Comment on "What about Japan?" (by YiLi Chien, Harold Cole, and Hanno Lustig) †

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† I used ChatGPT (OpenAI) for assistance in editing portions of the exposition. The analysis, arguments, and any remaining errors are my own.

1. Introduction

In this paper, Chien, Cole, and Lustig address a question that has been puzzling many researchers on the Japanese economy in the recent decades: how Japan has managed to sustain a seemingly unsustainable level of government debt. Their paper provides a new perspective by focusing on the evolution of the net borrowing position of the Japanese government sector.

The paper points out that Japan benefited from both exceptionally low borrowing costs and relatively high returns on its financial assets. Thus, although Japan issued large amounts of government debt, the deterioration of the net borrowing position (debt minus financial assets) was somewhat moderated. The authors show that super accommodative monetary policy frameworks such as quantitative easing and yield curve control contributed to maintaining low borrowing costs, thereby supporting this mechanism. They also highlight that part of the excess returns reflects exposure to currency risk, implying that without such risk-taking, the return differential would have been much smaller. A key contribution of the paper is the measurement of the government debt valuation wedge: the gap between observed funding costs and those implied by the risks on the consolidated public sector balance sheet. While the low funding cost and high returns on risky assets expanded fiscal space, they also had distributional consequences. Although financial repression allowed the government to borrow at low costs and fulfill commitments particularly to older cohorts, it cost younger households, especially those with less financial sophistication.

The detailed empirical analysis in the paper goes beyond traditional analyses of Japan's government debt sustainability and examines the impacts of monetary policy framework, financial regulation, and foreign exchange markets on the dynamics of the net borrowing position of the government sector. The paper provides a compelling explanation of Japan's recent fiscal experience. The paper also contains a discussion of future sustainability, but several important questions regarding long-run fiscal adjustment remain open.

In this comment, I place the paper within the standard

framework of debt dynamics and asset pricing to clarify the contributions and policy implications of this paper. While the backward-looking accounting of the government net debt that the authors mostly focus on is very insightful, I argue that paying more attention to a forward-looking perspective also helps to better understand the fiscal sustainability and policy implications.

2. Defying Gravity

The Japanese government has been accumulating a large amount of debt despite its stagnating economy over the last couple of decades. One widely held explanation is that the large amount of domestic savings by Japanese residents allows the government to continue financing its debt without worrying about debt crises experienced by other countries. In my earlier work with Takatoshi Ito (Hoshi and Ito, 2014) titled "Defying Gravity," we examined how long Japan can continue increasing the government debt if the domestic savings can be counted on. Even if we assume that Japanese investors continue to buy Japanese government bonds, the level of government debt is ultimately bounded by the financial wealth of the Japanese residents. Under assumptions that we found plausible about demographic change and declining saving rate, we projected that Japan would hit this ceiling in the mid-2020s unless the Japanese government slowed the pace of debt accumulation.

Subsequent developments, however, diverged sharply from our projection. The key reason our prediction did not materialize was the continued decline in interest rates below the minimum level that we considered. The borrowing costs, which were already low in the early 2010s when we made the projections, fell even further while the government debt continued to increase. Importantly, this outcome cannot be attributed to improved fiscal discipline. Actual primary deficits remained broadly in line with earlier projections by the government. [2]

[2] One can confirm this by comparing the actual primary deficits to the past government projections available at a website of the Cabinet Office (https://www5.cao.go.jp/keizai3/econome.html#kako).

The authors of this paper identify an additional mechanism through which Japan has been able to sustain a high level of debt. In addition to low borrowing costs, realized returns on public sector financial assets have been sufficiently high to further limit the growth of net government liabilities. This channel was absent from earlier analysis including Hoshi and Ito (2014). At the same time, the argument that the amount of (gross) government debt is limited to that of financial assets of Japanese investors would still hold. Thus, it would be worthwhile to check how much the financial gains that the authors find have delayed the expected date when the level of government debt exceeds the level of financial assets of Japanese savers to assess Japan's fiscal sustainability.

3. Debt Dynamics with Public Sector Assets

To better understand the contributions of this paper and implications for future fiscal sustainability, let me go back to the basic dynamic equation for government debt-to-GDP ratio. The standard textbook version ignores the financial assets held by the government, but here we need to consider them as they are essential to the paper's analysis.

Let nd_t denote net debt-to-GDP ratio, and a_t the ratio of financial assets held by the public sector to GDP. Let r_t^D be the return on government liabilities and r_t^A the return on assets. Then, the net debt-to-GDP ratio evolves according to the following equation.

$$nd_t = \frac{1 + r_t^D}{1 + g_t} nd_{t-1} - s_t - \frac{r_t^A - r_t^D}{1 + g_t} a_{t-1}.$$

Here s_t is the primary surplus-to-GDP ratio. The last term captures the contribution of excess returns, which is central to the analysis of this paper.

As it is well known, there are two ways to solve this equation.[3] One is to solve backward by iteratively substituting for lagged net debt

[3] See Cochrane (2023), for example.

$\{nd_{t-1}, nd_{t-2}, \cdots\cdots\}$. Then, we get a backward solution:

$$nd_t = \left(\prod_{j=1}^{t} \frac{1+r_{t-j}^D}{1+g_{t-j}}\right) nd_0 - \sum_{j=0}^{t} \left(\prod_{n=1}^{j} \frac{1+r_{t-n}^D}{1+g_{t-n}}\right) s_{t-j} - \sum_{j=0}^{t} \left(\prod_{n=1}^{j} \frac{1+r_{t-n}^D}{1+g_{t-n}}\right) \frac{r_{t-j}^A - r_{t-j}^D}{1+g_{t-j}} a_{t-j-1}.$$

Note that, although returns on financial assets are not known *ex ante*, the backward solution is expressed as a function of *ex post* realized returns. This is the representation mostly used in this paper. The paper finds that Japan's net debt did not grow very fast despite continued primary deficits (negative *s*) because the public sector enjoyed realized excess returns.

Alternatively, one can solve the equation forward by iteratively substituting future expected net debt $\{E_t nd_{t+1}, E_t nd_{t+2}, \cdots\cdots\}$. Here E_t gives the expected value given the information at time *t*. In the standard textbook case, we often assume perfect foresight and drop the expectation operator, it does not make sense to do so when emphasizing the role of risky asset holdings by the government. Rewriting the dynamic equation carefully, the current net debt is expressed as the expected value of the future net debt, primary surplus, and excess returns:

$$nd_t = E_t\left[m_{t+1}\left(nd_{t+1} + s_t + \left(\frac{r_t^A - r_t^D}{1+g_t}\right) a_{t-1}\right)\right]$$

Here m_{t+1} is a stochastic discount factor. Then, we can solve this forward to get:

$$nd_t = E_t \sum_{j=1}^{\infty} \left(\prod_{n=1}^{j} m_{t+n}\right)\left[s_{t+j} + \frac{r_{t+j}^A - r_{t+j}^D}{1+g_{t+j}} a_{t+j-1}\right] + \lim_{N\to\infty} E_t\left(\prod_{j=1}^{N} m_{t+j}\ nd_{t+N}\right)$$

Assuming the transversality condition that the last term is zero:

$$nd_t = E_t \sum_{j=1}^{\infty} \left(\prod_{n=1}^{j} m_{t+n} \right) \left[s_{t+j} + \frac{r_{t+j}^A - r_{t+j}^D}{1 + g_{t+j}} a_{t+j-1} \right]$$

It is worthwhile pointing out that the forward solution is further simplified if the financial markets are efficient and do not allow arbitrage, as Saito (2026) points out. Under no-arbitrage conditions, the stochastic discount factor must be orthogonal to excess returns:

$$E_t[m_{t+1}(r_{t+1}^A - r_{t+1}^D)] = 0,$$

Then, the discounted value term of excess returns vanishes, and the forward solution is simply given by:

$$nd_t = \mathbb{E}_t \sum_{j=1}^{\infty} \left(\prod_{n=1}^{j} m_{t+n} \right) s_{t+j}.$$

Thus, if there are no arbitrage opportunities that the government can take advantage of, the value of government debt is determined only by future primary surpluses. The government cannot count on excess returns on risky financial assets. This is the core claim of Saito (2026), who emphasizes the forward solution with no-arbitrage conditions and criticizes this paper.

4. Which Solution to Use?

Depending on which form of solution we look at, we get two apparently different views. Looking at the backward solution, we see excess returns can matter a lot. Looking at the forward solution and assuming no-arbitrage conditions, we see excess returns do not matter at all.

But both are derived from the same dynamic equation for government debt. They are consistent with each other but they are used

to answer slightly different questions. The backward solution is essentially an accounting decomposition. It tells us how debt evolved given realized outcomes. The forward solution describes valuation conditions. It tells us what must hold for equilibrium pricing today.

The backward solution explains how Japan got here, and this paper does an excellent job. The Japanese government has been able to earn excess returns because it borrowed at below-market rates while holding risky assets. Whether these returns reflect financial repression, convenience yields on government debt, or other institutional features remains an important open question.

The paper also considers the forward solution, which is particularly useful for evaluating Japan's future fiscal position, and argues that the room for excess returns in the future will be smaller. As the authors conclude:

> it will be hard for the Japanese public sector to keep harvesting these excess returns going forward when it is funding itself at market rates while the BoJ is normalizing monetary policy.

As opportunities to earn excess returns diminish, future primary surpluses are likely to become increasingly important in supporting fiscal sustainability.

5. Policy Implications

Looking back, Japan's fiscal situation benefited from excess returns on the financial assets held by the public sector, as this paper shows. The current administration of Japan led by Prime Minister Sanae Takaichi may have been encouraged by the experience, as it has been proposing "Responsible and Proactive Fiscal Policy." The government aims at keeping "the pace of debt within the rate of economic growth and steadily lower Japan's debt-to-GDP ratio to ensure fiscal sustainability" without trying to achieve the primary balance.[4] If the government

[4] "Japan's Takaichi ditches austerity, reassures markets with fiscal pledge," *Reuters,* February 20, 2026.

counts on continued excess returns, they are likely to be disappointed as the paper suggests.

It is also important to note that a part of unexpected financial gains may not expand fiscal space very much because the future primary surplus ends up being reduced. This point is easiest to see in the mechanism of "macroeconomic slide," which was introduced in the 2004 reform of the national pension system to improve the sustainability of the system. It is an automatic adjustment formula to keep the increase of pension benefits below the wage and price inflation rates until the pension system restores sustainability under demographic and macroeconomic changes expected in the coming decades. Thus, when the Government Pension Investment Fund (GPIF) records substantial excess returns, it will improve the sustainability of the pension system and lead to an earlier termination of the macroeconomic slide. Thus, the expected future primary surplus will shrink, reducing the beneficial impact of excess returns on fiscal space.

This paper's analysis shows that Japan's recent fiscal experience reflects a combination of favorable financial conditions for the government: very low borrowing costs and high returns on public sector financial assets. These factors have helped contain the growth of net government liabilities and delayed the adjustment that many earlier analyses had called for. The experience is both real and important, but this should not be interpreted as evidence that Japan has discovered a durable mechanism for sustaining high levels of government debt without serious fiscal consolidation attempts. A forward-looking perspective clarifies that government debt must ultimately be supported by future primary balances. Realized excess returns, while important for explaining past outcomes, are unlikely to provide a reliable source of fiscal backing going forward. The experience documented in this paper helps explain why the concerns raised in Hoshi and Ito (2014) did not materialize as quickly as we expected. However, if excess returns diminish as the authors suggest, those concerns may eventually re-emerge.

References

Chien, YiLi, Harold Cole, and Hanno Lustig (2026). “What about Japan?” *NBER Macroeconomics Annual* (this volume).

Cochrane, John H. (2023). *The Fiscal Theory of the Price Level*. Princeton University Press.

Hoshi, Takeo, and Takatoshi Ito (2014). “Defying Gravity: How Long Will Japanese Government Bond Prices Remain High?” *Economic Policy*, 29(77), 5–44.

Saito, Makoto (2026). “Asset Pricing Interpretations of the Primary Fiscal Balance: The Case of Japan.” *Japanese Economic Review* (forthcoming) https://doi.org/10.1007/s42973-026-00237-9.