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Japan: Is It Time At Last?

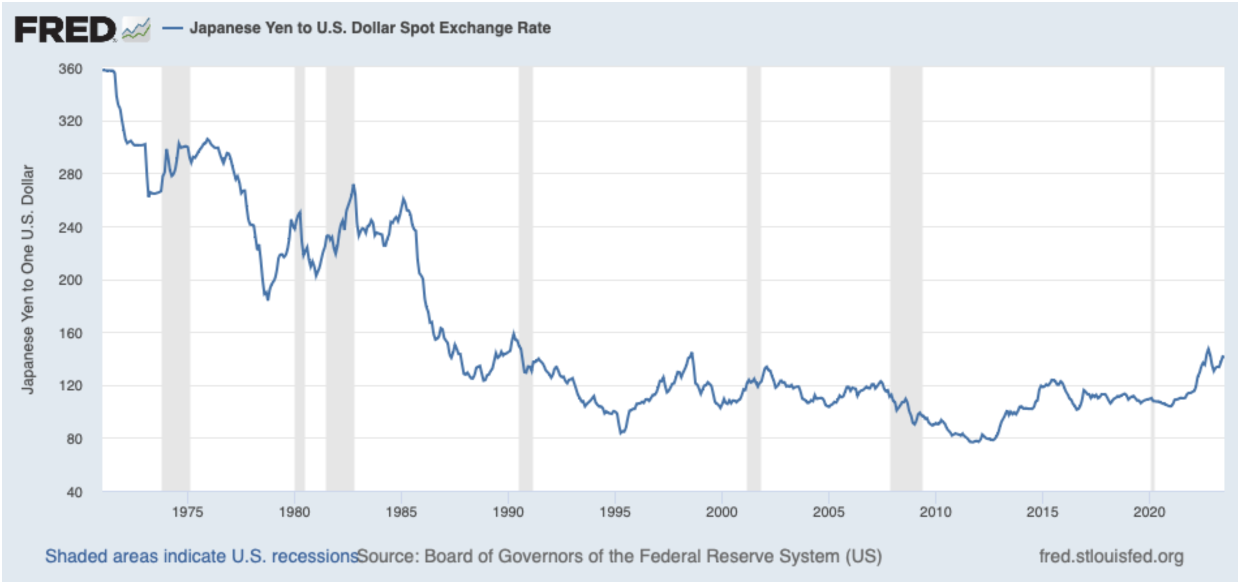
August 18, 2023

The yen is breaking down: I've been following Japan since I lived in Tokyo in 1995-2000, and worked in financial journalism with Dow Jones. Afterwards, I did Japan -centric macro research for institutional investors. I concluded (around 2005) that Japan probably did not have long-term investment prospects until after the present debt/deficit/central bank stuff had been resolved, presumably after a crisis period. Consequently, my attention has been mostly elsewhere. This principle has actually worked out, although it has taken longer than I or anyone else suspected. Along the way, it seems that everyone else came to the same conclusions, especially Japanese upper-level managements themselves, with the result that there are actually some pretty good values in Japanese equities. In 2000-2007, Japan was an outlier among the developed economies, with a pattern of stagnation, high debt, and a "zero interest rate policy" (ZIRP) that was anomalous at the time -- a time of tremendous emerging-market growth, "globalization," and a hyperactive housing bubble in the US. But since 2008-2009, the rest of the world has been catching up, by all appearances following the trail that Japan blazed a decade earlier, with many of the same symptoms and patterns including policy response. "We're All Japan Now" is not even an interesting observation anymore.

Thus, the Japanese example serves as a guide to where other developed economies will soon be following. This is particularly true of the sovereign debt/deficit/central bank nexus. The end game, as we've all suspected, is money-creation to fund deficits from unreformed fiscal policy and increasing debt loads. The outcome of this is a decline in currency value -- probably, a big decline, with a "mild hyperinflation" certainly a possibility. This might seem strange terminology. I use the example of Mexico in the 1980s, when the Mexican peso declined by about 100:1 during the decade, vs. the USD, a typical performance for Latin America in that time. The official CPI was in the mid-double-digit annual rates (20%-70%).

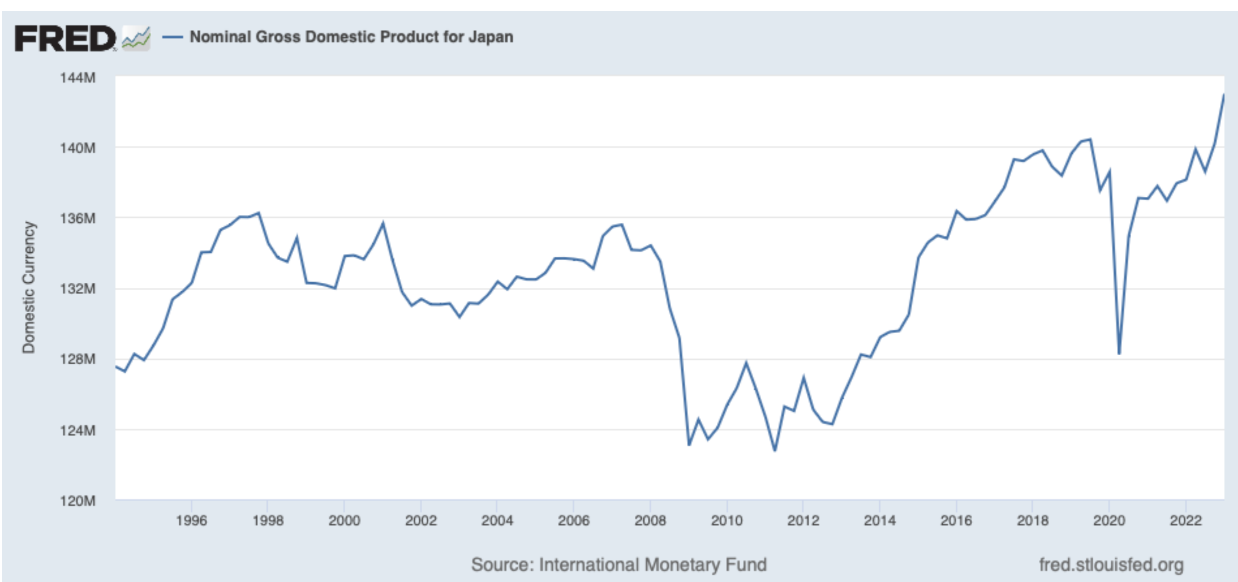
The 150/USD area is quite important. A break of this could lead to a quick move to about 200/USD I think. However, Japan still has a lot of USD foreign exchange to counter such a move.

I do not plan to short the yen outright, or JGBs, the "widowmaker" of the past 20 years. I'll just sit back and wait for a buying opportunity. But, I think there is potential in a hedged-equities stance, broadly via ETFs like the Wisdom Tree Japan Hedged Equity ETF (DXJ), or individually such as the trading companies that Warren Buffet likes.

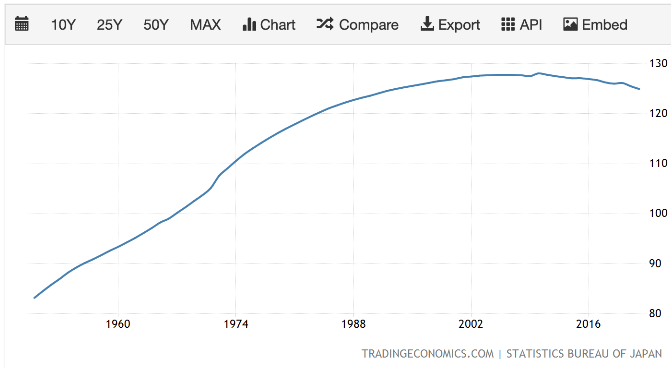


Today, I want to look at a number of fundamentals for Japan, which tend to be not very well understood by foreigners. In the end, however, I don't think we will get our answer from fundamentals. The timing is likely to be determined by other things. But, by at least having some understanding of fundamentals, perhaps we will be better able to sense these timing/sentiment factors.

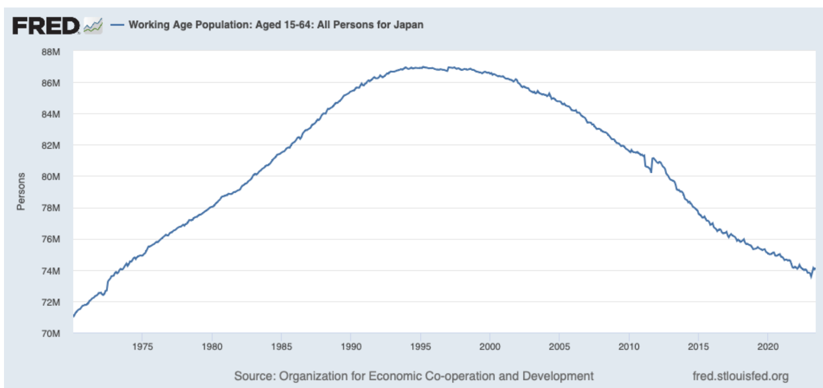
Nominal GDP in Japan has been extremely stagnant since the 1997 crisis. It is crawling higher now due mostly to inflationary monetary effects. These are SA quarterly figures. The annual total is about 550 trillion yen. It has been rising recently due to inflationary monetary effects.



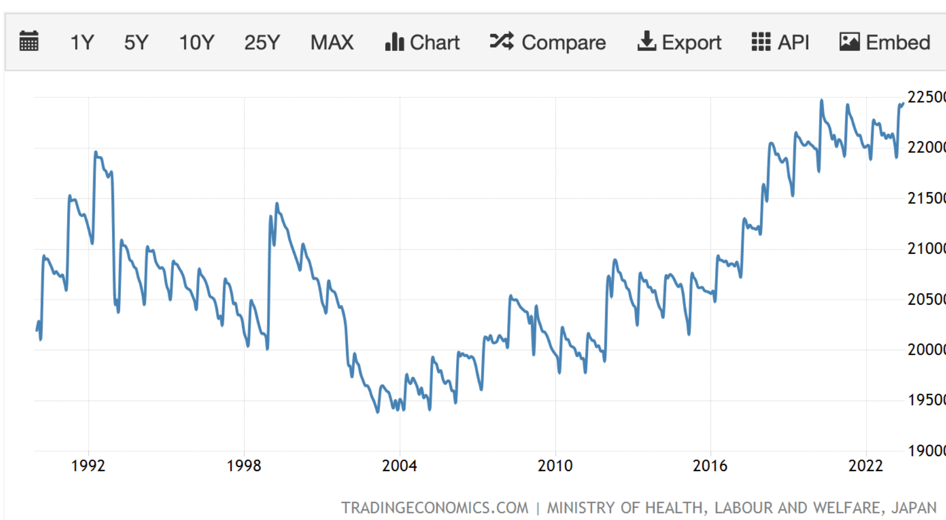
A lot of talk has centered around declining population in Japan, but the decline has not been very much yet.



The decline in the working-age population is more dramatic, but that is not the only factor, or even the most important.



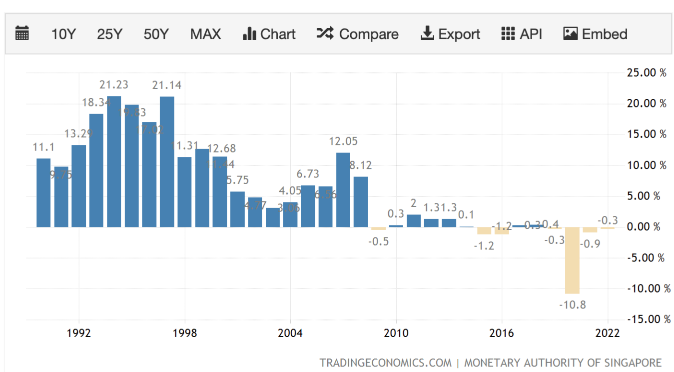
Full-time Employed is actually making new highs.



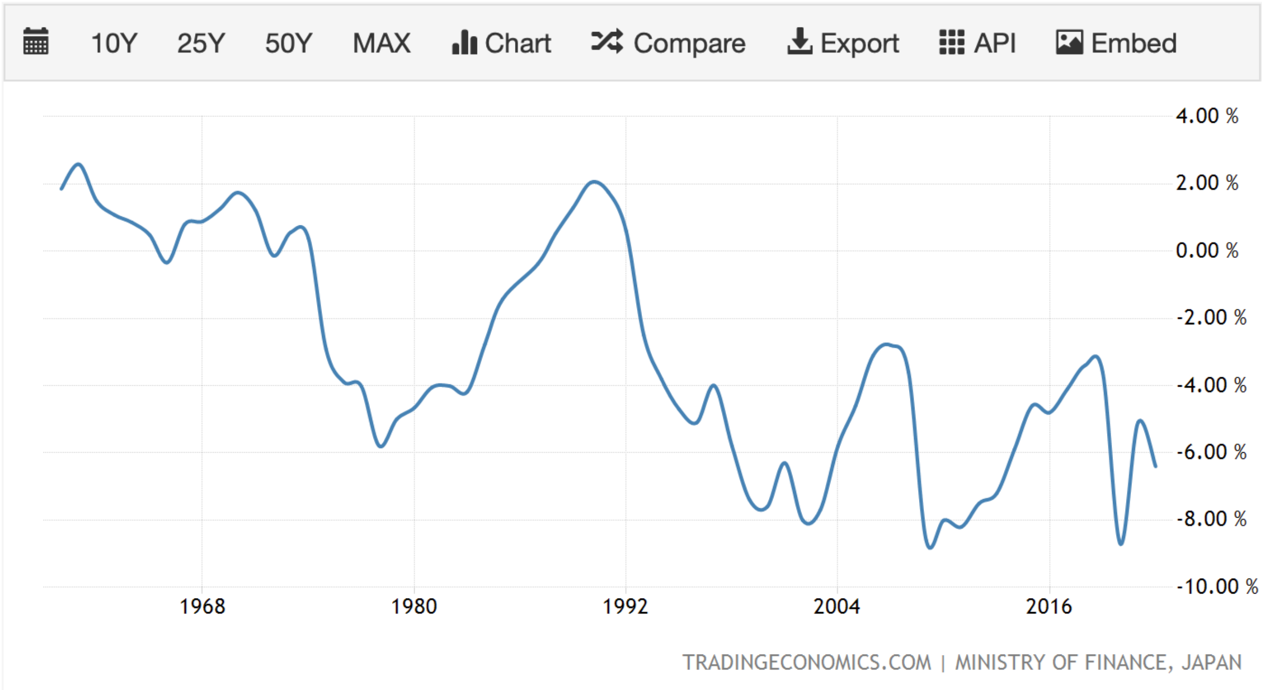
I do not ascribe very much to demographics. These change very slowly, over a period of decades. The effects of economic policy are much more quickly and strongly felt. Good economic policy would overwhelm any population effects; and so would bad policy, on the downside. The most important thing is not overall GDP, but GDP per capita, or more specifically, worker productivity. All economists agree that wealth arises from productivity. If each individual worker is productive, and makes a high income as a result, then what exactly is the problem? If the working age population supports a greater fraction of less-productive seniors, rather than unproductive children, then who cares? If Japan's population fell from 130 million all the way to 50 million, over a period of 50 years, but each worker was more productive and thus had a higher income -- let's say: a doubling of real income, which is not hard to do in 50 years -- why worry? In the 1960s, real income quadrupled in a single decade. 50 million is about the population that the agricultural base of Japan can support. Related to this, I absolutely disagree with arguments that Japan should alter its immigration policies to raise total population. It is unnecessary, and won't help. You can't fix bad economic policy with immigration, but you can add a whole set of new problems.

Nevertheless, a lot of government policies today, built on mid-20th century models, have the characteristics of "Ponzi schemes." They tend to need more growth to overcome their internal problems. This includes public pensions (Social Security), healthcare (skewed toward elderly), and debt. Debt/GDP ratios become considerably more difficult when GDP is not growing. Thus, the problem, as I see it, is legacy government programs, leading to chronic deficits and expanding debt -- just as in nearly all developed countries today.

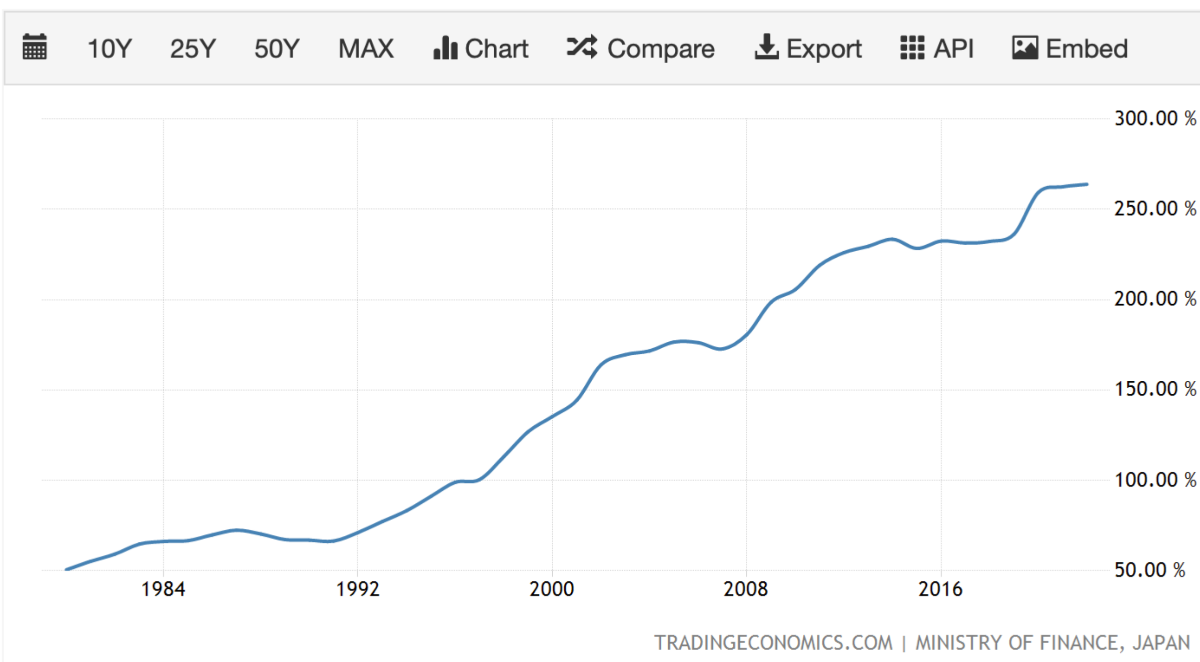
Singapore's fertility rate (1.0) is even lower than Japan's (1.3). But, they have no healthcare system problems, because of their excellent healthcare system including private health savings accounts. The existing balances on these health savings accounts recently accounted for five years of healthcare spending! Plus, more is added every month. Without significant government healthcare spending, or other such obligations, Singapore's government consistently balances its budget. We see that a different set of institutions and policies can easily deal with the low fertility/aging population issue. The problem is that governments want to keep the existing Ponzi running, rather than reform their institutions in something like the Singapore model.



Singapore government budget balance. In the past, it ran huge surpluses. Since 2008, it has been about evenly balanced.



Japan's government budget balance, with chronic deficits.

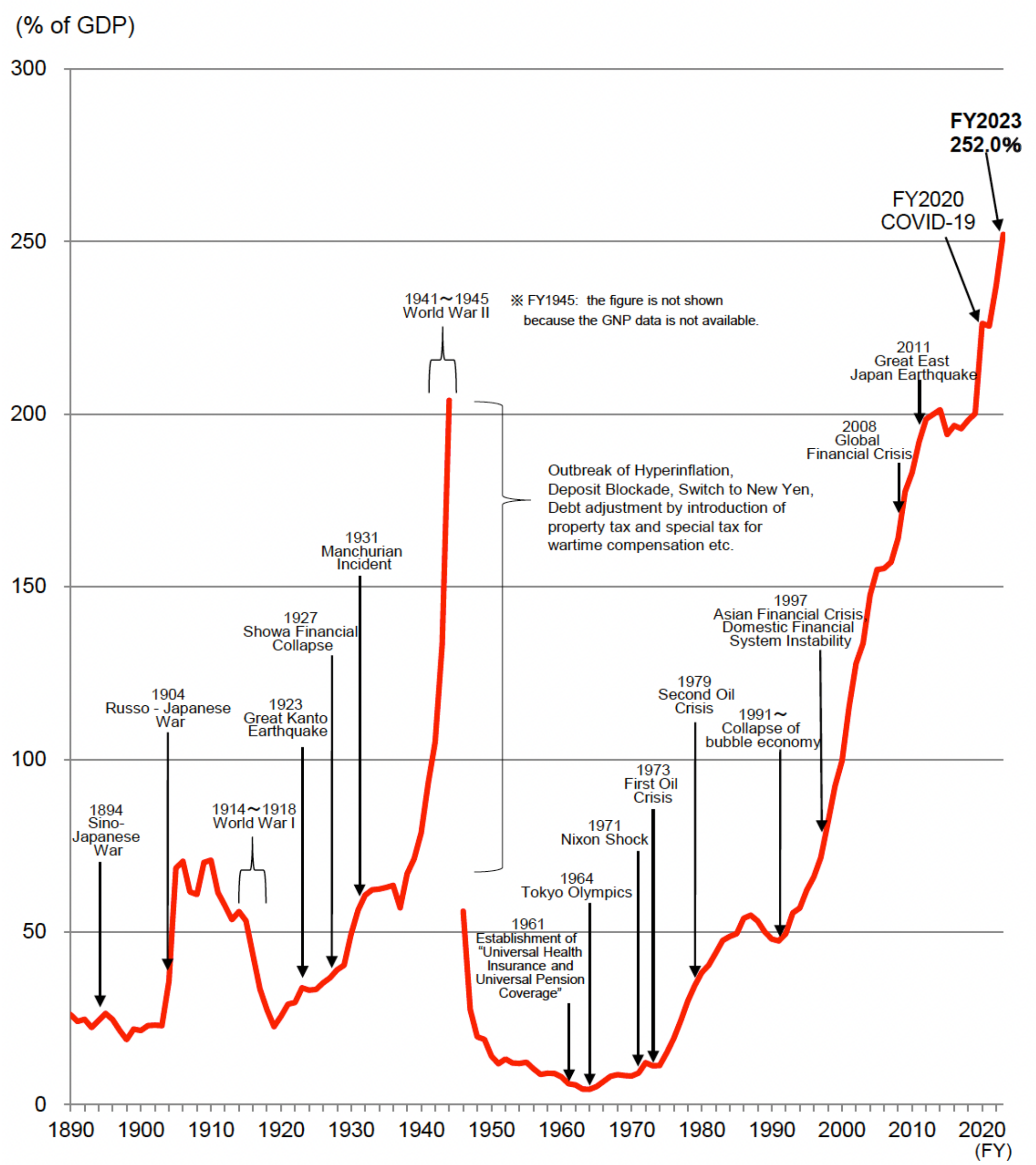


Japan Government gross debt/GDP was recently at 264%.

Here's the big picture on government debt:

(Reference)

How the Outstanding Government Bonds has been accumulated since Prewar period

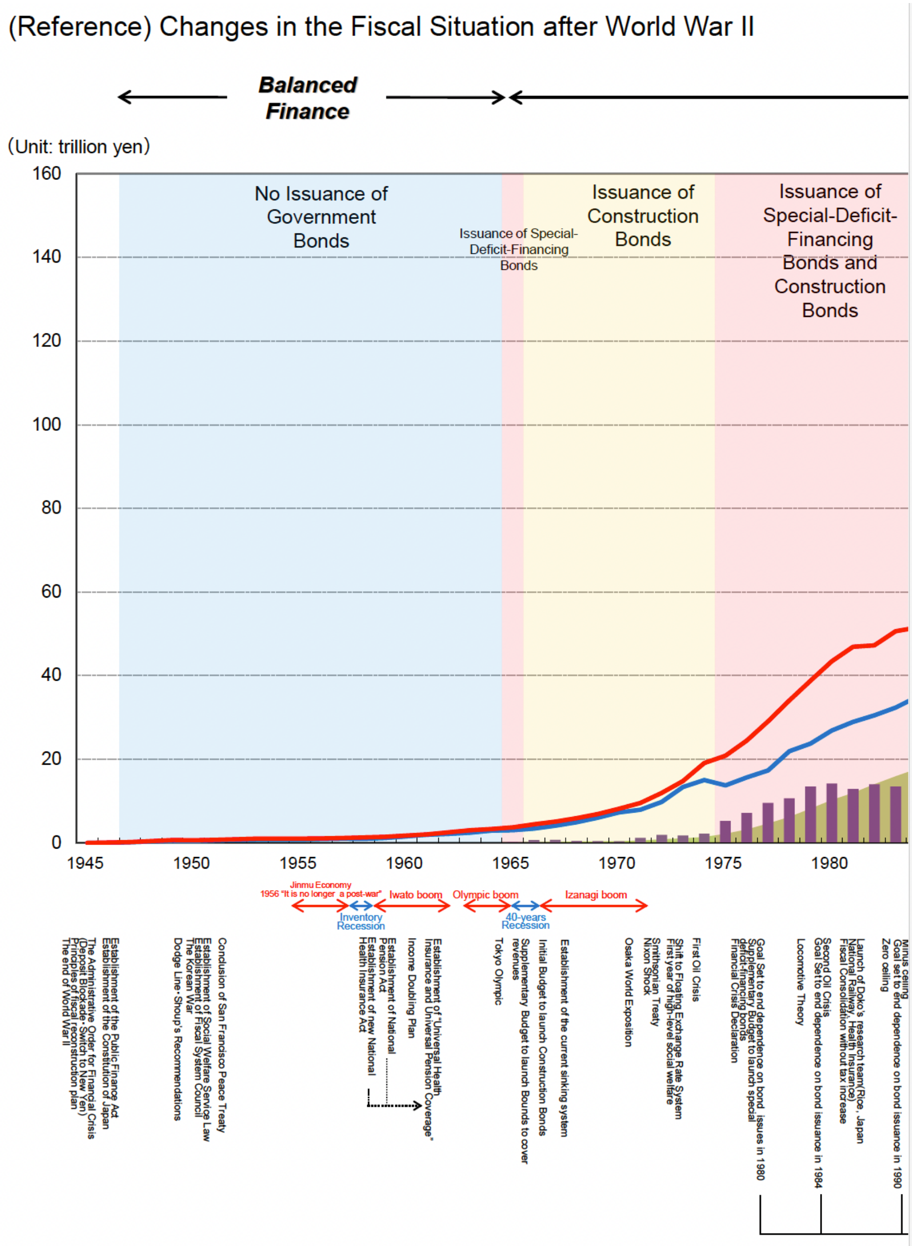


(Note 1) The Outstanding Accumulated Government Bonds : The figures at the end of "government bonds and borrowing outstanding" (Annual report on government bonds statistics). FY1890-2021: Actual ; FY2022: Based on the second Supplementary Budget; FY2023 Based on the Budget. Outstanding of Fiscal Loan Fund Financing Bills, Foreign Exchange Fund Financing Bills and Food Financing Bills out of Financing bills have reached the issuance limit (total: 210 trillion yen).

(Note 2) GDP: FY1890-FY1929: Gross National Expenditure (Based on Statistics by Ohkawa, Takamatsu and Yamamoto); FY1930-FY1954: Nominal GNP (Based on Japan Statistical Association "Historical Statistics of Japan"); FY1955-FY2019: Nominal GDP (Based on National Accounts (FY1955-1979: based on SNA 1968, FY1980-1993: based on SNA 1993, FY1994-2021: based on SNA 2008)); FY2022-FY2023: Based on Cabinet Office "Fiscal 2023 Economic Outlook and Basic Stance for Economic and Fiscal Management" (January 23, 2023)

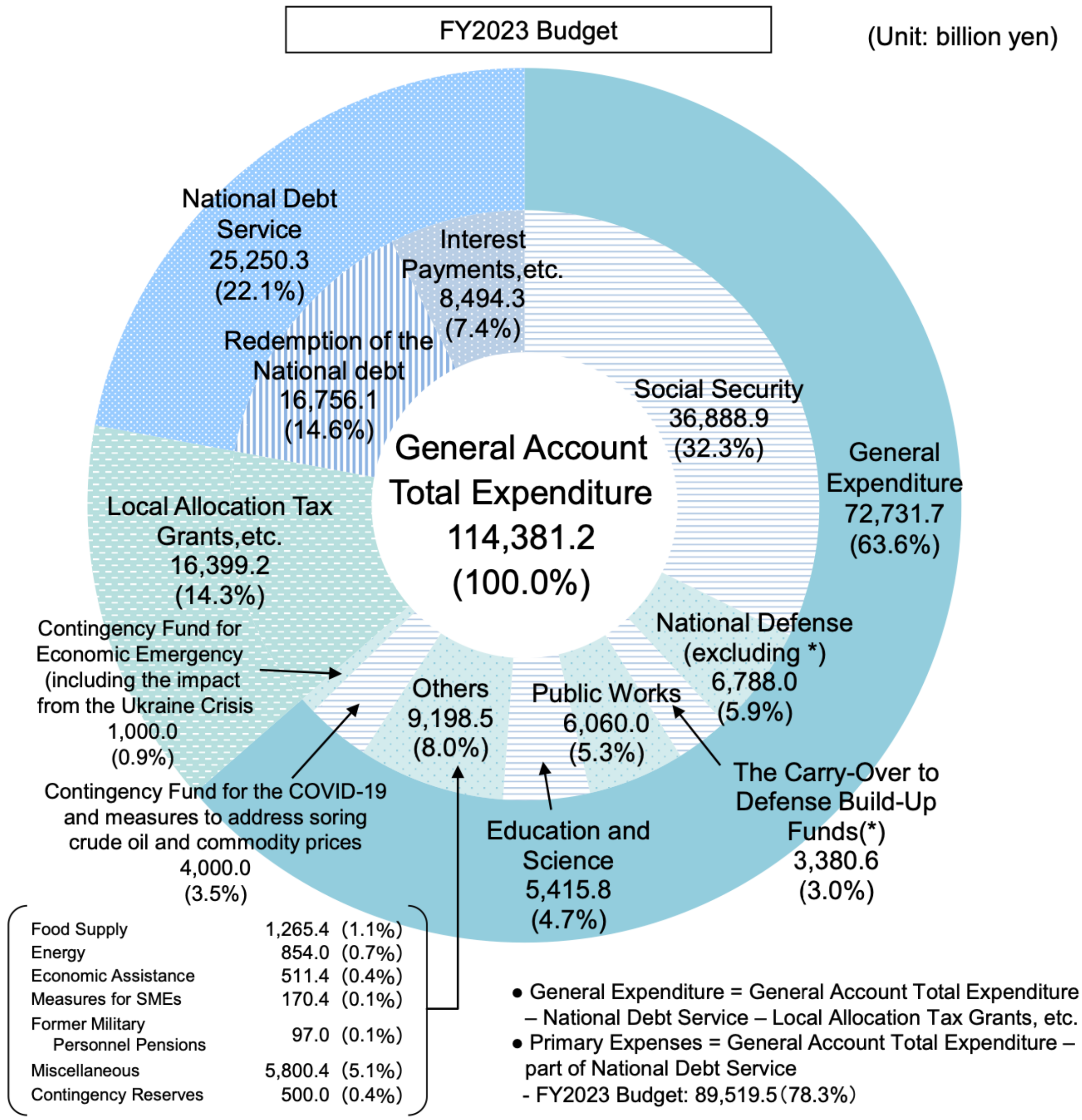
After World War II, in 1949 while under US occupation government, the US brought in Chicago banker Joseph Dodge to reform Japan's finances, and make them less dependent on money-printing by the BOJ, which was causing hyperinflation in the late 1940s (no kidding). Dodge banned all debt issuance by the central government, which allowed the BOJ to stop financing the government and instead peg the yen to the dollar (and thus gold at ¥12,600/oz.) I think we will need to remember this strategy for the future. Dodge's total ban on debt issuance actually lasted until a slowdown in 1965. Wow! Note that this was not a "balanced budget," which includes seasonal variation in revenue (possibly smoothed by short-term debt issuance), and some differences in budgeted vs. actual expenditures and revenues. It was a total ban on all issuance.

You see, these things are not actually that hard to solve. When the time comes to actually fix things, they get fixed in an afternoon meeting.



(Note 1) Total revenues and expenditures of general account: Settled Figures in FY1945-FY2021, Based on the Second Supplementary Budget in FY2022, Based on the Budget in FY2023
(Note 2) Outstanding government general bonds: Actual figures in FY1945-FY2021, Based on the Second Supplementary Budget in FY2022, Based on the Budget in FY2023

Here is the recent official Central Government budget:



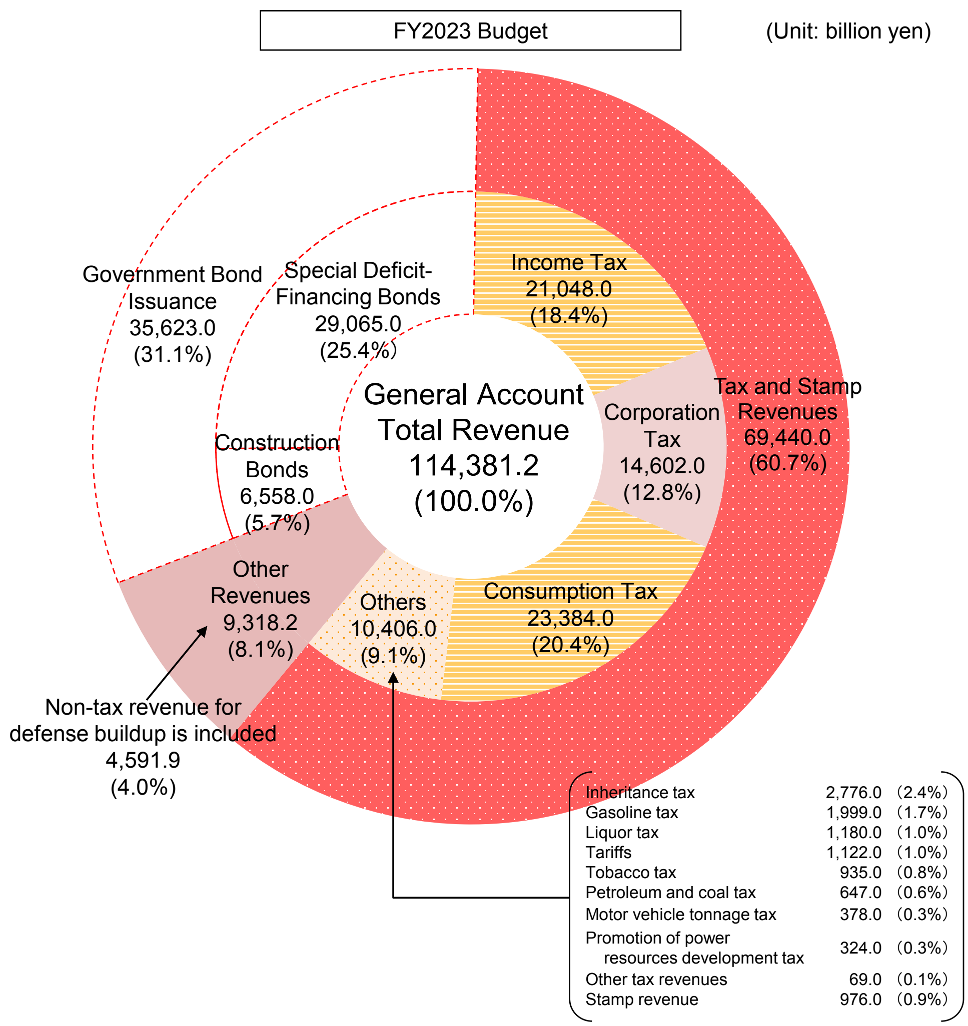
Note 1) Figures may not add up to the totals due to rounding.
Note 2) The ratio of social security expenditure to general expenditure is 50.7%.

The national budget has a large component of Social Security (32.3%) and Debt Service (22.1%). There is also a large item for "Local Allocation Tax Grants," which go mostly to funding Public Works on the prefectural level. Defense is quite small. Rather than a "military-industrial complex," Japan has a "public works spending complex," were cronyism and pork run wild. "Social Security" here means a wide variety of welfare programs, including public pensions, healthcare, and welfare. However, due to Japanese budget accounting, most of the Social Security (welfare system) account is actually off-budget, at the Ministry of Health and Welfare. All the welfare-related taxes (mostly payroll taxes), and spending (pensions, health, etc.) are not on the National budget. The part on the National budget is basically the deficit on the Social Security budget, the shortfall between welfare taxes (payroll taxes) and spending.

Note that "Debt Service" is divided between Interest Payments, and "Redemption of the National Debt." Huh? Apparently, there are laws which say that the government must "redeem" or pay down 1.6% of its outstanding debt each year. This was to reduce debt outstanding. Of course it is irrelevant today, since the debt is just rolled over. In the past, I remember that this was linked to the FILP program, which I will talk about later. (It might still be linked.)

（2）Revenue

Tax revenue is estimated to be around 69 trillion yen in the FY2023 general account budget. Essentially, the government expenditure should be fully financed by tax and other revenues in the same year, but the current revenue accounts for only about two-thirds of the whole expenditure in the FY2023 budget. As a result, the rest of one-third relies on the revenue from issuing government bonds (i.e. debt), which will be a burden to the future generations.



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1. Outstanding Government Bonds and Borrowings

(100 million yen)

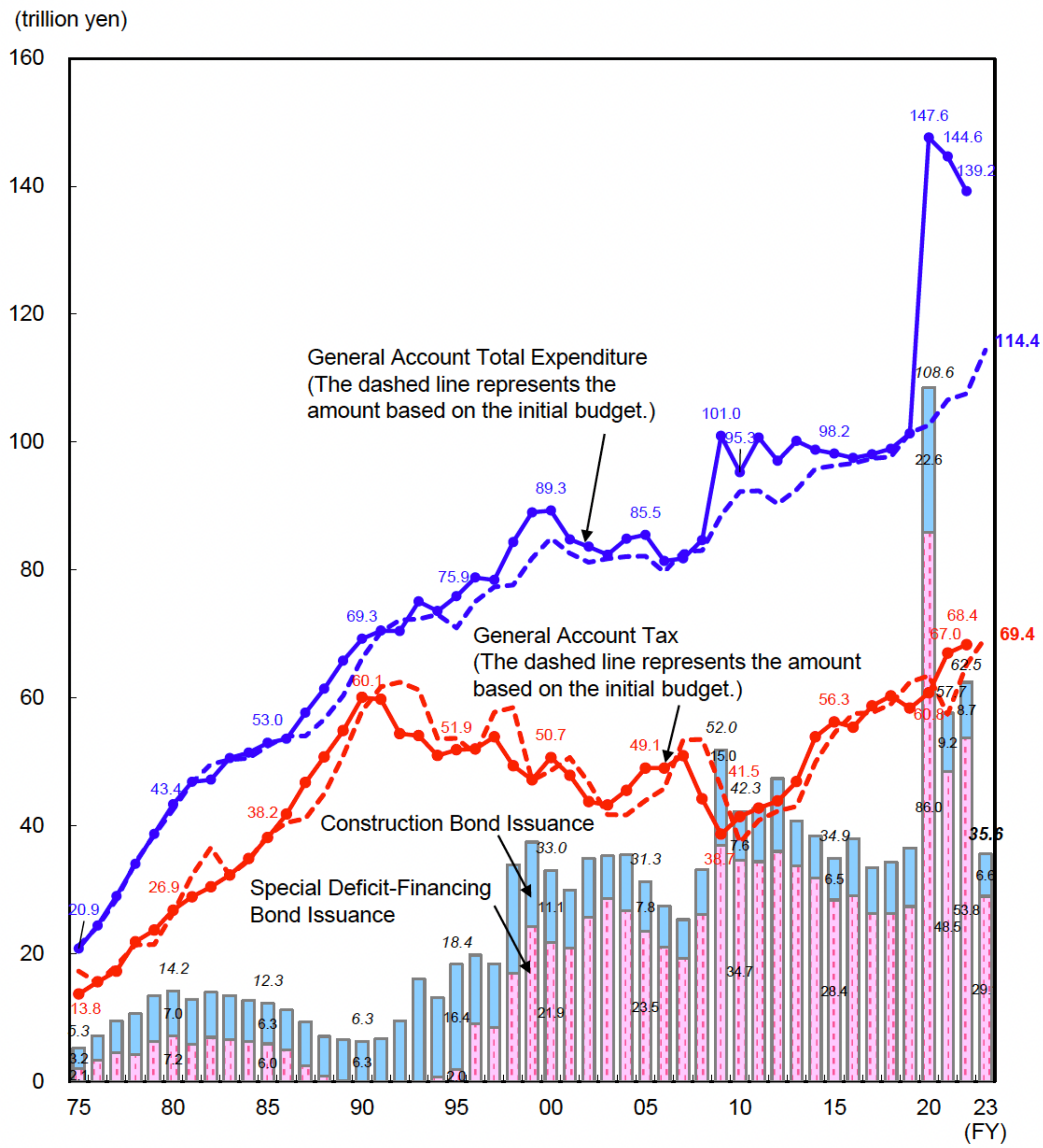
Category	Amount	Increase or Decrease(-) from the End of the Previous Quarter (the End of the Previous Fiscal Year)
Government Bonds	11,340,985	-22,845
General Bonds (Reconstruction Bonds)	10,266,311 (50,547)	-4,663 (-1,245)
Long-term (10 years or more)	7,859,214	76,548
Medium-term (from 2 to 5 years)	1,869,100	33,769
Short-term (one year or less)	537,997	-114,980
Fiscal Investment and Loan Program Bonds	982,841	-25,521
Long-term (10 years or more)	690,583	-11,242
Medium-term (from 2 to 5 years)	292,258	-14,279
Subsidy Bonds	813	-403
Subscription / Contribution Bonds	51,101	8,794
Government Bonds issued to Development Bank of Japan	13,247	-
Government Bonds issued to Nuclear Damage Compensation and Decommissioning Facilitation Corporation	26,673	-1,053
Borrowings	466,179	-29,988
Long-term (over one year)	101,202	-277
Short-term (one year or less)	364,977	-29,711
Financing Bills	955,992	110,998
Total	12,763,155	58,16[illegible]

Note that the unit here is "100 million yen," not "billion yen." This is related to the Japanese counting system, which has breakpoints at 10,000 ("man"), 10,000 x 10,000=100 million ("oku"), and 10,000 x 10,000 x 10,000=1 trillion ("cho"). The use of "billions" is a concession to Western readers.

There are interest payments of ¥8.5 trillion on ¥1,097 trillion of National debt (omitting Local), or a rate of 0.77%, the result of a decade of refinancing at near-zero levels. Actually, it is much less than this, because ¥581 trillion is held by the BOJ, which presumably remits the interest, and itself charges -0.1% on Deposits. I calculate a "net" charge of 0.31%. But, it is not hard to see that paying an additional 100bps on ¥1,276 trillion of bonds means ¥13 trillion of additional interest payments; or, 1% on 264% is 2.64% of GDP in additional interest payments, on top of an existing deficit recently of 6.4% of GDP. That would mean 6.4%+2.6%=9.0% of GDP deficit, with a 100bps increase in funding costs.

2. General Account Expenditure and Tax Revenue

The Japanese Public Finance runs a budget deficit every fiscal year, as an amount of its expenditure exceeds that of revenue. The gap between them has been financed by issuing national government bonds (construction bonds and special deficit-financing bonds).



(Note 1) FY1975 - FY2021: settled figures ; FY2022: based on the second supplementary budget ; FY2023: based on the budget
(Note 2) The following bonds are excluded: Ad-hoc special deficit-financing bonds issued in FY1990 as a source of funds to support peace and reconstruction activities in the Persian Gulf region, Tax reduction-related special deficit-financing bonds issued in FY1994 - FY1996 to make up for decline in tax revenue due to a series of tax cuts preceding consumption tax hike from 3% to 5%, Reconstruction bonds issued in FY2011 as a source of funds to implement measures for the reconstruction from the Great East Japan Earthquake and Pension-related special deficit-financing bonds issued in FY2012 and FY2013 as a source of funds to achieve the targeted national contribution to one-half of basic pension.
(Note 3) The general account total expenditure of FY2023 includes the carry-over (3.4 trillion yen) to Defense Buildup Funds which is the resource for the national defense expenditure for FY2024 and years after.

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Debt figures in Japan are typically at the Total Government level. This makes sense. Unlike the United States, where States and Municipalities are essentially separate government entities, prefectural and municipal governments in Japan are essentially "divisions" of the Central Governments.

5. Long-term Debt Outstanding of Central and Local Governments

In addition to the government general bonds, there are other long-term debts, such as borrowings and local government bonds. The total outstanding amount of long-term debt of central and local governments is expected to reach 1,280 trillion yen (224% of GDP) at the end of FY2023.

(Unit: trillion yen)

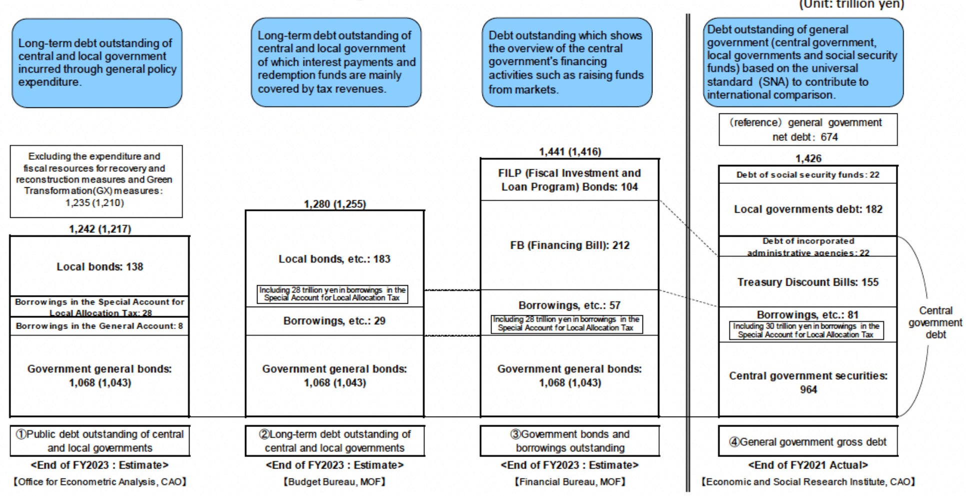
	FY1990 < Actual >	FY1998 < Actual >	FY2003 < Actual >	FY2008 < Actual >	FY2012 < Actual >	FY2013 < Actual >	FY2014 < Actual >	FY2015 < Actual >	FY2016 < Actual >	FY2017 < Actual >	FY2018 < Actual >	FY2019 < Actual >	FY2020 < Actual >	FY2021 < Actual >	FY2022 <Estimated>	FY2023 < Budget >
Central Government	199	390	493	573	731	770	800	834	859	881	901	914	973	1,017	1,068	1,097
	(197)	(387)	(484)	(568)	(720)	(747)	(772)	(792)	(815)	(832)	(850)	(870)	(964)	(1,002)	(1,048)	(1,072)
Government General Bonds	166	295	457	546	705	744	774	805	831	853	874	887	947	991	1,043	1,068
	(165)	(293)	(448)	(541)	(694)	(721)	(746)	(764)	(786)	(805)	(823)	(843)	(937)	(976)	(1023)	(1043)
% of GDP	37%	55%	87%	106%	141%	145%	148%	149%	152%	154%	157%	159%	176%	180%	186%	187%
	(37%)	(55%)	(85%)	(105%)	(139%)	(141%)	(142%)	(141%)	(144%)	(145%)	(148%)	(151%)	(174%)	(177%)	(183%)	(182%)
Local Governments	67	163	198	197	201	201	201	199	197	196	194	192	192	191	188	183
% of GDP	15%	30%	38%	38%	40%	39%	38%	37%	36%	35%	35%	35%	36%	35%	34%	32%
Total	266	553	692	770	932	972	1,001	1,033	1,056	1,077	1,095	1,106	1,165	1,208	1,257	1,280
	(264)	(550)	(683)	(765)	(921)	(949)	(972)	(991)	(1,012)	(1,028)	(1,044)	(1,062)	(1,156)	(1,193)	(1,237)	(1,255)
% of GDP	59%	103%	131%	149%	187%	190%	191%	191%	194%	194%	197%	199%	217%	219%	224%	224%
	(59%)	(103%)	(130%)	(148%)	(184%)	(185%)	(186%)	(183%)	(186%)	(185%)	(188%)	(191%)	(215%)	(217%)	(221%)	(219%)

(end of FY)

(Note 1) GDP for FY1990 - FY2021: actual figures, FY2022 and FY2023: FY2023 Economic Outlook (Cabinet Office)
(Note 2) Central government debt in FY1990 - FY2021: actual figures, FY2022: based on the second supplementary budget, FY2023: based on the budget.
Local governments debt in FY1990 - FY2021: actual figures, FY2022 and FY2023: Local Government Debt Plan etc.
(Note 3) Government general bonds includes Reconstruction bonds as a source of funds to implement the measures for the reconstruction from the Great East Japan Earthquake and Pension-related special deficit-financing bonds as a source of funds to achieve the targeted national contribution to one-half basic pension and GX Economy Transition Bonds.
(Note 4) FY1990 - FY2021: Figures in parentheses do not include the amount of front-loading issuance of refunding bonds.
FY2022 - FY2023: Figures in parentheses do not include the maximum amount of front-loading issuance of refunding bonds.
(Note 5) The borrowings in the special account for local allocation and local transfer tax are divided into each figure of the central government and local governments in accordance with their shares of redemption. The outstanding amount of the borrowing incurred by the central government was transferred to the general account at the beginning of FY2007, so that the outstanding borrowing in the special account since the end of FY2007 is equal to the debt of the local governments (28 trillion yen at the end of FY2023).
(Note 6) In addition to the above, outstanding government bond in the special account for fiscal investment and loan program at the end of FY2023 is 104 trillion yen.

(Reference) Debt Outstanding in Various Statistics

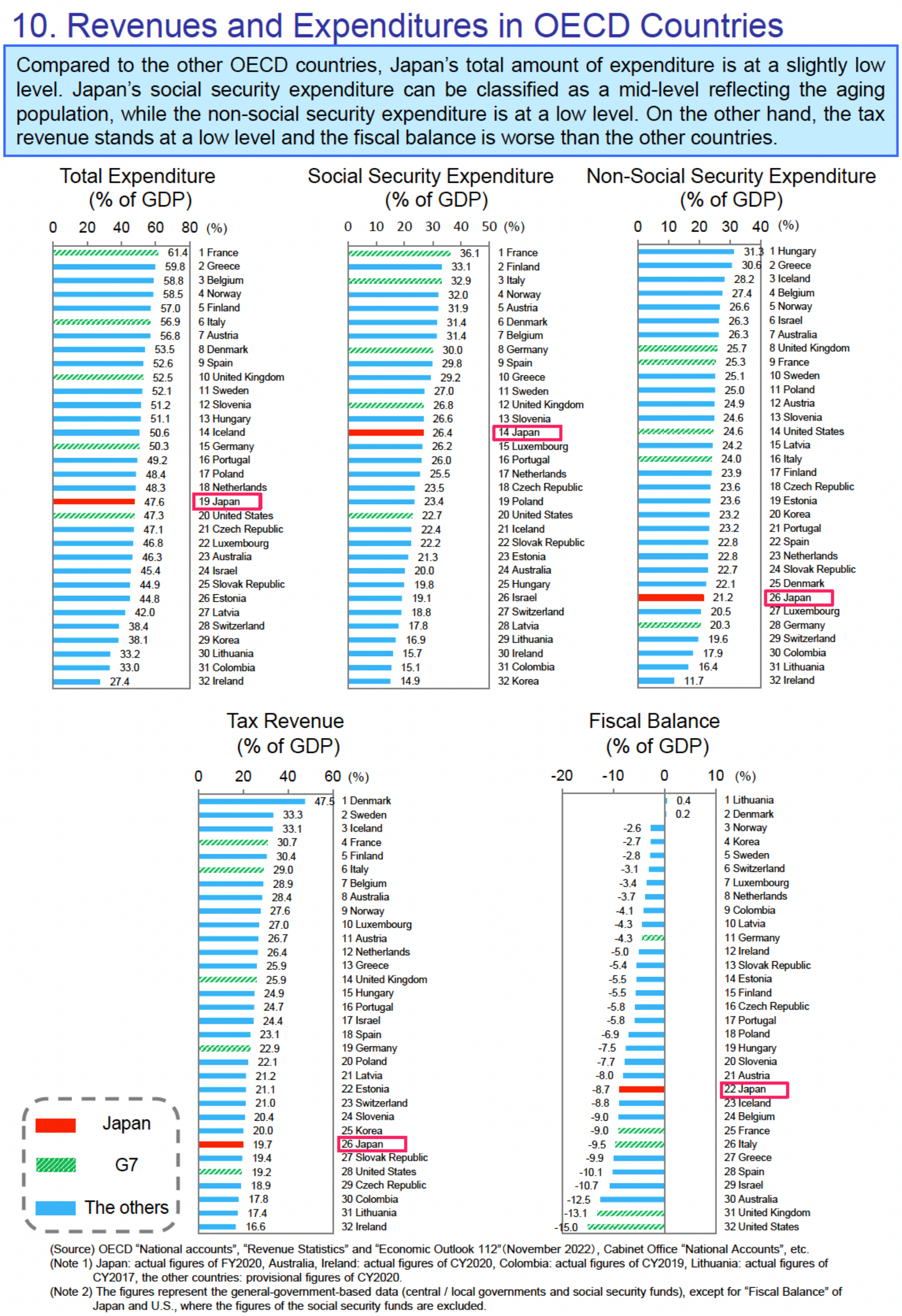
(Unit: trillion yen)



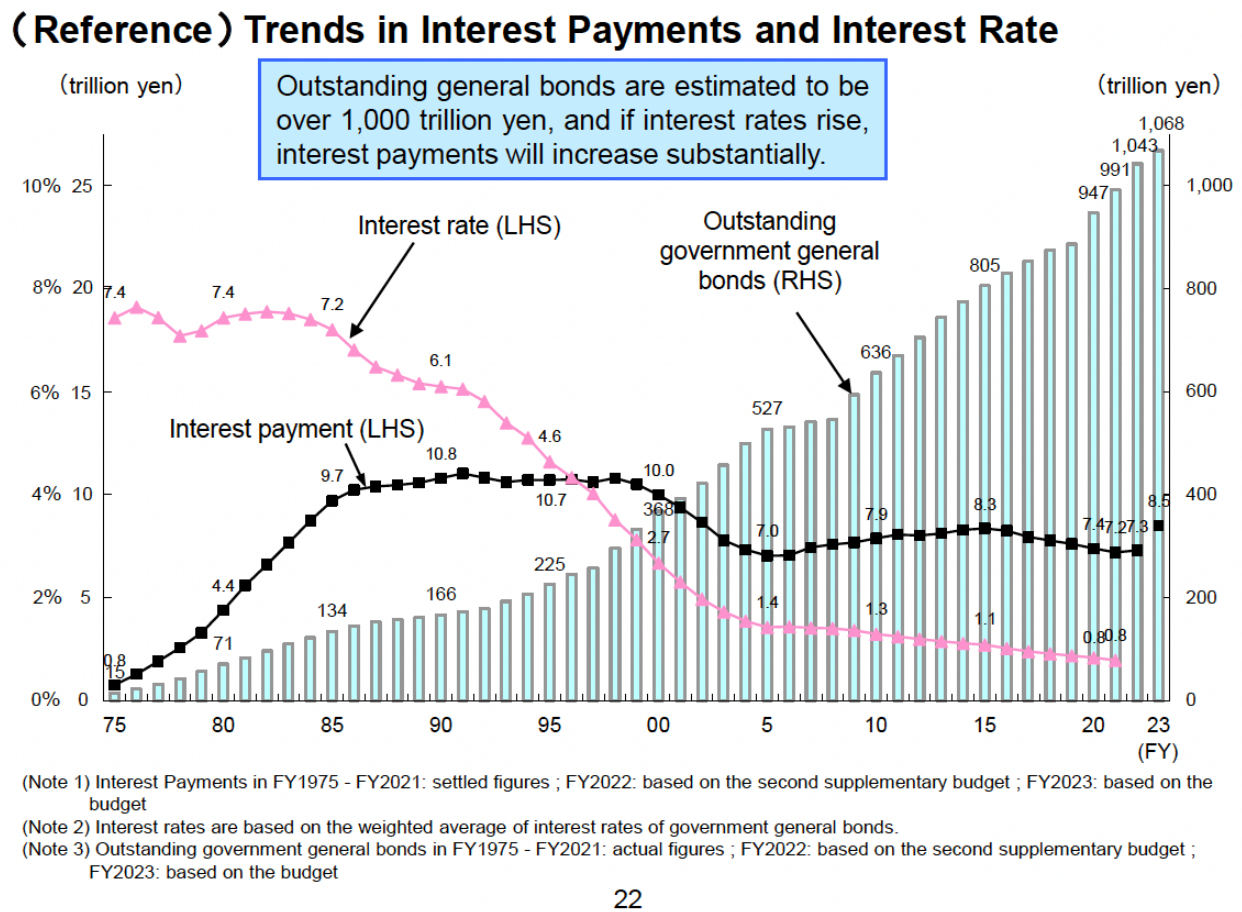
(Note 1) "Special Account for Local Allocation Tax" refers to "Special Account for Local Allocation Tax and Local Transfer Tax".
(Note 2) The figures in parentheses do not include the maximum amount of front-loading issuance of refunding bonds /the issuance limit of advance refunding bonds for refinancing in the following fiscal year. (25 trillion yen).
(Note 3) "Government general bonds at the end of FY2023" includes Reconstruction bonds (about 4.9 trillion yen).
(Note 4) Borrowings in the Special Account for Local Allocation Tax are partly transferred to general account (the borrowings in the general account in ①).
(Note 5) "Local bonds, etc." in ② includes local bonds, borrowings in the special account for local allocation tax, and local public corporation bonds (charged to the ordinary account) (about 16 trillion yen).
(Note 6) "Borrowings, etc." in ② and ③ = borrowings + government subscription bonds, etc. "Borrowings, etc." in ② do not include the outstanding borrowings in the special account for local allocation tax (about 28 trillion yen) for which local governments bear the burden for redemption.
(Note 7) "Central government securities" in ④ include government general bonds, government compensation bonds and government bonds converted. The borrowings, etc. in item ④ includes government subscription bonds, etc.
(Note 8) The central government securities and the local government bonds/securities included in the debt of local governments in ④ are at current market value.
(Note 9) The figures in ①, ②, and ③ are based on the budget for FY2023 and the local government debt plan etc.
(Note 10) "General government net debt" = "General government gross debt" – "Financial assets" (general government) (about 752 trillion yen) .

6

Some comparisons of expenditure. I think the accounting is wrong here, for the United States. In the US, Social Security "contributions" (payroll taxes) are on the regular budget, while in Japan (and maybe other European countries?) it is off-budget.



Although debt has gone way, way up, by refinancing at lower and lower rates, the interest costs of debt service have actually gone down, in nominal terms! Amazing!



But, just as the "triple-whammy" of (rising interest rates)*(rising debt levels)+(consequent rising deficits) is starting to hit the US with explosive increases in debt service costs, everything is multiplied in Japan. This is just starting to bite.

Here are the increases in Social Security (=all welfare) spending. Remember, this is on a base of flat nominal GDP. "Social Insurance Contribution" is off-budget payroll taxes. The "public expenditure" is the deficit that is on the National Budget (and Local budgets). Singapore doesn't have any of these problems, because it has a "provident fund" system (mandatory contributions to a private retirement account, like a 401(k)) for both pensions and healthcare (health savings accounts), reducing government spending on these items to almost nil, basically a "safety net" for those for whom the provident fund system is insufficient. This is what I mean by the problem being failed institutions.

Ⅲ. Issues in Each Policy Area

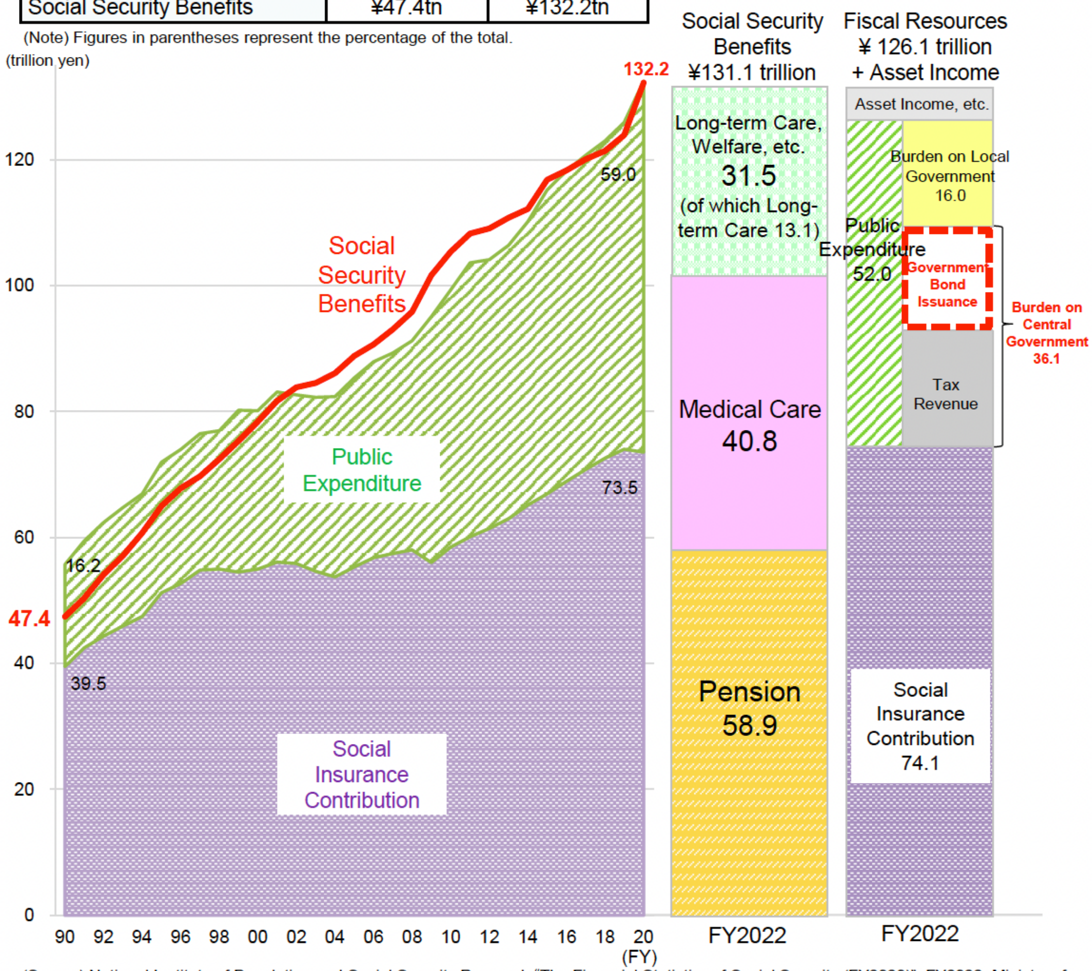
22. Social Security Area

(1) Declining Birthrate, Aging population and Increase in Social Security Benefits

Although insurance premiums should be major financial resource for social security system as a principle of mutual support, its amount is not enough as a single financial resource. Therefore, public expenditures is also used in order to avoid concentration of the burden on the working-age generation. In reality the needed public expenditure is financed by not only tax revenues but also bond issuance, which leads to the postponement of the burden to the future generation.
We have to share and cover the burden of social security which benefits us across the generation.

	FY1990	FY2020
Contribution of Insured Person	¥18.5tn (28%)	¥38.7tn (21%)
Contribution of Employer	¥21.0tn (32%)	¥34.8tn (19%)
Public Expenditure	¥16.2tn (25%)	¥59.0tn (32%)
Social Security Benefits	¥47.4tn	¥132.2tn

(Note) Figures in parentheses represent the percentage of the total.



(Source) National Institute of Population and Social Security Research "The Financial Statistics of Social Security (FY2020)", FY2022: Ministry of Health, Labour and Welfare (based on the initial budget).

(Note 1) FY1990-FY2020: settled figures ; FY2022: based on the initial budget. It should be noted that the conditions on expenditures for projects related to countermeasures against COVID-19 differs from year to year.

(Note 2) The amount of social security benefits for FY2020 is 125.0 trillion yen when the cost of projects related to countermeasures against COVID-19 is excluded.

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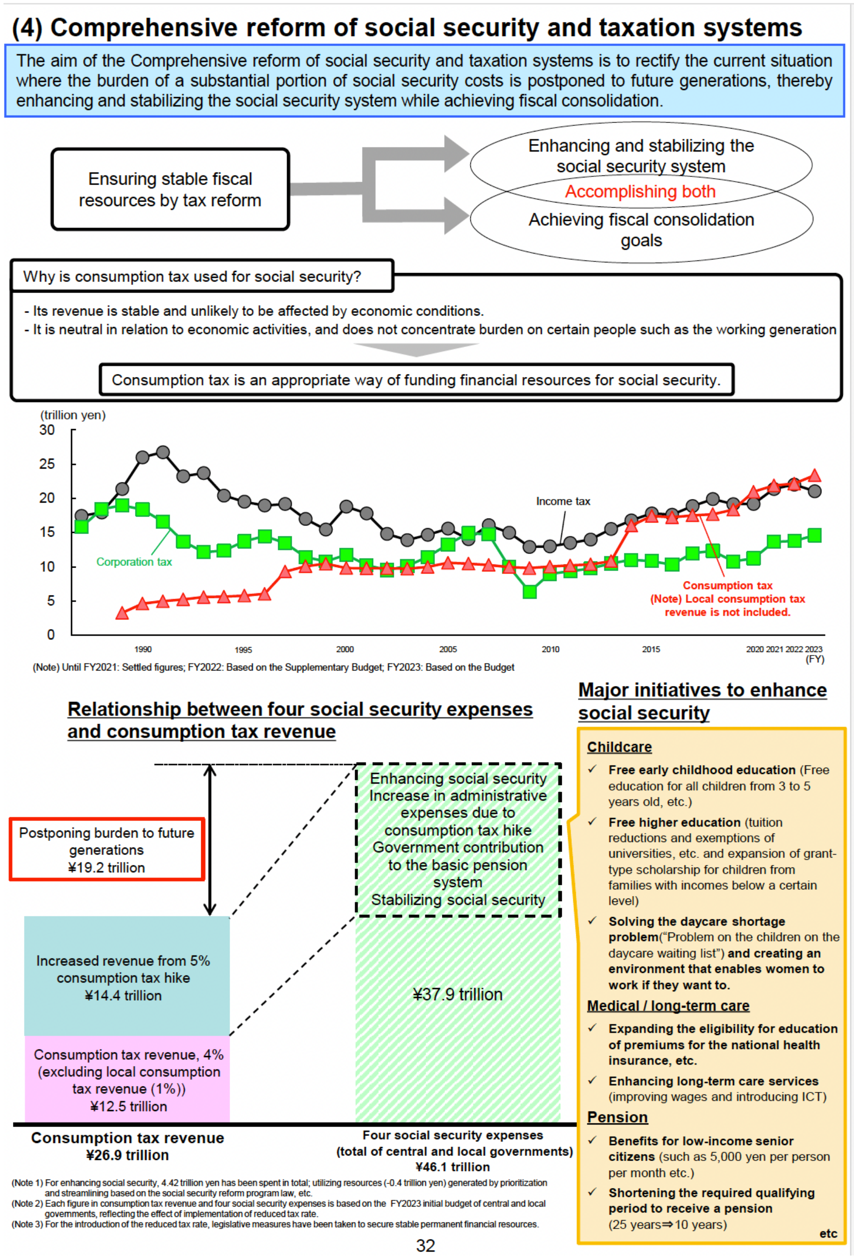
Note that the revenue here (¥73.5 trillion) is more than all the revenue (¥69.4 trillion) in the regular budget of the Central Government.

This is their strategy:



What does this mean?

It means that they will "ensure stable fiscal resources by tax reform" -- Higher Taxes -- with the goal of "Enhancing and Stabilizing the Social Security System" (keep the Ponzi running; and actually -- believe it or not -- add more benefits!) and "Achieving Fiscal Consolidation Goals" (reducing deficits = keep the Ponzi running).

Maybe you can see why I have not been very positive on Japan for a long time.

What they should be doing is:

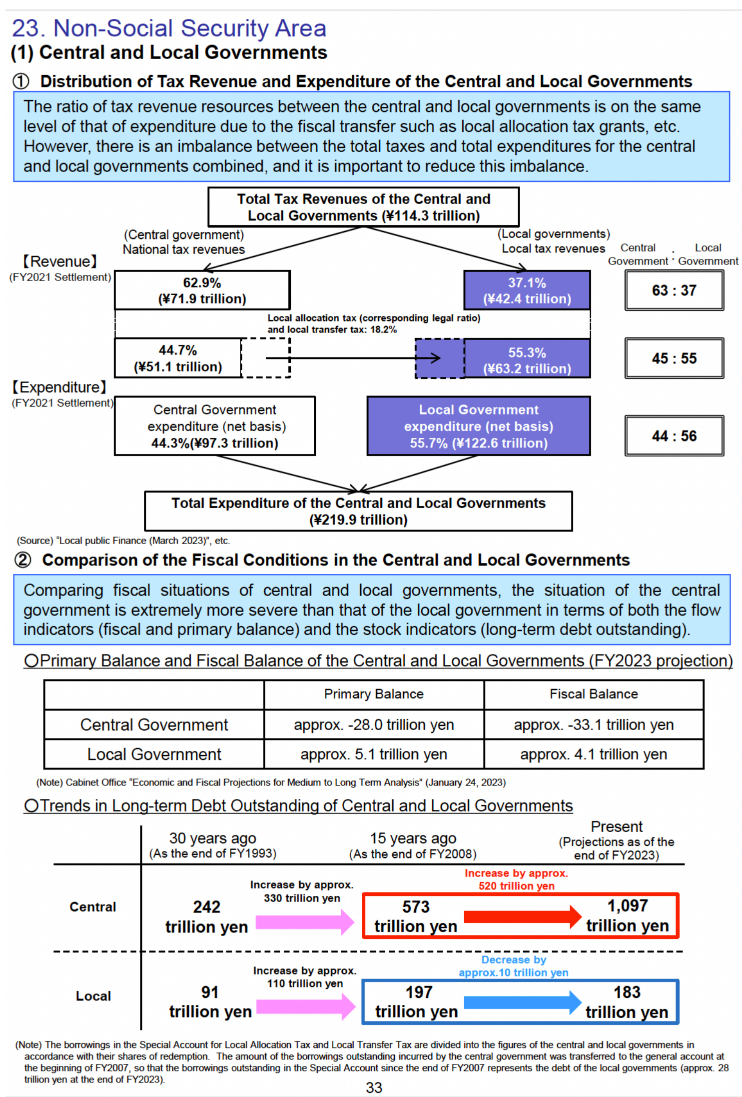
Adopting a Singapore-like strategy for "Social Security" based on private funding and responsibility.

Slashing spending by huge amounts, about 70% including nearly all existing Social Security spending and 80% of Public Works (at all levels).

Lowering taxes to create a more powerful economy, such as a Flat Tax income tax reform.

And no doubt they will do all this, eventually, after the Ponzi goes completely kerflooey.

Unlike the US, where most of the spending is on the Federal level, most of the spending in Japan is on the Local level (this is because the Social Security spending is off-budget).



23. Non-Social Security Area

(1) Central and Local Governments

① Distribution of Tax Revenue and Expenditure of the Central and Local Governments

The ratio of tax revenue resources between the central and local governments is on the same level of that of expenditure due to the fiscal transfer such as local allocation tax grants, etc. However, there is an imbalance between the total taxes and total expenditures for the central and local governments combined, and it is important to reduce this imbalance.

Total Tax Revenues of the Central and Local Governments (¥114.3 trillion)
(Central government) National tax revenues
(Local governments) Local tax revenues
Central Government : Local Government
【Revenue】 (FY2021 Settlement)
62.9% (¥71.9 trillion)
37.1% (¥42.4 trillion)
63 : 37
Local allocation tax (corresponding legal ratio) and local transfer tax: 18.2%
44.7% (¥51.1 trillion)
55.3% (¥63.2 trillion)
45 : 55
【Expenditure】 (FY2021 Settlement)
Central Government expenditure (net basis) 44.3%(¥97.3 trillion)
Local Government expenditure (net basis) 55.7% (¥122.6 trillion)
44 : 56
Total Expenditure of the Central and Local Governments (¥219.9 trillion)

(Source) "Local public Finance (March 2023)", etc.

② Comparison of the Fiscal Conditions in the Central and Local Governments

Comparing fiscal situations of central and local governments, the situation of the central government is extremely more severe than that of the local government in terms of both the flow indicators (fiscal and primary balance) and the stock indicators (long-term debt outstanding).

○Primary Balance and Fiscal Balance of the Central and Local Governments (FY2023 projection)

	Primary Balance	Fiscal Balance
Central Government	approx. -28.0 trillion yen	approx. -33.1 trillion yen
Local Government	approx. 5.1 trillion yen	approx. 4.1 trillion yen

(Note) Cabinet Office "Economic and Fiscal Projections for Medium to Long Term Analysis" (January 24, 2023)

○Trends in Long-term Debt Outstanding of Central and Local Governments

	30 years ago (As the end of FY1993)		15 years ago (As the end of FY2008)		Present (Projections as of the end of FY2023)
Central	242 trillion yen	Increase by approx. 330 trillion yen	573 trillion yen	Increase by approx. 520 trillion yen	1,097 trillion yen
Local	91 trillion yen	Increase by approx. 110 trillion yen	197 trillion yen	Decrease by approx.10 trillion yen	183 trillion yen

(Note) The borrowings in the Special Account for Local Allocation Tax and Local Transfer Tax are divided into the figures of the central and local governments in accordance with their shares of redemption. The amount of the borrowings outstanding incurred by the central government was transferred to the general account at the beginning of FY2007, so that the borrowings outstanding in the Special Account since the end of FY2007 represents the debt of the local governments (approx. 28 trillion yen at the end of FY2023).

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Unfortunately, I was not able to find as much detail on Local Government finances as I hoped.

5-11 地方財政計画(令和3、4年度)

Fiscal Plan of Local Governments (F.Y. 2021 and 2022)

「地方財政」参照。 See "Local finance".

(単位 10億円) (In billions of *yen*)

区分	Category		令和3年度 F.Y. 2021	4年度 F.Y. 2022	区分	Category		令和3年度 F.Y. 2021	4年度 F.Y. 2022
通常収支分					**Ordinary account**				
歳入合計	**Total revenue**		**89,806**	**90,592**	**歳出合計**	**Total expenditure**		**89,806**	**90,592**
地方税	Local taxes		38,270	41,231	給与関係経費	Allowances		20,154	19,964
地方譲与税	Local transfer tax		1,846	2,598	給与費	Salaries		18,676	18,524
地方特例交付金等		1)	358	227	退職手当		13)	1,472	1,436
地方交付税	Local allocation tax		17,439	18,054	恩給費	Pensions		5.3	4.4
国庫支出金	Treasury disbursements		14,763	14,883	一般行政経費		14)	40,882	41,443
義務教育職員給与費負担金		2)	1,516	1,502	# 国庫補助負担金等を伴うもの	Expenditure shared by Treasury		22,942	23,458
その他普通補助負担金等	Other ordinary grants etc.		10,337	10,492	国庫補助負担金を伴わないもの	Expenditure not shared by Treasury		14,830	14,867
公共事業費補助負担金	Shares for subsidy of public works		2,671	2,653	国民健康保険・後期高齢者医療制度関係事業費		15)	1,491	1,499
国有提供施設等所在市町村助成交付金		3)	29	30	まち・ひと・しごと創生事業費		16)	1,000	1,000
施設等所在市町村調整交付金		4)	7.4	7.6	地域社会再生事業費	Expenses for community regeneration		420	420
交通安全対策特別交付金		5)	53	54	公債費	Public debt expenditure		11,780	11,426
電源立地地域対策等交付金		6)	108	102	維持補修費	Maintenance and repair		1,469	1,495
特定防衛施設周辺整備調整交付金		7)	36	38	投資的経費	Public investment		11,927	11,979
石油貯蔵施設立地対策等交付金		8)	5.4	5.3	直轄事業負担金	Share for enterprises under direct supervision		573	559
地方債	Local bonds		11,241	7,608	公共事業費	Public works		5,141	5,105
使用料及び手数料	Rents, charge and fees		1,549	1,573	一般事業費	General works		2,763	2,817
雑収入	Miscellaneous receipts		4,375	4,446	特別事業費	Special works		3,450	3,497
復旧・復興事業一般財源充当分		9)	-0.2	-0.4	公営企業繰出金	Transfers to local public enterprises		2,443	2,435
全国防災事業一般財源充当分		10)	-35	-25	地方交付税の不交付団体における平均水準を超える必要経費		17)	1,150	1,850
東日本大震災分					**Extraordinary account related to the Great East Japan Earthquake**				
歳入合計	**Total revenue**		**333**	**299**	**歳出合計**	**Total expenditure**		**333**	**299**
震災復興特別交付税		11)	133	107	給与関係経費	Allowances		6.5	5.8
一般財源充当分	Appropriation to general revenue		0.2	0.4	一般行政経費	General administration		169	142
国庫支出金		12)	191	182	公債費	Public debt expenditure		7.9	8.3
地方債	Local bonds		0.8	0.9	投資的経費	Public investment		150	143
雑収入	Miscellaneous		7.9	8.3	公営企業繰出金		18)	0.1	0.0

1) Special grants to local governments 2) Salaries of staff engaged in compulsory education 3) Grants to cities, towns and villages where national institutions are located 4) Financial equalisation grants to cities, towns and villages where institutions are located
5) Special grants to countermeasures for traffic safety 6) Grants for area locating electric power stations 7) Grants for environmental improvement of area locating specified defence facilities 8) Grants for locating petroleum reserving facilities 9) Appropriation to general revenue for disaster restoration and recovery 10) Appropriation to general revenue for nationwide disaster prevention
11) Special local allocation tax for recovery from earthquake disaster 12) Treasury disbursements 13) Retirement allowance
14) General administration 15) Expenses related to National health insurance and Longevity medical plan 16) Expenses for formulating measures for building up towns, people and jobs 17) Necessary expenditure beyond average standard in bodies which do not receive local allocation tax 18) Transfers to local public enterprises

資料 総務省「地方財政計画」 Source: Ministry of Internal Affairs and Communications.

There is a large (¥11.979 trillion) item for Public Investment, or Public Works. Also, there is a large item for Public Debt Expenditure. Since this is larger than the Central Government's interest payments (about ¥8.5 trillion), despite a much smaller amount of debt, I am guessing that this is also represents debt "redemptions." From before, we saw that ¥16.0 trillion of Social Security spending was funded on the Local Government budget. This is basically the remainder between the part of Social Security that is not funded by "contributions" (payroll taxes) and the Central Government.

Now, let's look at the Fiscal Investment and Loan Program.

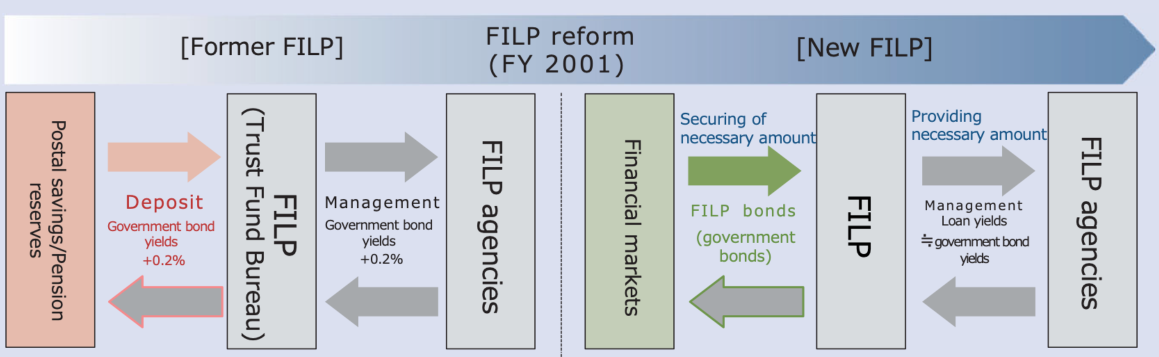
FILP came about from the Postal Savings System. A Postal Bank was a popular policy in the nineteenth century, with systems in Britain, France, Germany and numerous other countries. The basic idea was that there was already a network of post offices, so why not use them for banking services? With Japan's sudden modernization, jumping from the feudal Tokugawa era right into late 19th-century industrial capitalism after 1870, people needed basic banking services such as the ability to make payments nationwide. But, while most countries phased out their postal bank systems, Japan kept theirs. It became the largest bank in the world, by deposits.

As a bank, the Postal Bank then lent out the money. To whom? Since this is a government bank ... you can imagine what happened. The Fiscal Investment and Loan Program consisted of loans by the Postal Bank to "public/private projects," mostly Public Works. For example, let's build an expressway. We plan to charge tolls on the expressway, and use the toll revenue to pay off the debt for the construction. Basically, this was a whole new Public Works budget, that was completely off-budget! And guess who benefitted from that? However, actual toll revenue "mysteriously" fell well short of projections, so the loan from the Postal Bank could not be fully repaid. It became bad debt. Basically, the government was on the hook to repay depositors in the Postal Bank.

Thus, the issuance of FILP bonds. The government packaged all the bad loans, and swapped them with the Postal Bank for FILP bonds. Then, the government would steadily buy back the FILP bonds from the Postal Bank, thus funding the slow wind-down of the Postal Savings System (repayment of deposits), replacing them with regular JGBs. This is the "redemption of the national debt" that is on the Central Government budget.

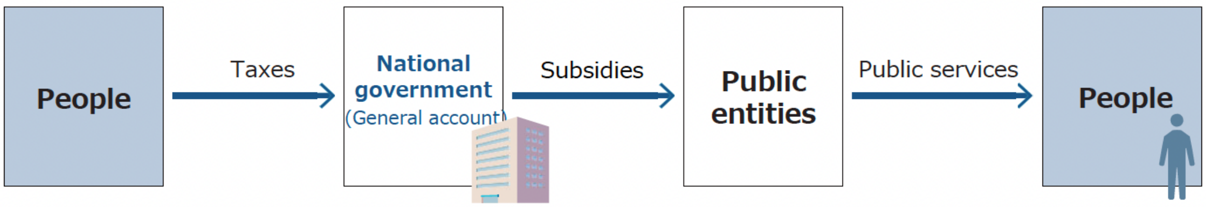
Point of FILP reform

FILP was reformed fundamentally in fiscal year 2001 (FILP reform). Although postal savings and pension reserves had been mandatorily deposited as a source of fiscal investment and loan funds before this reform, problems with regard to inefficient management had been pointed out because the funds had been collected regardless of the amount of funds needed for policy objectives. Therefore, an obligation to deposit postal savings and pension reserves was abolished in the FILP reform, and now only the truly necessary amount of FILP funds is raised independently from the financial markets through FILP bonds.

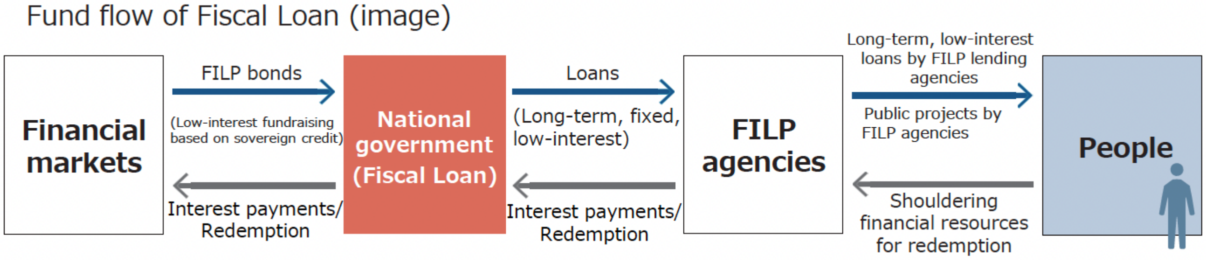


FILP still exists. I think it was supposed to be phased out and liquidated, but someone wanted to keep the party going.

Fund flow of subsidies in the general account (image)

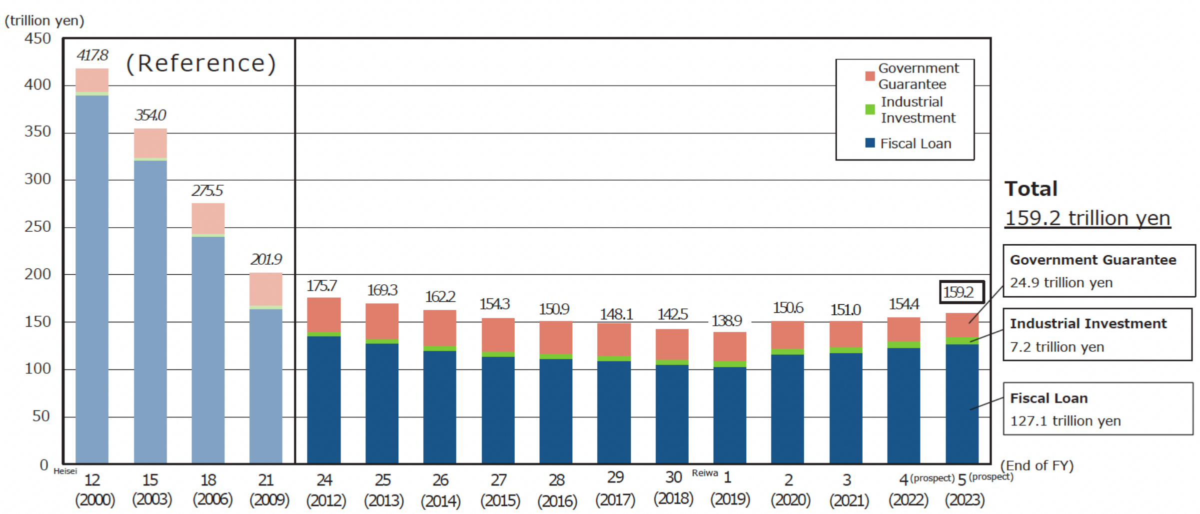


Fund flow of Fiscal Loan (image)



FILP bond balances came way down in the 2000s, as part of the Postal Savings System reform, but have been stable for a while. They are still doing big annual budgets, recently ¥16 trillion.

Transition of planned balance of FILP (stock)



(Note) Figures until FY 2021 are actual amounts. Figures from FY 2022 and FW 2023 are prospects as of December 2022. Differences in the figures might occur in the future.

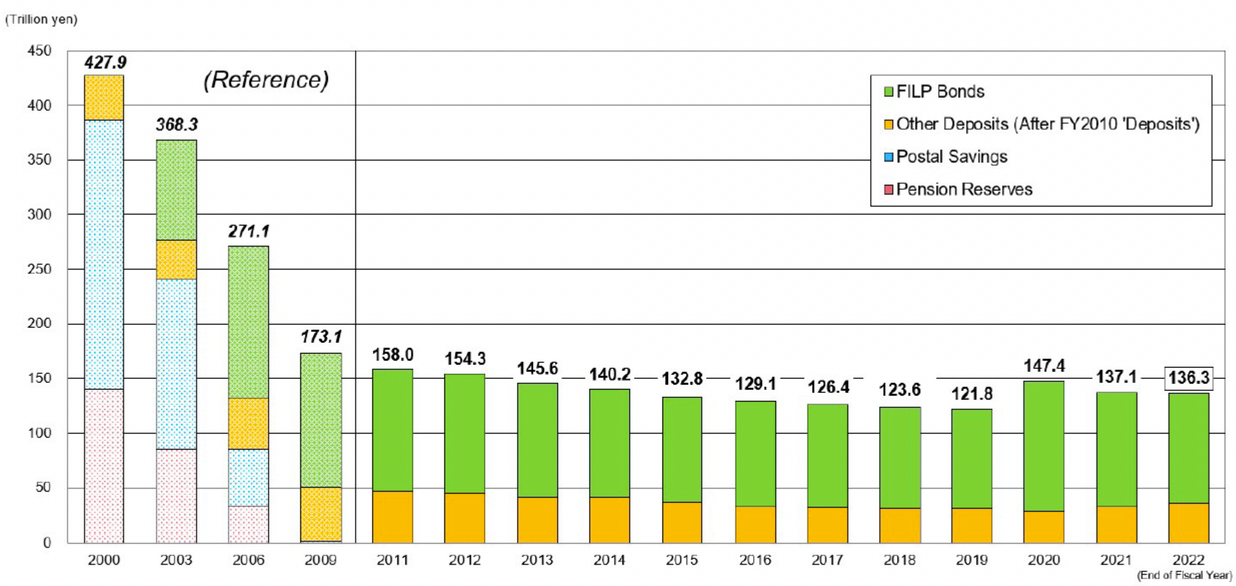
< FILP Plan > (Unit: billion yen)

		FY 2021	FY 2022	FY 2023		
		Total Amount	Total Amount	Total Amount	change	growth rate
FILP		40,905.6	18,885.5	**16,268.7**	▲ 2,616.8	▲13.9%
	Fiscal Loan	38,302.7	16,448.8	**12,709.9**	▲ 3,738.9	▲22.7%
	Industrial Investment	362.6	326.2	**429.8**	103.6	+31.8%
	Government Guarantee	2,240.3	2,110.5	**3,129.0**	1,018.5	+48.3%

*: Outside of the FILP plan for FY 2023, 636.7 billion yen will be transferred from the Fiscal Investment and Loan Special Account to the General Revenue Account.

Wind-down of Postal Savings in the 2000s:

(Reference 5) Outstanding Amount of Deposits and FILP Bond Issue



(Unit:trillion yen)

	2000	2003	2006	2009	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022 (change)		Cumulative change (2022-2000)
FILP Bonds	—	*91.8*	*138.9*	*122.2*	110.9	109.3	104.2	99.0	96.1	96.3	94.5	92.2	91.1	118.6	104.6	100.8	(- 3.8)	100.8
Deposits	*427.9*	*276.4*	*132.2*	*50.8*	47.0	45.0	41.4	41.2	36.7	32.8	31.8	31.4	30.7	28.7	32.4	35.4	(3.0)	-392.4
Total	*427.9*	*368.3*	*271.1*	*173.1*	158.0	154.3	145.6	140.2	132.8	129.1	126.4	123.6	121.8	147.4	137.1	136.3	(- 0.8)	-291.6

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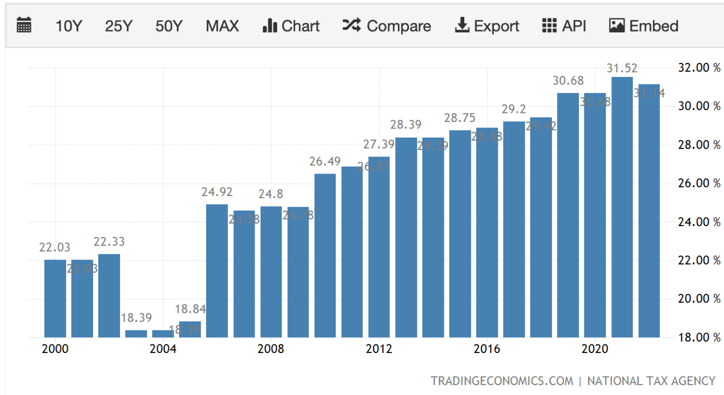
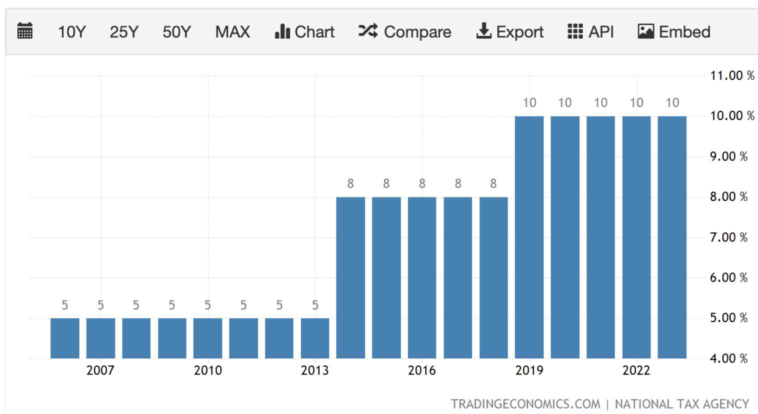
In the past, I remember that the Debt Redemption item in the Central Government budget was directed at the FILP bonds arising from the Postal Savings System workout. However, since 2010 or so, that seems to have been completed. The amount of FILP bonds issued and the Redemptions seem to be in line, however, so it looks to me like this program has become a permanent fixture, with FILP bonds issued and then redeemed. Basically, I think it amounts to spending, disguised as lending. It would be nice to find out more clearly what has been happening to FILP over the past decade, but that is definitely a "Japan macro geek" topic that is perhaps beyond our needs here.

Just as promised by MOF, tax changes in Japan have generally been toward higher taxes, mostly payroll taxes and the consumption tax (basically, a VAT).

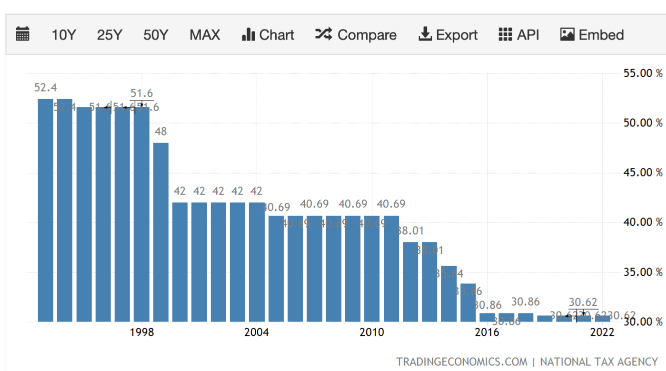


Payroll tax rate in Japan. This goes into the off-budget Social Security accounts.

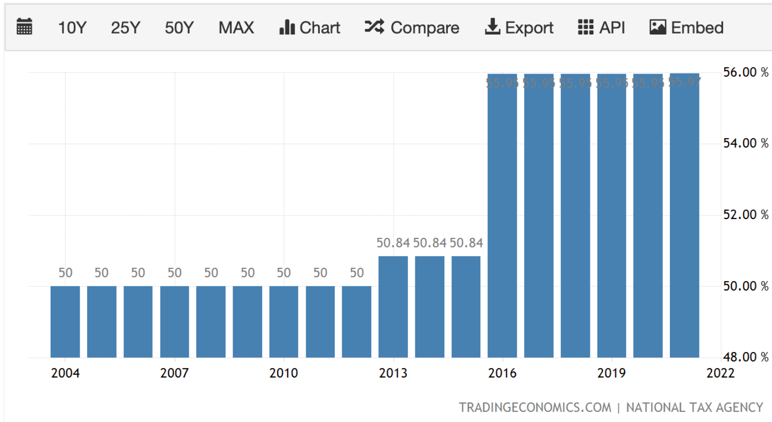
Consumption tax rate:



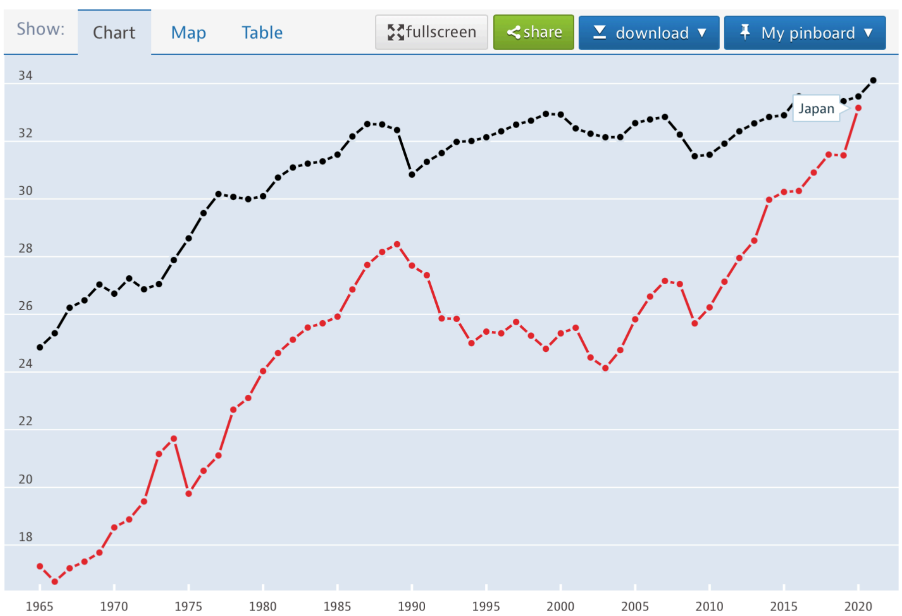
On the brighter side, corporate tax rates have come down somewhat. However, I think this was paired with the elimination of a lot of the deductions that made the high tax rates tolerable. The official corporate tax rate during the high-growth 1960s was also about 50%, but there were so many ways around this that corporations hardly paid any tax.



Personal income tax rates have generally headed higher. This is the top rate:



Here's tax revenue/GDP in Japan, compared to the OECD average. You can see one reason why Japan was a high-growth powerhouse in the 1960s, and why it is not today.



Drawing some conclusions from all of this:

Structural budget issues are likely to continue. The government is all-in on "keeping the Ponzi going" rather than large-scale reforms of spending patterns. Debt is already huge, deficits are already huge, and nothing particularly bad has happened yet.

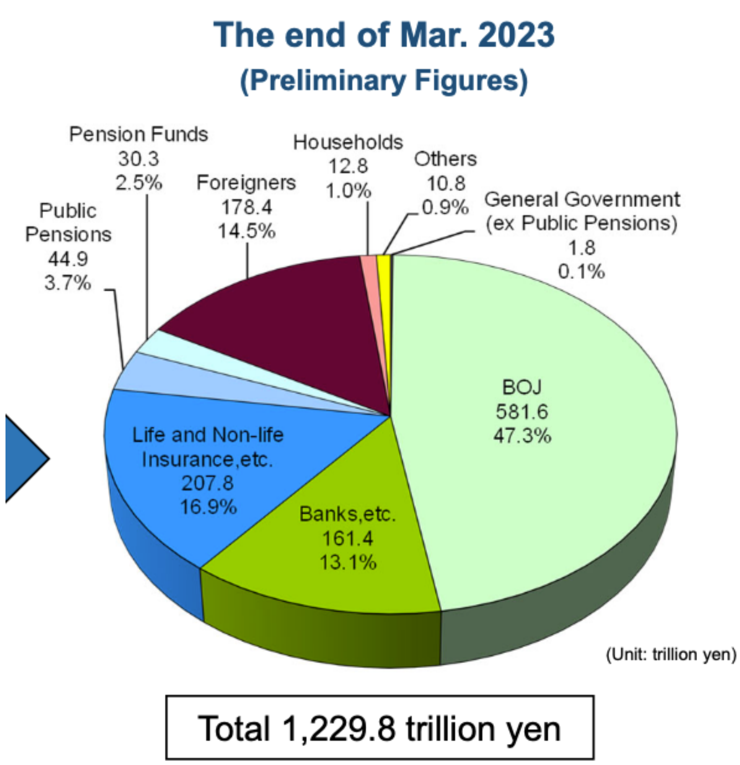
GDP has been stagnant. A trend toward higher taxes does not help here much. However, nominal GDP might start to rise simply due to monetary inflation. Indeed, there has been a rise recently.

In other words, Japan has been acting exactly contrary to what I've called the "Magic Formula" -- Low Taxes, and Stable Money. (See my 2019 book *The Magic Formula.*) If Japan today had a policy like it did in the high-growth 1960s, with the yen pegged to gold and tax revenue/GDP around 17% -- and especially if they used highly efficient taxes like a VAT or Flat Tax to generate that 17% -- Japan today would probably be pretty healthy. Productivity and incomes would be rising, whether population went up or down; and all this income for workers would make supporting retirees a lot easier. Just to give you an idea, the revenue from the consumption tax alone (basically a VAT), plus "other revenue" (a variety of excises on things like alcohol, but excluding the Inheritance Tax), or 5.6% of GDP, and Local tax revenue 7.4% of GDP, already gets us to 13.0% of GDP in tax revenue -- with the total elimination of the personal income tax, corporate income tax, and all payroll taxes. This is in line with Singapore today (13.8%). I betcha the economy would be doing pretty well, which means higher GDP, which means more tax revenue and less welfare spending.

They could do that. But, of course, they won't.

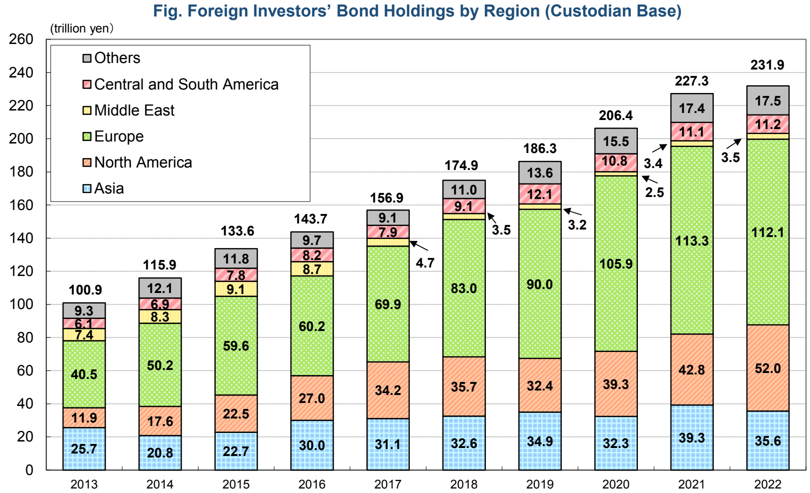
The epicenter of "keeping the Ponzi going" is certainly the Bank of Japan, the JGB market, and related financial institutions such as big banks and pension funds. Without the ability to fund this mammoth pile of debt at near-zero interest rates, it would have blown up a long time ago.

Who owns all this debt?



As we can see, the Japanese public owns almost no debt directly, in the form of mutual funds, ETFs etc. Of course the Japanese public owns a lot indirectly, via banks, life insurers, pension funds etc. The biggest holder is the Bank of Japan. Banks and Insurers are close behind. Most of the BOJ's holdings are indirectly held at banks, since banks hold the bank reserves that are on the other side of the BOJ's JGB holdings. Foreigners also own a lot of these bonds. Since I can't find any foreigners who are interested in their investment characteristics (there is no JGB ETF in the US for example), I suspect that a lot of this is basically official institutions (foreign central banks among them), and maybe some passive portfolios of global bonds.

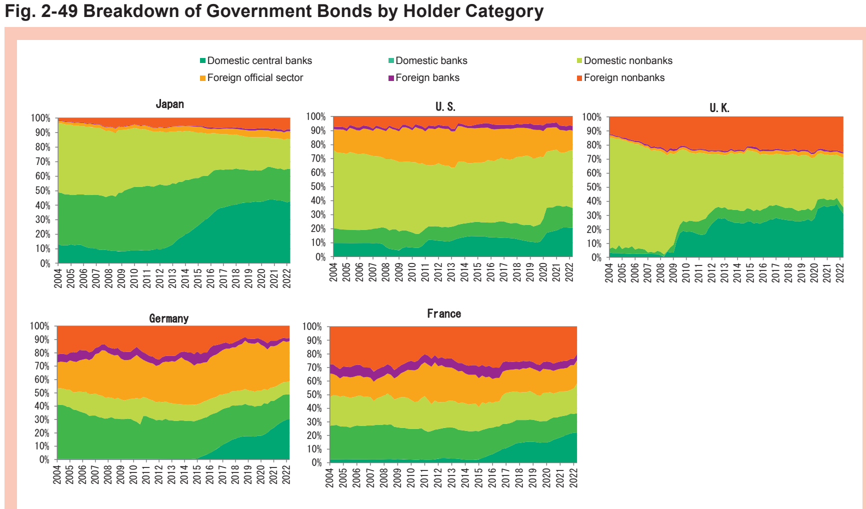
Fig. Foreign Investors' Bond Holdings by Region (Custodian Base)



Note: This breakdown does not necessarily give a region-by-region breakdown of final investors.

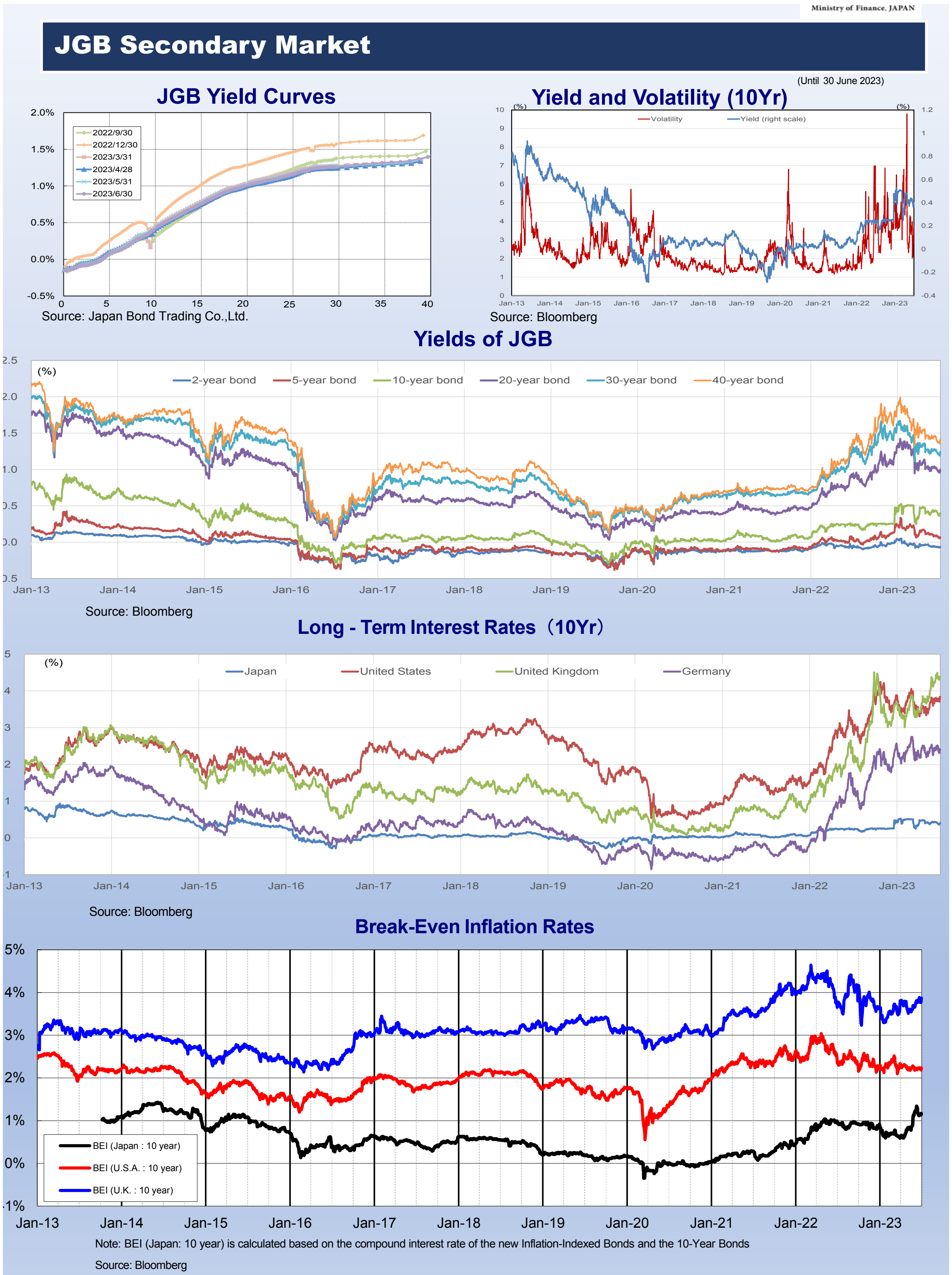
According to official figures, most of the foreign holdings are non-official. Who are these people?

Fig. 2-49 Breakdown of Government Bonds by Holder Category

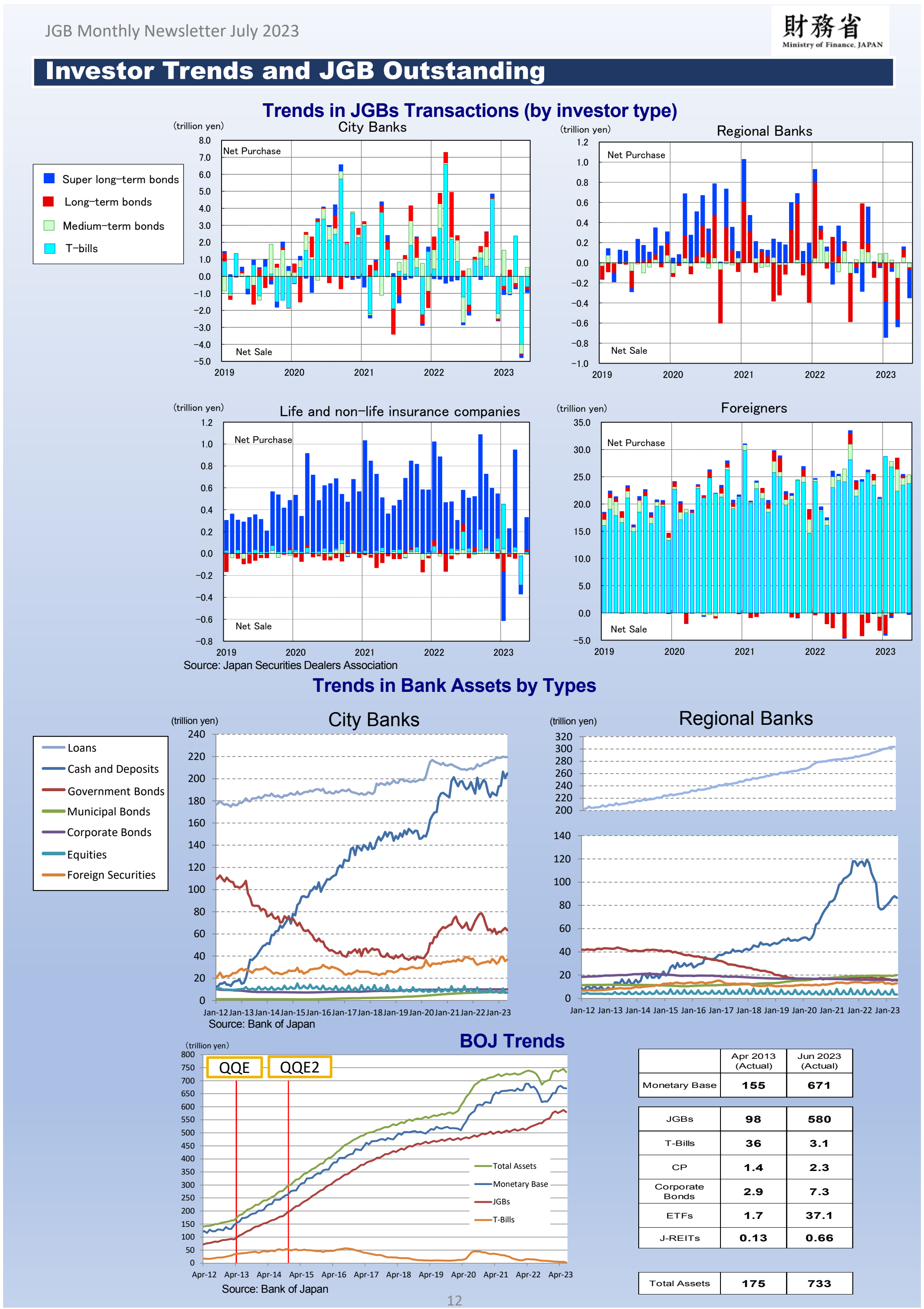


Note 1: As of June 2022.
Note 2: Domestic banks are depository corporations residing in the country (IFS definition). Foreign banks are BIS reporting banks residing outside the country. Foreign official sector includes foreign central bank holdings as foreign exchange reserves, SMP holdings of foreign central banks, and foreign official loans. Foreign nonbanks and domestic nonbanks are imputed from external and total debt.
(Source) Serkan Arslanalp and Takahiro Tsuda, 2012,"Tracking Global Demand for Advanced Economy Sovereign Debt",IMF Working Paper, WP/12/284

Here are some recent stats on the JGB market:



Among other things, the "break even inflation rate" in Japan (supposedly a measure of expected inflation rates, although maybe just a fiction cooked up by manipulating market prices) is about 1.0% now. Oh really.

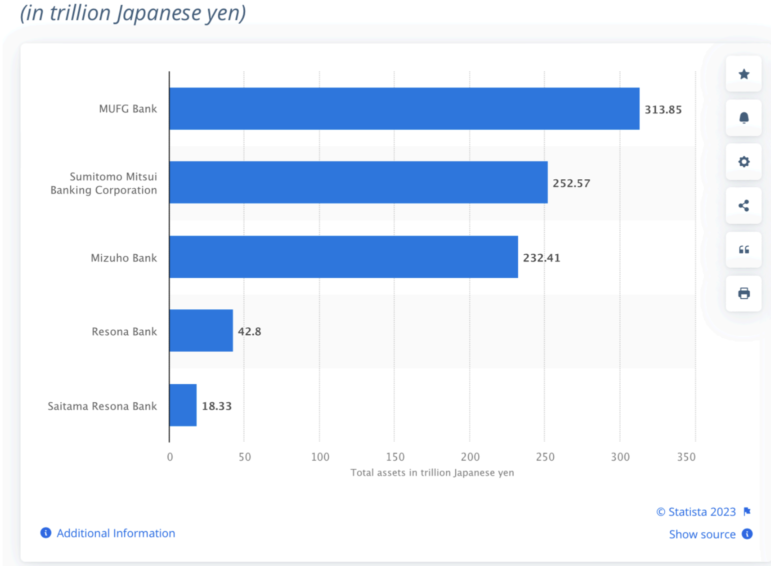


	Apr 2013 (Actual)	Jun 2023 (Actual)
Monetary Base	155	671
JGBs	98	580
T-Bills	36	3.1
CP	1.4	2.3
Corporate Bonds	2.9	7.3
ETFs	1.7	37.1
J-REITs	0.13	0.66
Total Assets	175	733

Foreigners have also had a steady pattern of JGB purchases. The BOJ's holdings of JGBs have risen as part of its "Yield Curve Control" policy. However, total base money has been rather flat. We also see that City Banks have had huge increases in holdings of Bank Reserves (BOJ Deposits), and also have fairly large JGB holdings, while Regional Banks have much lower Bank Reserves, and also lower JGB holdings -- both in absolute terms, and as a percentage of total assets. Thus, among Banks, which are the major holders of JGBs (directly and indirectly via BOJ Bank Reserves), this is concentrated at City Banks. In the 1990s, there were about twenty "City Banks," but today, after a long series of mergers, there are only five, and only three majors. It is just a matter of time before Resona gets absorbed.

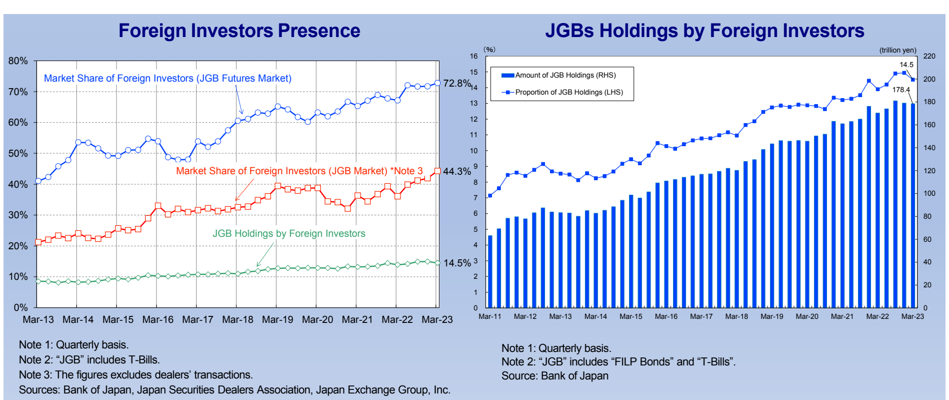
Leading city banks in Japan as of March 2023, by total assets

(in trillion Japanese yen)

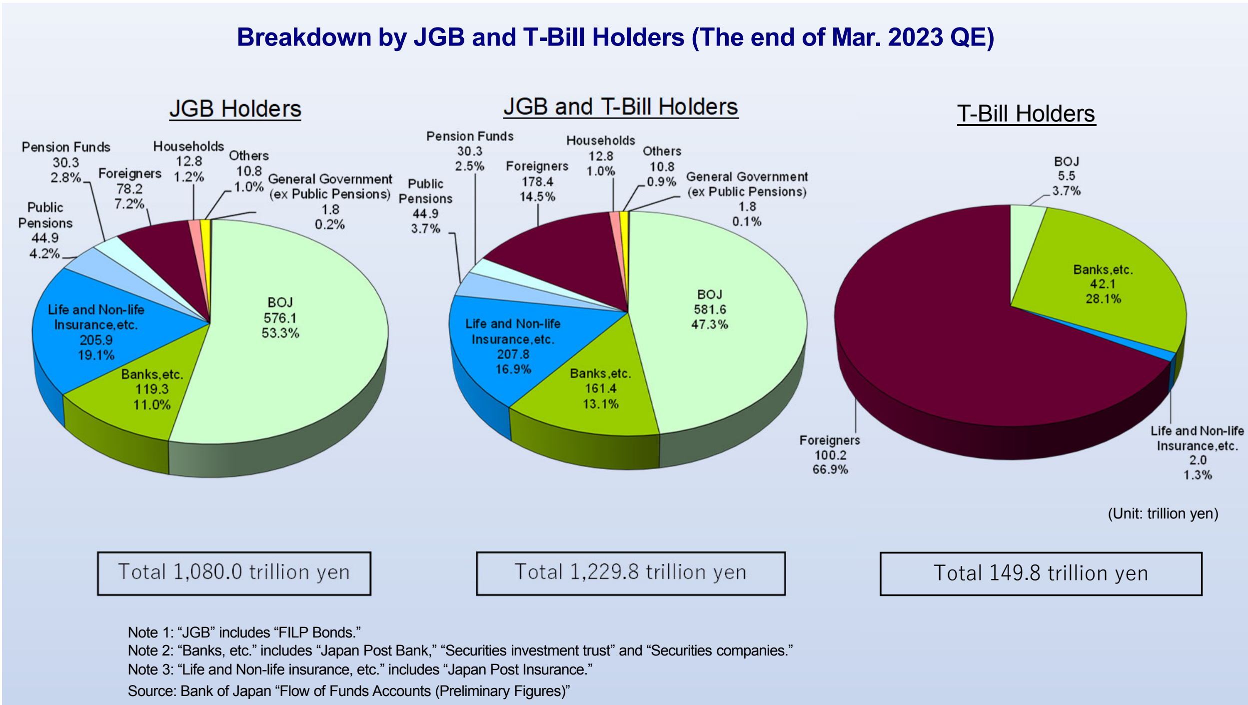


So we see that most of the entire stack of JGBs is held by three banks, directly or indirectly (via the BOJ). This is what I mean when I say that MOF can just get these guys around a conference table and tell them what to do.

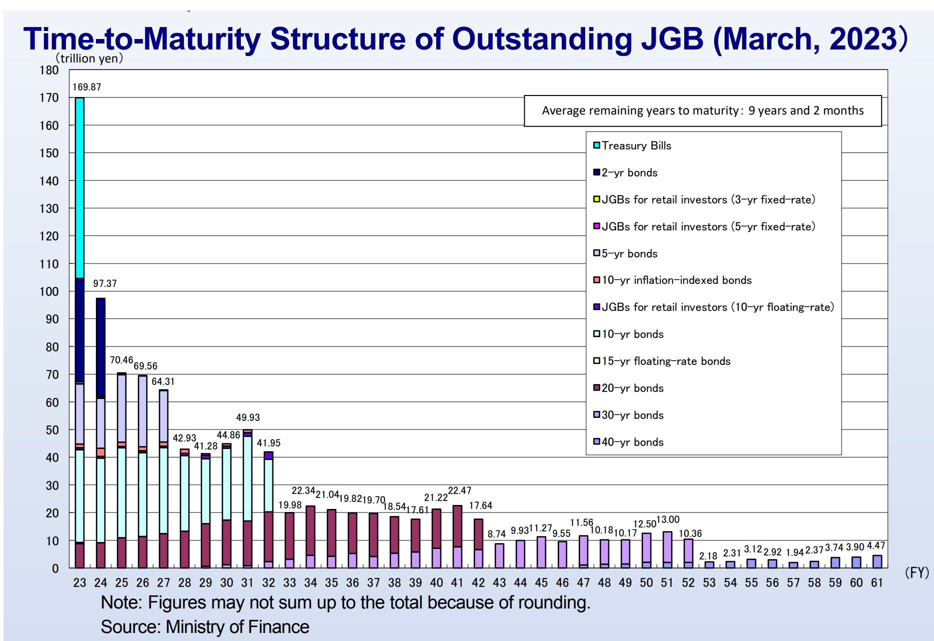
Foreigners' holdings of JGBs have been rising. But also, foreigners' activity in the market is 72.8% of the Futures market and 44.3% of the cash market.



Foreigners also dominate the market for Bills.



A lot of the debt is financed at relatively short maturity.



In practice, MOF is issuing about ¥215 trillion of JGBs per year, in new funding and rollovers. This is about 20% of outstanding JGBs, and about 39% of GDP.

Fig. 1-7 JGB Issuance Plan for FY2022

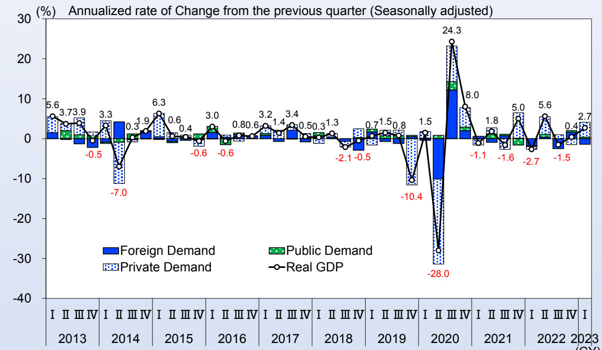
< Breakdown by Legal Grounds > (Unit: billion yen)

	Initial (a)	1st Supplementary Budget (b)	2nd Supplementary Budget (c)	(c)−(a)	(c)−(b)
Newly-issued Bonds	36,926.0	39,626.9	62,478.9	25,552.9	22,852.0
Construction Bonds	6,251.0	6,251.0	8,727.0	2,476.0	2,476.0
Special Deficit-Financing Bonds	30,675.0	33,375.9	53,751.9	23,076.9	20,376.0
Reconstruction Bonds	171.6	171.6	—	▲ 171.6	▲ 171.6
FILP Bonds	25,000.0	25,000.0	16,500.0	▲ 8,500.0	▲ 8,500.0
Refunding Bonds	152,940.4	152,940.4	148,487.2	▲ 4,453.1	▲ 4,453.1
For matured Reconstruction Bonds	3,858.9	3,858.9	3,621.7	▲ 237.2	▲ 237.2
Total	215,038.0	217,738.9	227,466.2	12,428.2	9,727.3

The CPI in Japan is suspiciously low (2.6%), which smells like they are making the numbers up to justify 0% rates on 10yr debt. But, nominal GDP is also low, so maybe there is something to it.

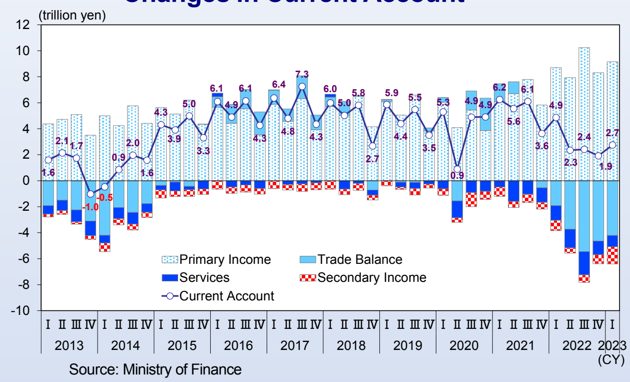
Economic and Financial Trends

Real GDP Growth Rate



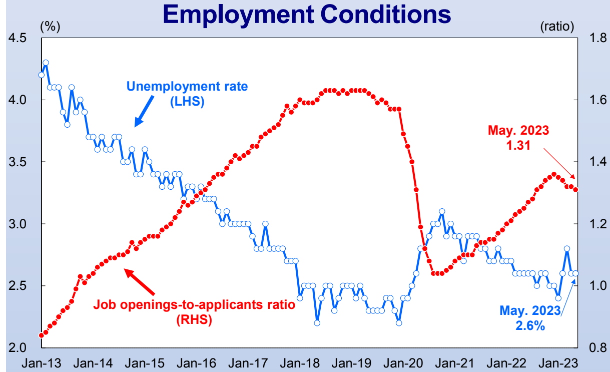
Source: Cabinet Office

Changes in Current Account



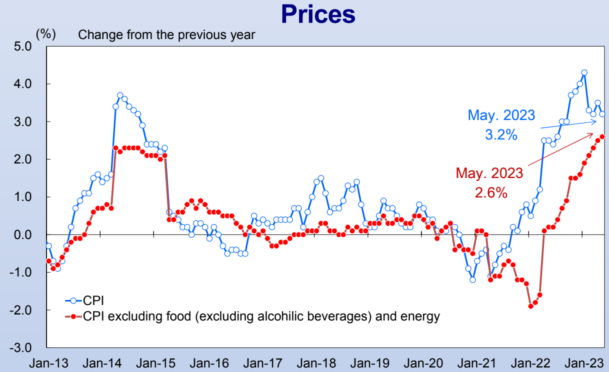
Source: Ministry of Finance

Employment Conditions



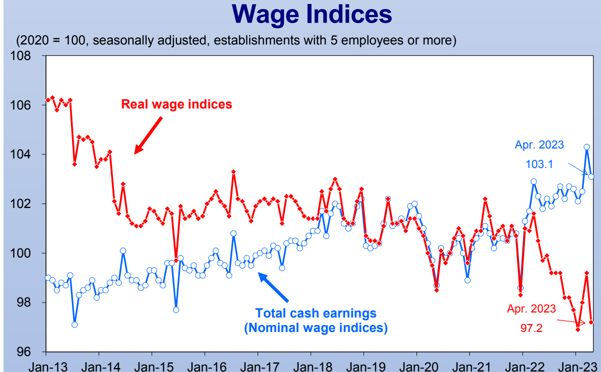
Sources: Ministry of Health, Labour and Welfare Ministry of Internal Affairs and Communications

Prices



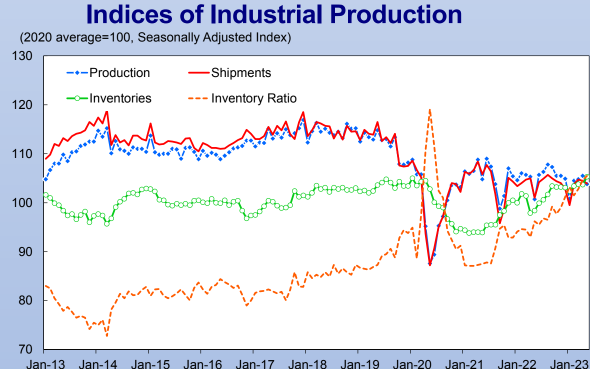
Source: Ministry of Internal Affairs and Communications

Wage Indices



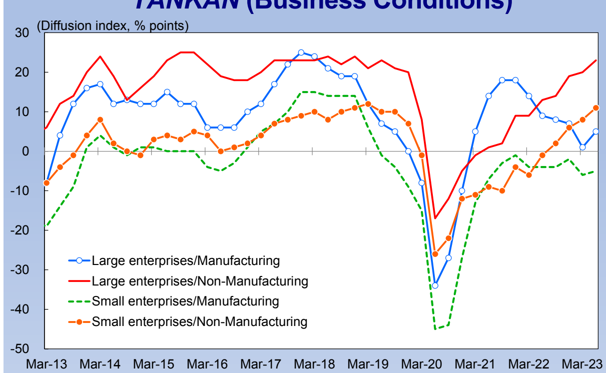
Source: Ministry of Health, Labour and Welfare

Indices of Industrial Production



Source: Ministry of Economy, Trade and Industry

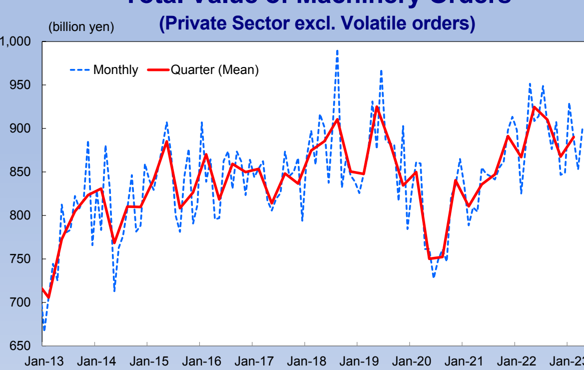
TANKAN (Business Conditions)



Source: Bank of Japan

Total Value of Machinery Orders

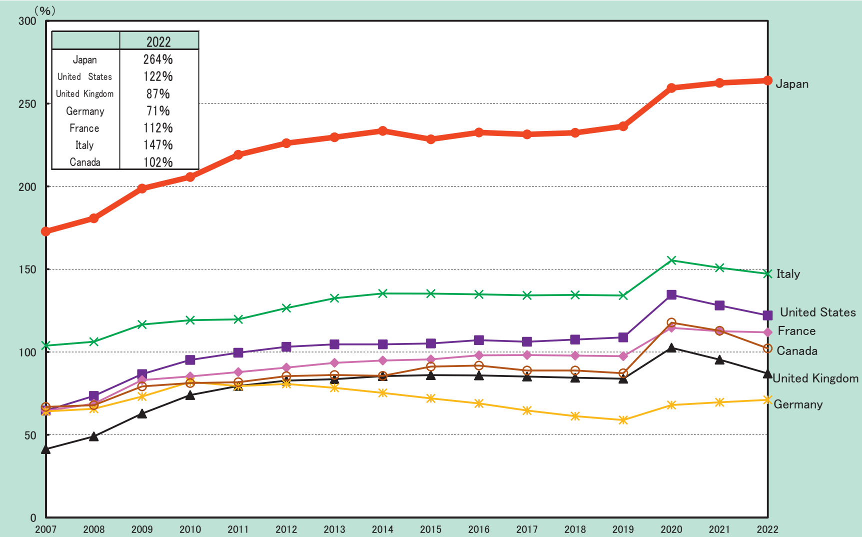
(Private Sector excl. Volatile orders)



Source: Cabinet Office

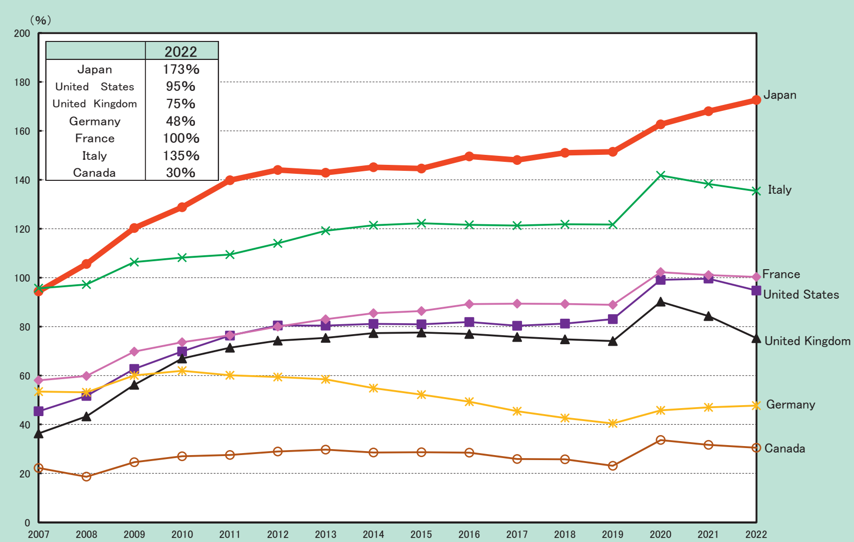
If we net out the large holdings at the BOJ, the "net debt" doesn't look as bad. But, it is still bad.

(18) International Comparison of General Government Gross Debt to GDP



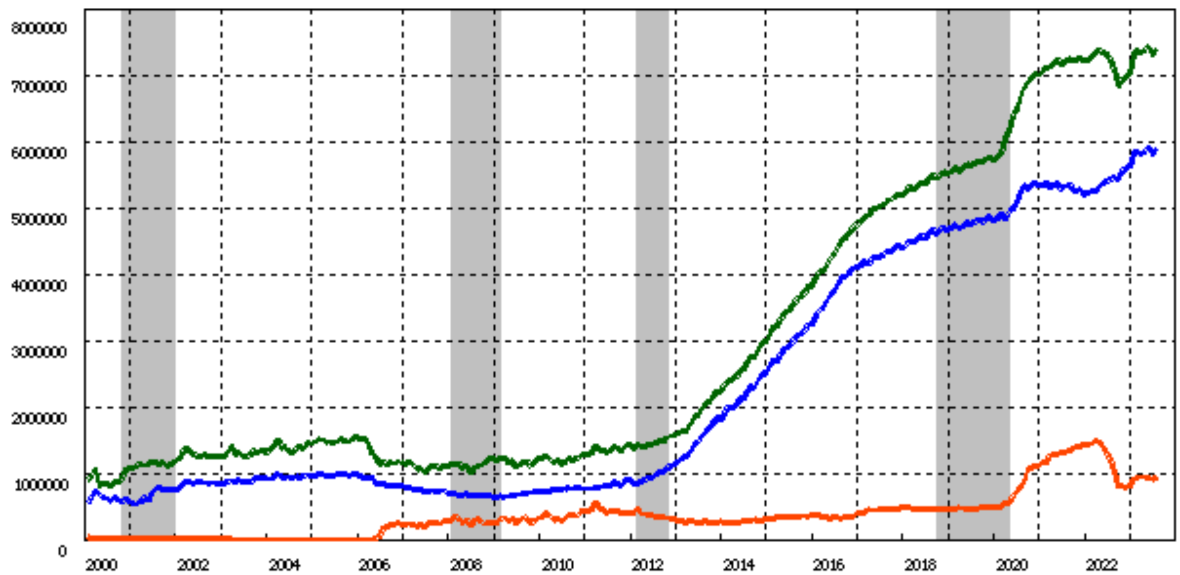
Note 1: Figures represent general government-based data (the central/local governments and social security funds combined).
Note 2: The 2021-2022 figures for Japan and the 2022 figures for the other countries are estimated figures.
Note 3: The gross debts for 2023 are estimated as follows; Japan: 261.1%, U.S.: 122.9%, U.K.: 79.9%, Germany: 68.3%, France: 112.5%, Italy: 147.1%, and Canada: 98.7%.However, it should be noted that Japan's figure does not reflect the expected increase in outstanding gross debt as a result of the second supplementary budget for FY2022 and the budget for FY2023.
(Source) IMF "World Economic Outlook" (October 2022).

(19) International Comparison of General Government Net Debt to GDP



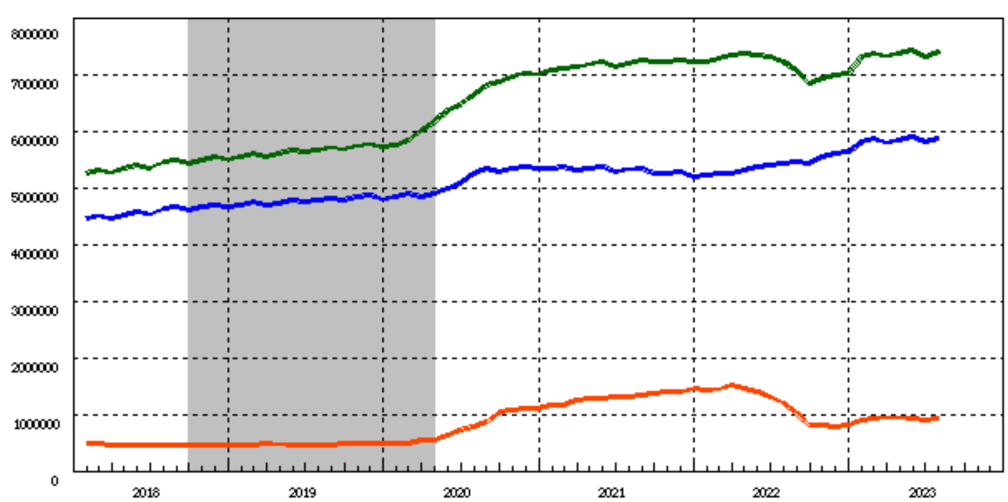
Note 1: Figures represent the general government-based data (the central/local governments and social security funds combined).
Note 2: The 2021-2022 figures for Japan and the 2022 figures for the other countries are estimated figures. Net debts for 2023 are estimated as follows; Japan: 172.4%, U.S.: 96.9%, U.K.: 68.5%, Germany: 47.8%, France: 101.1%, Italy: 135.6%, and Canada: 30.3%. However, it should be noted that the Japan's figure does not reflect the expected increase in outstanding net debt as a result of the second supplementary budget for FY2022 and the budget for FY2023.
(Source) IMF "World Economic Outlook" (October 2022).

Over at the BOJ, we see the tremendous expansion of the BOJ's balance sheet, mostly since 2013. The increase in JGB holdings has been "sterilized" by a rundown in Loans and Discounts for now. Loans popped up in 2020, presumably due to the Covid crisis. Loans and Discounting could be run down ¥50 trillion more to match the 2019 levels, or about ¥100 trillion more to zero -- thus facilitating the purchase of an equivalent amount of JGBs without any net monetization. Still, it is clear where this is going.

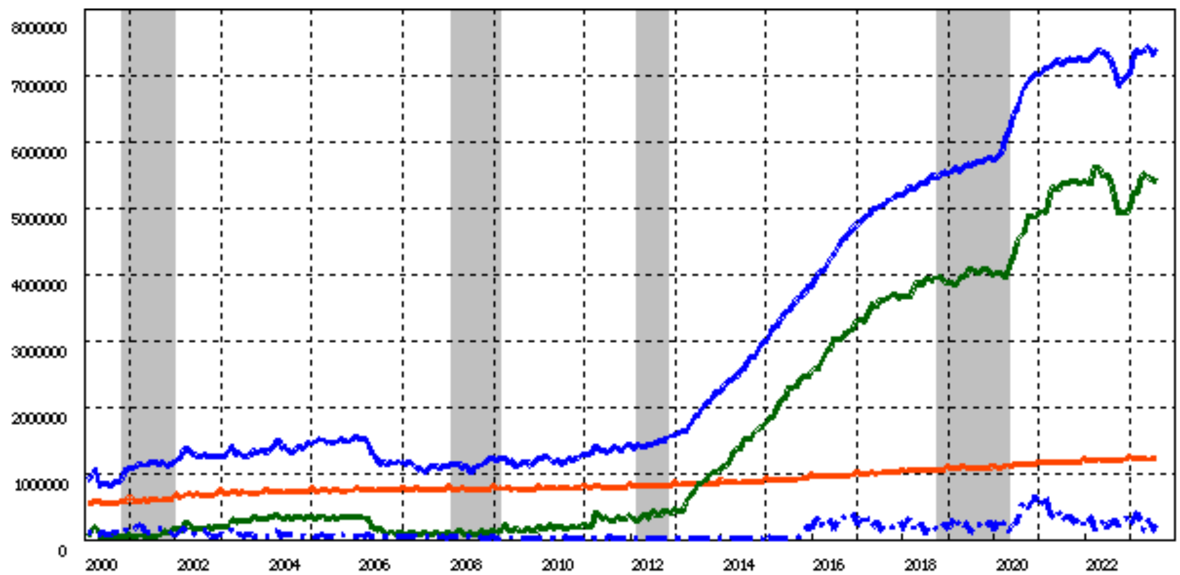


Total Assets are in green; JGBs in Blue; and Loans and Discounts in Red.

If we just take the more recent years, we see that Loans and Discounting have been flat since mid-2022. So, the short-term trend since mid-2022 has been one of "unsterilized" JGB purchases, raising total Base Money, although to levels unchanged from 2021. So, maybe the "sterilization" from the drawdown in Loans and Discounts is already over. Also, JGB holdings have been flat since about March, so there haven't been that many purchases recently due to "yield curve control." I imagine that they had another meeting at the conference table, and said "don't sell any JGBs into our brick-wall price!" Everyone is holding their breath. Maybe foreigners -- consistent buyers and most of the turnover -- will be the ones to hit the bid.



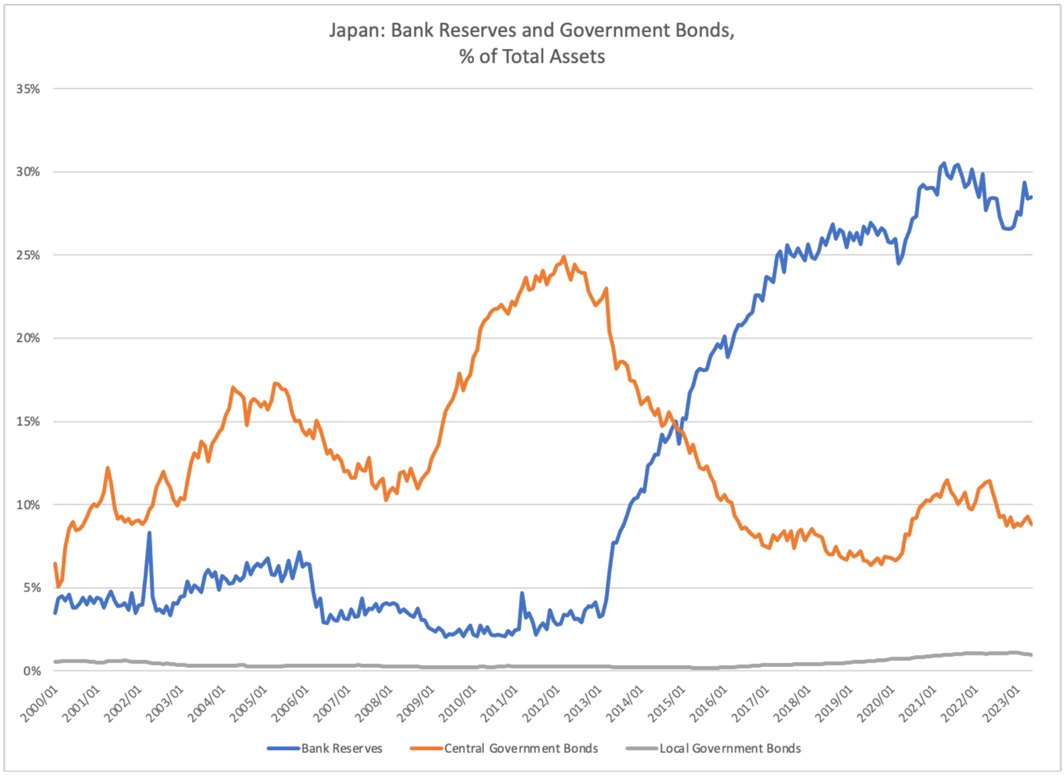
On the liabilities side, Bank Reserves and Base Money (bank reserves and banknotes) have been pretty stable for a while. Not much "money printing" yet.



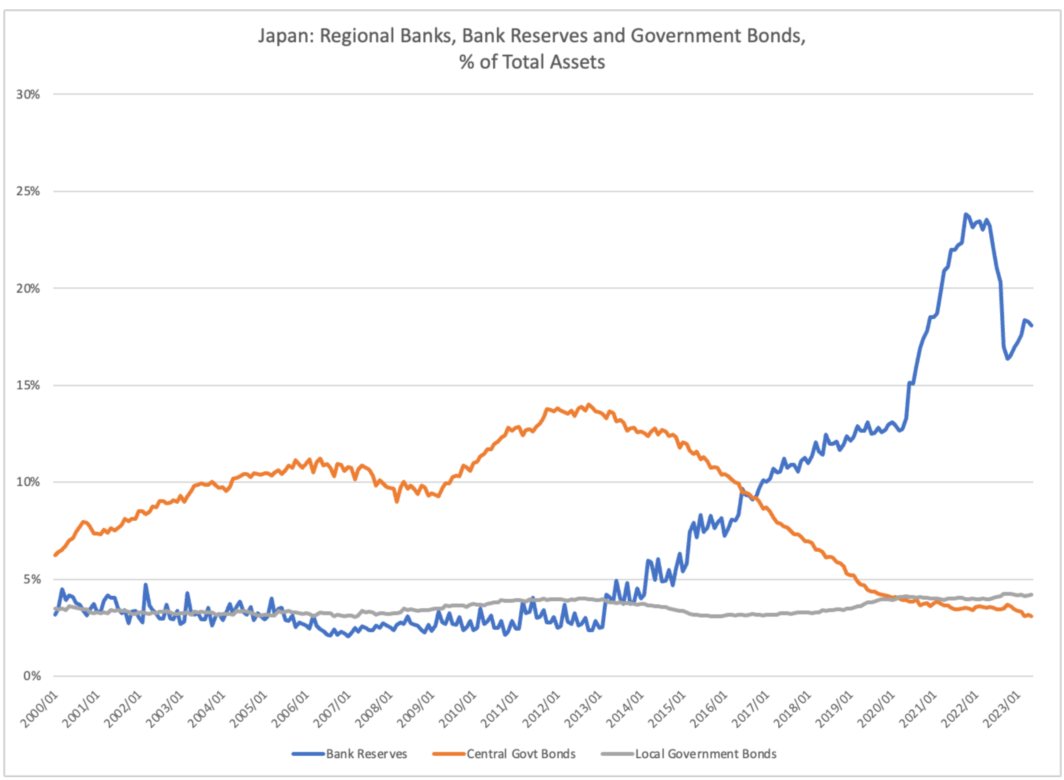
Total Liabilities in Blue, Bank Reserves in Green, Banknotes in Orange and the government's account in dotted blue.

In the short term, note that Bank Reserves were drawn down hard exactly in October 2022, when the yen previously touched ¥150/USD. It worked -- just as I often say, base money contraction will support currency values.

Here we see just how much BOJ Bank Reserves have been stuffed on City Banks' balance sheets. It actually exceeded 30% for a bit. JGB holdings also jumped higher. It looks like City Banks were given the order to step up for the bid on JGBs, directly and indirectly (via the BOJ).



Regional banks are at a lower level, but still high. BOJ Reserves went ballistic during Covid.



While the whole global banking industry agreed, via Basel III in 2010, to transition to a high-reserves framework (basically a return to pre-1960 banking), in practice this has meant reserves/assets ratios around 10%. Japanese banks are way above that, which I take to be direct coordinated intervention to absorb some of the giant amounts of money creation the BOJ has been engaging in, buying JGBs in the process.

These banks are presently receiving -0.1% on these deposits, which can't be very fun. But, it makes sense if your alternative for liquid assets is 10yr JGBs paying 0.0%. You get all the risk of bonds, without any yield. So, given the alternatives, I think that Japanese banks have not been exactly unhappy either. So, you have the BOJ buying bonds ("yield curve control") to jam down the yield on JGBs, which then motivates banks to hold non- or negative-yielding BOJ bank reserves, which then allows the BOJ to buy JGBs.

Nice.

But, there is no path to normalcy here. If yields rose even a little bit, to 1.0% on the short end and 2.0% on the long end let's say, then banks might want to hold JGBs instead of bank reserves. Then, the BOJ would have to either sell JGBs (driving up yields), or pay interest on reserves as the Federal Reserve does, which it can't do because it has no income. (It could pay interest via money creation, which is an interesting idea -- and actually what the Fed is already doing.) Also, if the BOJ is paying out what it is taking in, then there is no net financial advantage for the BOJ owning the bonds. "Gross debt" becomes "net debt," and gross debt is very big. The government would have a hard time financing its debt load even at 2.0%, as this implies 5.2% of GDP in interest payments alone, compared to 1.5% today.

At present, the BOJ has an overt policy of "yield curve control," with the 10yr benchmark JGB at 0.0%, with a "band" of +/-50bps. On July 28, it kept the "band" at +/-50bps, but said that it would actually make purchases at 100bps. Okaaaay. So, the "official" rate is 0.0%, the official band is 0.50%, and the official not-official band is 1.0%. Basically, they are bleeding.

The yen is crawling back to the ¥150/USD level. We can expect some action there, perhaps forex intervention, and perhaps another base money contraction via a rundown of Loans and Discounts (since they dare not sell JGBs). But their options are running low.

The last round of yen-supportive action took place with a falling USD vs. gold (a rising USD gold price). Maybe the USD vs. gold will start falling again, bailing out the JPY/USD rate once again. But, the longer-term trend in JPY/gold is not looking good. The crisis in the JPY was one reason the Fed backed off and quashed the rising USD in October 2022. The USD is rising again vs. gold, a little bit. Might another round of JPY distress prompt the Fed to back off a bit? Just expectations along these lines might add to USD weakness.

In this view, the yen "recovery" after October 2022 was entirely due to a falling USD, not a rising yen, although the yen did at least stabilize.

As I see it, a lot rides on the BOJ's ability to keep JGB yields in a range where the government can afford it -- basically, 0.0% -- without actually expanding the monetary base any more, from JGB purchases. They've done an amazing job of pulling this off. It is what has allowed them to "levitate" beyond reach of all the usual fiscal realities.

It would have been nice if they spent the last ten years actually fixing Japan's many real-world problems, and creating a much more positive business environment via lower taxes and other reforms, rather than mastering these smoke-and-mirrors techniques while all the rest of public policy festers. Unlike the US, where we've had a move to 4%-5% across the yield curve without disaster, I do not think this is at all possible in Japan.

Going forward, I still see some options open to allow them to defend the yen's value and cap JGB yields for a little while longer. Maybe they can stuff even more bank reserves on banks' balance sheets. They seem to have some foreign friends in Europe and elsewhere, who are active in the futures markets. On the other hand, the markets may force their hand before they get to playing their very last cards. The longer-term outcome seems the same, driven by fundamentals and legacy policy that remains completely unreformed.

Conclusions: It's been interesting reviewing what has been going on in Japan over the past few years. It is even uglier than ever. This can have ramifications for other governments too. Nobody has actually seen a government spiral into sovereign default/money creation, outside of the bottom tier of emerging markets. Once they see it happen, and see a few skilled/lucky/overlevered speculators make huge gains as a result, things might start to move around the world, particularly in Europe which has a number of weak governments including Italy.