



Government of Puerto Rico 2023 Tax Reform

Assessment

2/24/2023



The questions we are trying to answer

Given the 2023 Tax Reform:

1. What is the impact on Short-term Growth, current environment?
 2. What is the impact on Long-term Real GNP Growth?
 3. What is the cost to the government?
 4. What is the impact on labor market, investment?
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Our Approach: Expand the Anchor Fiscal Plan Model



The Government of Puerto Rico Fiscal Plan Model of GNP and Population:

$$\textit{Original Model: } \begin{pmatrix} \Delta GNP_t \\ \Delta POP_t \end{pmatrix} = f \begin{pmatrix} X_1 & 0 \\ 0 & X_2 \end{pmatrix} + \begin{pmatrix} \epsilon_{1,t} \\ \epsilon_{2,t} \end{pmatrix}$$

Expanded to include Corporate and Individual Income Tax Reform...

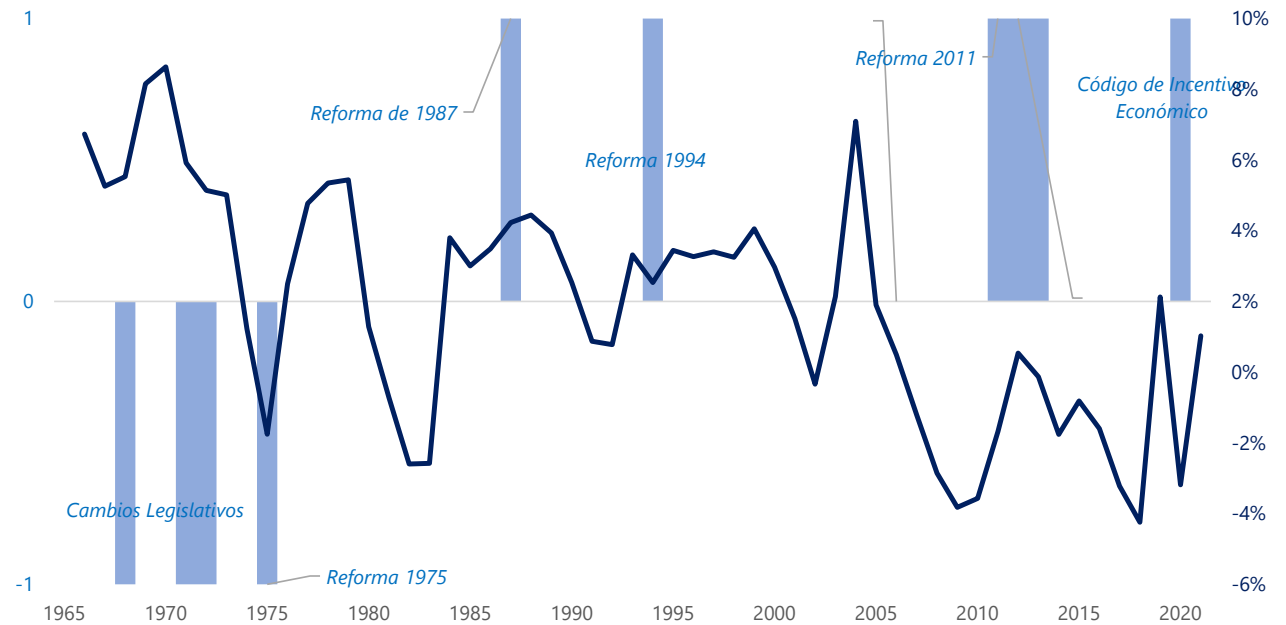
$$\textit{Expanded Model: } \begin{pmatrix} \Delta GNP_t \\ \Delta POP_t \\ \Delta CIT_t \\ \Delta IIT_t \end{pmatrix} = f \begin{pmatrix} X_1 & 0 & 0 & 0 \\ 0 & X_2 & 0 & 0 \\ 0 & 0 & X_3 & 0 \\ 0 & 0 & 0 & X_4 \end{pmatrix} + \begin{pmatrix} \epsilon_{1,t} \\ \epsilon_{2,t} \\ \epsilon_{3,t} \\ \epsilon_{34t} \end{pmatrix}$$



Many Tax Reforms In 1965-2023

- PRI has complex and diverse tax reform history
- Indicator is 0 if no reform, 1 or -1 if a reform decreases or increases tax burden
- Insufficient years to distinguish the specific reforms. Individual tax reform is a subset of corporate.

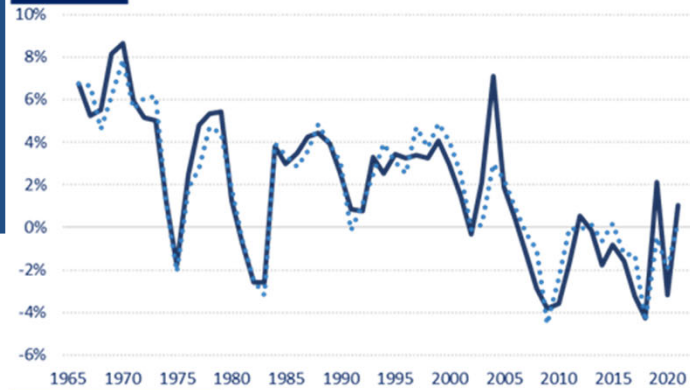
GNP and Corporate Tax Changes
(+1 is a year with decline in corp. tax burden)



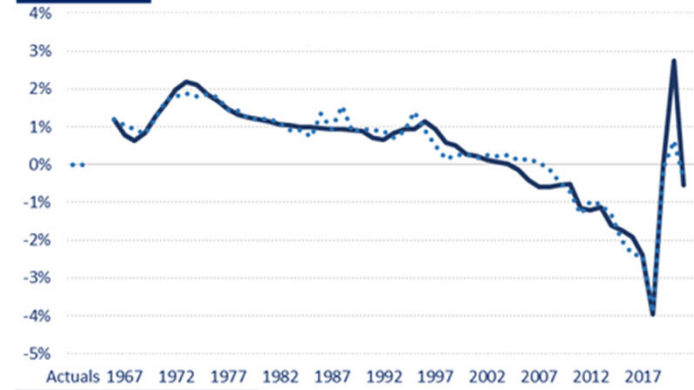
PRI Model Continues to Perform



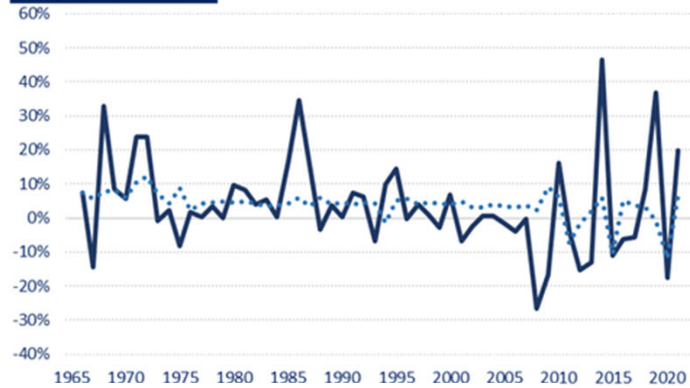
Real GNP



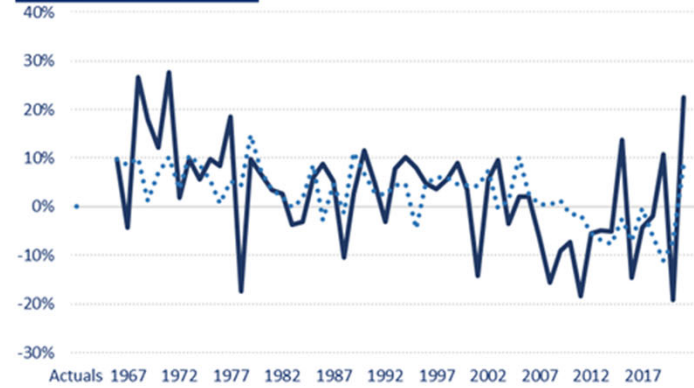
Population



Corp. Income Tax



Personal Income Tax



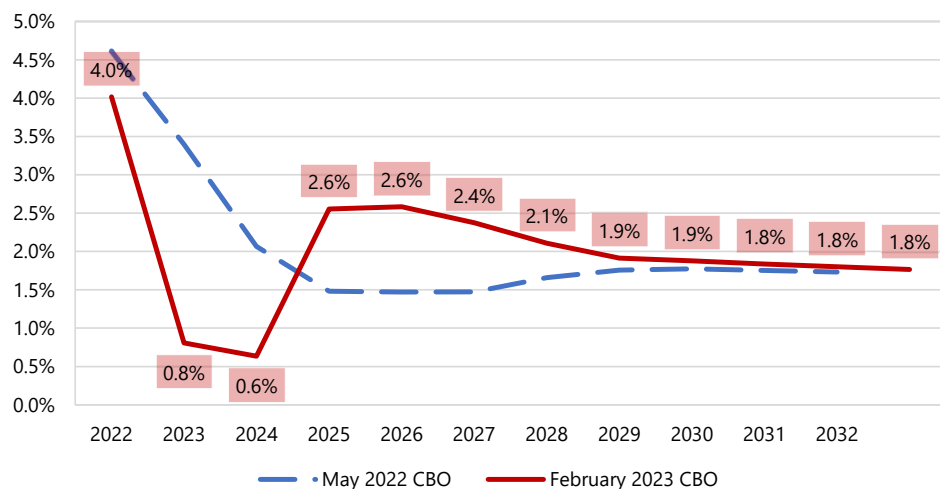
— Actual Model Fit



1. What is the impact on Short-term Growth, current environment?

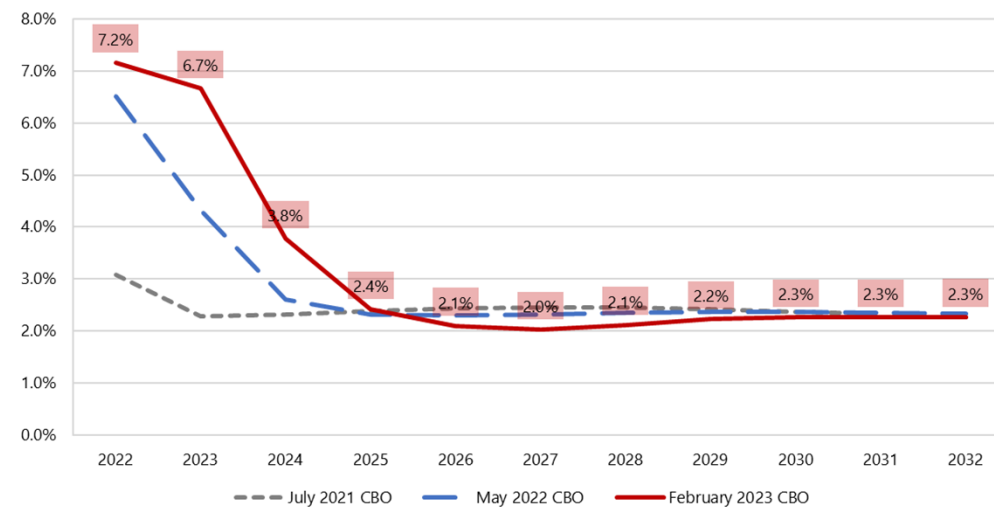
The external environment is quickly becoming unfavorable

CBO Economic Outlook: US Real GDP Growth (PR FY Basis)



Real GDP growth is sharply decelerating...

CBO Economic Outlook: US Consumer Price Inflation (PR FY Basis)



As monetary tightening fights historic inflation levels



1. What is the impact on Short-term Growth, current environment?

This reform comes at a good time

- The corporate tax reform is estimated to add \$140 million in stimulus in the first year; 0.2% of GDP stimulus in FY 2024
 - The individual income tax reform is estimated to add \$200 million in stimulus in the first year, 0.3% of GDP in FY 2025. Income tax reform takes longer to affect the economy.
 - This reform comes at a good time:
 - Counter-inflationary - tax reform lowers prices as corporate tax savings pressure CPI downward;
 - Counter-recessionary – as growth slows, stimulus works to counter monetary policy tightening
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2. What is the impact on Long-term Real GNP Growth?

In 2025 PRI GNP will be \$390 million higher than “no reform”



Tax Cuts are associated with a 1% increase in GNP growth rate

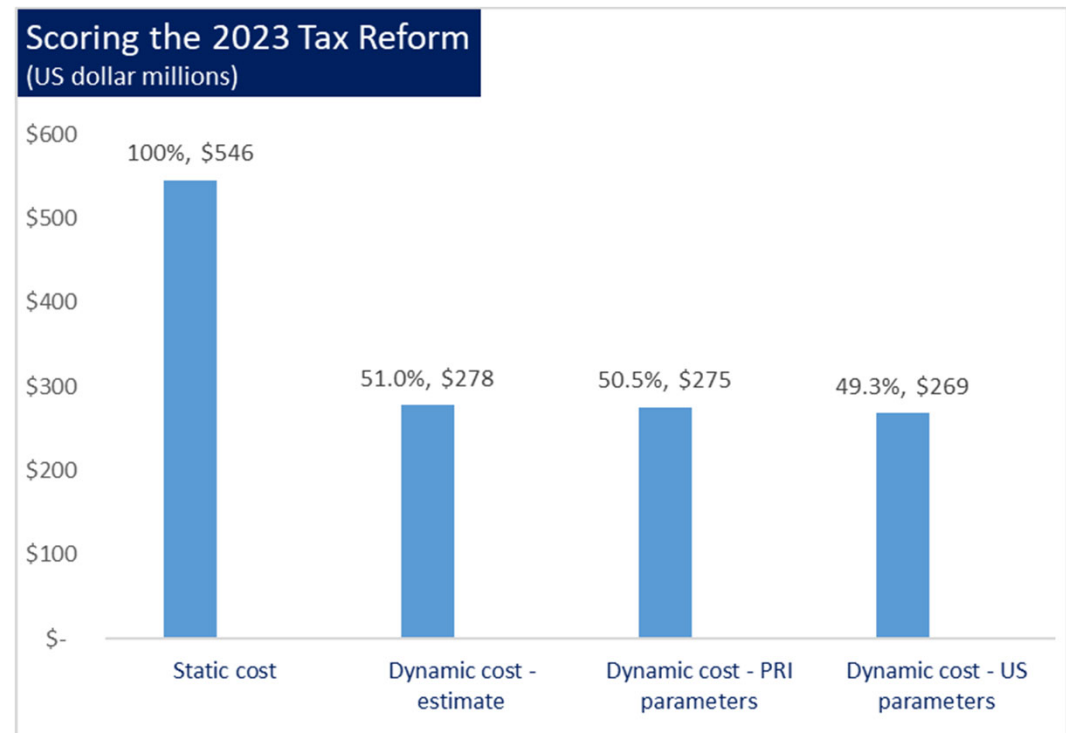
- The model obtains a statistically significant estimated coefficient of 0.86 (result 12 of the estimation table) for the tax reform indicator
- On average, a tax cut is associated with an increase in real GNP growth of nearly one percentage point,



3. What is the cost to the government?

Economic growth and other factors from the reform pay half its cost

- The Government's Fiscal plan model estimates 51% cost recovery.
- Parameters from the official tax and national accounts data suggest 51% cost recovery
- Dynamic cost is Makiw and Weinzierl [2006] U.S. parameter values for Puerto Rico, suggest 49%





4. What is the impact on labor market, investment?

Approximately 15,000 new Puerto Ricans in the economy



Tax Cuts are associated with a 0.5% increase in population growth rate

- The model results suggest an immediate jump in population (and concurrent labor market participation)
- This is due to the tax reform delivering an increase in real wages.
- This effect tends to be stronger in PRI's labor market, which shows traits consistent with monopolistically competitive employers.



END
