



ACCELERATING GOVERNMENT INFRASTRUCTURE INVESTMENTS: BOON OR BANE?

Arielle Fajardo

Frabert Dela Cruz

Department of Budget and Management

October 25, 2024



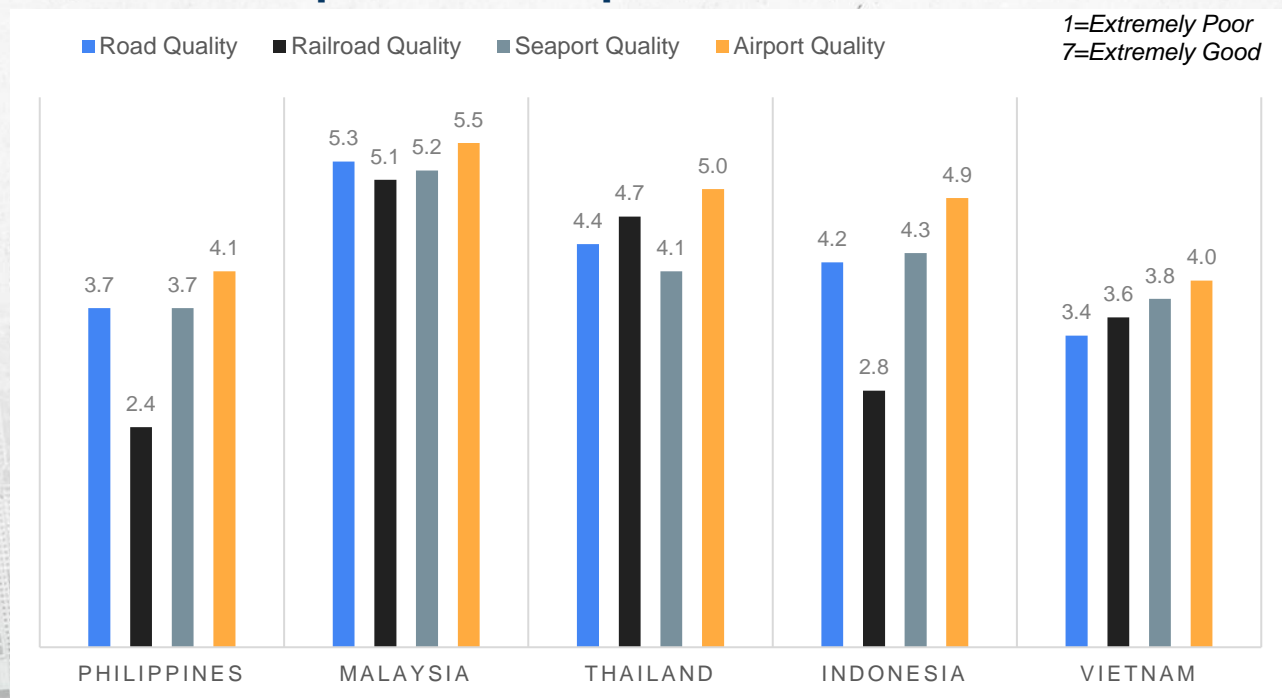
Outline

- *Infrastructure Development as a Growth Strategy*
- *Objective of the Analysis*
- *Overlapping Generations Model*
- *Macroeconomic Impacts of Infrastructure Development Strategy*
- *Conclusion and Ways Forward for Future Analysis*



Infrastructure development is at the forefront of the Philippine growth strategy

2019 Global Competitiveness Report



“Infrastructure facilities and services remain inadequate in terms of accessibility, quality safety, and affordability”

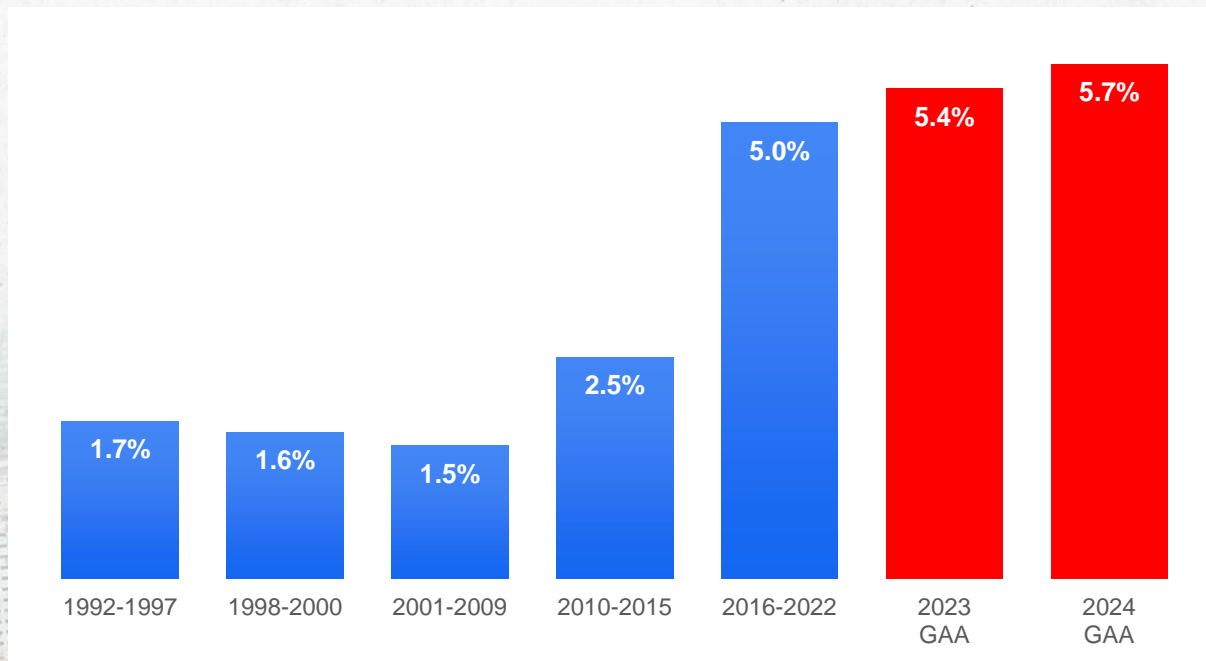
“To enable economic transformation for a prosperous, inclusive, and resilient society, the overarching objective for the infrastructure sector over the medium term is to **Build-Better-More.”**

PDP 2023-2028



The Administration aims to reverse the underinvestment in infrastructure through the “Build-Better-More” Program

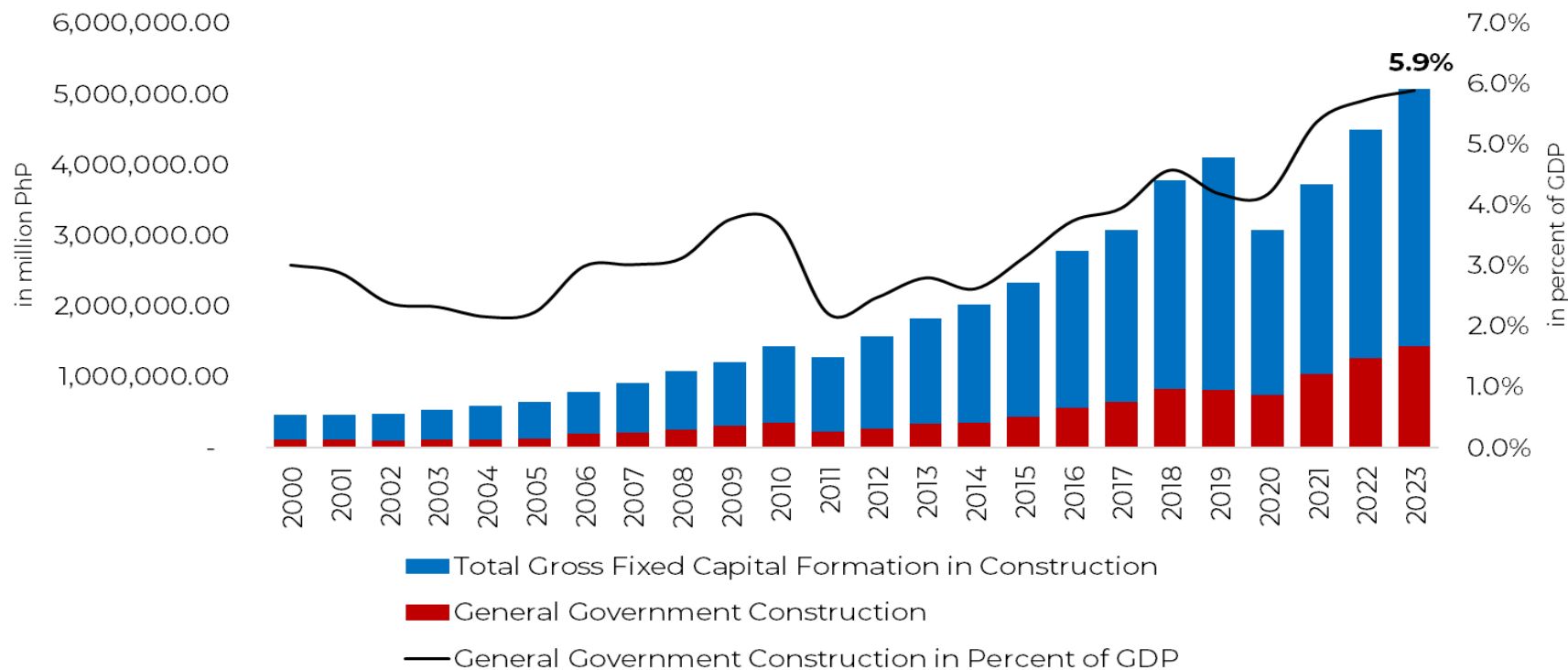
Infrastructure Outlays
(% of GDP)



Notes:
Infrastructure outlays for 1992 to 2022 are actual obligations.
The levels for 2010-2018 are obligation-based, 2019 onwards are cash-based.



Consistent with our commitment to upgrade infrastructure, the share of general government construction to GDP continues to rise



Data Source: PSA



Objective

Forecast the long-term impact of the current infrastructure development strategy to the macroeconomic performance of the Philippines.

Specifically, the impact on the following indicators are measured:

- **GDP Growth**
- **Fiscal Indicators**
- **Debt-to-GDP**



Overlapping Generations Model for the Philippines (OG-PHL Model)

- A dynamic general equilibrium modeling framework with heterogeneous agents and multiple production sectors and consumption goods which allow for distributional analysis within and across generations
- Parameters are set to represent the Philippine economy:
 - Matched PH gini coefficient
 - Size of Production Sectors represent relative size in PH economy
 - Policy Parameters are set to represent Philippines' tax system
 - Input-output mapping
 - Demographics
 - Household consumption and lifetime earnings processes
 - Firm production functions
 - Macro parameters (long-run growth, govt interest rate)

Source: DeBacker and Evans (2024)



Calibrating Government Spending Parameters

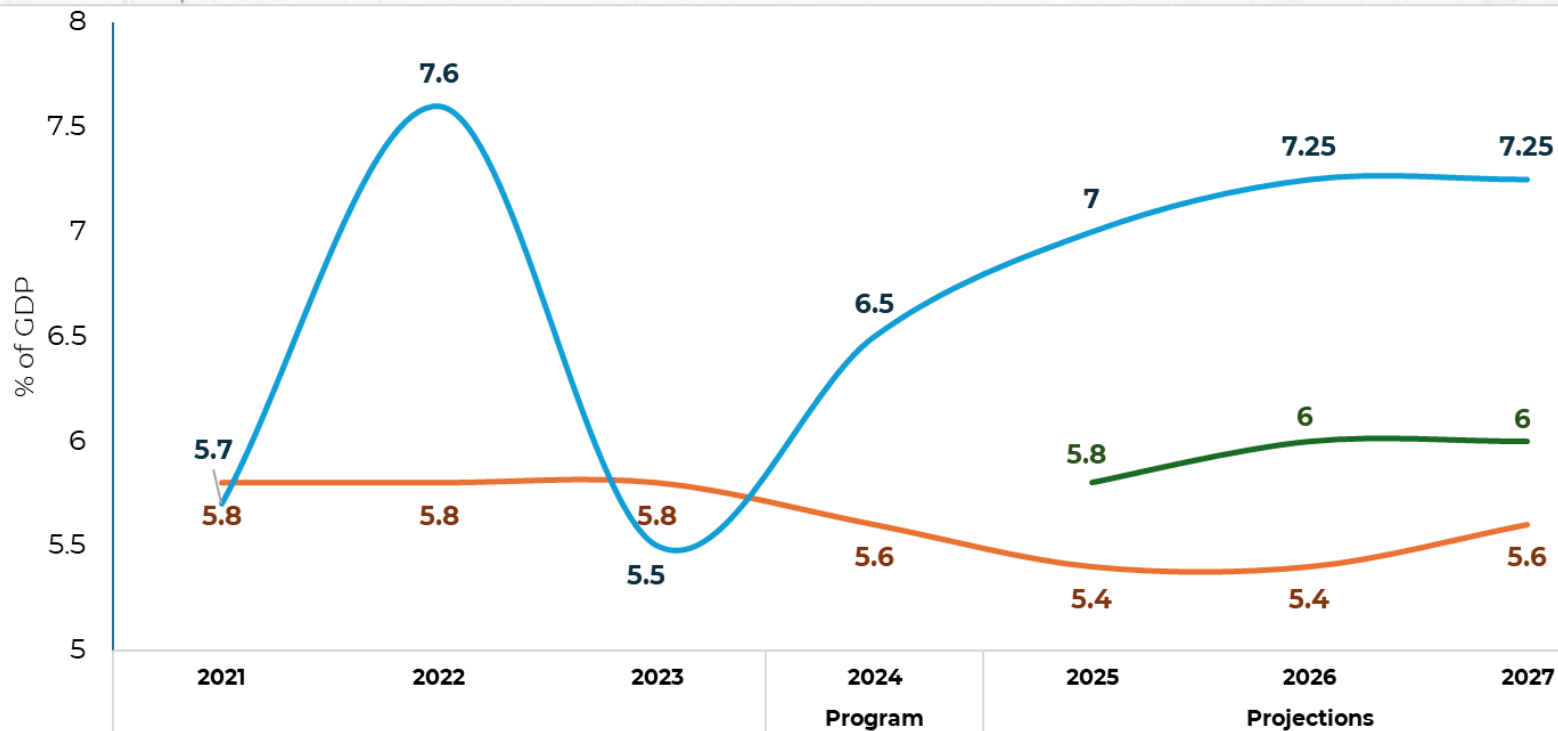
- Government spending as a share of GDP (α_t^G) and government spending on infrastructure as a share of GDP (α_t^I) have been calibrated to reflect the forecasts in the 2025 National Fiscal Program.
- Increased preference for infrastructure

	2025	2026	2027
Baseline α_t^G	21.5%	20.9%	20.7%
Baseline α_t^I	5.2%	5.4%	5.6%

Source: National Fiscal Program Table A2 in the 2025 Budget of Expenditures and Sources of Financing

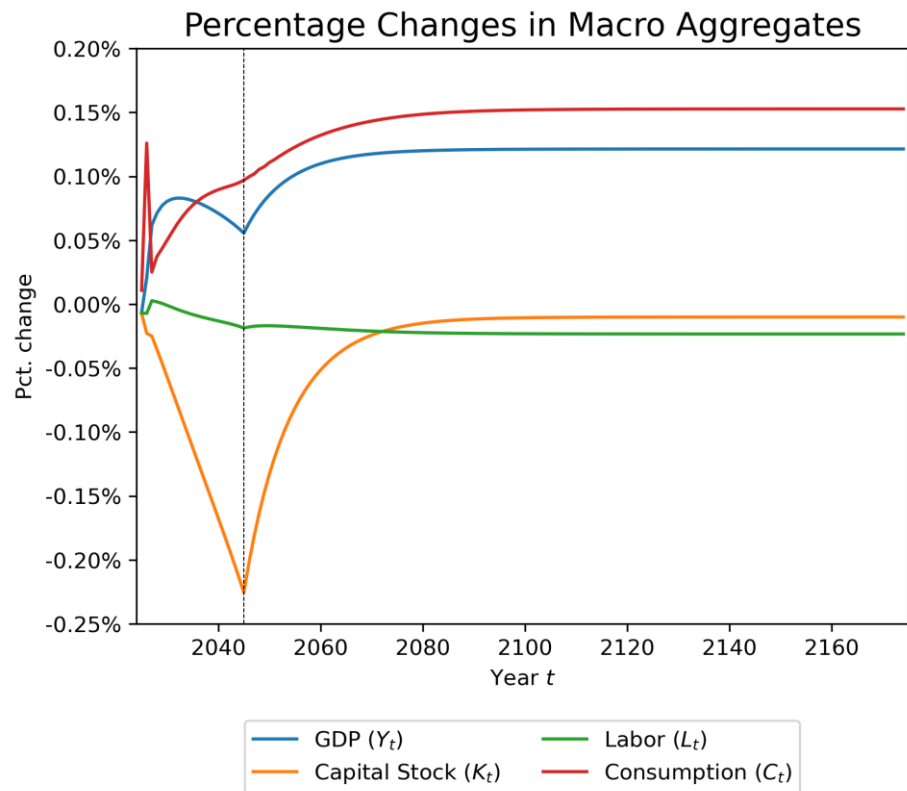


Baseline and Reform Scenarios



— Infrastructure Reform — DBCC Infrastructure Projections (Baseline) — NG Real GDP Growth Projections (Baseline)

Impact on Macro Aggregates

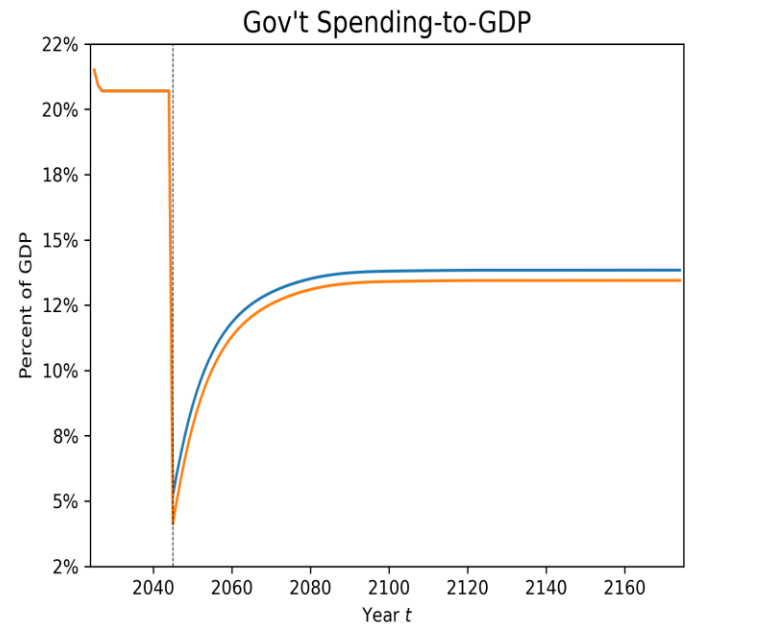
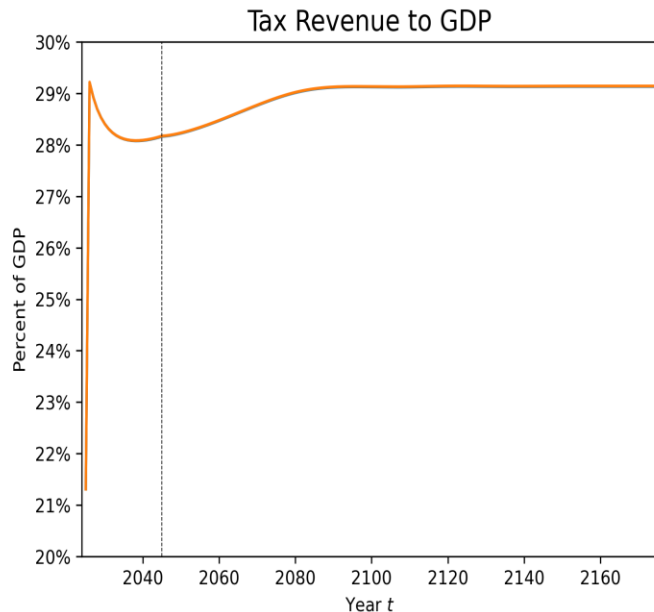


GDP growth will be higher by a small margin compared to the baseline. Crowding out of private capital is expected. GDP growth will slow down as capital stock declines.



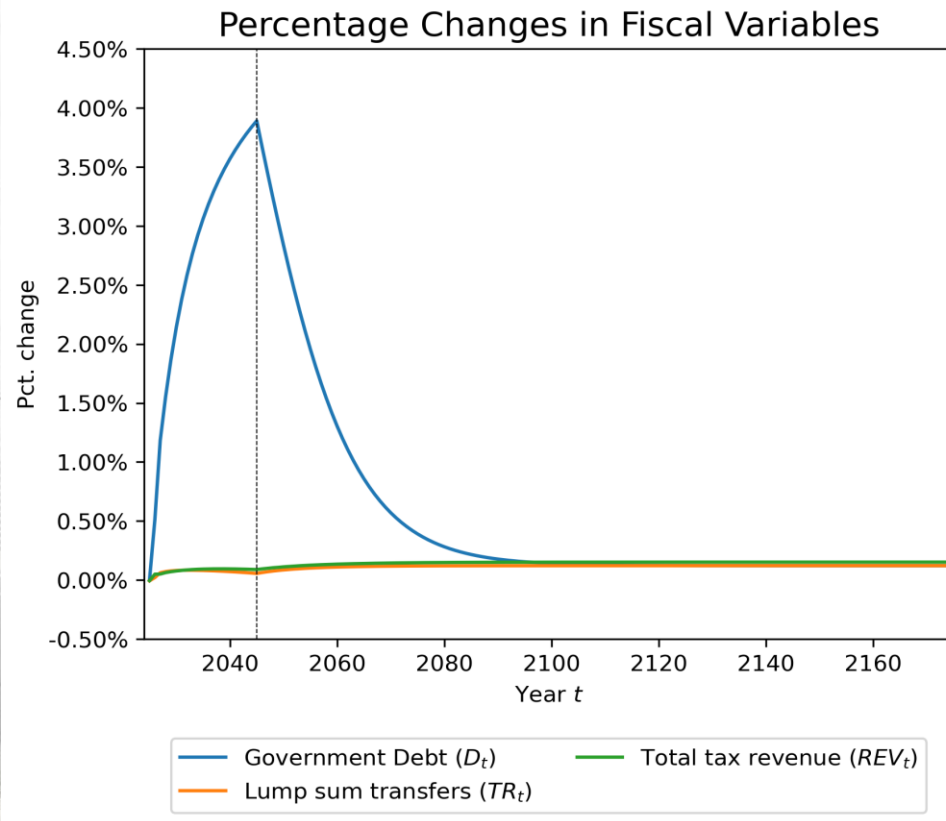
Tax revenue projections are higher compared to DBCC projections (14 – 15.9% of GDP).

Disbursements reflect DBCC projections (20-21 % of GDP)

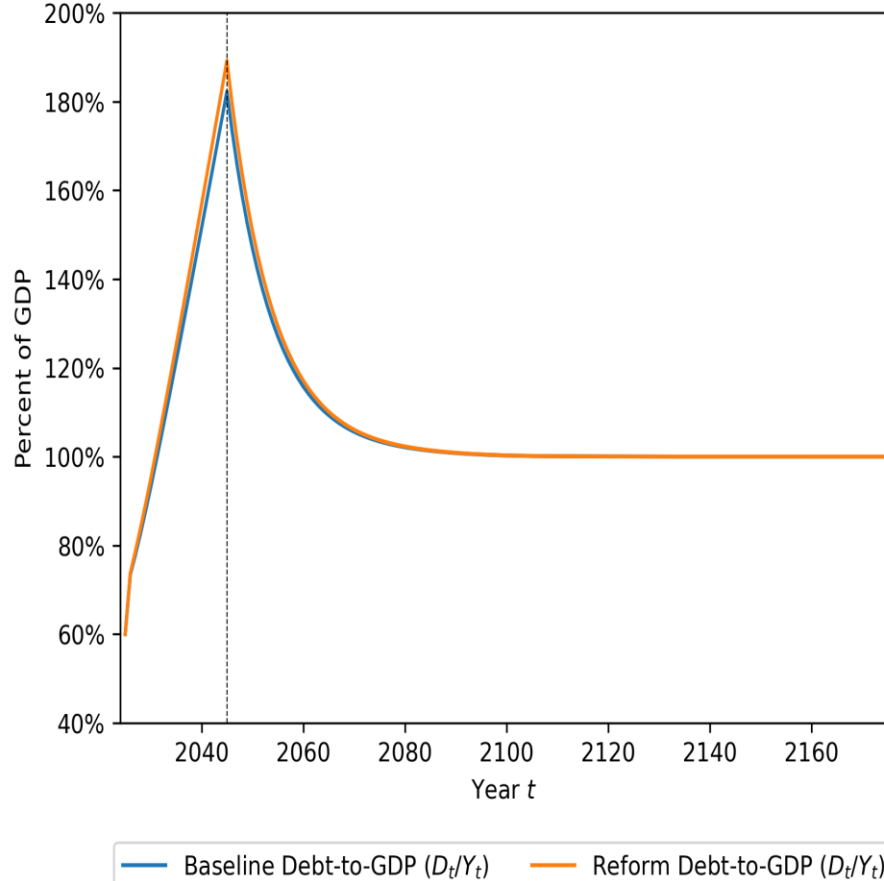


Impact on Fiscal Indicators

Government debt will increase by 4% while revenues and lump sum transfers are expected to be stationary.



Debt-to-GDP



With the reform, debt-to-GDP ratio will approach 190% of GDP in 2040. The baseline scenario is also expected to increase.

Conclusion

- Raising government spending on infrastructure will lead to a marginal increase in GDP growth but will also result in crowding out and higher debt-to-GDP ratio if revenue-to-GDP ratio stays constant.
- Revenue-generating measures, mobilization of private investment in infrastructure and other funding mechanisms for infrastructure projects (i.e. public private partnerships) may be considered to prevent the jump in debt-to-GDP ratio.



Ways Forward and Additional Research Questions of Interest to DBM

- Way Forward for Infrastructure Investment Reform Analysis
 - Calibrating revenues to more accurately reflect current status in the Philippine economy
 - Introducing other sources or modalities of funding infrastructure investment
 - Forecast the impact of the recently-enacted Public Private Partnerships Code
- Additional Research Questions:
 - Macroeconomic impact of increasing social transfers and subsidies to different sectors (i.e. machinery for agriculture, fuel subsidies for the transport sector)
 - Macroeconomic impact of electricity discounts for low-income households





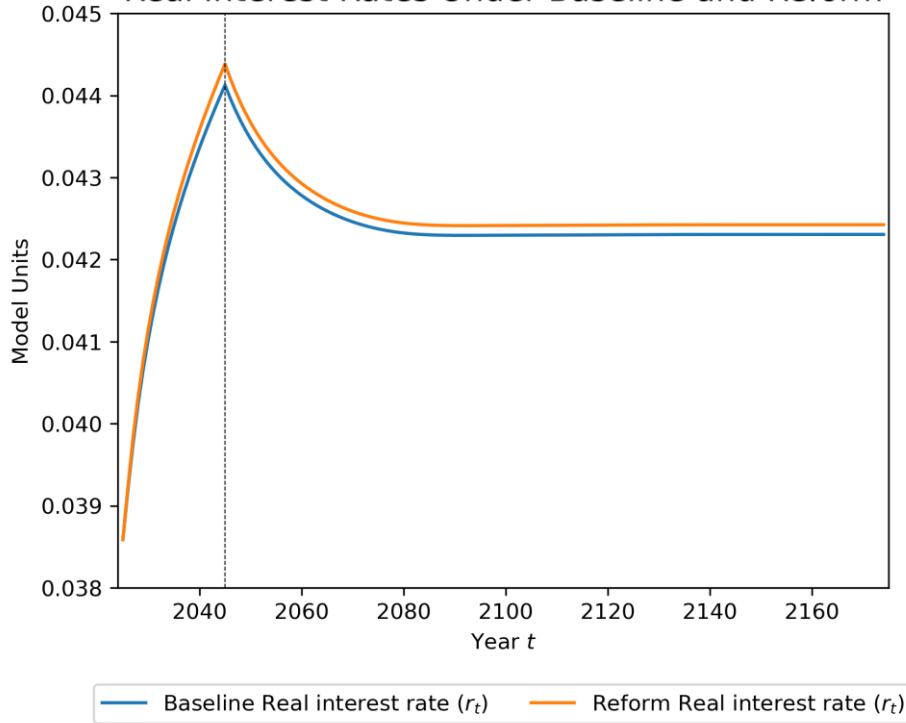
Thank you!

Department of Budget and Management

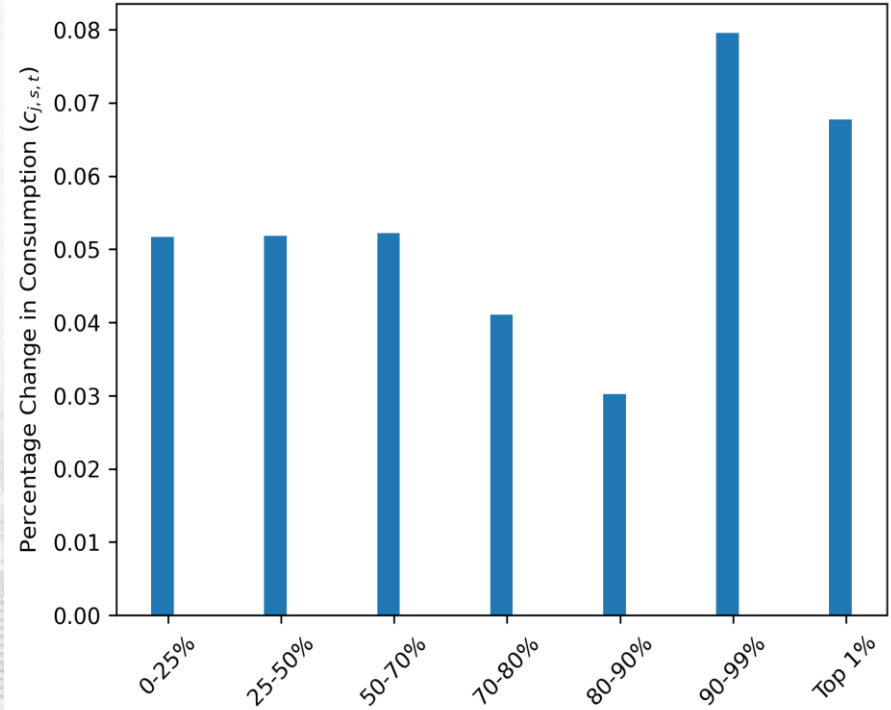


Results

Real Interest Rates Under Baseline and Reform

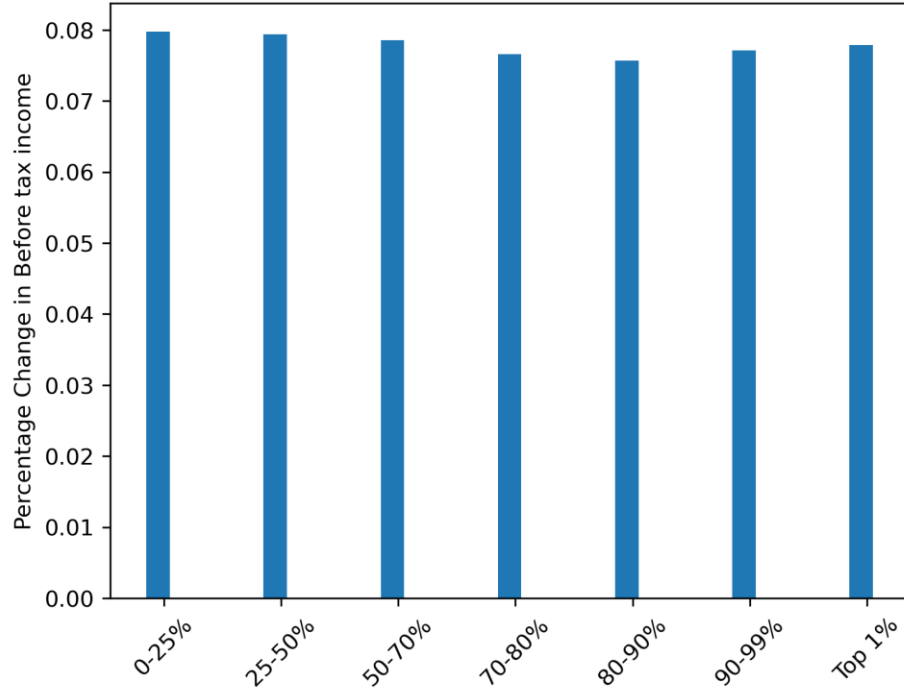


Percentage changes in consumption

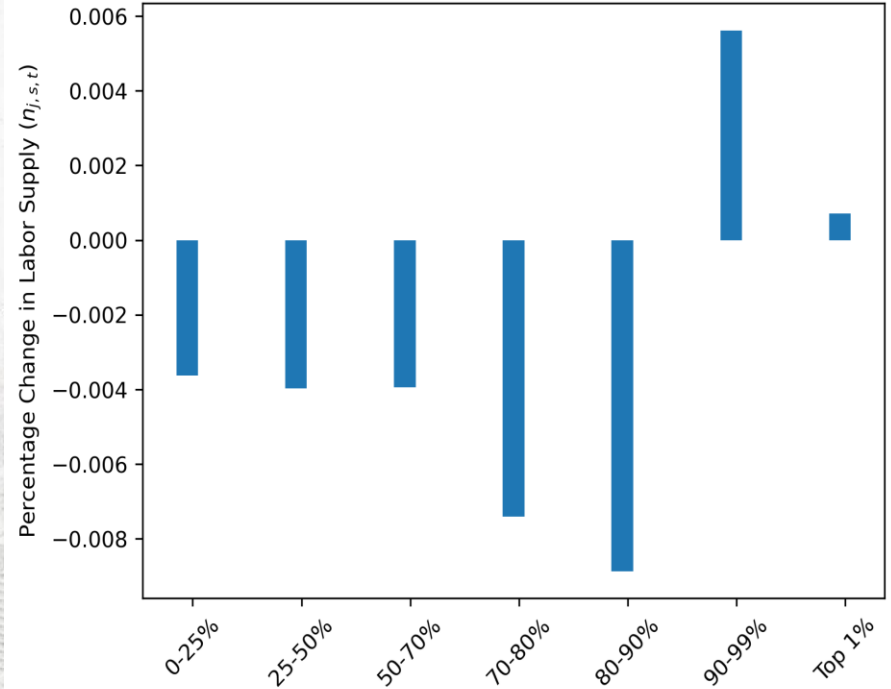


Results

Percentage changes in before tax income

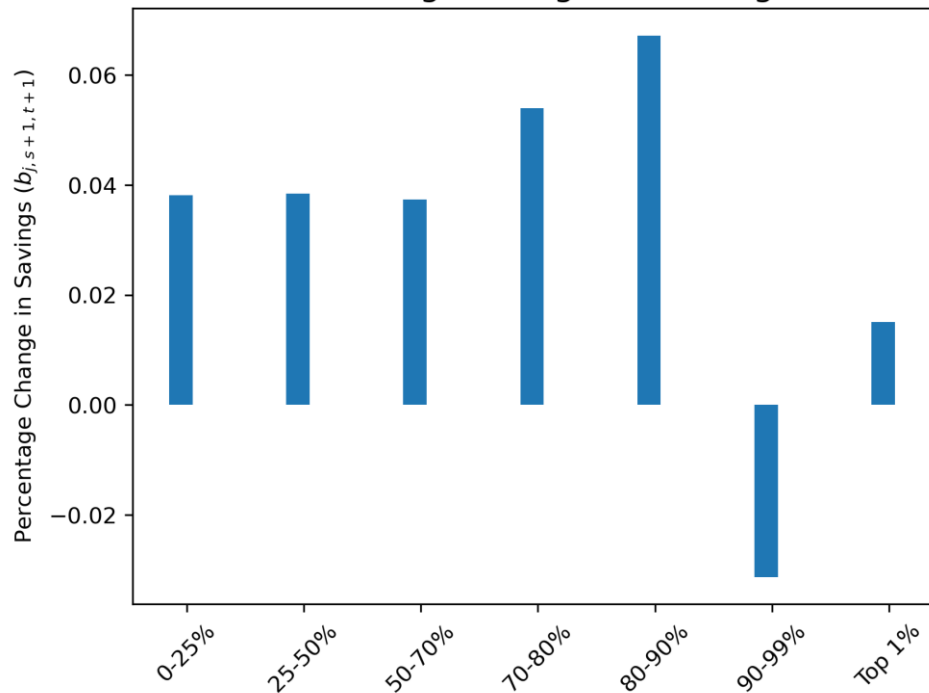


Percentage changes in labor supply

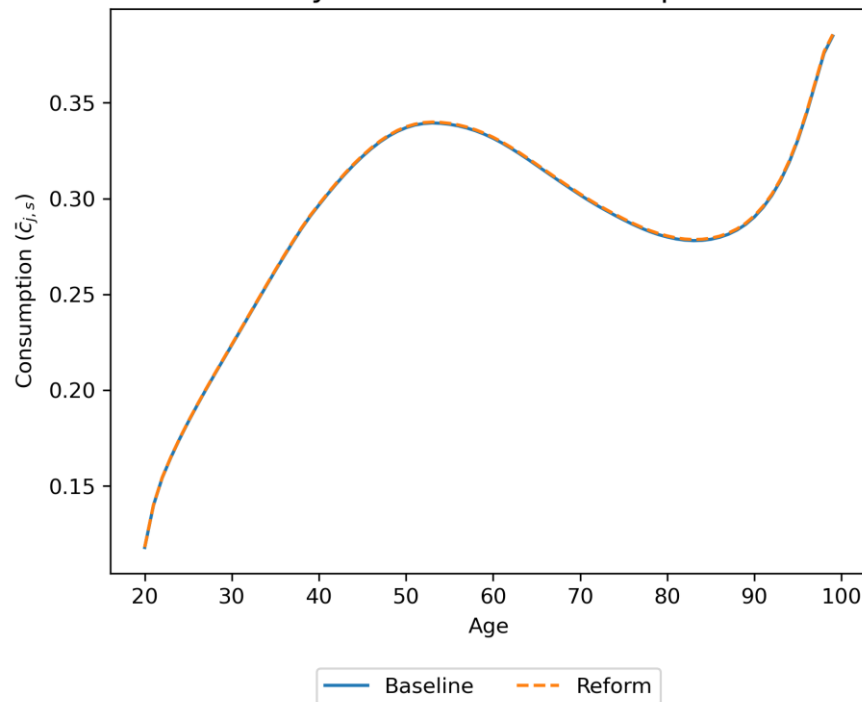


Results

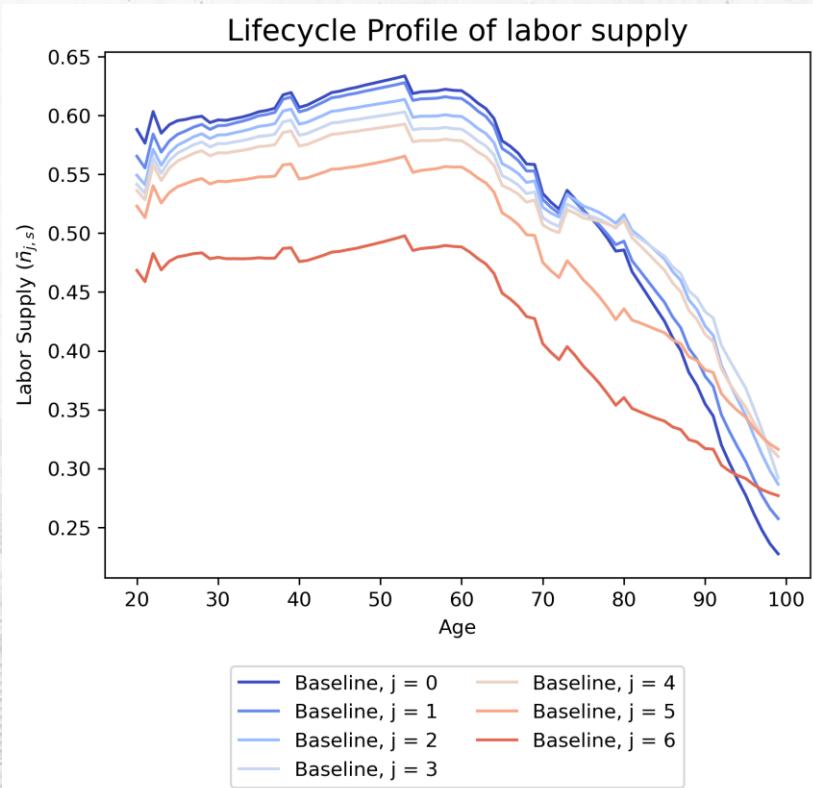
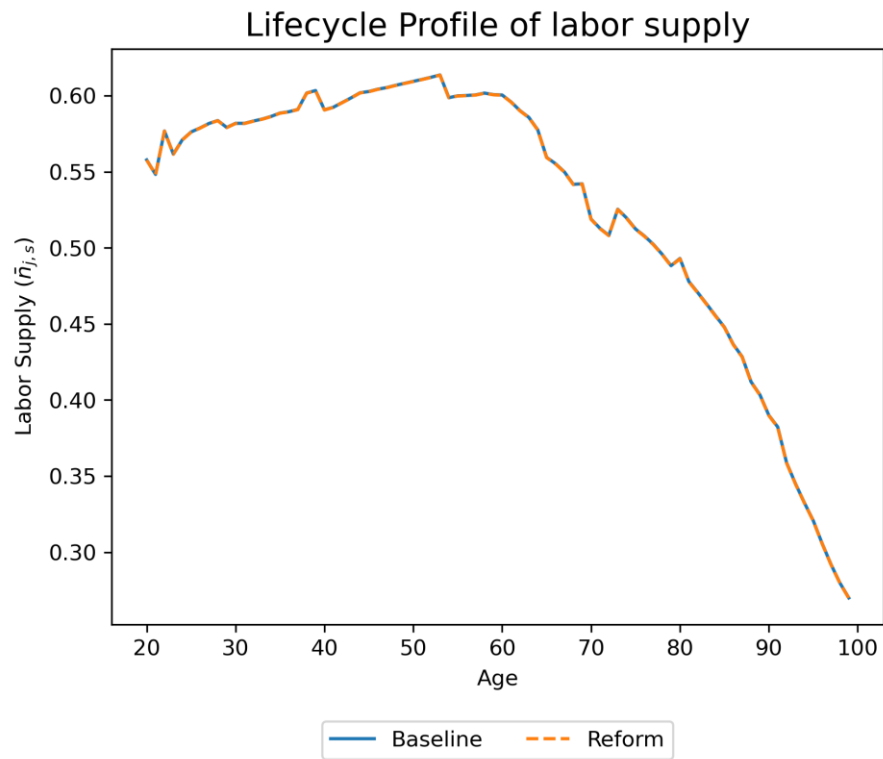
Percentage changes in savings



Lifecycle Profile of consumption

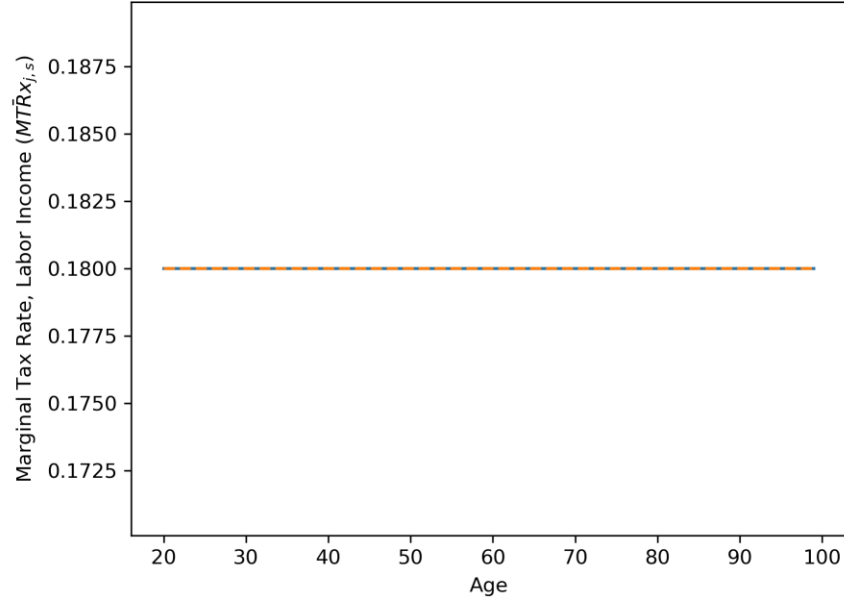


Results

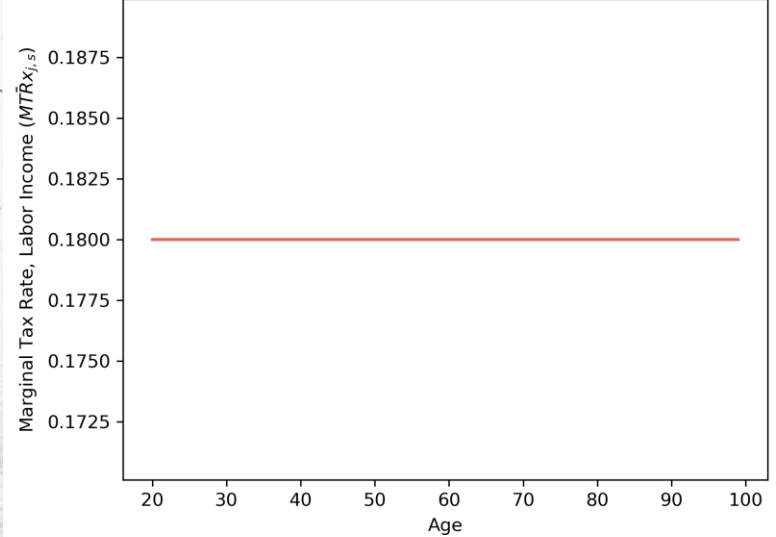


Results

Lifecycle Profile of marginal tax rates on labor income



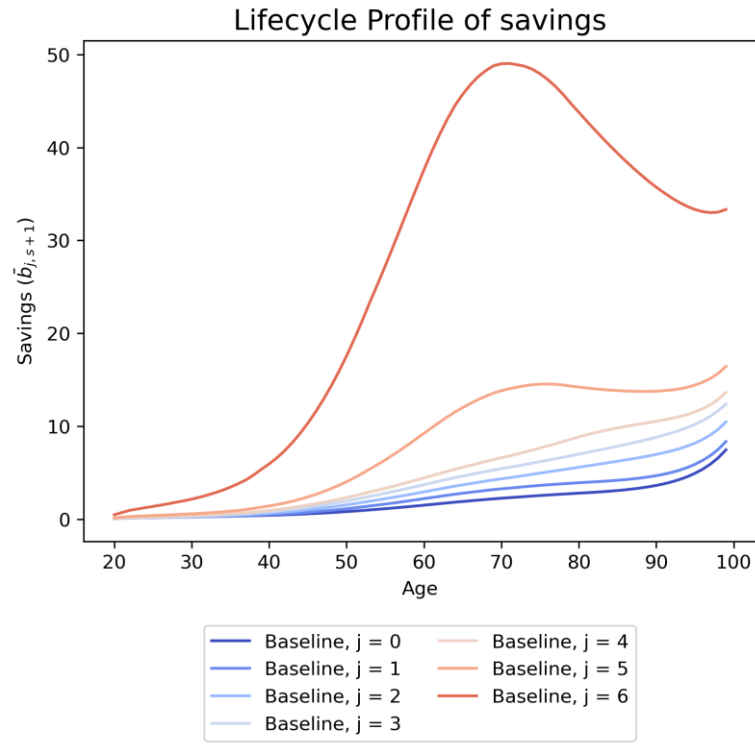
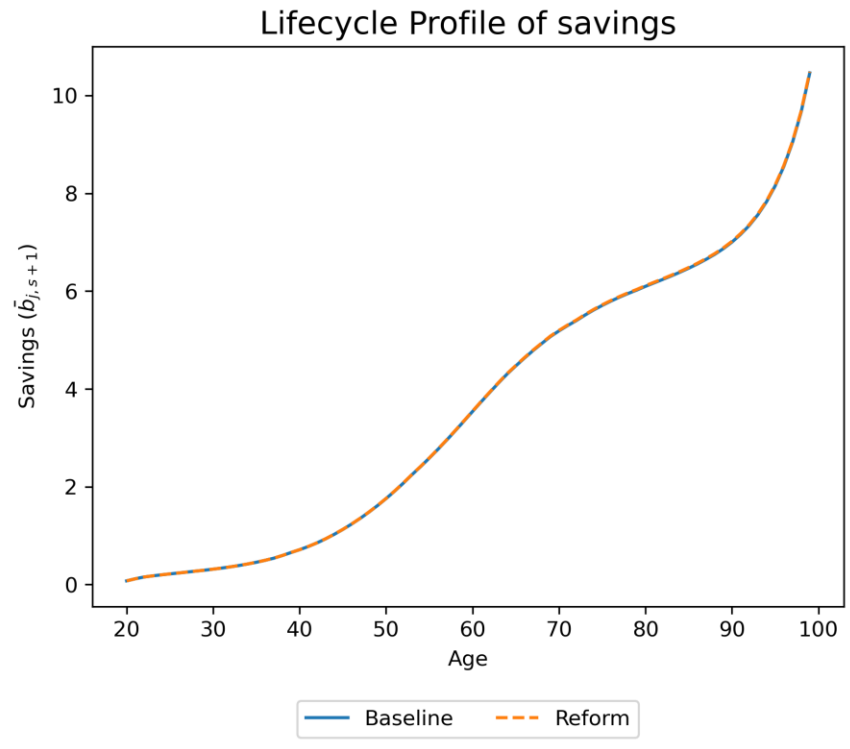
Lifecycle Profile of marginal tax rates on labor income



- Baseline, j = 0
- Baseline, j = 1
- Baseline, j = 2
- Baseline, j = 3
- Baseline, j = 4
- Baseline, j = 5
- Baseline, j = 6



Results



Results

