,650	0	0.00	0	0	4.50	61,650
2019	3	4.5	61,650	0	0.00	0	0	4.50	61,650
2020	2.5	3.75	51,375	1.00	1.00	13,875	13,875	4.75	65,250
2021	2.5	3.75	51,375	1.00	2.00	13,875	27,750	5.75	79,125
2022	2	3	41,100	0.83	2.83	11,563	39,313	5.83	80,413
2023	2	3	41,100	0.83	3.66	11,563	50,875	6.66	91,975
2024	2	3	41,100	0.67	4.33	9,264	60,139	7.33	101,239
2025	1	1.5	20,550	0.67	5.00	9,264	69,403	6.50	89,953
2026	1	1.5	20,550	0.67	5.66	9,264	78,667	7.16	99,217
2027	1	1.5	20,550	0.33	6.00	4,625	83,292	7.50	103,842
2028				0.33	6.33				
2029				0.33	6.66				

Appendix B: A More Moderate Approach

If the Big Push approach is not accepted, because of either political constraints or the belief that the economy cannot effectively absorb the early large amounts of investment, a more moderate approach could be initiated. An example of a more moderate approach presented here would still be based on $20 billion of new infrastructure investment over a decade, but the pattern of investment would be different—with a much smaller amount of investment in the initial years and building to larger amounts in later years.

Because the more moderate approach involves the same total amount of new investment over the decade as does the Big Push, the resulting production from new capacity (once all the capacity has come on line) is thus the same as with the Big Push. In the moderate scenario, however, in the first four years of the decade, the amount of this investment would be $1 billion, $1.5 billion, $2 billion, and $2.5 billion; in years 5 through 9, each year would see investment of $2.5 billion, and in the final year investment would drop back down to $2 billion. (See Appendix Table B.2 for the year-to-year pattern of investment of the moderate path and for the impact of that investment.)

At first, the moderate path might appear as preferable to the Big Push, as the levels of output and employment in year 10 are higher in the former than in the latter. This, however, is only a result of the output and employment from the investment activity itself, which is higher in the final years of the moderate path than in the Big Push. The increase in output from new productive capacity, as noted, is the same once the new capacity has come on line (which would be two years after the end of the decade of expansion). Furthermore, because the Big Push generates earlier expansion, the total amount of output and the total amount of jobs created are greater with the Big Push than with the moderate path. The total new output during the ten years associated with the new investment of the Big Push is $60.5 billion, while the moderate path generates $51.4 billion; similarly, the total job-years created during the ten years with the Big Push is 834 thousand, while only 708 thousand job-years are created by the moderate path. Table B.1 compares aspects of the Big Push and the more moderate approach.

Because the two approaches involve the same amount of total investment over the decade, both would be based on the same funding sources described earlier. Also, the assumptions on which the Big Push calculations are based, as described in Appendix A, are also used as the basis for the calculations of the more moderate approach.

While the Big Push has clear advantages (Table B.1), it also has a potential important advantage that is not so clear. With the large injection of funds in the early years, it could have a greater impact of “jump starting” private investment. Ultimately, it is this private investment that would place the Puerto Rican economy back on a growth path.

Table B.1: Outcomes of Two Scenarios for Boosting the Puerto Rican Economy Over the FY2018 to Fy2027 Decade*

	The Big Push	The More Moderate Approach
Public Infrastructure Investment	$20 billion	$20 billion
New Lasting Output Capacity	$6.67 billion	$6.67 billion
New Lasting Jobs Created	92.5 thousand	92.5 thousand
Total Addition to Output During the Decade	$60.5 billion	$51.4 billion
Job-Years of Employment Created During the Decade	834 thousand	708 thousand

* Both scenarios have the same overall new investment and therefore the same new lasting output capacity created and the same new lasting jobs created. However, with the Big Push, jobs and output come earlier and therefore, as compared to the more moderate approach, more output is generated and more job-years of employment created during the decade. Moreover, with the earlier generation of output and jobs, the Big Push is likely to elicit an earlier and larger upsurge of private investment, which is not included in the figures here.

Table B.2: The Moderate Path Approach to Bolster the Puerto Rican Economy and Its Impact on Output and Employment

Fiscal Year	New public investment in infrastructure, billions of dollars	Direct and indirect increase of GNP, billions of dollars	Direct and indirect increase of employment	Increase of output due to new investment, billions of dollars	Cumulative increase of out-put due to the new investment, billions of dollars	Increase of employment due to the new production	Cumulative increase of employment due to the new production	Total increase of output, billions of dollars	Total increase of employment
2018	1	1.50	20,550	0.00	0.00	0	0	1.50	20,550
2019	1.5	2.25	30,825	0.00	0.00	0	0	2.25	30,825
2020	2	3.00	41,100	0.33	0.33	4,625	4,625	3.33	45,725
2021	2.25	3.38	46,238	0.50	0.83	6,938	11,563	4.21	57,800
2022	2.25	3.38	46,238	0.67	1.50	9,250	20,813	4.87	67,050
2023	2.25	3.38	46,238	0.75	2.25	10,406	31,219	5.62	77,456
2024	2.25	3.38	46,238	0.75	3.00	10,406	41,625	6.37	87,863
2025	2.25	3.38	46,238	0.75	3.75	10,406	52,031	7.12	98,269
2026	2.25	3.38	46,238	0.75	4.50	10,406	62,438	7.87	108,675
2027	2	3.00	41,100	0.75	5.24	10,406	72,844	8.24	113,944
2027				0.75	5.99				
2029				0.67	6.66				

[1] An earlier version of this paper appeared as Hexner, J. Tomas, and MacEwan, Arthur, "Reviving the Puerto Rican Economy Requires a Rehabilitation Trust Fund, Center for Global Development and Sustainability, Working Paper Series, 2016-2, Brandeis University, April 2016 (with a forward by R. Godoy), http://heller.brandeis.edu/gds/pdfs/reviving-the-puerto-rican-economy.pdf.

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