Japan 2014

Nathan Lewis
newworldeconomics.com
September 21, 2014

This year, we learned that "Abenomics" doesn't work. Actually, we already knew this. "Abenomics" is basically the same old stuff that every mediocre government tries, and it never worked for any of those others either. It is:

1) **More spending.** Mostly, this is just a way for politicians to buy support. Most any politician learns, early on, that handing out government money makes them the most popular person at the party – at least among the various cronies and other bloodsuckers that they personally interact with. It is not very popular among the voting public, but that is something of an abstraction. Today, the broader public is being bought off with increased welfare services, such as nursing care and childcare. When the economy stinks, politicians and government types are not so popular, so they look to purchase support the old-fashioned way. At the same time, more genuine need means existing welfare programs cost more. Naturally, with more spending, deficits are hard to resolve, and tend to get bigger. There are always promises to reduce the deficit "when the economy gets better," although it never really does.

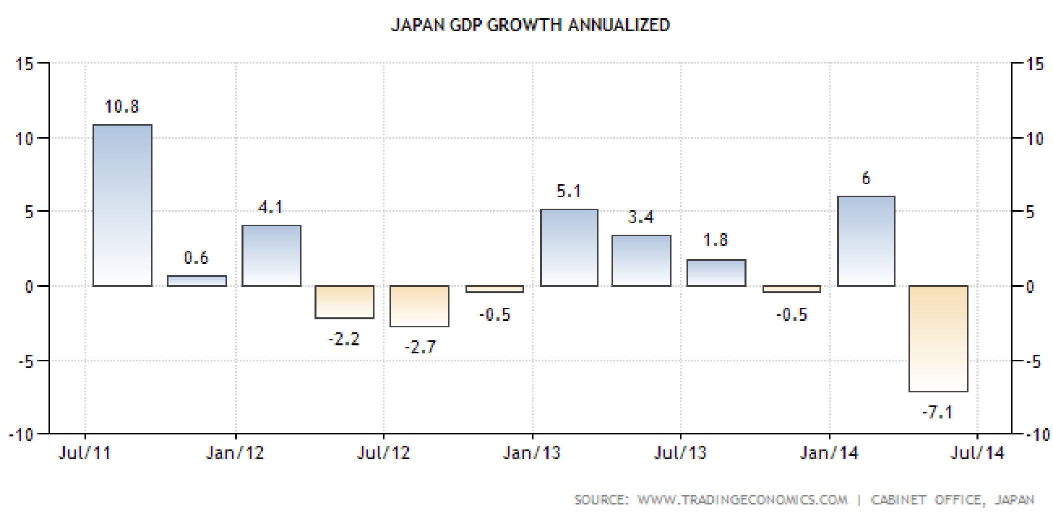
2) **Higher taxes.** As the government "needs money" to buy off its support base, taxes rise. Consumption taxes notably rose in April this year, predictably setting off an economic contraction. Businesses are looking forward to another consumption tax increase scheduled for October 2015, and not surprisingly they would tend to reduce capex and hiring plans, especially since they have so much existing capacity rendered idle by the last tax hike. The dismal economy makes politicians unpopular, so they try to buy support by passing out more money and other goodies.

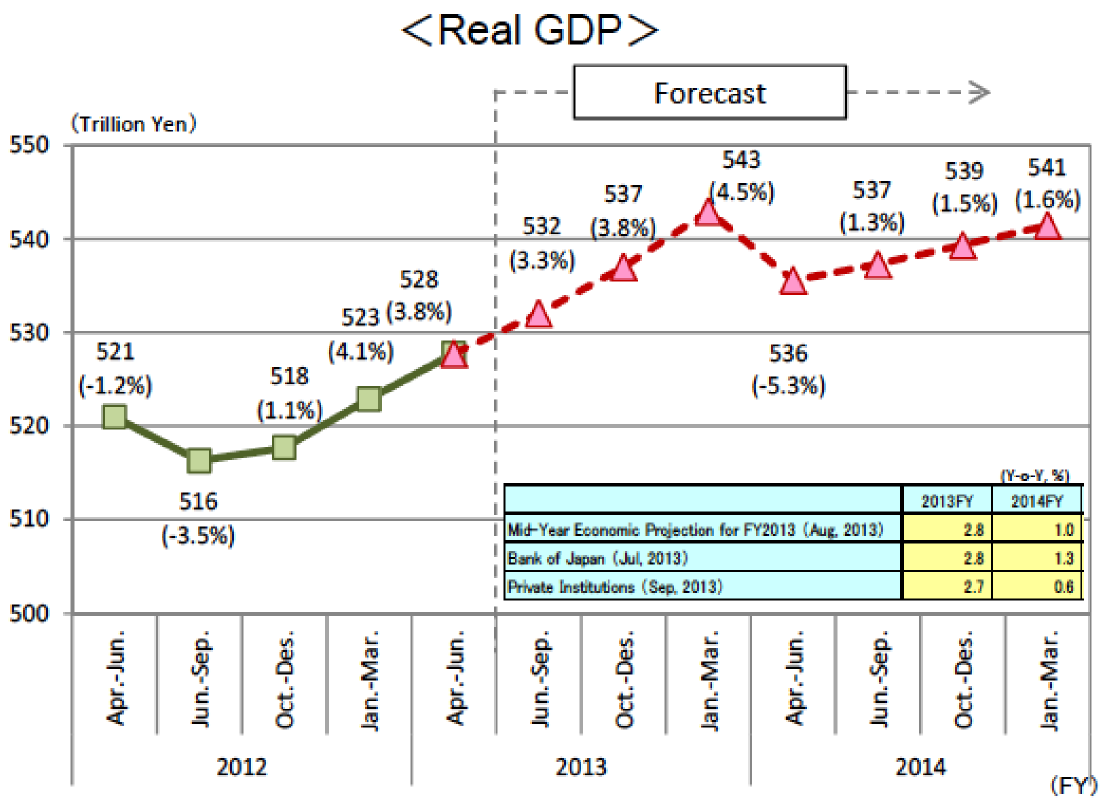
3) **"Easy money."** You can't get much easier than the degree of money-printing going on in Japan today … which, oddly enough, hasn't had a lot of negative consequences. Why is that? We will look into it in more detail here. In any case, I regard a move of the yen to ¥120/dollar or so to be actually rather reasonable, as this is the average level of the past couple decades. Although any currency move produces winners and losers, I suspect the balance will be somewhat on the positive side up to that point. Nobody gets panicky, in

my opinion, until the ¥140/dollar range. After a period of quietude in forex rates, that could be coming up pretty quick.

4) **"Structural Reforms."** This is mostly a fairy-tale told among foreigners who don't understand much of anything happening in Japan. It has been that way for at least twenty years. I suggest asking: what are the Top Ten "structural reforms" that are supposedly so important? Most people can't even answer that question. The few that can typically give a list of things that immediately invite uncontrollable snickers. The fact of the matter is, as Japanese political analysts themselves will tell you, most of the "structural reforms" suggested in the 1990s were actually completed in the 2000-2010 period. It didn't do much. But, "structural reform" serves a certain role in foreign relations, particularly relations with foreign investors. This is because simply paying off cronies ("fiscal stimulus") and printing money ("monetary stimulus") are not, in themselves, a credible strategy for economic recovery. Foreign investors, such as mutual funds with a Japan mandate, need some good patter to sell their investment product to their customers. Also, it helps with the IMF and other foreign busybodies, who mostly get their opinions from the foreign investors anyway.

Here's a look at the official GDP results, compared to projections made by the Ministry of Finance in October 2013:



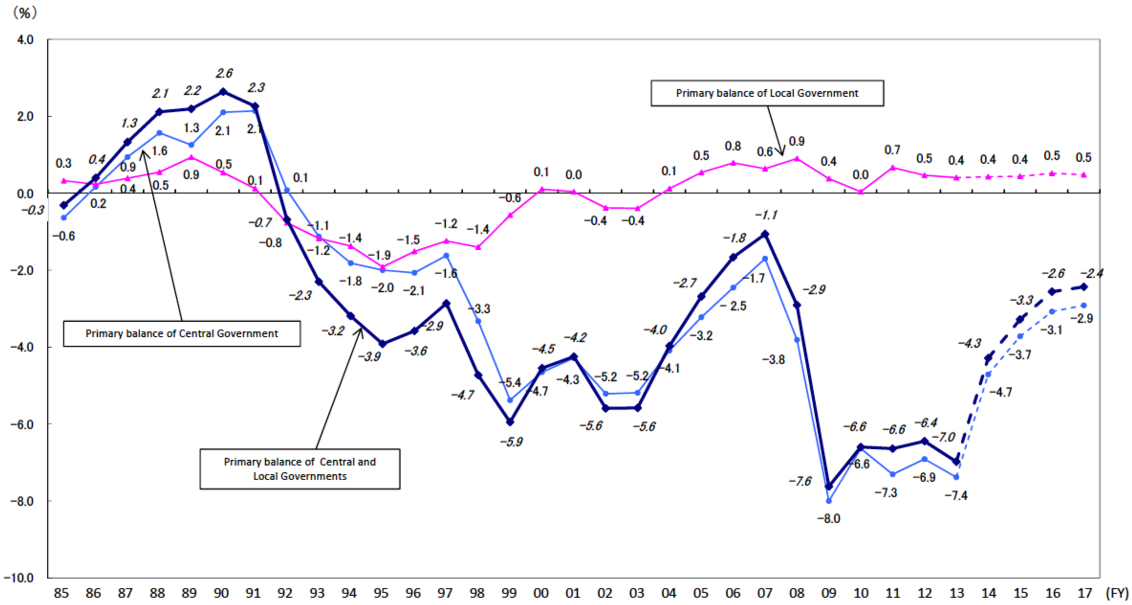


	2013FY	2014FY
Mid-Year Economic Projection for FY2013 (Aug, 2013)	2.8	1.0
Bank of Japan (Jul, 2013)	2.8	1.3
Private Institutions (Sep, 2013)	2.7	0.6

(Note)% score : Real GDP Growth Rate (Q-o-Q, Annual rate)

As we can see, the actual results were generally below projections. The Jan-Mar period was boosted by people buying things before the consumption tax hike; the Apr-Jun period was depressed due to pulled-forward spending. However, if you average them out, you find that the average for that six months was below zero, which follows the pattern for the end of 2013 too. Below zero is much below the 1.5%-ish level that MoF was hoping for.

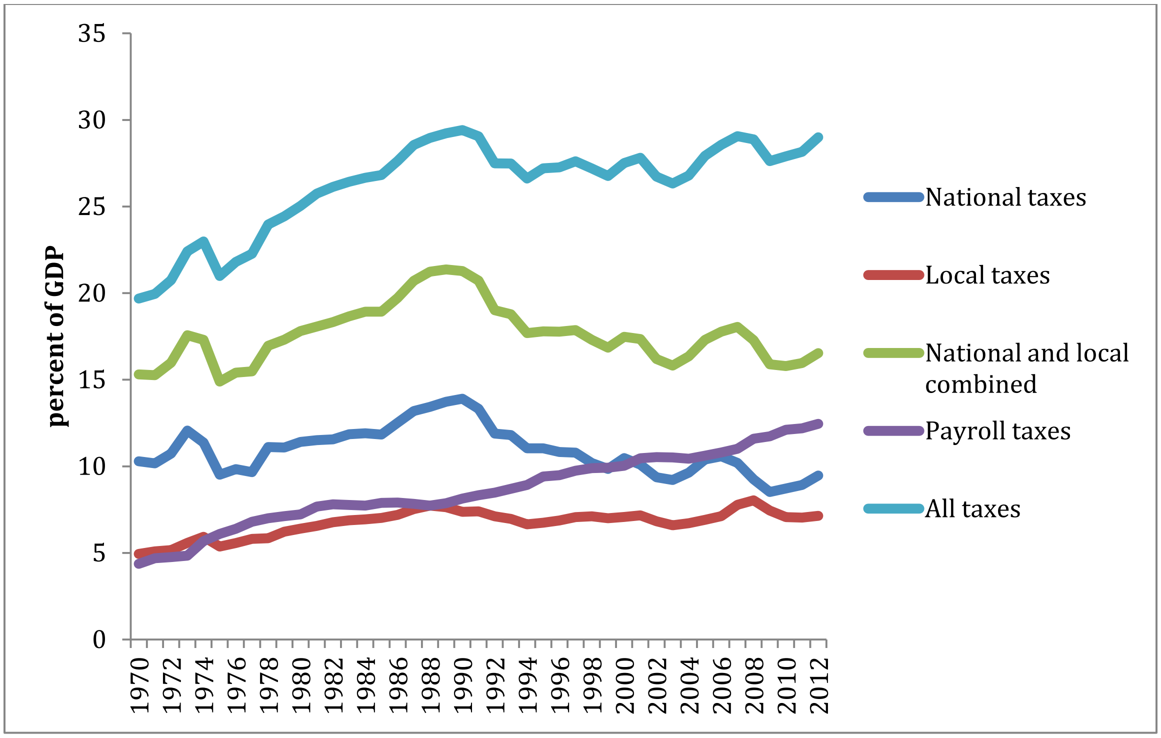
Trends in Primary Balance of Central and Local Governments to GDP Ratio



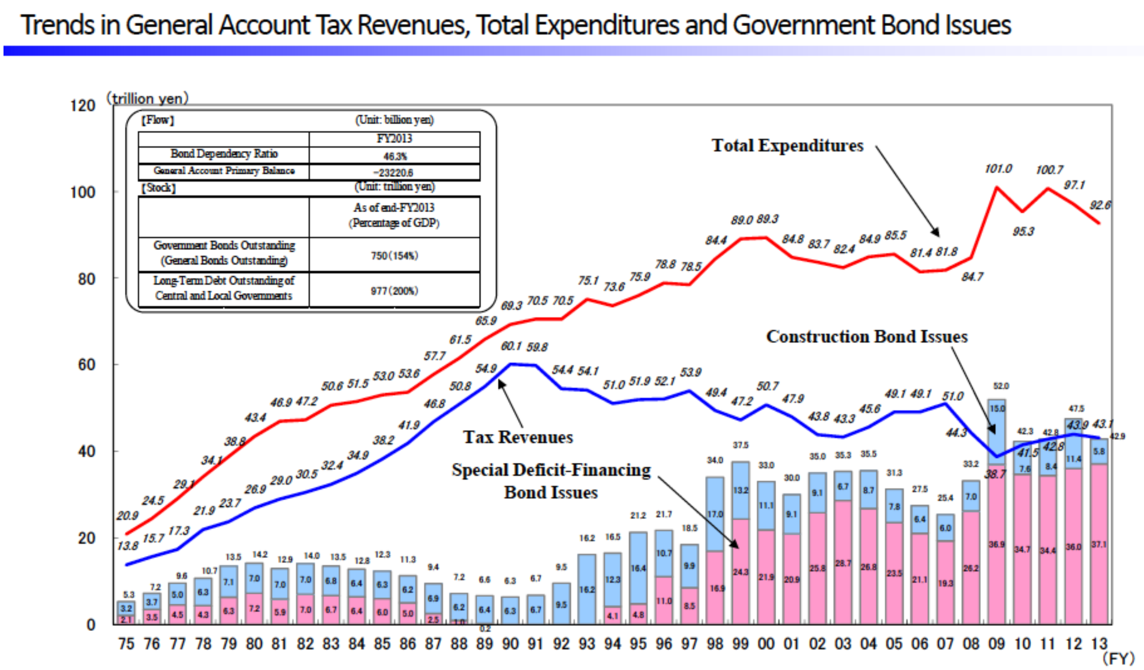
(Source) FY1985-2010: Cabinet Office "Annual Report on National Accounts"
FY2011-2017: Cabinet Office "Economic and Fiscal Projections for Medium to Long Term Analysis"

Projections are for government deficits to decrease. Here they are looking at "primary deficits," which is common among governments that get themselves into big trouble. The projections are for a big improvement in 2014 and beyond, basically because of all the extra revenue from the consumption tax hike. But, I suspect that, although the revenue from the consumption tax will indeed increase, revenue from all sources will be largely unchanged as a percent of GDP. This has been a trend in Japan for a couple decades, and is indeed common everywhere that attempts "austerity" via higher taxes. Tax rate increases don't create more revenue. The tax increase itself causes nominal GDP to be lower than it would otherwise be, which of course means that, if revenue/GDP doesn't change, and nominal GDP is lower, then the tax rate increase actually resulted in less revenue than would have been the case if nothing was done at all.

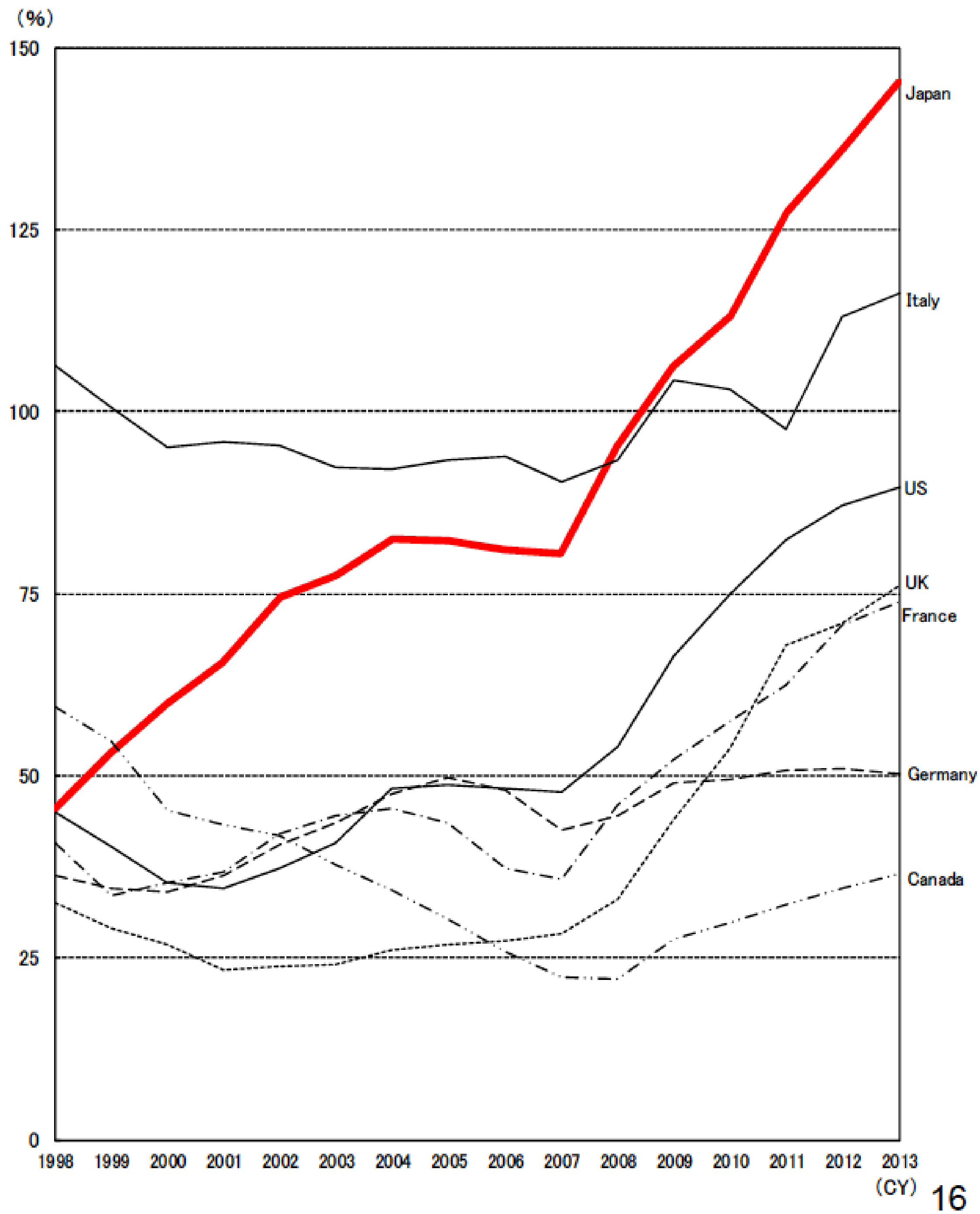
At the same time, the weaker economy puts more pressure on the government to solve the various problems by spending more money, or, at the very least, not cutting present expenditure. This makes fiscal consolidation impossible. The now-unpopular politicians are anxious to purchase more political support by – you guessed it – handing out more money. This is why "austerity" (tax rate increases and "spending cuts" which never materialize) doesn't work. Not only is it not working in Japan, it is also not working in places like Spain and Greece, and most anywhere else it is attempted. And so it goes.



Tax revenues as a percent of GDP

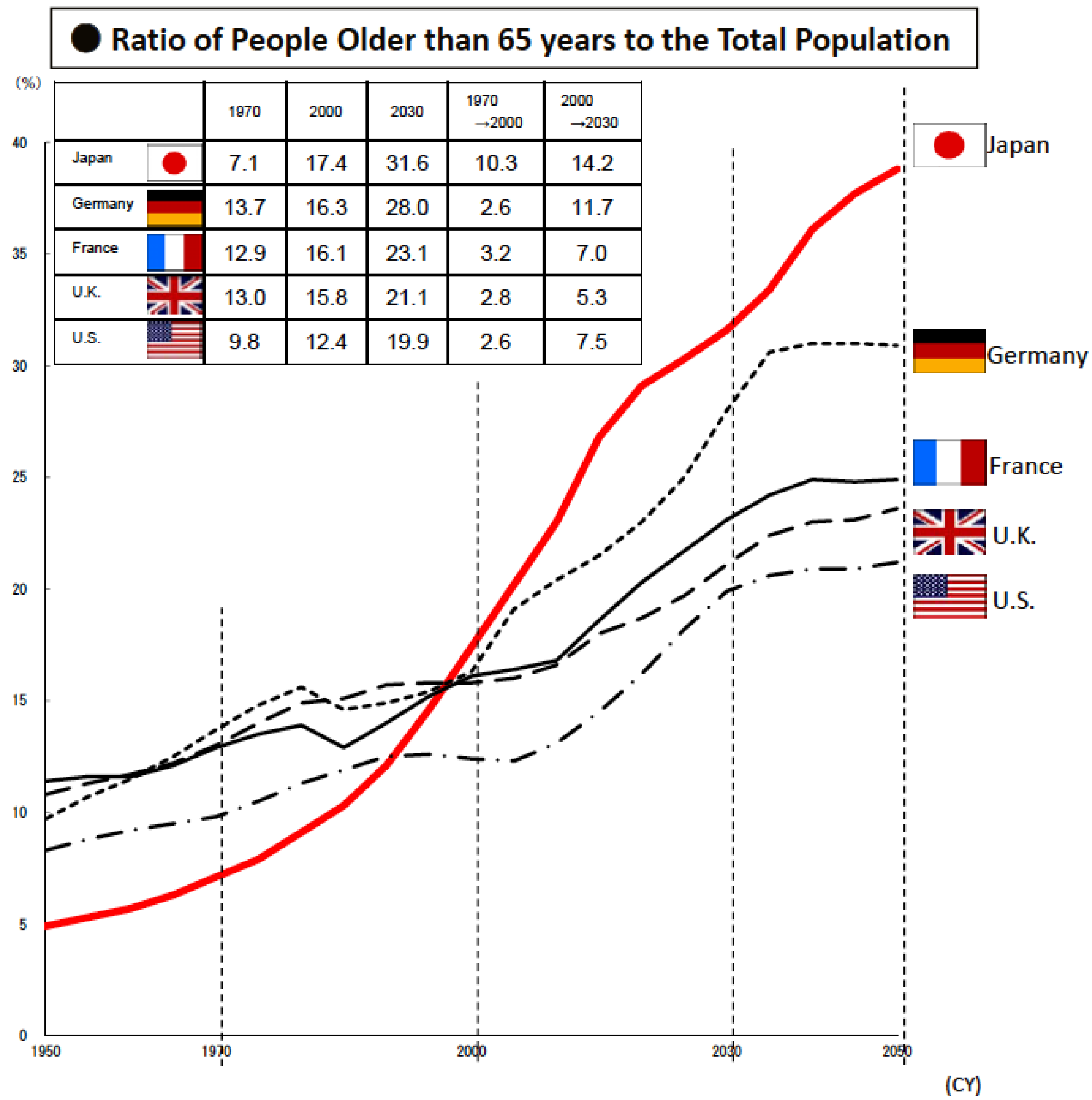


Central government tax revenue in Japan (excluding the payroll tax) is, today, below where it was in 1988 in nominal terms! This is despite two consumption tax increases, in 1989 and 1997. On an aggregate basis, the revenue/GDP ratio has been stable for a long time, despite many payroll tax and consumption tax increases.



General government net debt. Source: MOF

One of the basic problems in Japan today is the increasing expense of "Social Security," which in Japan means all welfare programs including public pensions and healthcare. An aging society is pushing up costs here dramatically, as we investigated extensively last year[1].



	1970	2000	2030	1970 →2000	2000 →2030
Japan	7.1	17.4	31.6	10.3	14.2
Germany	13.7	16.3	28.0	2.6	11.7
France	12.9	16.1	23.1	3.2	7.0
U.K.	13.0	15.8	21.1	2.8	5.3
U.S.	9.8	12.4	19.9	2.6	7.5

(Source) Japan 1950-2010: "National Census" (Ministry of Internal Affairs and Communications)
2011-2050: "Japanese Future Demographic Projections" (National Institute of Population and Social Security Research) (January, 2012)
Other countries: "World Population Prospects: the 2010 Revision" (United Nations)

This is why I have been suggesting that the current Social Security system, which was basically fine for the realities of 1960 or 1970, is totally inappropriate today. This will have to be changed, basically to something that is a lot less expensive. Alas, changing this is not a priority for the government at all; rather, their plan is to keep everything the same ... nay, to increase entitlements still more!

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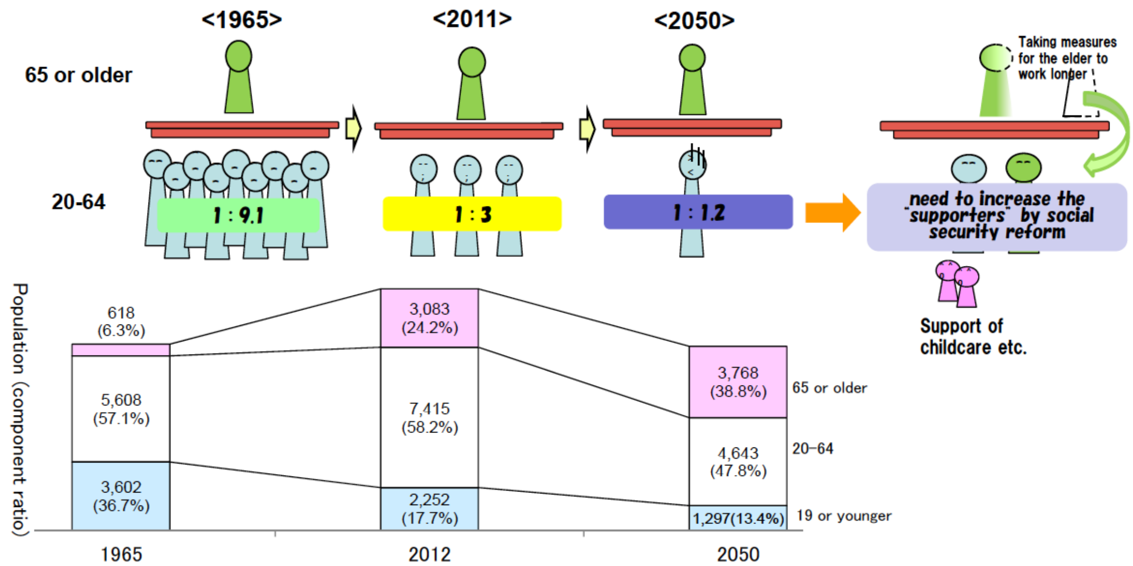
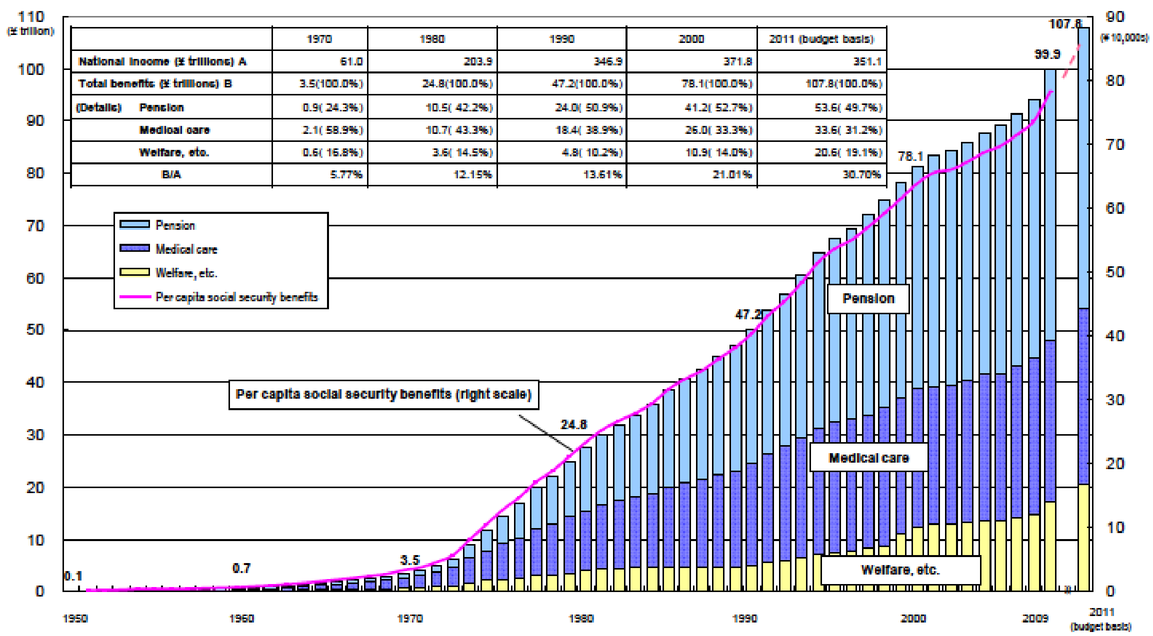
1 "Japan 2013." http://www.newworldeconomics.com/archives/2013/120113.html



Unlike economic projections, demographic projections tend to be fairly accurate.

Changes in social security expenditure



	1970	1980	1990	2000	2011 (budget basis)
National income (¥ trillions) A	61.0	203.9	346.9	371.8	351.1
Total benefits (¥ trillions) B	3.5(100.0%)	24.8(100.0%)	47.2(100.0%)	78.1(100.0%)	107.8(100.0%)
(Details) Pension	0.9(24.3%)	10.5(42.2%)	24.0(50.9%)	41.2(52.7%)	53.6(49.7%)
Medical care	2.1(58.9%)	10.7(43.3%)	18.4(38.9%)	26.0(33.3%)	33.6(31.2%)
Welfare, etc.	0.6(16.8%)	3.6(14.5%)	4.8(10.2%)	10.9(14.0%)	20.6(19.1%)
B/A	5.77%	12.15%	13.61%	21.01%	30.70%

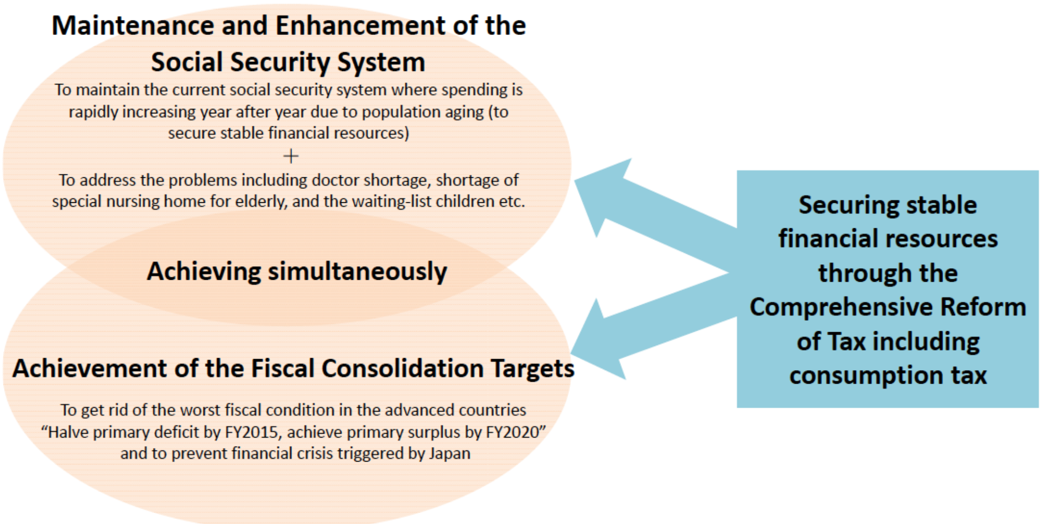
Sources: National Institute of Population and Social Security Research, "The Cost of Social Security in Japan FY 2009"; the figures for FY 2011 (budget basis) are based on estimations by the Ministry of Health, Labour and Welfare; the national income for FY 2011 is based on "Fiscal 2011 Economic Outlook and Basic Stance for Economic and Fiscal Management" (Cabinet decision on January 24, 2011)

Note: The numbers in the graph are social security expenditures in fiscal 1950, 1960, 1970, 1980, 1990, 2000, 2008, and 2011 (budget basis) in trillion yens.

The Comprehensive Reform of Social Security

1) maintenance and enhancement of the social security system

2) fiscal consolidation



Their plan. Basically, it is to keep all existing "Social Security" programs; in fact add more; and to pay for it all with higher taxes.

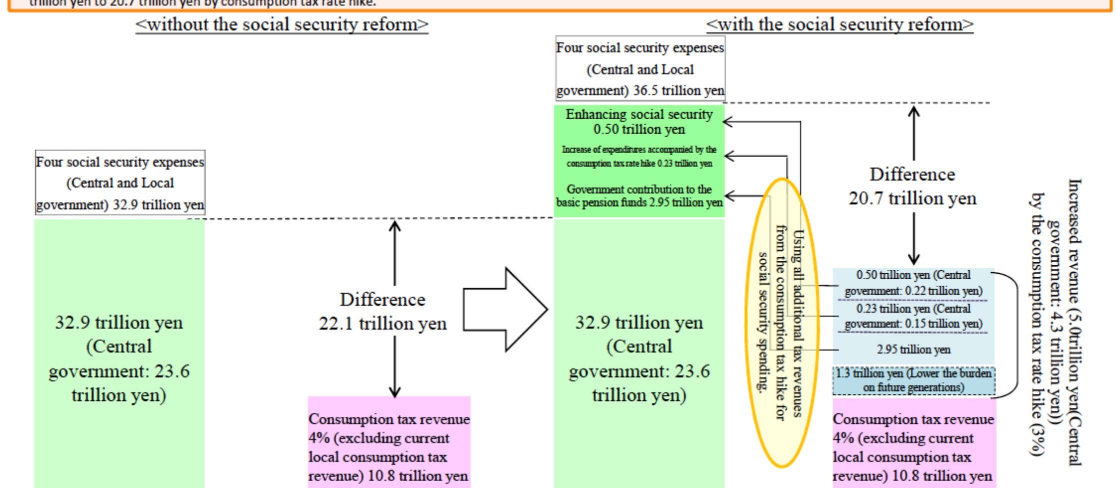
The Comprehensive Reform of Social Security and Tax to Secure stable financial resources for social security

- As decided in the recent Comprehensive Reform of Social Security and Tax, all consumption tax revenue that includes increased revenue due to the raised consumption tax rate (excluding national/local consumption tax revenues; excluding current local consumption tax revenue) shall be used for social security.
- The increased revenue by the consumption tax rate hike (5.0trillion yen (Central and local governments)), shall be utilized for maintenance of enhancement of social security as follows;

(1) First, the Government will appropriate 2.95 trillion yen for contribution to the basic pension funds.

(2) In addition, the Government will appropriate 0.50 trillion yen (Central government: 0.22 trillion yen) for enhancement social security and 0.23 trillion yen (Central government: 0.15 trillion yen) for increase of four social security expenditures accompanied by the consumption tax rate hike. (The rest (about 1.3 trillion yen) will be used for moderation of burden on future generations.)

- The difference between four social security expenses and tax revenues (Central and local governments; excluding ongoing local consumption tax revenues) will be reduced from 22.1 trillion yen to 20.7 trillion yen by consumption tax rate hike.



(Note1) The calculation is based on FY2014 draft budget.

(Note2) The Act to Promote Social Security Reform states: "From the standpoint whereby all generations should fairly share the expenses regarding social security that widely benefits citizens, revenue from the consumption tax and local consumption tax shall be used as a major source of revenue that is necessary for the national and local governments to pay social security benefits.". (Article 2, paragraph 1, item (iv) of the Act to Promote Social Security Reform)

(Note3) Other than the four expenses for social security in the figure above, there are unilateral local projects within the range of the four expenses for social security.

(Note4) The Local Tax Act stipulates that the increased local consumption tax shall be used as expenses required for social security measures. The Act also stipulates that the total amount of increased local consumption tax and the statutory rate of allocated consumption tax shall be compared with the total expenses of local social security benefits that include unilateral local projects, and shall be confirmed every fiscal year if they are financial sources for social security.

Budget Frame for FY2014

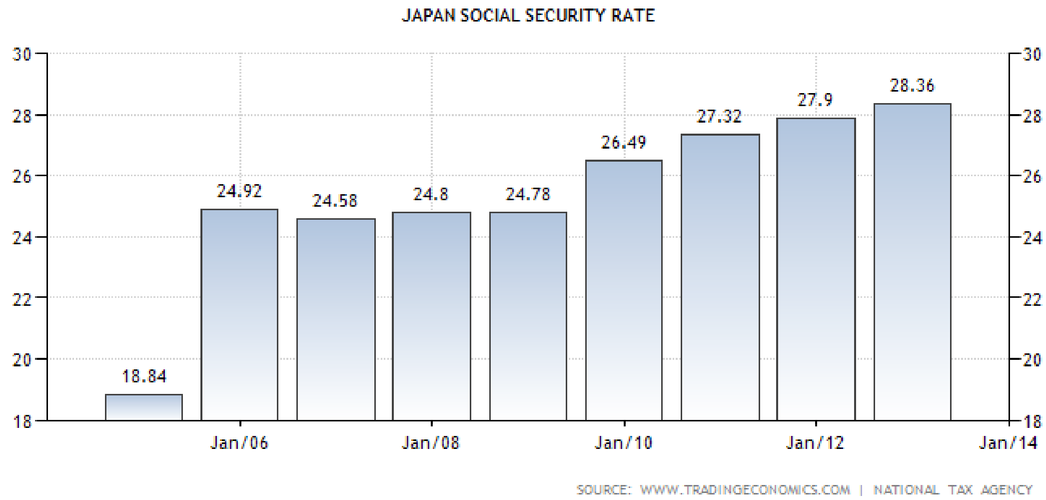
(Unit: billion yen)

	FY2013 Budget (Initial)	FY2014 Budget	FY2013 → FY2014	Notes
(Revenues)				
Tax Revenues	43,096.0	50,001.0	6,905.0	- Including 4,535.0 billion yen due to increased revenue from the consumption tax rate hike.
Other Revenues	4,053.5	4,631.3	577.8	- Including 794.6 billion yen due to increased revenue from integration of special accounts to general account.
Government Bond Issues	42,851.0	41,250.0	-1,601.0	- Bond Dependency Ratio: 43.0% (FY2013: 46.3%)
Construction Bonds	5,775.0	6,002.0	227.0	
Special Deficit-Financing Bonds	37,076.0	35,248.0	-1,828.0	
Pension Related Special Deficit-Financing Bonds	2,611.0	-	-2,611.0	
Total	92,611.5	95,882.3	3,270.8	
(Expenditures)				
National Debt Service	22,241.5	23,270.2	1,028.7	- Including 302.7 billion yen due to increased expenditure from redemption expenses of Pension Related Special Deficit-Financing Bonds.
Primary Expenditures	70,370.0	72,612.1	2,242.1	- Increasing revenue from integration of special accounts to general account: 794.6 billion yen Enhancement of four social security expenses, etc.: 378.9 billion yen Moderation burden of medical care for the elderly citizen, etc.: 410.1 billion yen Including 1,583.6 billion yen
Social Security	29,122.4	30,517.5	1,395.1	
Local Allocation Tax Grants, etc	16,392.7	16,142.4	-250.2	- Reflecting the growth in local tax revenues. The local general fiscal resources which include local tax, Local Allocation Tax Grants, etc. will be increased for enhancement of social security.
Total	92,611.5	95,892.3	3,270.8	- Primary Balance: -18.0 trillion yen (FY2013: -23.2 trillion yen, improvement of 5.2 trillion yen from the previous year)

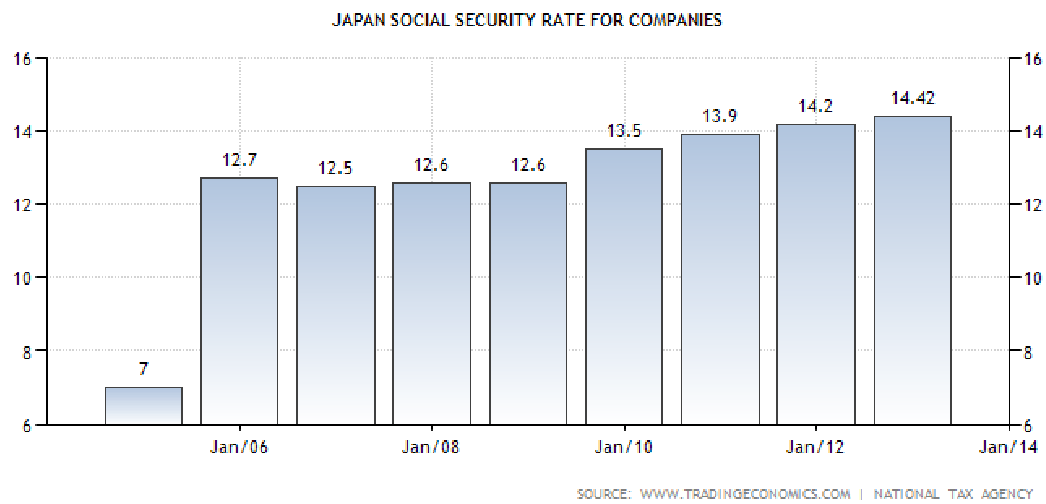
The central government expects revenue increases of ¥7.48 trillion in FY2014. I don't think they will get it.

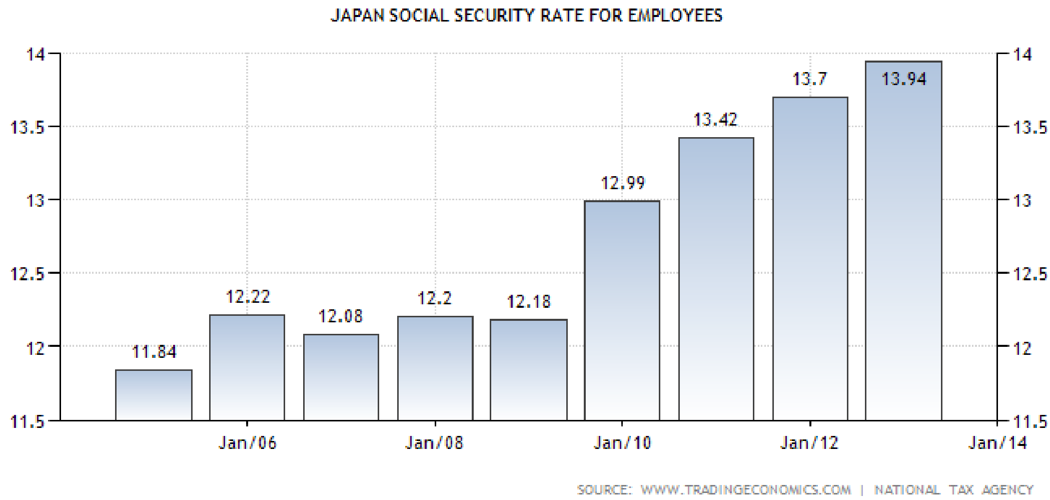
It's true that 2014 saw the introduction of a variety of tax measures, supposedly with a growth theme, to offset the negative economic effect of the consumption tax increase. If these were meaningful, like the introduction of a 20% corporate tax rate or a major reduction in personal income tax rates (like a 20% flat tax), I would probably say that, on balance, it was an improvement. However, the rinky-dinky tax credits and other kludges offered rarely amount to much, in my experience.

At the same time, the "social security tax rate," or what we call payroll taxes, continues to click higher. Note that, between 2005 and 2013, the combined rate increased by a big fat *ten percentage points*, which is pretty serious. Data on revenue indicates tax rate increases going back to 1990. I wish I had data on this back to 1960.



As is the case in the U.S., this rate is split between corporations and employees.





However, unlike the U.S. case, this payroll tax has no upper limit on income! Thus, the higher earners pay this, and then pay a 50%+ income tax as well. We looked at this tax extensively last year. In 2003, a law was passed that would cause incremental increases in these payroll tax rates every year until 2017. I don't know if that original plan is still in effect, or if it has been changed. It is probably significant that info on the current rates of this tax – which generates the largest amount of revenue of any tax in Japan – is hard to find, on either the MOF or Ministry of Health, Labor and Welfare websites. Accountancy KPMG shows Japan's employee payroll tax rate as 14.05% in 2014, and the employer at 14.70%, for a total of 28.75%, up from 28.36% in 2013.

The Process of Default

At this point, I think that economic trends, tax policy and so forth will take a back seat to the process of government default, which is already underway in Japan. "Default" can take two forms: non-payment of obligations, or currency debauchery. The indications seem very much toward the latter. The Bank of Japan has been buying up JGBs at an accelerated pace since late 2013, currently running about ¥60-¥70 trillion per year. Reports indicate that the BoJ has essentially become the market; JGB trading volume drops to near-zero whenever the central bank has a brief pause in its participation. The JGB market is thus carefully controlled, between the BoJ and also collusion among large financial institutions, with MOF guidance. This has been the case for quite some time, as we explored in 2012[2].

Contrary to popular belief, households don't own many JGBs in Japan, even indirectly in the form of mutual funds or ETFs. Japanese households own even less than foreigners. JGBs are held almost entirely by large financial institutions. This is a pattern, dating from about 1999, which has been turning up again among troubled

[2] "Japan 2012." http://www.newworldeconomics.com/archives/2012/050612.html

European sovereigns, where domestic banks end up buying bonds that nobody else would buy. I think Japan serves as something of a template for the process of sovereign overindebtedness and default throughout the developed world at this time.

Fig.3 Breakdown by JGB Holders (March 2014, QE)

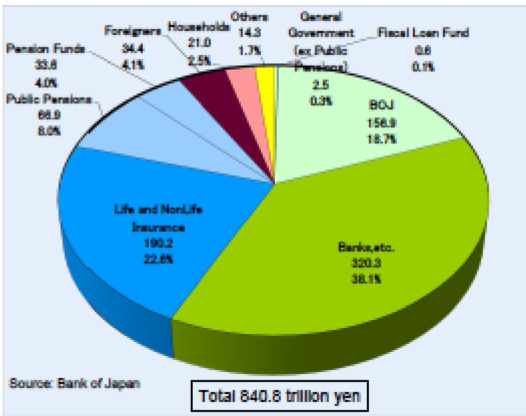
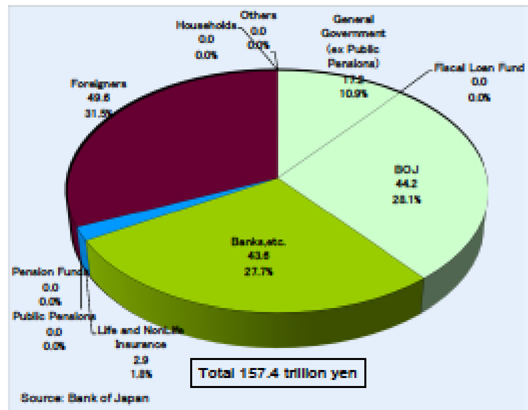
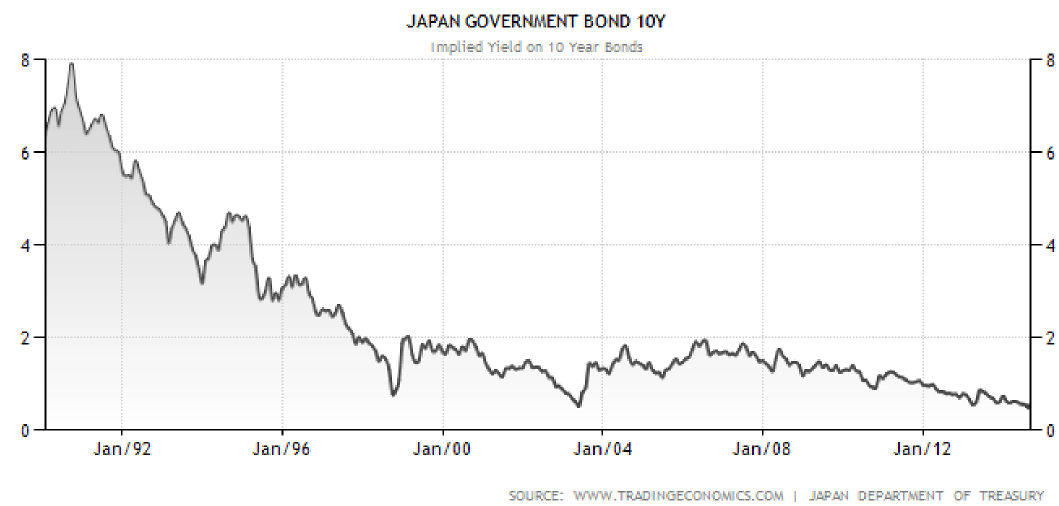
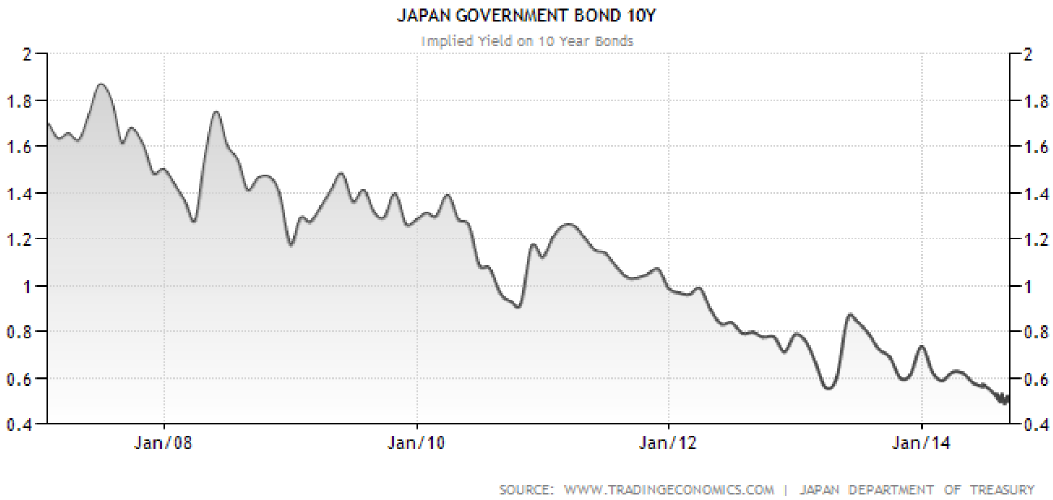


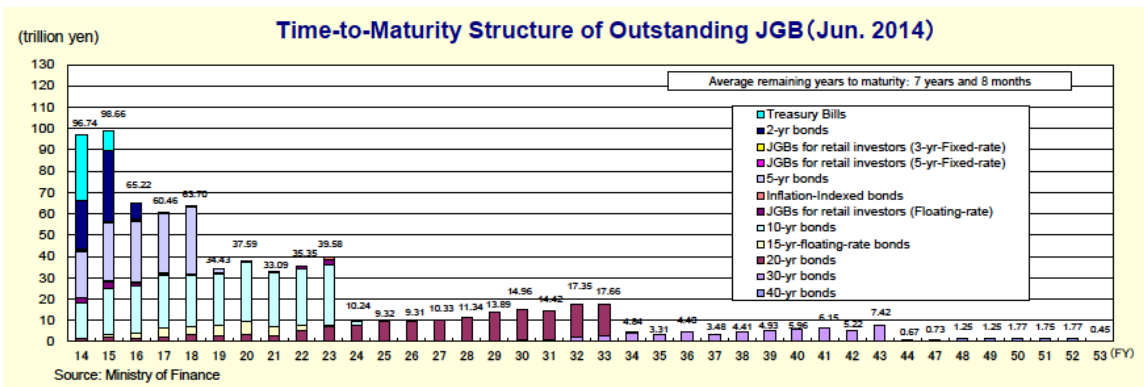
Fig.4 Breakdown by T-Bill Holders (March 2014, QE)



The combination of collusion and cooperation with MOF among large financial institutions, and involvement of the BOJ, has produced the bizarre spectacle of a government that is plainly toast but whose bonds trade at yields that are among the lowest in all of history. This is another pattern now being repeated throughout Europe.







In 2012, I began telling the story of FILP and its financing mechanism, the Postal Savings System, which was once the “largest bank in the world.” The assets of the supposed-largest-bank-in-the-world consisted of loans to fund government public works boondoggles. Needless to say, there were a lot of losses. The system began to be unwound about a decade ago, during which time the system’s legacy losses have been rolled into the General Budget. Here’s how it looked last year:

(4) Government Debt-related Expenditures in the General Account-Breakdown by Categories (FY2013 Initial Budget)

(Unit : billion yen)

Category	FY2012(initial)	FY2013(initial)	changes
Debt redemption expenses	12,089.6	12,338.8	249.2
JGB redemption	11,290.2	11,823.1	533.0
Transfer fund by the 60-year redemption rule	10,235.4	10,589.1	353.6
Tranfer fund from Industrial Investment Special Account	88.7	86.2	▲2.5
Transfer fund needed for redemption of special bonds issued for a tax reduction	256.8	256.8	−
Transfer fund by the budget	709.3	891.1	181.8
Borrowing redemption	799.4	515.7	▲283.8
Transfer fund by the 60-year redemption rule	249.9	233.6	▲16.3
Transfer fund by the budget	549.6	282.1	▲267.5
Interest payment and discount expenses	9,840.3	9,869.7	29.3
JGB interest payment	9,431.0	9,474.8	43.8
Borrowing interest payment	259.3	244.9	▲14.4
Financing Bills discount expense	150.0	150.0	−
Administration expense	14.3	33.1	18.8
Total	21,944.2	22,241.5	297.3

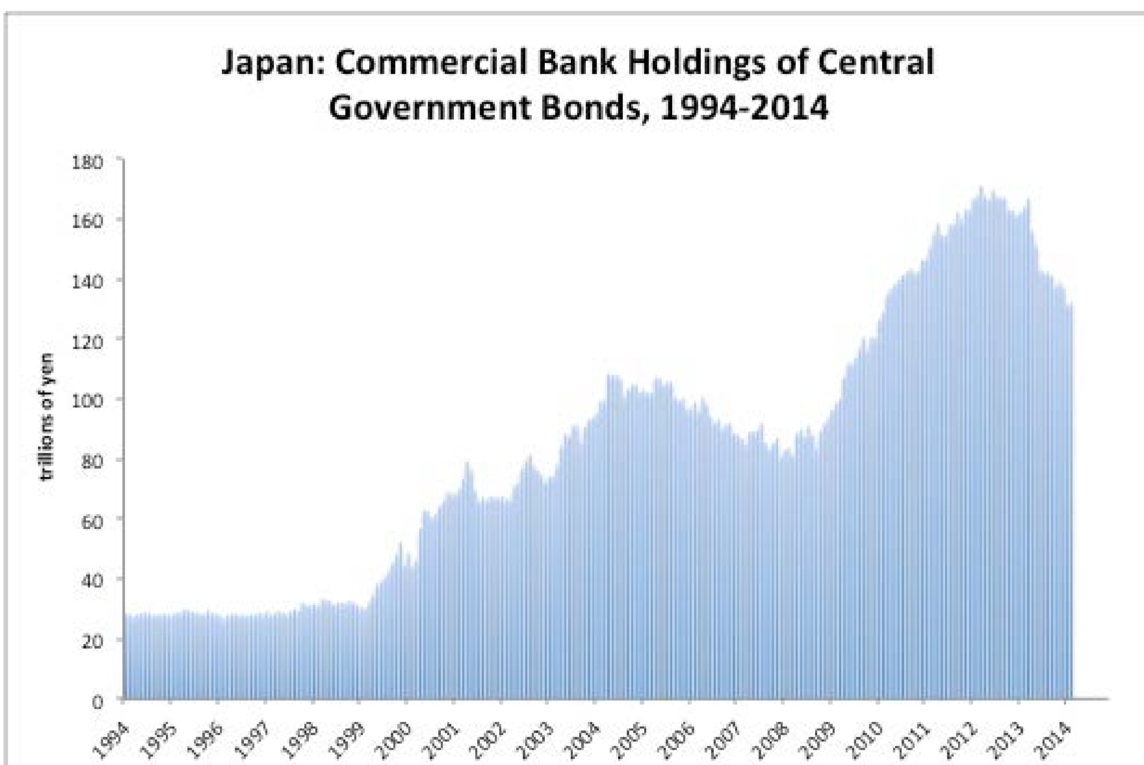
Note: Figures may not sum up to the total because of rounding.

We see that total "debt service" costs were ¥22.241 trillion in FY2013, of which ¥12.338 trillion consisted of "debt redemption expenses." This is not bond maturities and rollovers. Rather, it is the unwind of the Postal Savings System, making up the losses incurred over previous decades. I would like to update our story there at some point.

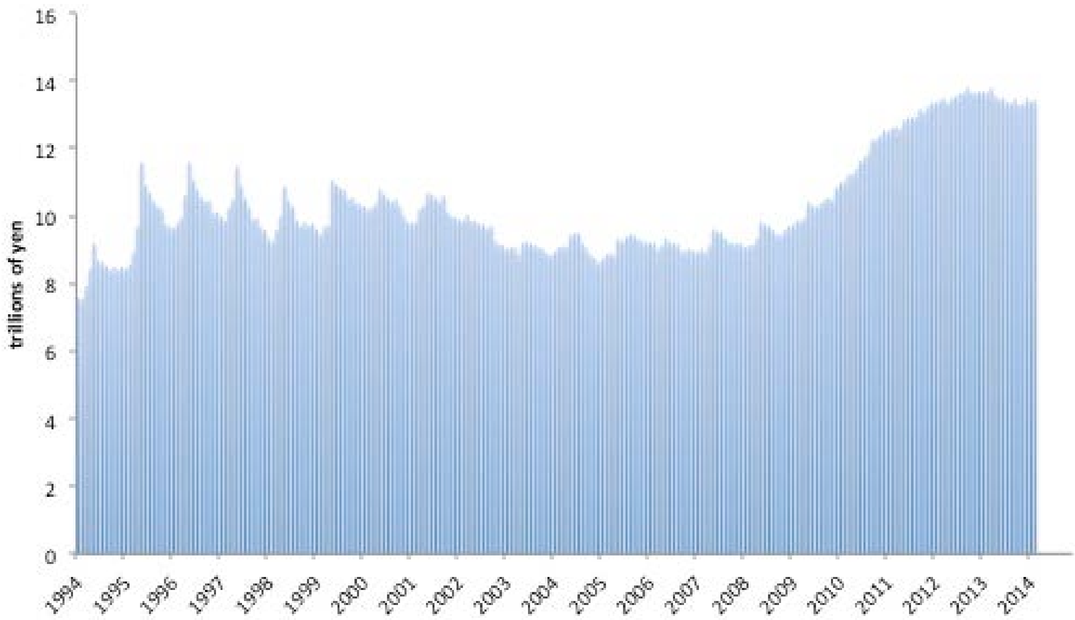
Interest payments on the outstanding debt have been quite modest, achieved due to super-low interest rates and also the fairly short maturity of the debt structure. A rise in short-term interest rates would result quite quickly in debt service costs that were multiples higher. If the average yield on the debt was a relatively low 3%, at 227% debt/GDP (gross total government), that would mean 6.8% of GDP (about ¥36 trillion) in interest payments alone. If the yields were 6%, which briefly set off crises in Europe among other overindebted sovereigns in 2012, that would mean 13.6% of GDP in interest payments. No can do.

The Bank of Japan. Thus, the more important thing for now is the Bank of Japan, which embarked last year on a dramatic program of bond monetization. There were a few motivations for this, the happy coincidence both of the fact that commercial banks had been stuffed with about as much government debt as they could manage, the lack of domestic savings to absorb new debt, and the fact that the forex value of the yen really was much too high, and needed to be beaten lower – without ever mentioning in public that this was the agenda.

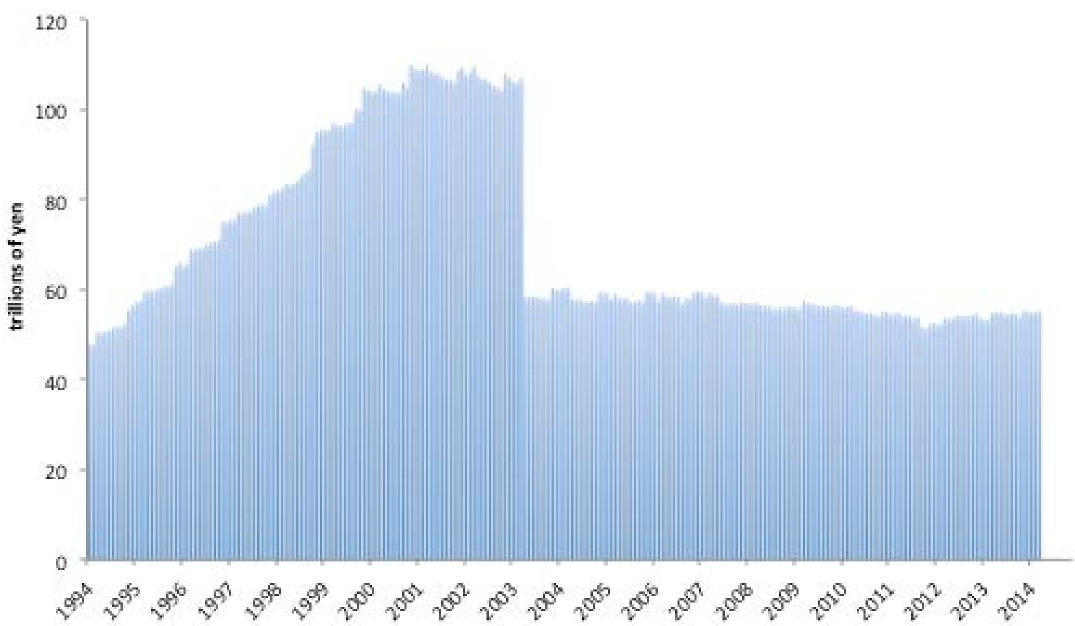
I did a little look into the asset composition of Japanese commercial banks.



Japan: Commercial Bank Holdings of Local Government Bonds, 1994-2014

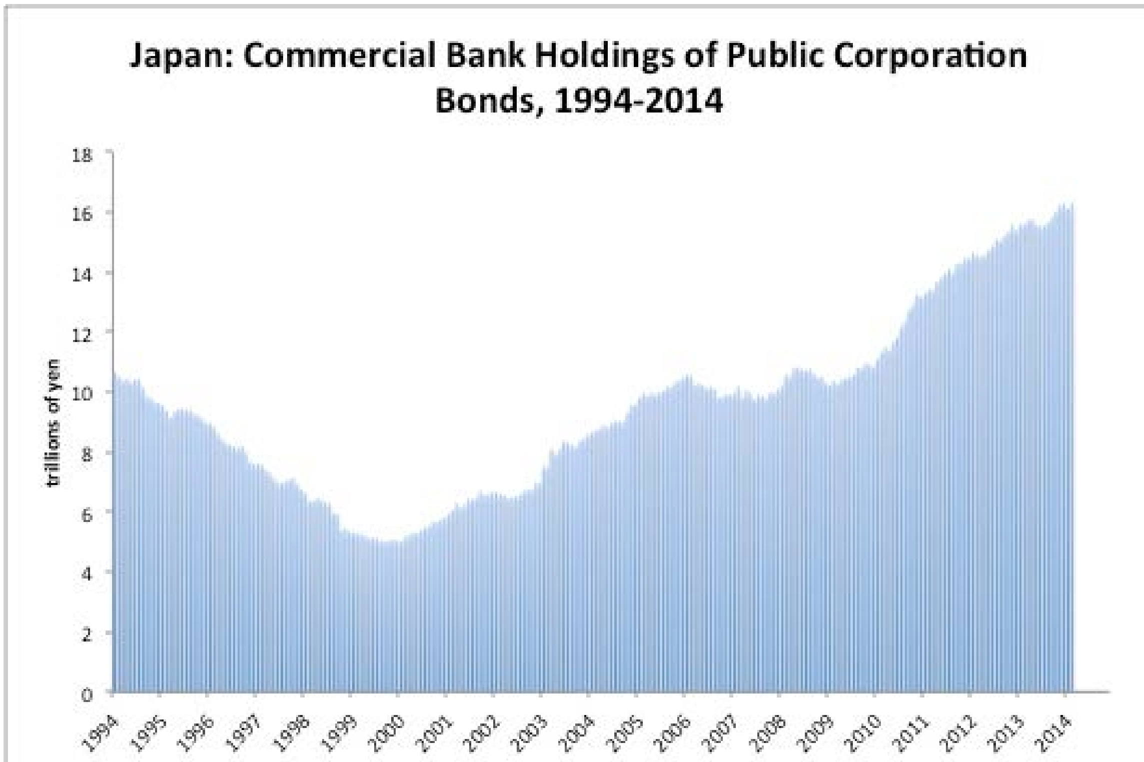


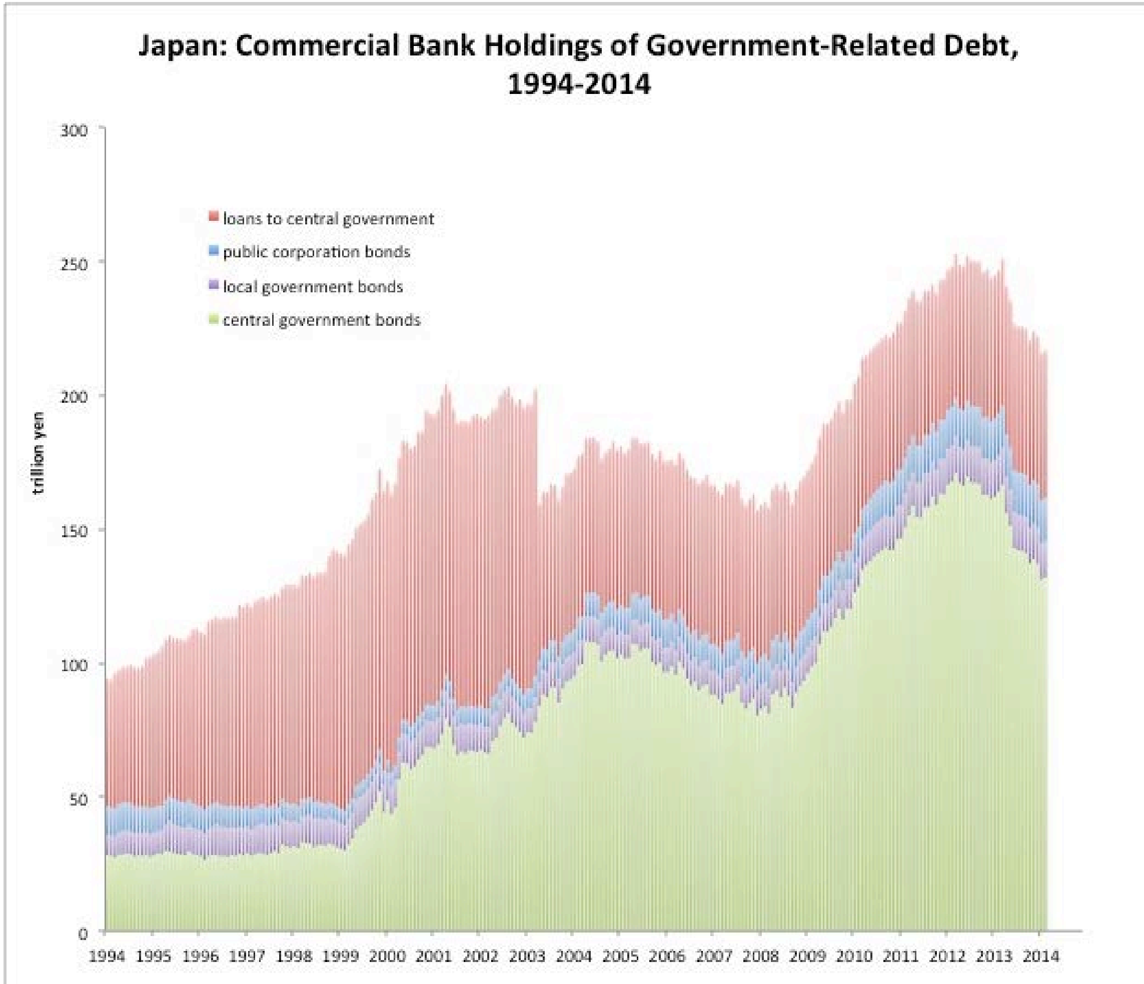
Japan: Commercial Bank Direct Loans to Central Government, 1994-2014



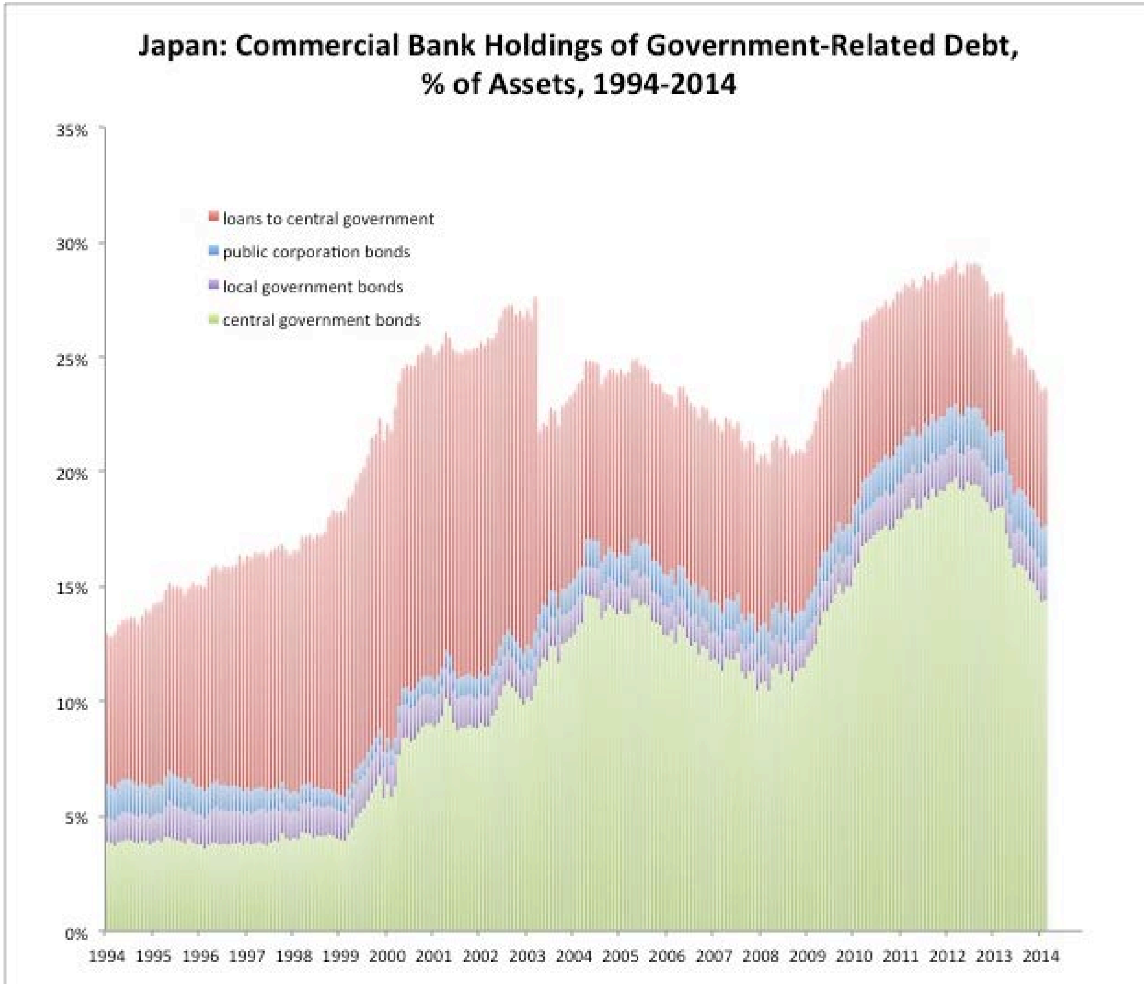
Yes, the central government borrows from banks directly. There seems to have been some sort of reclassification in 2003.

You can see what I mean when I say that it appears that banks were apparently told what to do beginning in 1999. They didn't hold so many government bonds before.

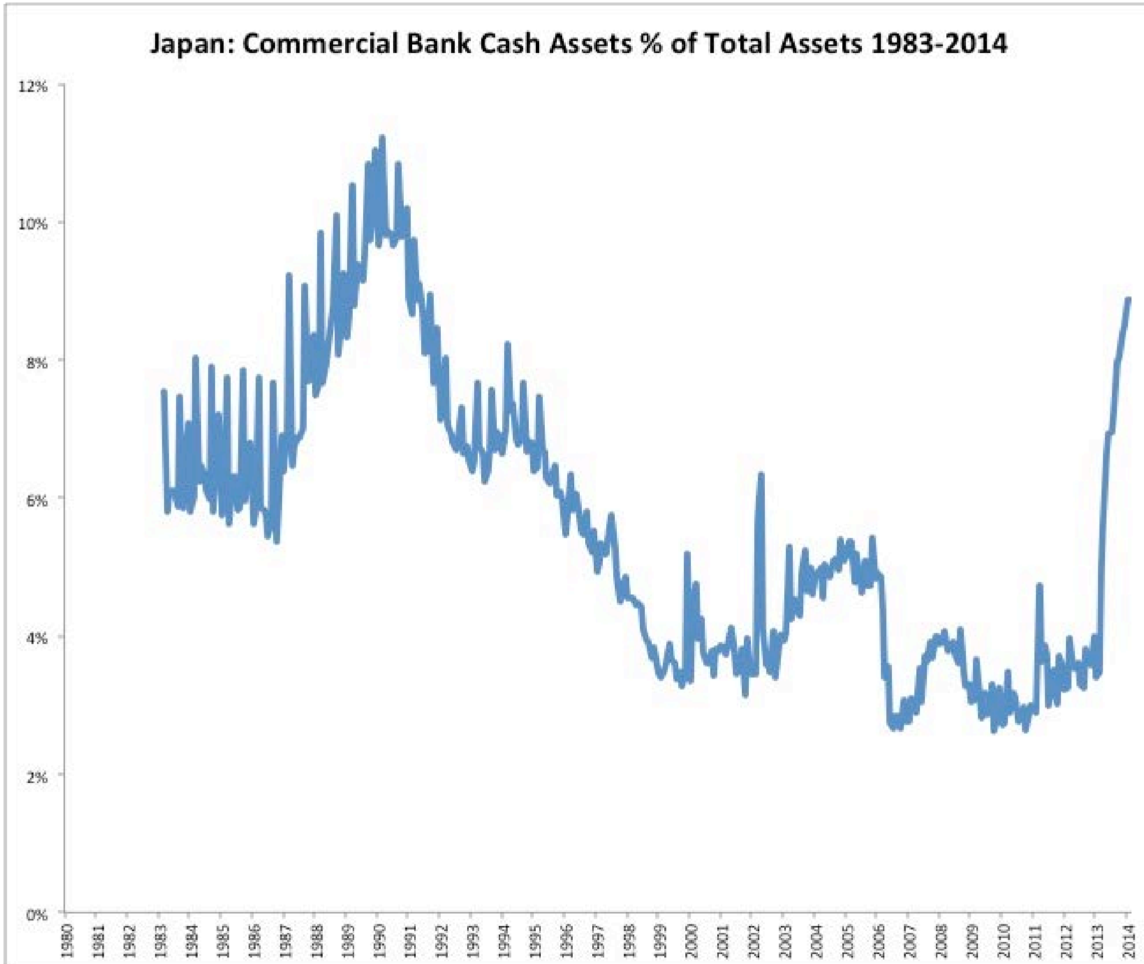




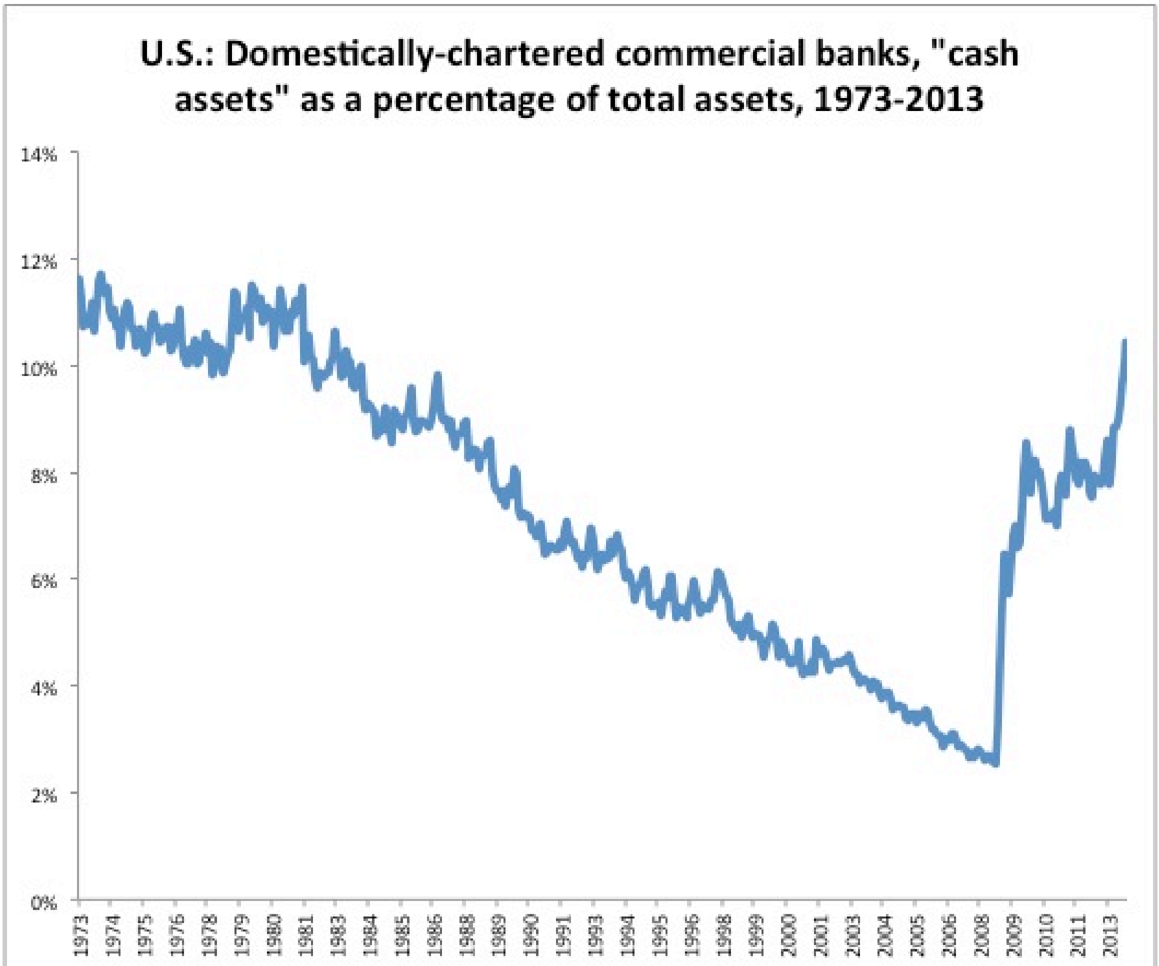
The recent monetization by the BOJ has taken the pressure off of commercial banks to take their holdings of government-related debt still higher. Maybe they were running into difficulties here.



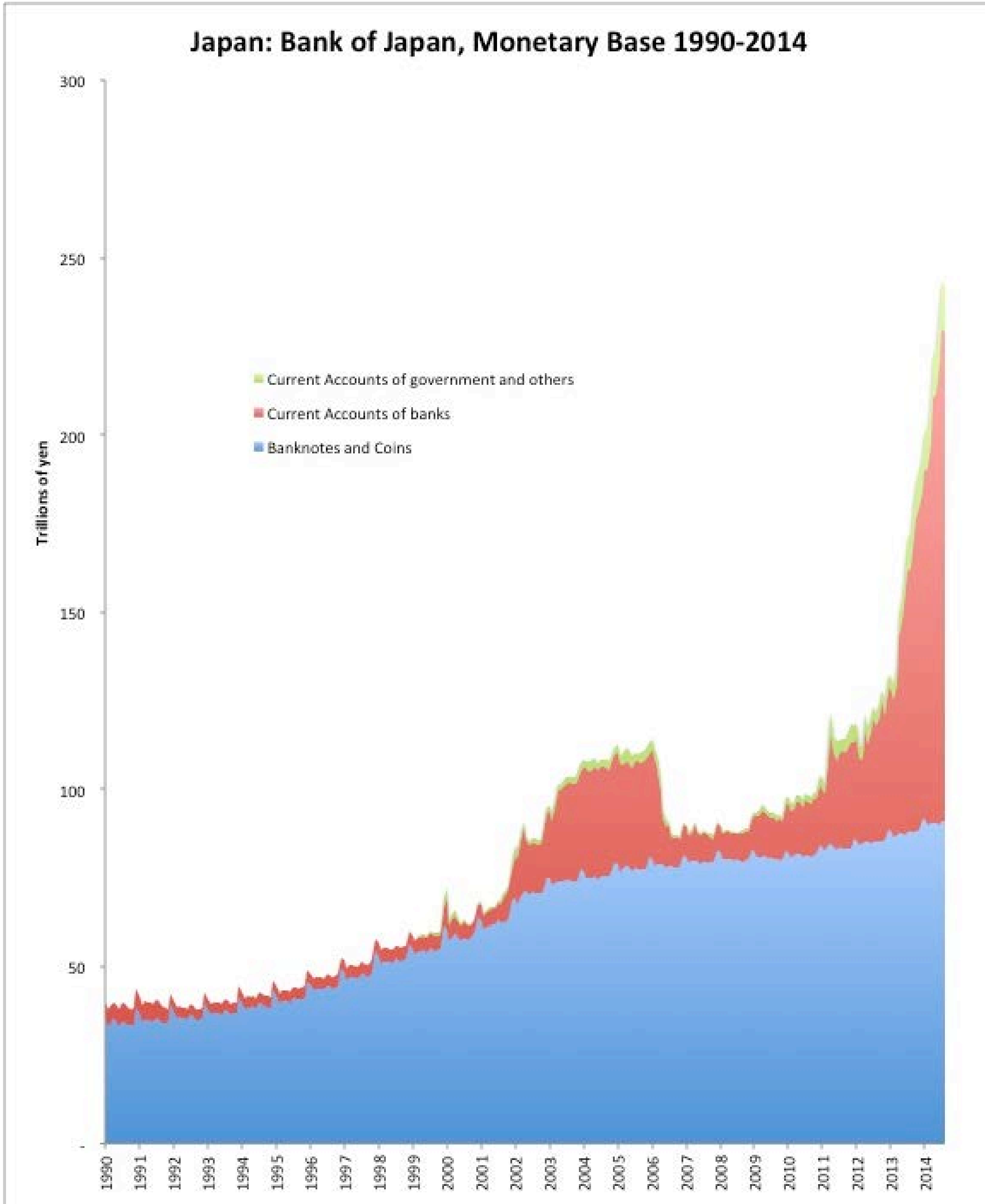
Here's what Japanese banks' "cash assets" have looked like.



In the past, this was mostly overnight lending to other financial institutions. However, today it consists entirely of deposits at the BOJ. Thus, we see that the recent QE by the Bank of Japan has taken banks' cash assets to levels that were fairly common historically. Much the same thing has happened with U.S. banks.



We see that the pace of monetization here is quite aggressive; yet, the result thus far has been mostly to return Japanese banks' cash assets to what, in the past, was considered a "conservative" level. U.S. history shows a similar pattern. Indeed, I think there was a shortage of bank reserves in the 2006-2013 period, which caused the tendency of the yen to rise.

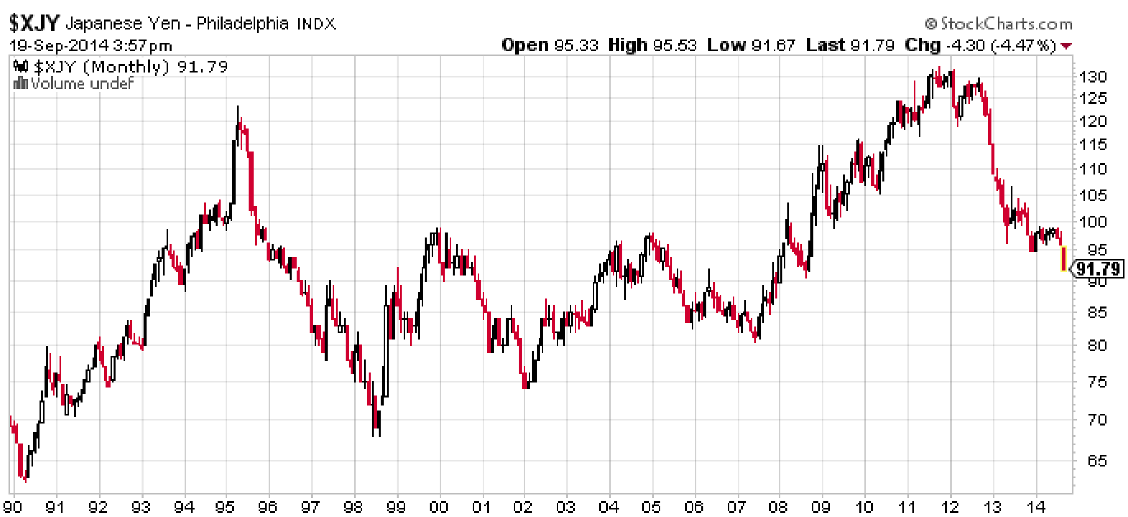


However, if Japanese banks' demand to hold "cash assets" in the form of BoJ deposits has been fulfilled, then any excess would tend to drive the yen lower in value.

This is roughly what has happened:

We see a major drop in yen value following the beginning of monetization by the BoJ. However, this was followed by a long period of consolidation, as I suspect Japanese banks were quite happy to trade their excess government bonds for BoJ deposits. If this demand has now been satiated, perhaps the yen will be ready for another major leg downward, reflecting continuing BoJ monetization. This has perhaps begun already.

I expect that most everyone in Japan would be reasonably happy with the yen around ¥120/dollar, roughly its average since 1990.

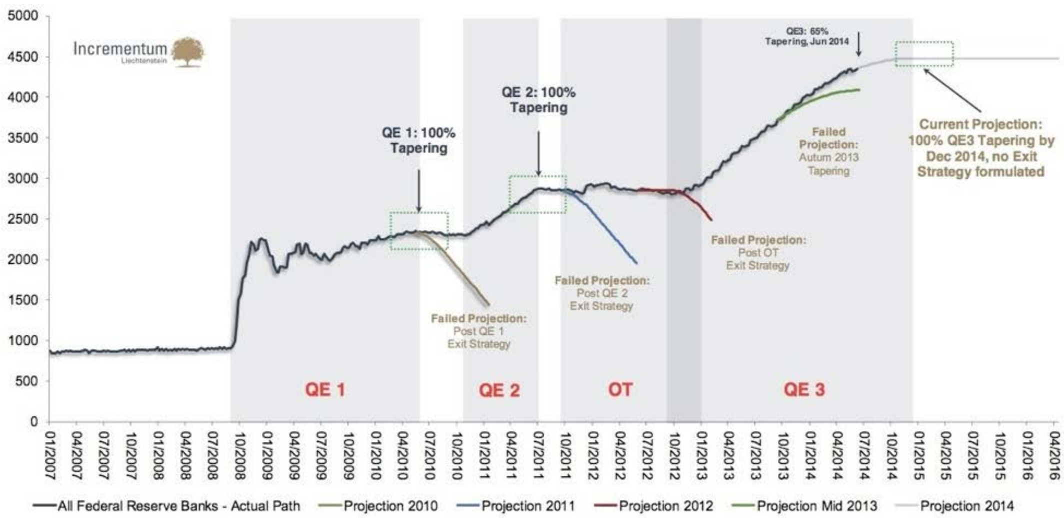


Around ¥140-¥145/dollar would probably constitute a point of some consternation or panic. One would expect people to ask there: “how much longer is this going to go on?” The official answer would be that it is ending soon, or has indeed ended already.

This might begin another period of consolidation. However, the government is still issuing a flood of bonds, and I suspect this flood will continue although the government is (again) promising that it will stop soon, right after that big surge of revenue from the consumption tax hikes comes in. In any case, I think everyone would be happiest with the yield on the 10yr JGB below 2.0%, and better yet below 1.0%. This might take continued BoJ influence, although I suspect that Japanese financial institutions can be instructed not to sell their holdings if necessary.

For now, the BoJ is expected to continue its present pace of monetization, with some hypothesizing an acceleration although I think that would be on hold if the yen is moving downward, as it is now.

The real game begins if (when) it becomes apparent that the BoJ will not stop, or perhaps has stopped but will restart, its monetization program, for lack of other solutions. This would be indicated by a decline in the yen to ¥150/dollar and beyond, with no credible response by officialdom or the BoJ. This time might be delayed if the dollar and euro themselves decline in value, as might be suggested by the aggressive expansionary monetization programs already announced by the ECB. The Fed appears to be on track to completing its "taper" and in fact stopping its own monetary expansion. Yet, it has stopped before, and might start again – QE5. Indeed the "strength" of the dollar compared to the (declining) euro and yen might give a green light for an easier Fed, just as the strength of the yen vs. the dollar gave a green light to the BoJ in 2013.



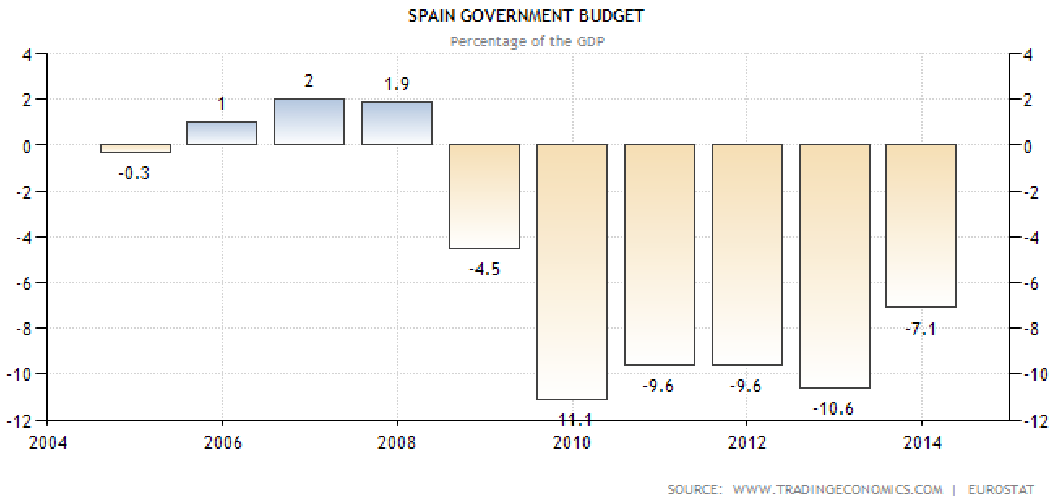
The timeframe for all this might be toward the end of 2015, or perhaps into 2016. It sure does take a long time.

At this point, it appears that the opposition Democratic Party of Japan does not have any meaningful alternative to the ruling Liberal Democratic Party's policy course. The recent consumption tax hike was passed by the then-ruling DPJ. The fact that this was immediately followed by one of the biggest electoral defeats that I have ever seen, in any country, apparently made no impression on anyone. In December 2012 elections, after the DPJ's Noda administration passed the consumption tax hike legislation, the DPJ lost 75% of its seats in the dominant Lower House, falling from 230 to 57. This is exactly analogous to the U.S. Democratic party starting with a majority in the House of Congress, and ending with 75% fewer seats. This election was followed by an Upper House election in July 2013, in which the DPJ started with 44 seats up for re-election, and ended with 17.

The DPJ remains a left-leaning party mostly formed around social programs. The LDP itself (a purportedly conservative party) is offering a basket of expanded social programs (i.e. more welfare spending commitments), which negates any attraction of the DPJ among voters. At this point, I doubt it matters much. More consumption tax hikes, and of course more payroll tax hikes, are on the docket for 2015.

Somewhere along the line, we may see a bit of tax-hike panic, as it becomes all-too-obvious that the deficit really, really must be contained as the BoJ's printing presses have become a dangerous option. This would probably result in some aggressive tax increases, for example an increase in the consumption tax from 10% (scheduled for October 2015) to perhaps 15%. This is similar to what happened in Spain, as that country was on the apparent brink of default:

Despite neverending promises and expectations that this strategy would resolve the deficit problem, it didn't.



Government spending/GDP didn't go down, it went up.

Whatever the government claims the "unemployment rate" is, employment was pummeled.

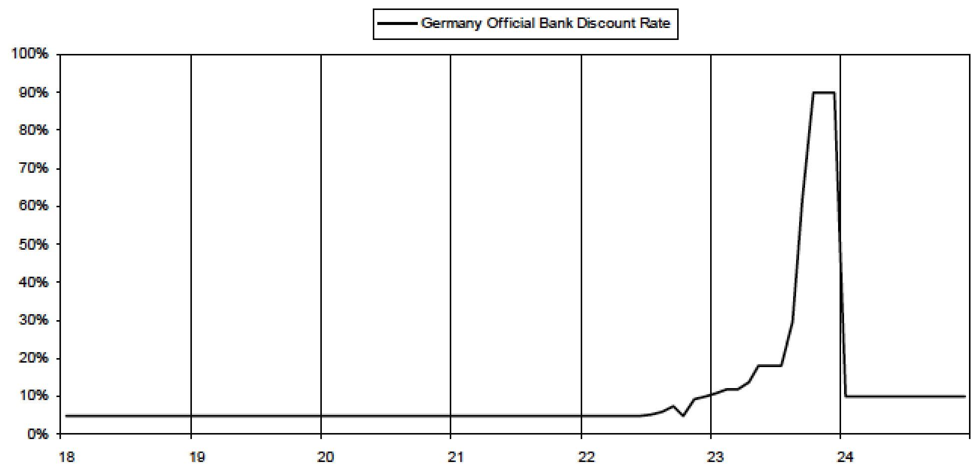
This is why deficits continued and spending went up. Fewer people with jobs, and more people in desperate need, means less revenue and more spending.

Government debt/GDP kept going higher.

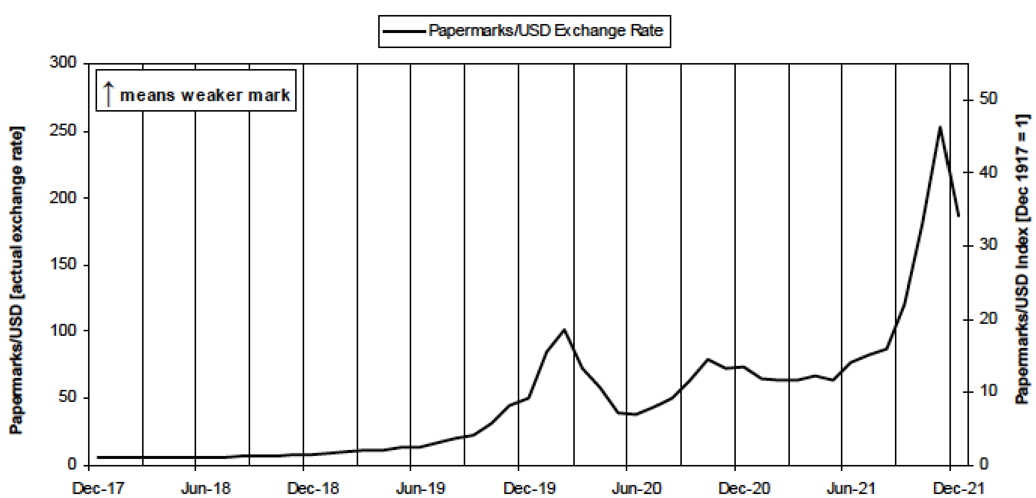
Spain's government was rescued from default for now by the ECB and eurozone as a whole. That was possible because Spain is a relatively manageable part of the eurozone as a whole, and the problems could be kept at bay for a while – notably, using much the same techniques as were used in years previous in Japan, such as stuffing domestic banks with a lot of debt. Japan itself doesn't have that luxury. Japan's government has only itself to rely on, not some much-larger agglomeration of people willing to cooperate.

And yet, I have the impression that burning down the old system, and the detritus of past error, is a necessary step for Japan. Probably nothing useful can be done as long as everyone is in the grip of past obligations, whether JGBs, bank liabilities, or various welfare programs or even private pension obligations.

I suspect Japan will serve as something of a model for the eurozone and the U.S. as well. Bond yields, heavily controlled, will continue at century lows even as the government basically slides slowly into a printing-press version of default. There is some precedent for this.



During the hyperinflation of the early 1920s in Germany, the Reichsbank held the discount rate at a modest 5% even well after the hyperinflation properly began in 1919. Between January 1919 and February 1920, the gold value of the mark fell by a factor of 12. Domestic prices rose by an estimated 545%.



Source: Global Financial Data, BW Estimates

TABLE XIV

INDEX NUMBERS OF THE VOLUME OF CIRCULATING MEDIUM, OF INTERNAL AND EXTERNAL PRICES, AND OF EXCHANGE RATES: 1914–1923

DATE		VOLUME OF CIRCULATING MEDIUM (TOTAL VOLUME OF CIRCULATING MEDIUM RELATIVE TO 1913 TAKEN AS 1[4])	INTERNAL PRICES (PAPER MARK EQUIVALENT OF INTERNAL PURCHASING POWER OF ONE 1913 GOLD MARK[5])	EXTERNAL PRICES (PAPER MARK EQUIVALENT OF EXTERNAL PURCHASING POWER OF ONE 1913 GOLD MARK[6])	EXCHANGE RATE (PAPER MARK EQUIVALENT OF ONE CURRENT GOLD MARK[7])
1914 (Yearly Average)		1.16	1.05	1.00	1.02
1915		1.47	1.42	1.17	1.16
1916		1.72	1.53	1.67	1.32
1917		2.45	1.79	2.79	1.57
1918		3.75	2.17	2.80	1.43
		(End of Month)	(Monthly Average)	(Monthly Average)	(Monthly Average)
1919	Jan.	5.69	2.62	3.88	1.95
	Feb.	5.81	2.70	4.20	2.17
	Mar.	6.14	2.74	4.86	2.48
	April	6.35	2.86	5.96	3.00
	May	6.58	2.97	6.19	3.06
	June	7.04	3.08	6.77	3.34
	July	6.90	3.39	7.61	3.59
	Aug.	6.74	4.22	9.67	4.48
	Sept.	6.97	4.93	12.05	5.73
	Oct.	7.15	5.62	13.50	6.39
	Nov.	7.48	6.78	19.80	9.12
	Dec.	8.27	8.03	24.89	11.14
1920	Jan.	8.4	12.6	35.9	15.4
	Feb.	9.0	16.9	54.8	23.6
	Mar.	9.8	17.1	46.9	20.0
	April	10.3	15.7	34.7	14.2
	May	10.6	15.1	27.4	11.1
	June	11.3	13.8	22.6	9.3
	July	11.5	13.7	22.6	9.4
	Aug.	11.9	14.5	26.4	11.4
	Sept.	12.5	15.0	31.2	13.8
	Oct.	12.8	14.7	34.2	16.2
	Nov.	12.8	15.1	36.1	18.4
	Dec.	13.5	14.4	31.2	17.4

Today, even a 5% yield is intolerable. Perhaps we will go into more dramatic forms of currency debauchery with the short end at 0% and the long end at 2.5% -- or, in Japan, with the long end at 0.65%. The only difference between 5% and 0.65% is the price the BoJ pays to buy JGBs in the market. And, with a printing press, you can pay any price you wish.