ASSESSING DEBT SUSTAINABILITY: MODELLING CHALLENGES AND THE WAY FORWARD

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Challenges and opportunities: using structural models for debt sustainability analysis — experience across policy institutions.

Who Is Afraid of Eurobonds? - Bianchi et al. (2023)

The paper addresses gaps in the current Euro Area policy framework which could expose its members to risks of deflation and high inflation due to a lack of separation between short-run macroeconomic stabilization and long-run fiscal sustainability. The proposed solution involves a new policy framework with a centralized Treasury issuing Eurobonds for stabilization policies while national governments handle long-term spending programs. This allows the centralized Treasury to manage larger primary deficits during recessions, followed by surpluses during expansions. In the event of a significant contractionary shock, coordination between the centralized Treasury and the monetary authority can reflate the economy, eliminating the risk of deflation without suspending the fiscal rules. This as an automatic stabilizer, addressing both deflation and inflation risks without compromising long-term fiscal sustainability. The paper supports its proposal with a dynamic general equilibrium model of the Euro Area, demonstrating benefits for both low-debt and high-debt countries.

Fiscal Influences on Inflation in OECD Countries, 2020-2022 - Barro and Bianchi (2023)

This paper explores the Fiscal Theory of the Price Level (FTPL) and its application to 37 OECD countries during the period 2020-2022, with a focus on the relationship between government spending, inflation rates, and public debt. The FTPL, active for 30 years, gains relevance amid global inflation and increased government expenditure. The central concept is the government's intertemporal budget constraint, linking a country's inflation rate to a composite government spending variable. This variable considers the cumulative rise in the government expenditure to GDP ratio from 2020 to 2022, relative to public debt to GDP in 2019 and the duration of the debt in 2019.

The study finds that this specification is effective in explaining recent inflation rates across non-Euro-zone and Euro-zone countries. Notably, 40-50\% of effective government financing results from the inverse effect of unexpected inflation on the real value of public debt, while 50-60\% reflects conventional public finance mechanisms such as tax increases or spending cuts. Within the Euro area, inflation reacts more to the area-wide government-spending variable than individual values.

Considering the COVID-19 pandemic, countries implementing deficit-financed government spending are predicted to experience rising inflation rates according to the FTPL. The paper supports this prediction by demonstrating that headline and core inflation rates in 2020-2022 positively respond to a theory-motivated government-spending variable. The study also notes that, for a given fiscal stimulus, a country's inflation surge should be lower if it starts with a larger public debt to GDP ratio or has a longer duration of this debt.

However, the study acknowledges its limitation in neglecting effects on real variables, suggesting that future research should incorporate these elements to enhance the explanation of cross-country

variations in inflation rates and understand the impact of spending surges and resulting inflation on variables such as real GDP, real interest rates, and real exchange rates.

Using structural models for debt sustainability analysis at the ECB

The key points include considerations for employing structural models in DSA, examples of their application at the ECB, and an overview of the advantages and disadvantages of such models.

Advantages of structural models highlighted in the presentation are their ability to incorporate feedback loops and address general equilibrium considerations. They also allow for the creation of internally consistent scenarios. However, the drawbacks involve the complexity and lower tractability of these models, along with a lack of granularity in modelling financing structures and interest payments.

Two potential approaches are proposed to address these challenges. The first involves utilizing macroeconomic scenarios from structural models in DSA frameworks, following the ECB's current approach. The second suggests enriching structural models with features from DSA frameworks.

The ECB's approach allows for a model-based analysis of complex scenarios, leveraging the granularity embedded in DSA frameworks. However, it does not capture feedback from the DSA framework to the structural models, necessitating iterations between macro-models and DSA frameworks.

The presentation concludes by suggesting avenues for further development, including integrating a structural model with the DSA framework, improving the capture of uncertainty in structural models, and enhancing the utilization of micro data and microsimulation models.

ESM DSA Analysis Using a Markov Switching Two Country EA DSGE Model

The presentation introduces an enhancement to the ESM DSA model, featuring a Markov-Switching transition matrix that simulates scenarios of default and non-default. The analysis reveals quantitatively important differences in Impulse Response Functions (IRFs), emphasizing the critical role of policy uncertainty stemming from this matrix.

Key features of the model include a two-country open economy framework with standard New Keynesian real and nominal frictions. Financial frictions are incorporated, allowing government default on public debt, with distinctions in perceived liquidity and risk among different debt types. Default not only affects financial institutions' assets but also impacts households and corporates' effective interest rates.

The model involves country-specific fiscal authorities managing revenues through consumption, labor, and capital taxes, coupled with government consumption and transfers as expenditures. All fiscal instruments are linked to the debt-to-GDP ratio, with transfers responding to cyclical conditions as automatic stabilizers. European authorities oversee monetary policy through a Taylor type rule and manage the Euro Area budget.

The presentation explores the implications of an oil adverse shock, causing increased inflation and adjustments in the policy rate. The responding country shifts to a high spending regime for four quarters, with scenarios of reverting to low spending or persisting with high spending while facing rising expectations of default. A sequence of oil shocks is simulated for the first four periods, leading

policymakers to adopt a high spending regime. In the fifth period, scenarios are analyzed, including a return to low spending or maintaining high spending, raising concerns about default possibilities. The study examines both high-reputation and low-reputation countries in each scenario [see slides 10 and 11 of the presentation for the IRFs].