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Public Debt Issuance Framework and Intergenerational Equity

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RECOMMENDATION

We propose a Debt Issuance Framework that allows the Government to issue debt for budgeted expenditures while still maintaining intergenerational equity. Under the framework, debt is issued for the purpose of financing development expenditures exclusively. Debt is amortised and serviced through a combination of user fees and taxes. Specifying expenditures ensures debt is only used to finance productive investments that earn a social return, and the repayment of debt ensures future generations are not burdened with an accumulation of debt.

Issuing debt with such a framework allows the Government to create substantial fiscal space in its budget but remain fair to all generations. A simulation of the framework under certain assumptions shows that the Government can create fiscal space of more than S$80 billion from 2021–2025. Further results are shared in *IPS Working Papers No. 38.*

CONTEXT & ANALYSIS

Singapore's long-term management of its fiscal policies has been one that emphasises a prudent and disciplined approach to intergenerational responsibility. While the Government currently issues three types of debt securities, under the Government Securities Act (1992), the borrowing proceeds from the issuance of these securities cannot be spent and are instead invested by the sovereign wealth funds (SWFs).

Our central concern is to analyse how the Government can issue and manage debt for budgetary expenditures while maintaining intergenerational equity. By conducting an ethical and economic analysis, we find that the relationship between debt and intergenerational equity is not simple, but that debt can be welfare-improving if used for worthy public investments. We therefore propose a Debt Issuance Framework that specifies how funds raised by debt should be spent and paid back.

PUBLIC DEBT AND INTERGENERATIONAL EQUITY IN SINGAPORE

IPS Working Papers No. 32 (Shih, 2018) found four principles of intergenerational equity relevant to Singapore. Each principle provides guidance to the current generation's obligations to future and past generations in the allocation of fiscal resources, and each principle is

determined by a notion of sufficiency, equality, reciprocity or benefits.

From these principles, we infer that the Government's position on public debt follows the simple application of the benefit principle: debt financing is permitted for long-term infrastructure investments because of its intergenerational benefits, but current expenditures should be financed by current revenues because it only benefits the current generation.

We argue, however, that the sole application of the benefit principle on public debt may be problematic. To see this, note that a more comprehensive application of the benefit principle would recognise that all forms of public expenditure (infrastructural, current and development[1]) can have direct and indirect benefits to future generations. For example, current expenditures in education and healthcare lead to the development of a country's stock of human, social and cultural capital that is later transferred to future generations.

Our suggestion is that the Government adopts a more holistically principled approach to public debt. This is particularly relevant given Singapore's strong fiscal position as a city-state with a history of fiscal prudence.

For example, if the Government were to now issue debt for consumption vouchers as direct fiscal stimulus, it would violate the reciprocity principle as current generations are expected to save for future generations as previous generations did before. At the same time, if debt is issued for targeted social spending on the less well-off, it could improve social mobility and therefore intergenerational equality.

These examples show that the relationship between debt and intergenerational equity is not a straightforward one and should be carefully employed. The Government should therefore pay attention to not just who benefits, but also to principles of intergenerational equality, reciprocity and welfare.

DEBT AND INTERGENERATIONAL WELFARE

The appeal to intergenerational welfare leads us to consider the utilitarian economic analyses of government debt[2]. Given the low interest rate environment, many economists argue that rising government debt is not problematic if interest rates are below growth rates of economies for governments can refinance debt without having to raise taxes.

In a 2019 paper, former IMF chief economist Olivier Blanchard, however, acknowledges that government debt has both a fiscal cost and welfare cost. The welfare cost is reduced capital accumulation, which is determined by both the risk-free and risky returns to capital. He argues that debt can be welfare-improving for future generations if the returns to capital accumulation are not sufficiently higher than the growth rates of economies.

We concur with Blanchard's view that if government debt is used to fund public investment, then intergenerational welfare will be determined by the risk-adjusted *social* rate of return of public investment versus the risk-adjusted rate of return on private investment. This view is supported by empirical research that validates that government debt can be beneficial for economies if used for valuable public investment. (See IMF Working Paper No. 19/101, "Motives to Borrow", by Fatas et al.)

[1] We define current expenditures as non-capital expenditures, development expenditures as capital expenditures, and infrastructural expenditures as large-scale public good investments.

[2] Welfare is defined here as a measure of aggregate utility of the population as is practiced in economic theory.

RECOMMENDATION

Our analysis leads us to suggest a **Debt Issuance Framework** that specifies: i) what public debt should be used to invest in, and ii) how debt should be paid back.

- Public debt be raised exclusively for **development expenditures**.

- In the Budget, development expenditures are typically capital investments under each ministry's individual budgets. Assuming that these budgeted and approved development investments generate positive social returns, these investments can be welfare-improving for future generations. Further, with long useful lives, these investments can have direct and indirect benefits to future generations.

- **Priority framework for the servicing and amortisation of debt raised**. The requirement to service and amortise debt ensures debt is not rolled over, and thus prevents burdening future generations with an unfair accumulation of debt.

    1. Debt should first be paid back by **user fees** of developments as it allows those who most directly benefit from investments to contribute to the debt repayment.

    2. **Taxes** will be the next method of servicing as user fees are limited and primarily used to sustain the operations of investments. Taxes should be smoothened over the maturity of bonds such that younger generations fairly contribute and taxes are not distortionary to markets.

SIMULATION

We simulate how the Debt Issuance Framework could work in practice.

We assume the Government issues S$20 billion of debt per annum from 2021 to 2025. The S$20 billion sum is roughly equivalent to development expenditures in the 2021 annual budget.

Bonds issued are 30-year SGS bonds paying a fixed coupon of 1.875 per cent.

Further, we conservatively assume GDP grows at 2 per cent per annum from 2021–2055.

The summary of our simulation is below, with charts in the Appendix:

- **Chart 1:** Outstanding debt due rises from year 2021 to 2025 reaching a peak of S$90 billion in 2025 before decreasing until 2055 when debt is fully repaid. As a percentage of GDP, the debt issued reaches a maximum of 17 per cent of GDP in 2025 but slowly decreases after.

- **Chart 2:** Debt is amortised and serviced from 2021. Total debt servicing is S$4.4b p.a. from 2025–2050. In relative terms, the debt servicing at its peak is 0.8 per cent of GDP or about 5 per cent of total Government expenditure over 2025–2050.

- **Chart 3:** User fees begin to contribute to debt servicing after 10-year development periods. User fee contributions are assumed to grow 0.05 per cent per year, growing from S$100 million in 2033 to S$950 million in 2050.

- **Chart 4:** The bulk of the debt repayment is paid for by tax revenues. Tax burden reaches a peak of S$4.4 billion in 2025 but is then smoothened and slowly decreases to S$3.5 billion through to 2050. A tax burden of S$3.5 billion to S$4.5 billion is equivalent to less than 1 per cent of GDP, or roughly about 6 per cent of tax revenues.

The smoothening of the tax burden over 30 years means that younger generations will also contribute to the repayment of debt, and this is a fair contribution since development expenditures are capital investments with long useful lives and can be welfare-improving to younger generations too.

Under our simulation, the tax burden to finance debt servicing is comparatively smaller than requiring development expenditures to be financed by current tax revenues.

Where the tax burden in our simulation is between S$3.5 billion to S$4.5 billion per annum over 30 years, funding development expenditures with current tax revenues roughly amounts to S$20 billion per annum from 2021-2025. This gives the Government additional fiscal space of more than S$80 billion from 2021–2025 to continue to invest and pursue expansionary policy for the country as it recovers from the pandemic.

Additional Remarks on Government Debt and Macroeconomic Policy

Analysis presented here does not include an empirical forecasting of larger macroeconomic effects of increased government debt in the Singapore economy, which we endeavour to cover in the coming months.

We note however, that concerns of how our proposal would affect monetary policy, trade balances or financial markets are benign. MAS has issued S$20 - S$25 billion per year in SGS bonds from 2018-2020 to further develop the domestic bond market. Our proposal of S$20 billion SGS issuance per year can be used for the same purpose, with the exception that the proceeds are used for development expenditures instead of invested in the SWFs.

CONCLUSION

The suggested Debt Issuance Framework is one way the Government can issue debt, create fiscal space and remain fair to future generations. We hope to convey through this brief that Singapore's long-term fiscal management as well should be amenable to values of intergenerational equality, reciprocity, benefits and welfare. Further detail is provided in *IPS Working Papers No. 38.*

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APPENDIX: SIMULATION CHARTS

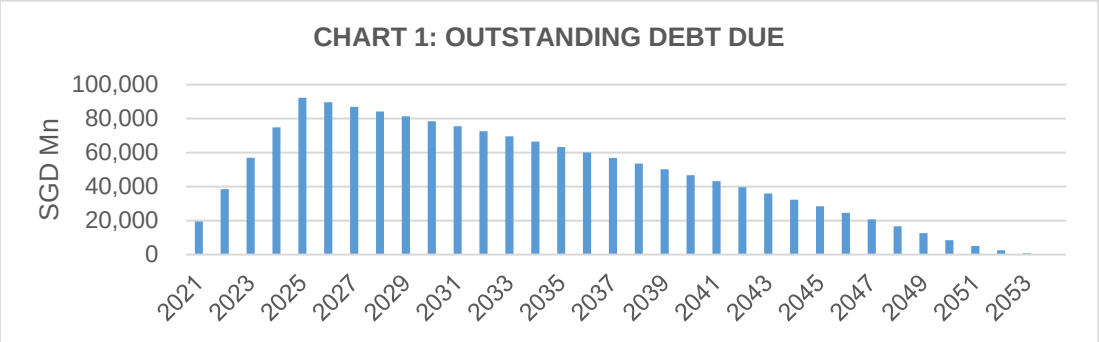

Chart 1: Outstanding Debt Due (S$m) (2021–2055)

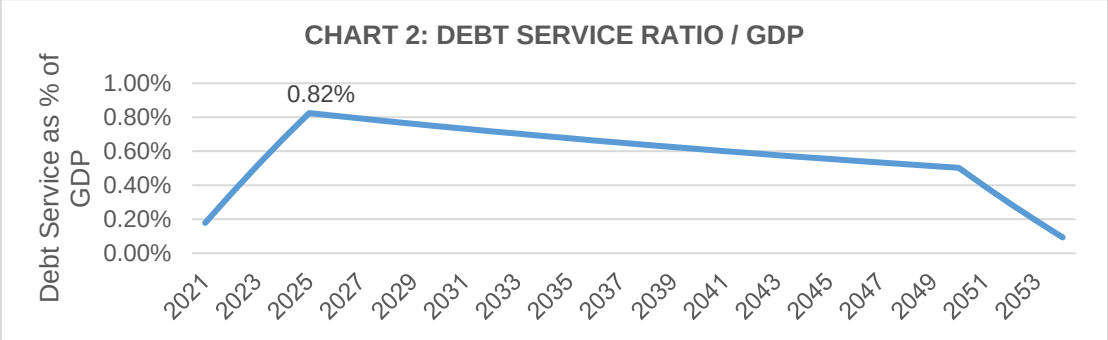

Chart 2: Total Debt Service as a Percentage of GDP (2021–2055)

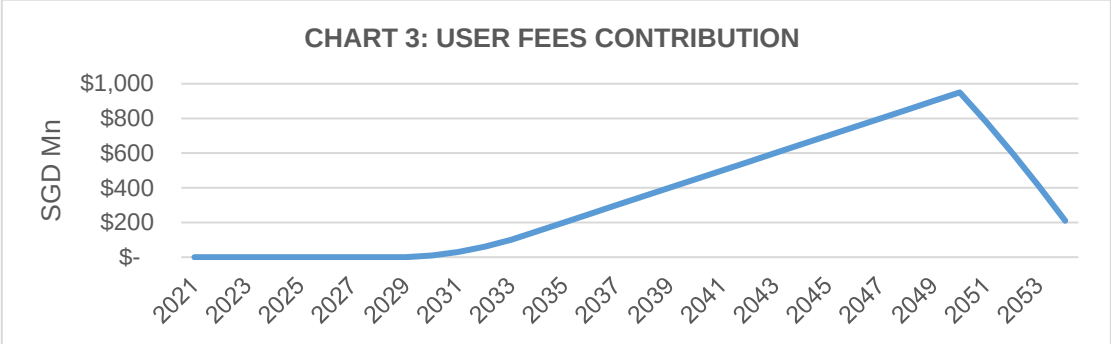

Chart 3: User Fees Contribution

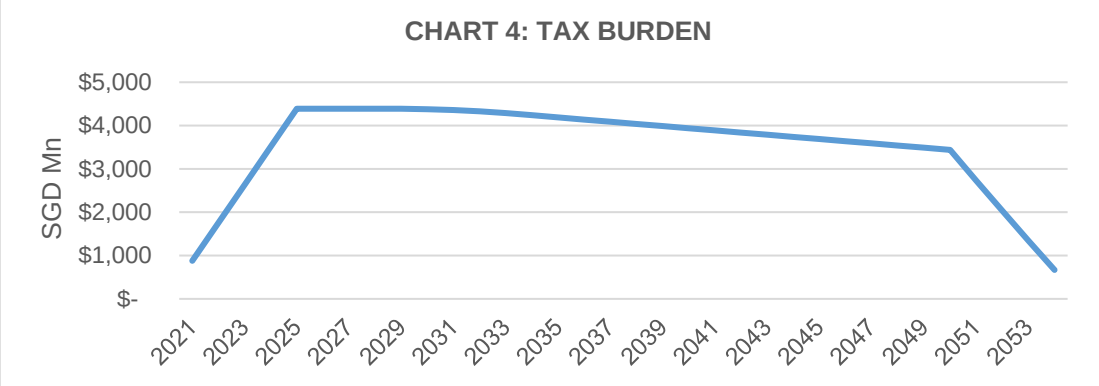

Chart 4: Tax Burden (2021–2055)