Japan Is Like Greece, Only Worse GIDDY on debt, the aging country faces a troubling future.

ECONOMIC OUTLOOK

Francisco Torralba

By standard fiscal criteria, Japan is in worse shape than Greece. The Japanese government hasn't balanced a budget since 1992 and runs one of the highest deficits on Earth. The stock of debt is eight times as high as annual tax revenue. The familiar ratio of debt/GDP has risen in 20 years from 80% to 243%, the highest level in the world. How did its public finances get so rotten?

The Road to Ruin

Debt dynamics depend on five things which, properly arranged, get you GIDDY: growth (g), inflation (i), debt (D), deficit (d), and yield (y). A short equation describes the relationship:

$$D_t = D_{t-1} \times (1 + y - g - i) + d_t$$

The formula says that this year's debt/GDP ratio, D_t, is equal to last year's, D_{t-1}, multiplied by the term $(1 + y - g - i)$, plus this year's deficit (d_t).

The apparent causes of Japan's debt explosion, then, are three. First, despite ground-low interest rates, economic growth plus inflation were even lower, so the term $(y - g - i)$ was positive for most of the past two decades. The implicit interest rate has averaged 1.9% since 1993. Real GDP has increased a mere 0.9% a year, while the GDP deflator (a broad measure of prices) has fallen 1% per year. Deflation more than erased the gain in real output.

Second, the larger the debt balance, the harder it is to pay it off, as any credit card holder knows. That's because debt itself, D, is multiplied by the term $(1 + y - g - i)$. Even a small positive difference between the interest rate and nominal growth makes a significant impact, once debt gets as high as Japan's.

And third is the primary fiscal deficit, d. If expenses exceed revenues, the government must finance the gap by borrowing, which adds to debt. Japan has averaged a fiscal gap of 5.4% of GDP over two decades.

Aging Weighs Down Public Finances

At a deeper level, the debt problem has a demographic root: Japan's population is aging and shrinking, fast.

Demographics touch on each of the five determinants of debt. The connection between deficit and age structure is the easiest to see. Aging widens the pool of pensioners while it shrinks the number of taxpayers. In Japan, Social Security payments have almost tripled since 1990, and now eat up 40% of tax receipts. Seniors go more to the doctor, too, and Japan provides universal health care.

Then, there's the issue of economic growth. The working-age population gets 1% smaller every year. To achieve, then, even a modest output growth rate of 2%, output per worker must rise by 2.9% a year. No advanced economy has sustained that pace of productivity gain in the last 20 years. Most countries, including Japan, have been in the 1%-to-2% range since the 1990s.

Deflation is linked to demographics as well. Former Bank of Japan governor Masaaki Shirakawa recently said: "Over the decade of the 2000s, the population growth rate and inflation correlate positively across 24 advanced economies. That finding shows a sharp contrast with the recently waning correlation between money growth and inflation."

Shirakawa then said that aging is undermining real demand growth, which falls behind potential output growth, fuelling deflation.

An army of pensioners, I might add, will probably fight inflation. Life is great when you're on a fixed income and prices decline, which is what seniors in Japan have come to expect.

Finally, aging puts pressure on interest rates. The baby-boom generation is selling its bond holdings to provide income for retirement. That raises bond yields, adds to the government's interest bill, and accelerates the growth of debt.

Where is, then, Japan headed? To estimate the ratio of debt/GDP in, say, 2020, I roll forward the formula above and plug in projections for the five drivers of debt over the next seven years. Under those forecasts, the debt ratio rises relatively little, from 243% to 257%.

Changing assumptions produces striking results. In a sunnier world of robust growth and inflation, deficits half what they've been since 2009, and a borrowing cost even lower than today's, debt shrinks to 218%. Under less favorable, but more credible, conditions the debt ratio hits 297%. The odds are that debt will keep rising.

Interest Rates Are Key

Crucial to the outlook, and most uncertain, are interest rates. Yields have stayed low because of steady demand for bonds from domestic buyers. The Japanese private sector produces large cash surpluses, which get recycled into Japanese government bonds via the banks. Commercial banks have been more than happy to invest in sovereign debt, as loan demand is sluggish. Where else would they find an investment with a real return of 2.5% and no capital requirements?

Financial repression has played a role, too. The Ministry of Finance has used its clout to force pension funds and insurance companies to buy public debt. The Japan Post Group, which includes a massive bank and a major insurance company, is owned by the state, and thus another reliable buyer.

Thanks to this loyal domestic demand, the government with the highest debt in the world pays the lowest borrowing costs.

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Japan's Debt/GDP Ratio Offers Clues to the Future Even our most optimistic projections add up to troubling debt levels.

Today's Debt Troubles…

2013 Debt/GDP (%)	243

…Likely Will Get Worse

	Optimistic	Baseline	Pessimistic
Growth of GDP (g) (%)	1.5	0.9	0.5
Inflation (i) (%)	2.1	1.1	0.1
Deficit (d) (%)	3.4	4.4	5.4
Yield (y) (%)	0.5	1.0	1.5
2020 Debt/GDP (%)	218	257	297

The private sector, however, cannot absorb public deficits forever. An aging population means the household saving rate is falling. Soon, it will turn negative. Corporations still produce excess savings, but not enough to cover the public financing needs. If firms kept buying government bonds, eventually all of Japan's private wealth would be held in government bonds. What would happen then?

A recent paper by professors Takeo Hoshi and Takatoshi Ito answers this question. They argue that, once domestic savers are tapped out, Tokyo must borrow abroad. Foreigners are presumably less willing to accept ultra-low yields, so the interest expense will surge.

Today, the Ministry of Finance spends more than half of tax revenues on interest payments, even though the implicit borrowing rate is less than 1%. Just a modest increase to 2%, then, would put interest charges above tax receipts—what Hyman Minsky called "Ponzi finance." The markets would deem the government insolvent, and default would follow. Under every simulation run by Hoshi and Ito, bankruptcy would come by 2023. Japan's policymakers are aware of this possibility, which is perhaps why they've turned to the central bank. After winning the November 2012 election, prime minister Shinzo Abe appointed a new head of the Bank of Japan. Under the new governor, Haruhiko Kuroda, the bank announced that it would buy 7.5 trillion yen of bonds a month, or 70% of all new issuance. These purchases have anchored yields. With a boundless balance sheet, the central bank can keep financing the government forever, in theory. In practice, as centuries' worth of sovereign debt crises show, monetization of the deficits can lead to hyperinflation.

Abe is betting that he can skirt both default and hyperinflation—if he can keep funding the deficit with long-term bonds at tiny interest rates; if moderate inflation keeps chipping away at the pile of debt; and if deficits decline somehow, despite population aging, the government might contain the swell of debt. That's a lot of ifs, and they will take years to work. The question is: Will markets bear with Japan that long?

Leaders in other aging countries might draw a message of hope. Japan proves that it's possible to combine slow growth with persistent deflation, soaring public debt, and cheap borrowing—all while avoiding unpopular fiscal decisions, for decades. Most prime ministers, who face the polls every four years, will take the gamble.

Other Global Economic Developments

I expect a modest acceleration of global economic growth in 2014, from 3% to about 3.5%, which will be especially felt in advanced economies, thanks to: 1) moderate energy prices; 2) reduction of the pace of fiscal consolidation; 3) supportive monetary policy; and 4) waning of the deleveraging process in the private sector.

Inflation is trending lower in the United States, eurozone, and the United Kingdom. Slow growth in China and increased global supply of oil explain the global trend toward lower inflation. Inflation is so low in the eurozone that deflation is a risk. Deflation in the eurozone would come from the 2011–2013 recession, fiscal consolidation, and deleveraging, plus appreciation of the euro as the sovereign debt crisis was left behind. But both the real economy and sentiment are recovering, albeit slowly, so I don't expect inflation expectations to shift lower. An episode of deflation would be short lived and localized to a few countries within the eurozone.

The recovery in the United Kingdom could still surprise on the upside, but the Bank of England is unlikely to ease monetary policy further. Inflation in Japan is likely to fall short of target. The Bank of Japan is likely to pile on its QE bet, risking a flight from Japanese government bonds.

China is set to grow much more slowly than the consensus expectation of 6% to 7% in the medium term; 3% to 4% is more likely. A domestic financial crisis is a significant risk. Commodity prices are unlikely to rise due to China's slowdown.

The outlook for emerging-markets economies is challenging and heterogeneous. Countries with tight links to the United States and the eurozone, and not dependent on commodity exports, will outperform commodity exporters and countries with large exposures to China. Particularly vulnerable are Turkey, Brazil, Thailand, Malaysia, South Africa, and Russia.

The risk of sudden capital outflows has diminished now that the path of the Federal Reserve's monetary policy is clearer. Isolated crises are likely, but I think that systemic risk is lower than, say, in 2007, and that policymakers will be more vigilant and quicker to react.

Overall, the global business cycle is not coming to an end (although the outlook is diverging across countries). Instead what we are likely to see over the next one to two years is a pickup in the cyclical recovery and an accumulation of financial risk and credit in advanced economies, overlaid with a secular deceleration that will hold back productivity growth. We are also likely to see a structural adjustment in China that will force a sharp economic slowdown, with ramifications for commodity exporters and Asian manufacturers. M

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