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## **Japan's Liquidity Trap**

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**Disclosure:** Tanweer Akram's employer, Voya Investment Management, invests in a wide range of securities, including Japanese government securities.

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# Japan's Liquidity Trap

## **Abstract**

*Japan has experienced stagnation, deflation and low interest rates for decades. It is caught in a liquidity trap. This paper examines Japan's liquidity trap in light of different strands in the theoretical literature. It is argued that insights from a Keynesian perspective are still quite relevant. The Keynesian perspective is useful not just for understanding the country's liquidity trap but also for formulating and implementing policies that can overcome the liquidity trap and foster renewed economic growth and prosperity.*

**Key words:** liquidity trap, Japan, monetary policy, interest rates

**JEL codes:** E02, E40, E43, E50, E52, E58, E60

## Section I: Introduction

Japan has experienced low economic growth and either low inflation or deflation for more than two decades. Nominal GDP has been stagnant for almost 25 years in Japan. Real GDP has been essentially flat since the mid-1990s. Slow growth in Japan resulted in the country falling further behind the U.S. in the growth of real GDP per capita. Nominal short-term interest rates have been close to zero. Nominal long-term interest rates, as measured by the yields of Japanese government bonds, have also been extremely low for many years, while the Bank of Japan's monetary policy has been highly accommodative for decades.

Japan appears to be in an economic condition where accommodative monetary policy, characterized by low nominal interest rates and elevated balance sheet of the central bank, is insufficient to revive growth. Gross domestic business fixed investment has not responded favorably to low nominal interest rates. Monetary easing has been unable to overcome deflationary trends. The ensemble of these characteristics is generally regarded in the economics literature as a case of liquidity trap, originally described in Keynes's (2007 [1936]) *General Theory*.

The phenomenon of feeble economic growth and low nominal interest rates is not any longer unique to Japan since the global financial crisis. Long-term interest rates in the U.S., the U.K., and Canada have remained ultra-low by historic standards many years after the global financial crisis. Several countries in the euro zone, such as Germany, France, Netherlands, Austria, and Finland, and a few countries outside of the euro zone, including Sweden and Switzerland, are experiencing either exceptionally low interest rates or even negative interest rates across the yield curve on government bonds.

In light of the preponderance of the phenomenon of feeble economic growth and low nominal interest rates in advanced capitalist economies, it is quite pertinent to understand Japan's liquidity trap and identify its essential features. Some of the key questions facing economists and policymakers, both in Japan and abroad, are as follows: What are the causes of the sustained liquidity trap in Japan? Will enhanced Quantitative and Qualitative Monetary

Easing (QQME) being pursued by the Bank of Japan be sufficient to generate inflation and reactive economic growth? Besides accommodative monetary policy, what other measures, if any, can the Japanese authorities (and policymakers in other advanced countries) undertake to overcome the country's liquidity trap and achieve sustained economic growth and prosperity?

This paper attempts to address these questions by carefully examining the case of Japan's liquidity trap in light of (i) past and recent economic developments in Japan, drawing on Akram (2014), Akram and Das (2014a and 2014b), Bernanke (2000), Hayashi and Prescott (2002), Koo (2008), Krugman (1998a and 1998b), Lam and Tokuoka (2011), Posen (2010), Sher (2014), Tokuoka (2012), and Uedo (2012), and (ii) different strands in the theoretical literature on liquidity trap and related issues, including Adam and Billi (2006), Bernanke (2000 and 2002), Eggertsson (2005, 2006, and 2012), Eggertsson and Krugman (2010), Eggertsson and Pugsley (2006), Eggertsson and Woodford (2003), Jung and Watanabe (2005), Keynes (1930 and 2007 [1936]), Kregel (1998, 2011, and 2014), Krugman (1998a and 1998b), Refischenedier and Williams (2000), Uedo (2012), Woolman (2005), Woodford (2001 and 2003), and Wray (2003 [1998] and 2012). Section II examines Japan's economic performance and the key characteristics of its economy since the onset of the country's economic stagnation in mid-1990s. Section III discusses the theory of liquidity trap and it critically presents several theoretical arguments concerning liquidity trap, contrasting Keynes's view with that of contemporary theorists. It is argued here that Keynes's analysis, emphasizing fiscal policy and employment creation, can provide a foundation for not just understanding Japan's stagnation but also a solution to overcome its liquidity trap. Section IV concludes.

## **Section II: Japan's Economic Performance and Key Characteristic of Its Economy**

### ***Japan's Economic Stagnation and the Causes of Sustained Slow Growth***

Japan experienced strong private sector credit growth in the 1980s and the early 1990s (Figure 1). There was a huge surge in credit to the country's

corporate sector. This strong credit growth, in conjunction with speculations in real estate and financial assets, fueled the bubbles in the 1980s. Land prices and equities prices rose substantially. However, the bubble in equities ended in the early 1990s (Figure 2). Residential land prices also collapsed in the early 1990s.

**<INSERT FIGURE 1 HERE>**

**<INSERT FIGURE 2 HERE>**

With the bursting of the bubbles, economic growth slowed down markedly. Labor productivity growth in Japan slowed noticeably since the 1990s in comparison to the strong rise in labor productivity from the early 1950s to the late 1980s. Labor productivity also slowed in Japan since the 1990s in comparison to that of most other advanced countries, including the U.S., during the same period. Hayashi and Prescott (2000) and Akram (2014) have documented the remarkable decline in the labor productivity growth. Moreover, during the same period, labor force growth in Japan was noticeably slower than in the past and also in comparison to most other advanced countries, particularly the U.S.

Real GDP growth has been noticeably slow since the early 1990s (Figure 3). The slowdown in growth started after the bursting of the bubble, but has continued since then, exacerbated by the global financial crisis, the Tohoku earthquake and the tax hike of 2014. This is sharp contrast to the strong growth performance that the country experienced between the decades of the 1950s to the 1980s. Nominal GDP has been stagnant since the early 1990s (Figure 4).

**<INSERT FIGURE 3 HERE>**

**<INSERT FIGURE 4 HERE>**

Industrial production in Japan has remarkable weak since the mid 1990s (Figure 5). Industrial production declined during the slowdowns of the 1990s and the early 2000s. After the recession of 2001, industrial production did rise moderately, but it fell sharply during the global financial

crisis. The decline in industrial production in Japan has particularly sharp as advanced manufacturing, motor vehicle production, and electronics industries were severely affected (Sommer 2009). Industrial production and exports were disrupted by the Tohoku earthquake and fell sharply again. Recovery has remained weak.

**<INSERT FIGURE 5 HERE>**

The weakness of effective demand has resulted in persistently low inflation and deflationary trends for several decades (Figure 6). As a result, the price level has been declined notably since the mid-1994.

**<INSERT FIGURE 6 HERE>**

Japan's economic stagnation has had a dent on real income growth and the relative standard of living. As a result of protracted economic stagnation, per capita income growth, measured on purchasing power parity basis, has been tepid. The gap in per capita real income between the U.S. and Japan has increased. While in the early 1990s, Japan's per capita real income was nearly 80% to that of the U.S.'s per capita real income, as of 2014 it amounted to 70% to that of the U.S. (Figure 7). er capita real income in Japan was the highest in Asia in late 1980s, but it is now behind some of its Asian neighbors, including Singapore and Hong Kong (Figure 8). As of 2014 its per capita real income is barely ahead of South Korea's per capita real income.

**<INSERT FIGURE 7 HERE>**

**<INSERT FIGURE 8 HERE>**

Real consumption growth has slowed down markedly due to the weakness of real disposable income and the feeble pace of real earnings (Figure 9). It was already fairly tepid from the mid-1990s but consumption declined during the 2008 recession and again after the Tohoku earthquake. Prior the tax hike in April 2014, consumption had spiked for several months in anticipation higher prices. But immediately after the tax hike consumption dropped drastically. Since then it has remained quite weak.

**<INSERT FIGURE 9 HERE>**

Investment spending has been stagnant since the early 1990s (Figure 10). The level of private investment has been fairly flat, while the level of public investment in Japan has declined, particularly since the beginning of the century. Japanese corporations have preferred to invest overseas rather than domestically because of tame effective demand and the high cost of production at home. They have invested in emerging Asian countries, to take advantage of stronger growth, access to markets, and lower cost of production and wages.

**<INSERT FIGURE 10 HERE>**

The Government of Japan has been running persistently large fiscal deficits (net borrowing) as a share of nominal GDP since the mid-1990s (Figure 11). The country has had large fiscal deficits because tax revenues have been weak due to stagnant nominal GDP and stagnant real income. Expenditures have risen due to automatic stabilizers and increased transfers, including social security and medical expenditures related to the aging of the population. Oftentimes the Japanese authorities have increased discretionary spending in to provide stimulus to the economy. Large fiscal deficits have stabilized Japan's economy and prevented economic contraction and crisis (Koo 2008). Government spending, taxes and transfers have also maintained Japanese high standard of living, social stability and prevented a sharp rise in after tax income inequality. Nevertheless, there are questions about the effectiveness and efficiency of public spending, fiscal stimulus, and transfer programs in Japan. Oftentimes public expenditures have been directly toward investments and programs that are of limited social benefit to the general public.

**<INSERT FIGURE 11 HERE>**

Japan's chronic fiscal deficits have led to elevated ratios of public debt, measured as the ratios of government gross debt and government net debt to nominal GDP (Figure 12). Among the major advanced countries Japan has the highest ratios of public debt. However, the rise in the ratios of public debt has enabled the private sector in Japan to improve its balance sheet. Japanese public debt is held mostly by Japanese financial institutions.

**<INSERT FIGURE 12 HERE>**

The country's share in global exports has declined notably since the mid-1990s (Figure 13). The decline in its share of global exports is partly due to the rise of Asian emerging markets, such as China, South Korea, Hong Kong, Singapore, and Taiwan, as major manufacturing centers, as well as the loss of competitiveness of Japanese exports due to the sustained appreciation of the Japanese yen in the early 1990s, in the early 2000s, and again from mid-2000s to late 2012. Japanese manufacturers of motor vehicle, electronics, machineries, and other goods face not only stiff competition from overseas manufacturers, not just in emerging Asian countries but also in other advanced countries, including Germany and the U.S. The Japanese yen's depreciation started since December 2012. Japan's global exports have been faltering. Motor vehicle exports are still lower than its peak but have risen a bit lately. Electronic exports have declined notably and have remained soft due to competition.

**<INSERT FIGURE 13 HERE>**

Employment growth in Japan has been disappointing since the mid-1990s (Figure 14). Indeed there was hardly any job growth from 1994 to 2012. Since 2013 the Japanese economy has added jobs. The unemployment rate in Japan had been very low until the early 1990s. During the decades of stagnation the unemployment rate rose from around 2.5% in 1994 to around 5.5% in 2002 (Figure 15), but continued to decline until the global financial crisis. The unemployment rate rose sharply during financial crisis but has steadily declined since then to around 3.5% as of mid-2015. Compared to other advanced countries, Japan's unemployment rate remained low even during the global financial crisis and recession. However, there have been substantial changes in the labor market during the years of stagnation. The labor force participation rate has declined, mainly due to the aging of the population. Japan's labor force peaked in the late 1990s and has begun to decline. The ratio of the female to male labor force participation is low in Japan compared to other advanced countries, and has remained low. Since the late 1990s, the share of part-time employment has increased markedly,



and it now constitutes nearly 30% of total employment. The bargaining position of Japanese workers have deteriorated due to weakness of effective demand, decline of the rate of unionization, globalization, and the declining of share of manufacturing employment. As a result, real wages have declined since the late 1990s (Figure 16). In recent quarters, aggregate employees' nominal income, that is, the product of number of employees, hour worked and nominal wage per hour, is rising, but aggregate employees' real income, that is, the product of the number of employees, hours worked, and real wage per hour, is still falling sharply. Nominal wages growth is less than inflation, so real wages are still declining. The weakness of employees' wage income has in turn dampened effective demand.

**<INSERT FIGURE 14 HERE>**

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**<INSERT FIGURE 16 HERE>**

Core Consumer Price Index (CPI) inflation has been weak in tandem with sclerotic nominal wages (Figure 17). The decline in wages and the lack of wage growth in Japan have been key drivers of low inflation and deflationary trends. Core inflation had risen in 2014 but it is flat now. Producer goods price inflation is again softening. Weaker yen (depreciation) raises import prices somewhat with lags, though the pass through from the exchange rate to core consumer prices is limited. In Japan there has been almost no connection between the expansion of the central bank's monetary base (high-powered money) and inflation. One-time factors were primarily responsible for the rise in inflation in 2014. In particular the increase in consumption tax led to higher headline and core inflation last year. The combination of Abenomics and QQME, tax hike and expectation of tax hike had briefly lifted inflationary expectations. The effects of the tax hike on inflation (but not consumption) have dissipated. Hence it is entirely conceivable that deflationary mindset could be reemerging.

**<INSERT FIGURE 17 HERE>**

Aggregate business profits have been fairly decent (Figure 18) in Japan, despite stagnant nominal GDP. Business profits' share has remained around 20% of national income (Figure 19). Thanks to the restraint in nominal wages and labor costs, and continued decent profits, Japanese businesses have plenty of idle cash in hand (Figure 20). Sher (2014) reports that Japanese nonfinancial firms have accumulated cash at the expense of investment and dividends and estimates that Japanese non-financial firms have cash holdings available for investment of about 5% of nominal GDP.

**<INSERT FIGURE 18 HERE>**

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Despite increase in public indebtedness and chronic fiscal deficits, Japanese Government Bonds' (JGBs) nominal yields have declined amid economic stagnation and deflationary trends and have stayed remarkably low (Figure 21). Akram (2014) and Akram and Das (2014a and 2014b) argue that low short-term interest rates, induced by the Bank of Japan's (BoJ) accommodative monetary policy, have been the main reason for JGBs' low nominal yields. They note that Japan has monetary sovereignty, which gives the Government of Japan the ability to meet its debt obligations and the BoJ the operation ability to set the policy rates and expand its balance sheet as required. Hence, The BoJ can restrain upward pressure on JGBs' nominal yields by keeping short-term interest rates low and using other tools of monetary policy, in spite of chronic fiscal deficits and elevated ratios of public indebtedness, in contrast to the fears of Lam (2011) and Tokuoka (2011) and Tokuoka (2012) that Japan's rising public debt ratios would invariably result in sharp rise in the nominal yields of JGBs.

**<INSERT FIGURE 21 HERE>**

The BoJ holds a large volume of JGBs, around ¥270 trillion! The BoJ holds more than 25% of outstanding JGBs. Effectively the BoJ is cornering the market for JGBs, particularly since the advent of QQME! Domestic financial institutions continue to hold the bulk of JGBs. Ratings downgrade had no

effect on JGBs' nominal yields. The near zero policy rate implies low short-term interest rates on Japanese Treasury Bills. JGBs nominal yields are fairly tightly correlated with interest rates on T-bill rates. Changes in JGBs' nominal yields usually tie in with changes in T-bill on interest rates. With low inflation short-term interest rates are likely to stay near zero. And long-term interest rates on JGBs are likely to remain ultra-low as long as the factors that have kept long-term interest rate low stay unchanged.

The Japanese yen has appreciated notably since the 1990s (Figure 22). The yen began to appreciate after the Plaza Accord. The yen appreciated from an average of ¥200/\$ in the 1980s to around ¥135/\$ by 1990. The yen continued to appreciate from 1990 to 1996. It again appreciated from 1998 to mid-2012. In 2012, the yen's exchange rate average nearly ¥86/\$. The yen began to depreciate in late 2012 and has averaged around ¥120/\$ as of 2014. The protracted period of yen overvaluation had a detrimental effect on the nation's exports.

**<INSERT FIGURE 22 HERE>**

Japan is undergoing substantial and rapid demographic changes. Its population is declining (Figure 23). Its population is rapidly aging. The share of working age population is declining. The size of the country's labor force has peaked and has been declining. Fertility rate is quite low. Japan is not very open to migration of foreigners. This is reflected in the low stock of foreign-born share of the population compared to that in other major developed countries (Figure 24). The combination of a low fertility rate that is substantially below the replacement rate and low rate of immigration is the cause of Japan's declining population.

**<INSERT FIGURE 23 HERE>**

**<INSERT FIGURE 24 HERE>**

The growth revival of Abenomics was initially led primarily by a moderate fiscal stimulus. But subsequently the authorities switched to a contractionary fiscal policy. Nominal bank lending growth had moderately picked up. However industrial production and service activity are still soft.

Higher taxes took a toll on real private consumption. Public fixed investment moderately rose with initially at the beginning of the Abe administration. But recovery in business fixed investment has been disappointing. Forward indicators of business investment have improved lately. Japanese firms have been reluctant to invest domestically, even though corporate Japan has a lot of cash in its coffers. Housing investment has been disappointing due to weak growth in real disposable income and unfavorable demographic. Business surveys suggest a tepid pace of expansion.

The above discussion of Japan's recent economic development and economic performance suggest the following. First, Japan's economic is stagnating amid deflationary trends though there is no financial crisis. Second, both short-term interest and long-term interest rates have been low due to highly accommodative monetary policy and low inflation, in spite chronic fiscal deficits and elevated ratios of public debt. Third, investment and consumer spending have remained tame and have not responded favorably to low interest rates. Fourth, the Government of Japan has provided stimulus from time to time, but the effectiveness of the fiscal spending has been fairly limited. Fifth, the Japanese yen had been overvalued for decades. Last but not the least, the Japanese economy faces several structural challenges, such as low labor productivity growth, decline in labor force, shrinking population, low fertility rate, relative low female labor force participation rate, reluctance to allow migration of foreign workers, and so forth. The protracted period of ineffective monetary policy, characterized by low nominal interest rates and stagnant business fixed investment, implies that Japan is entrapped in a liquidity trap.

### **Section III: Theoretical Perspectives on Liquid Trap**

#### ***Liquidity Trap***

Under standard economic theory, as articulated in the classics, an economy would not face a problem of insufficient aggregate demand. This view is regarded as Say's Law (Sowell 1972 and Baumol 1977). Aggregate demand and aggregate supply will be in equilibrium. This is based on the view that the production and sales of goods and services shall generate

income that will be either consumed or saved. What is saved will be spent as investment. In essence the production of goods and services gives rise to income that is devoted to either the purchase of consumer goods and services or saving which is equal to investment spending. As a result, there is no problem where aggregate demand is less than aggregate supply.

Variants of Say's Law(s) are expressed in the classical works of Adam Smith, James Mill, David Ricardo, John Stuart Mill, and others. Thomas Robert Malthus and Karl Marx were among the early critics of Say's Law, but Keynes (2007 [1936]) in *The General Theory* systematically extends and develops Malthus's critique of Say's Law. In Keynes's view there is the inherent problem of a modern capitalist economy which can face occasional shortfall of aggregate demand. For Keynes, in a modern capitalist economy, agents have liquidity preference due to fundamental uncertainty. Agents liquidity preference is also shaped and reinforced by social and psychological factors. Agents hold money as a store of value and thus savings may not be invested. As a result the economy may fail to reach full employment. Changes in interest rates may not be enough to induce sufficient investment and attain full employment.

### ***Liquidity Trap in the IS-LM Framework***

In discussing the Japan's liquidity trap, it is useful to start with the Hick's (1937) early interpretation of Keynes as presented in the IS-LM framework. This is the standard interpretation of the Keynes's work, even though it may not be an accurate representation of Keynes's view on the limitation of monetary policy due to a liquidity trap. Indeed, in the later works Hicks himself recanted this interpretation of Keynes.

In the IS-LM framework, in a liquidity trap, monetary policy does not work, because price level adjustments alone do not stabilize the economy at the full employment level. If the demand for money is infinitely interest-elastic over a range, the LM curve becomes horizontal. Even if prices and wages are fully flexible, increasing the nominal and real money stock may not shift the LM curve, but the economy remains at below full employment level. The liquidity trap prevents the interest rate from falling further below some

“lower bound.” Moreover if the IS curve is interest-inelastic, that is, the demand for credit for investment is insensitive to changes in the interest rate, then a shift in the LM curve to the right may not be able to obtain fully employment. However, under both circumstances, fiscal policy can restore full employment by shifting the IS curve to the right.

### ***Two Schools of Thought on the Solutions for Japan’s Liquidity Trap***

What is the way out of a liquidity trap for Japan? There are two schools of thought regarding solutions to liquidity trap. The first solution to the liquidity trap is that articulated by Paul Krugman (1998a and 1998b) and most mainstream economists, such as Adam and Billi (2006), Bernanke (2000 and 2002), Eggertsson (2005, 2006, and 2012), Eggertsson and Pugsley (2008), Eggertsson and Woodford (2003), Eggertsson and Krugman (2010), Jung et al (2005), Refischenedier and Williams (2000), Woolman (2005), Woodford (2001 and 2003), and Uedo (2012). It emphasizes accommodative monetary as the principal tool to over liquidity trap. Interestingly, Keynes (1930) in his *Treatise* also suggest highly accommodative monetary, along the lines of Zero Interest Rate Policy and Quantitative Easing (Kregel 2014). The second solution to the liquidity trap is the one that Keynes (2007 [1936]) originally advanced in response to that Great Depression that beset the capitalist economies in the 1930s. This view is also reflected in several others in recent times, such as Koo (2008), Kregel (2011 and 2014), and Wray (2003 [1998] and 2012). It emphasizes expansionary fiscal policy and direct interventions to induce employment and investment to overcome liquidity trap.

### ***Extraordinary Monetary Accommodation to Tackle Liquidity Trap***

Krugman’s (1998) and Bernanke’s (2000 and 2002) solution consisting of making credible commitment to a continuous increase in money supply and the expansion of the central bank’s balance sheet. In this view the central banks must act credibly to raise the public’s inflation expectations. The central bank must increase inflation expectations in perpetuity. This solution implicit assumes that monetary accommodation would lead to higher inflationary expectations and induce risk taking due to the effect of increased

monetary stock on aggregate demand. In this view, the nominal interest should be lowered as much as possible, in order to induce investment and consumer spending. However, if the nominal interest rate cannot be lowered beyond some lower bound, then the central bank ought to engage in the purchase of long duration assets and thus reduce long-term interest rates. This would induce portfolio rebalancing by encouraging investors to seek higher yields in riskier assets. Bernanke (2000 and 2002) indicates that such accommodative policy can induce exchange rate depreciation which in turn may lift aggregate demand.

Proponents of this view believe that large-scale asset purchase can be useful tool to lift an economy from a depressed state and can revive growth. Whereas Arthur Pigou (1943) held that falling prices would raise the real net worth of the private sector and induce consumption, proponents of this view argue that large-scale asset purchases raise asset prices and thus lifting nominal values of financial asset from depressed prices raise the real net worth of household , which in turn can stimulate consumption and investment spending.

### ***Proactive Fiscal Expansion and Direct Job Creation***

Keynes's (1936) solution consists of fiscal expansion and direct employment creation by the public sector. In this view fiscal expansion leads to a higher level of output with no increase or little increase in the interest rate. Since interest rates are unchanged there is no "crowding out." Public sector investment to boost growth, reduce uncertainty and restore confidence. In addition, the state can undertake the direct creation of employment in the public sector.

Keynes was skeptical that low interest rates by itself would induce investment, particularly amid heightened uncertainty, where the investor's expectations of future demand have been diminished. He believed that investors may prefer to stay liquid and hold cash and cash equivalents. He noted that if the investor expects that in the future the interest rate would rise more than the square of the current rate, he may prefer to hold cash (Kregel 2014, pp. 2-3). Keynes (1936, p. 201, cited in Kregel 2014, p.3) ) argues that

“Uncertainty to future course of the rate of interest is the sole intelligible explanation of liquidity-preference  $L_2$  which leads to the holding of cash  $M_2$ .” He believed that “there is the possibility ... that, after the rate of interest has fallen to certain level, liquidity preference may become virtually absolute in the sense that almost everyone prefers cash to holding a debt which yields so low a rate of interest. In this event the money authority would have lost effective control over the rate of interest.” (Keynes, 1936, p. 207, cited in Kregel 2014, p. 3)). He is doubtful about the prospects of low interest rate inducing investment and effective demand. He states: “Only experience, however, can show how far management of the rate of interest is capable of continuously stimulating the appropriate volume of investment. For my own part I am now skeptical of the success of a merely monetary policy directed toward influencing the rate of interest.” (Keynes, 1936, p. 164, cited in Kregel 2014, p. 3).

For Keynes, the solution to depressed economic activity lies not just reduction of interest rate by vigorous public policy, including fiscal policy and programs for job creation. He wrote: “It will require not merely passive movements of bank rates to lift us out a depression of this order, but a very active and determined policy” (Keynes 1930, cited in Kregel 2011, p.9). While earlier Keynes (1930 and 1932) thought that low interest rate alone would suffice to revive economic activity, by the time he wrote the *General Theory* he was convinced that the solution would require proactive policies, including fiscal stimulus and direction job creation (Kregel 2011, p. 6).

While the classical solution to elevated unemployment rate or sharp increase in the unemployment rate insisted in wage and price flexibility, usually in the form of downward adjustment of workers’ wages, Keynes argues that increased nominal wage and price flexibility may fail to restore full employment or sustain growth. He writes: “There is ... no ground for the belief that a flexible wage policy is capable of maintaining continuous full employment — any more than for the belief that an open market monetary policy is capable, unaided, of achieving this result. The economic system cannot be made self-adjusting along these lines.” (Keynes 2007 [1936], p.267).



Keynes's insights about liquidity trap are quite relevant to the case of Japan. First, the BoJ's monetary policy has been quite accommodative and has successfully kept long-term interest rates low but not been able to revive the economy. Second, fiscal deficits in Japan have been chronic but fiscal policy has not always provided stimulus. Indeed, often the authorities have tried to raise taxes, hampering effective demand and consumption. Third, Japanese authorities have not pursued direct employment policies. The unemployment rate has been low, but the labor market has seen various structural changes, such as increase in the share of part-time employment, corporate restructuring, de-unionization, decline of manufacturing employment and globalization, and decline in the labor force due to demographic changes. Fourth, the downward flexibility in wages and prices not helped overcome the weakness of labor market and tepid per capita real income growth.

### ***Common Ground and Differences***

While these are two distinct approaches to the problems of liquidity trap, it should be pointed out these approaches are not mutually exclusive. The proponents of the first school stresses accommodative but does not rule out the necessity for expansionary fiscal policy. Likewise, Keynes and the proponents of the second school of thought emphasize the role of fiscal policy and direct job creation. They also acknowledge accommodative monetary policy as a vital supplementary policy.

Indeed, as Kregel (2011) has shown, Keynes in his *Treatise* was an early advocate of unconventional monetary policy, arguing for extraordinary measures and highly accommodative monetary policy, including very low interest rates and large-scale asset purchases. For his part, Krugman (2007) doubts that accommodative monetary policy alone cannot revive an economy facing a liquidity trap. Krugman (2007) writes: “[D]o I believe that monetary policy was helpless in the 1930s? Yes, I do. At the beginning of the Depression, expansionary monetary policy might have averted the worst. But after the banking crisis had run its course, and interest rates were almost zero, what could open-market operations have accomplished? They would simply have pushed cash into idle hoards, as happened in Japan in the late 1990s.”

## Section IV: Conclusion

Japan remains in a liquidity trap. Monetary policy action alone will not overcome this liquidity trap. Japan needs prudent, effective, and efficient fiscal policy to enhance productivity, foster real wage growth, restore export competitiveness and support resilience in effective demand. Rise in real aggregated employee income is necessary for strong and sustained economic growth in Japan. The authorities have postponed the planned tax hike from Oct 2015 to Apr 2017. However the idea of a tax hike is premature as growth is still soft. Headline and core inflation will decline notably in the coming months as the effect of last year's tax hike wanes. The Bank of Japan is likely to be forced to undertake additional quantitative easing. The question of exit is not really relevant at this time. JGBs' nominal yields will stay low due to zero interest rate policy, qualitative and quantitative easing, very low observed inflation, low inflationary expectations, and persistent deflationary pressures, and global economic and financial conditions that are exerting downward pressure on long-term interest rates in most advanced economies. An examination of the theoretical literature suggests that the neoclassical economics is largely unable to explain the existence of a liquidity trap let alone its persistence.

Modern mainstream macroeconomics has made valiant attempts to cope and come to terms with liquidity trap. Indeed modern mainstream macroeconomics has made some advances. However, it is still entrapped by the limitations of quantity theory. In contrast Keynes's original analysis of liquidity trap still provides a solid basis for understanding Japan's many aspects of liquidity trap. Modern Keynesian perspective builds on Keynes's foundations and may offer a richer understanding of the causes of the Japan's liquidity trap and appropriate policy measures for reviewing growth. Keynesian measures of countercyclical fiscal policies and proactive employment polices including direct public sector employment and state-backed private sector employment would be appropriate. Of course it is true that Japan faces not only problems of effective demand but also structural challenges primarily due to its unfavorable demographic trends and various constraints imposed by cultural, social, and geopolitical institutions and real

resources. Going forward, Japan needs to undertake appropriate structural reforms while ensuring that effective demand is revived through supportive fiscal and full employment policies.

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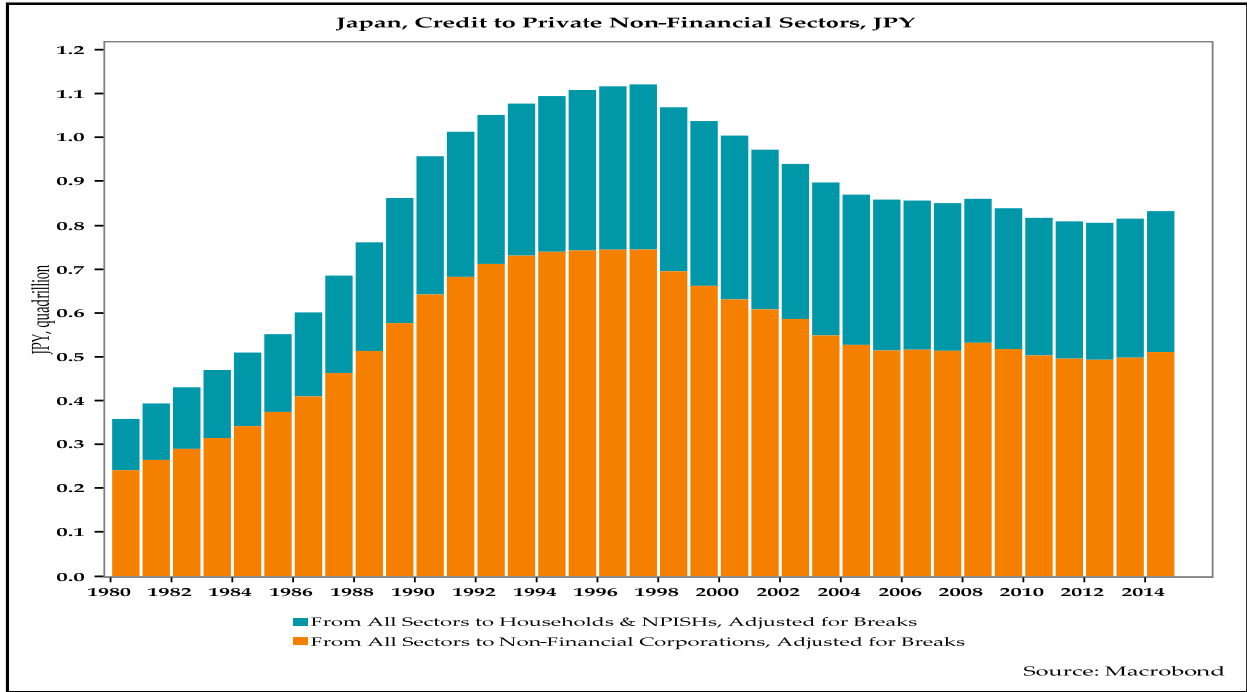
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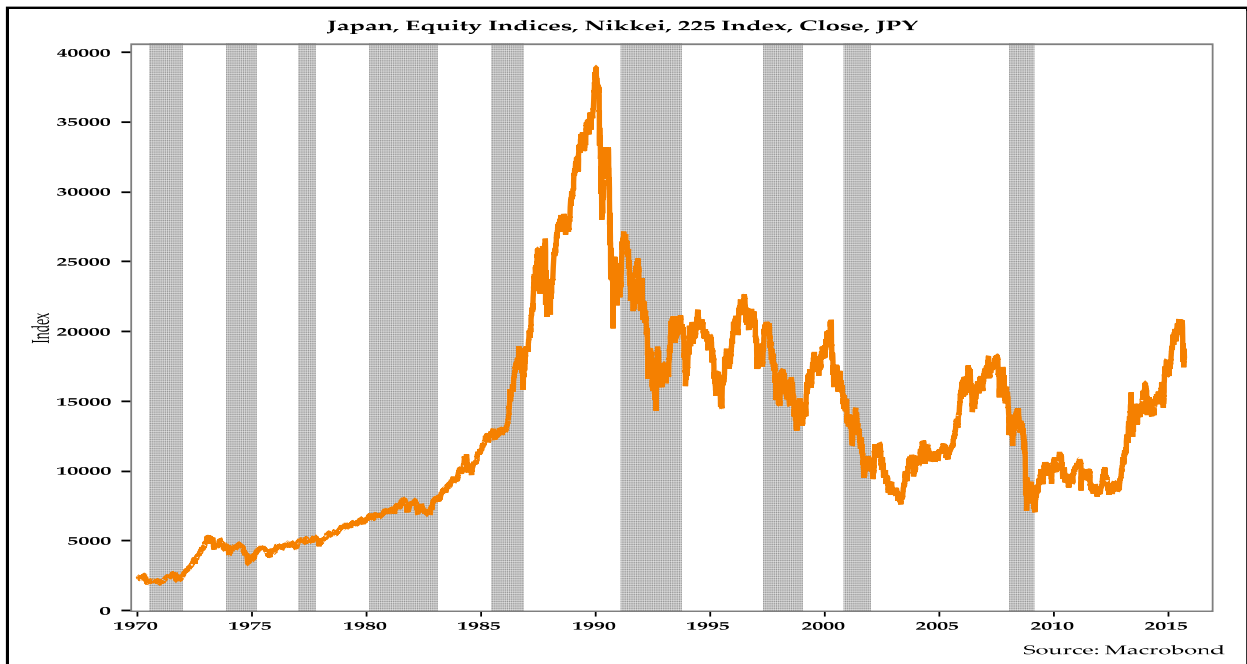


## Tables and Figures

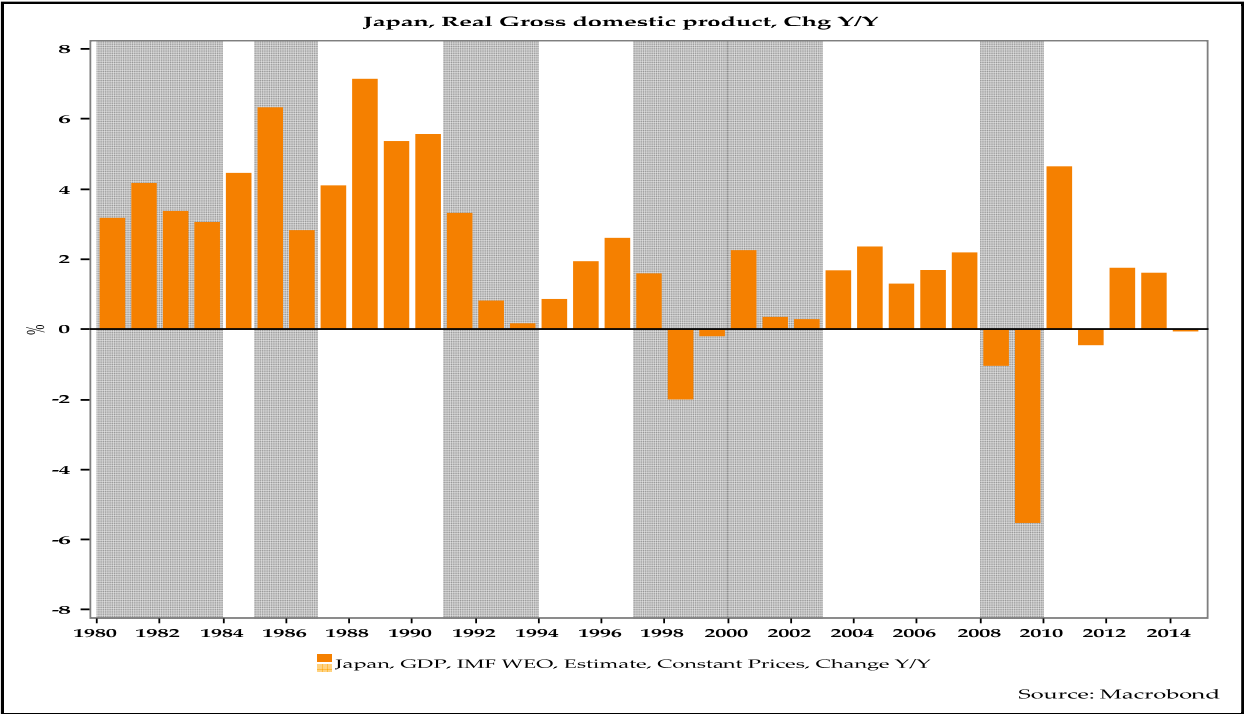
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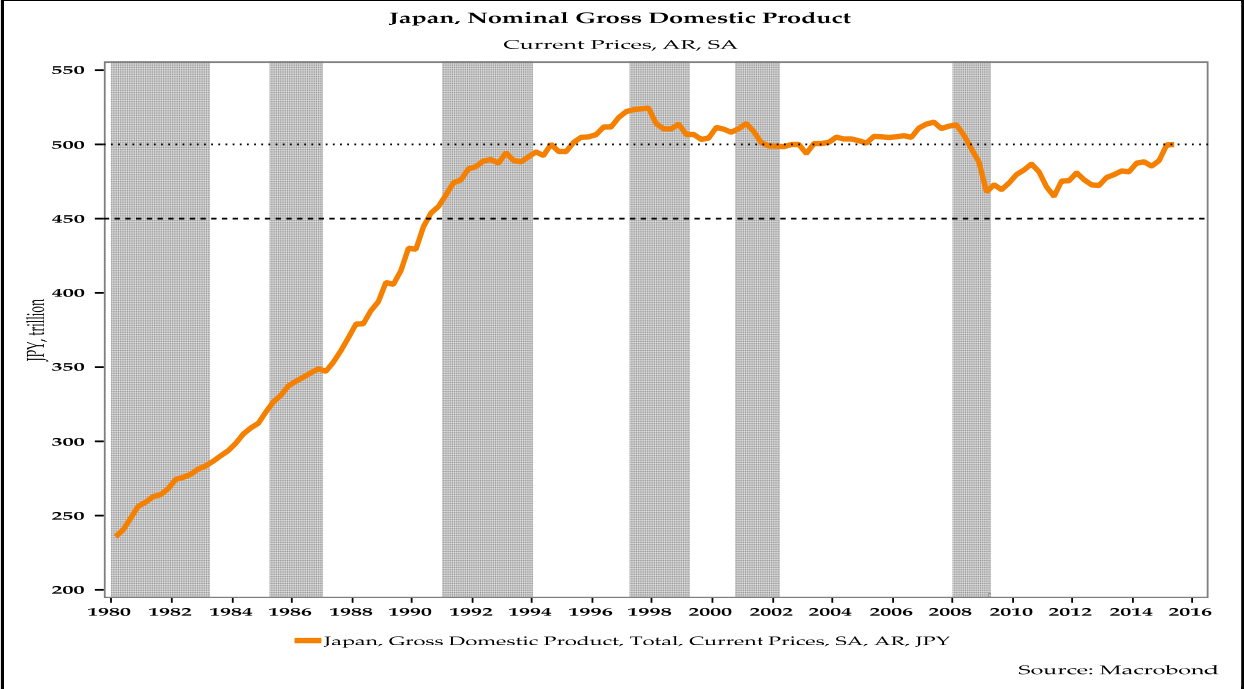
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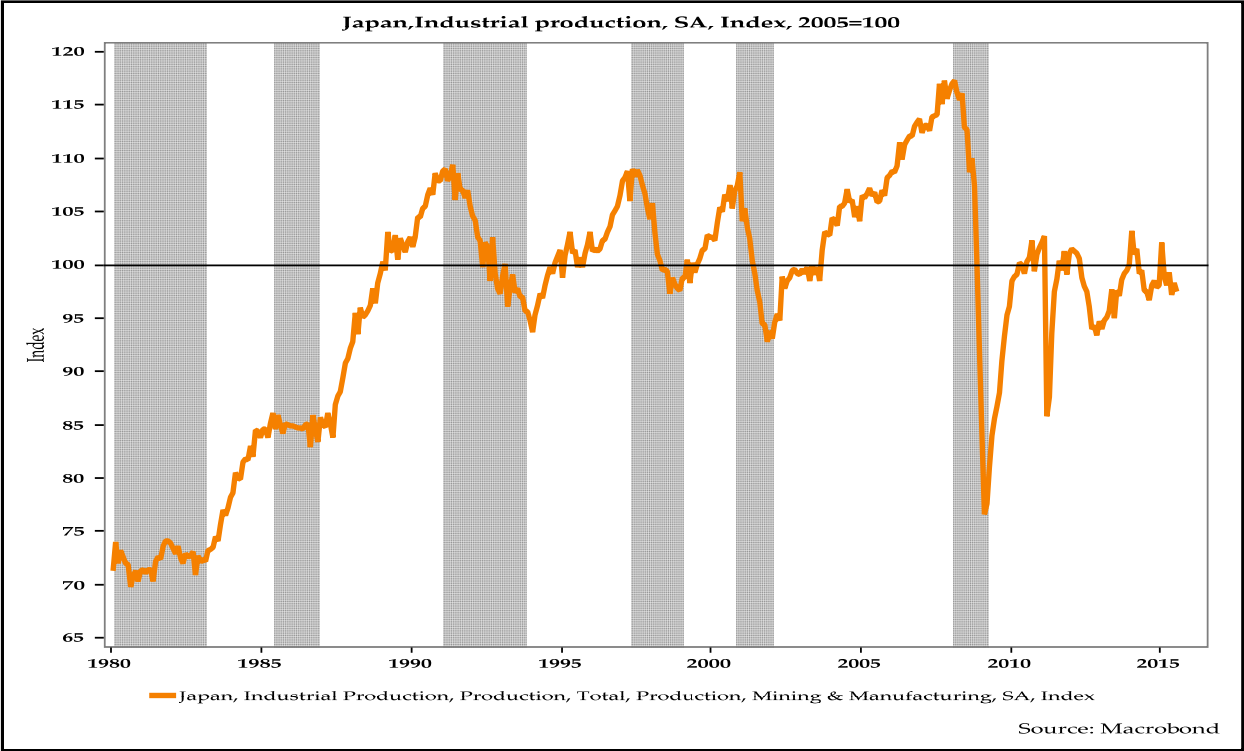
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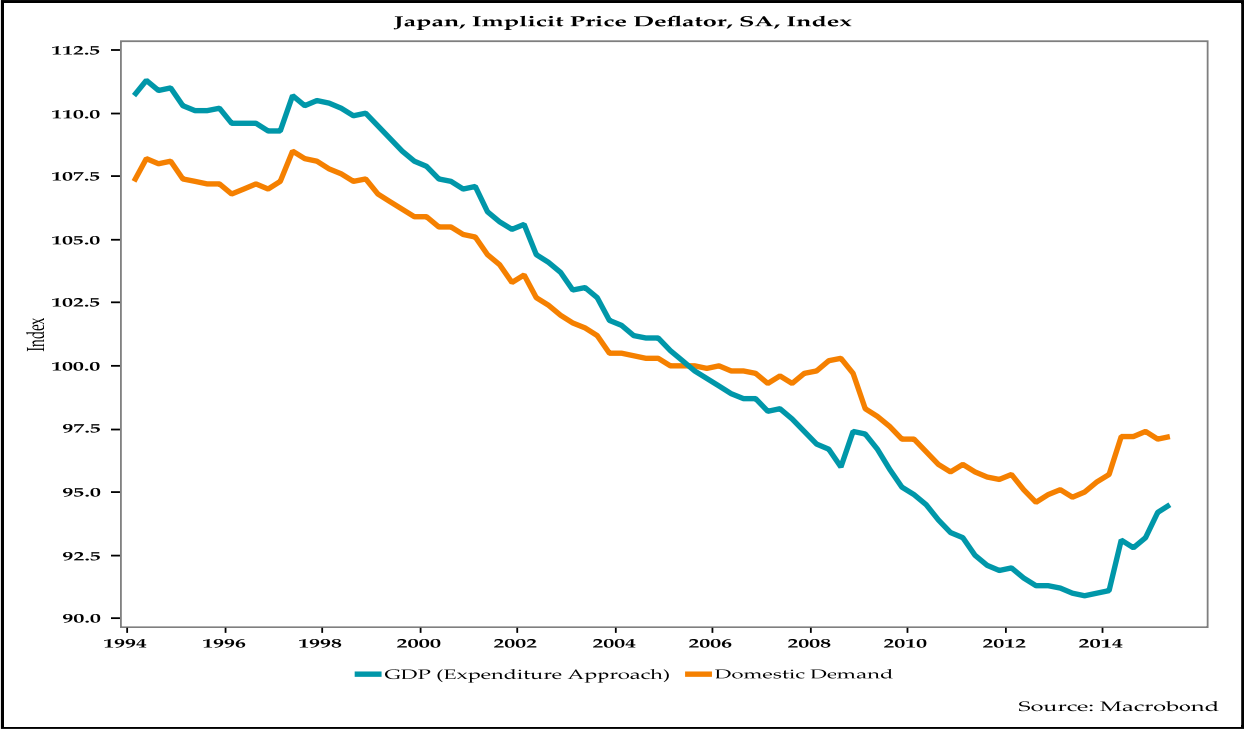
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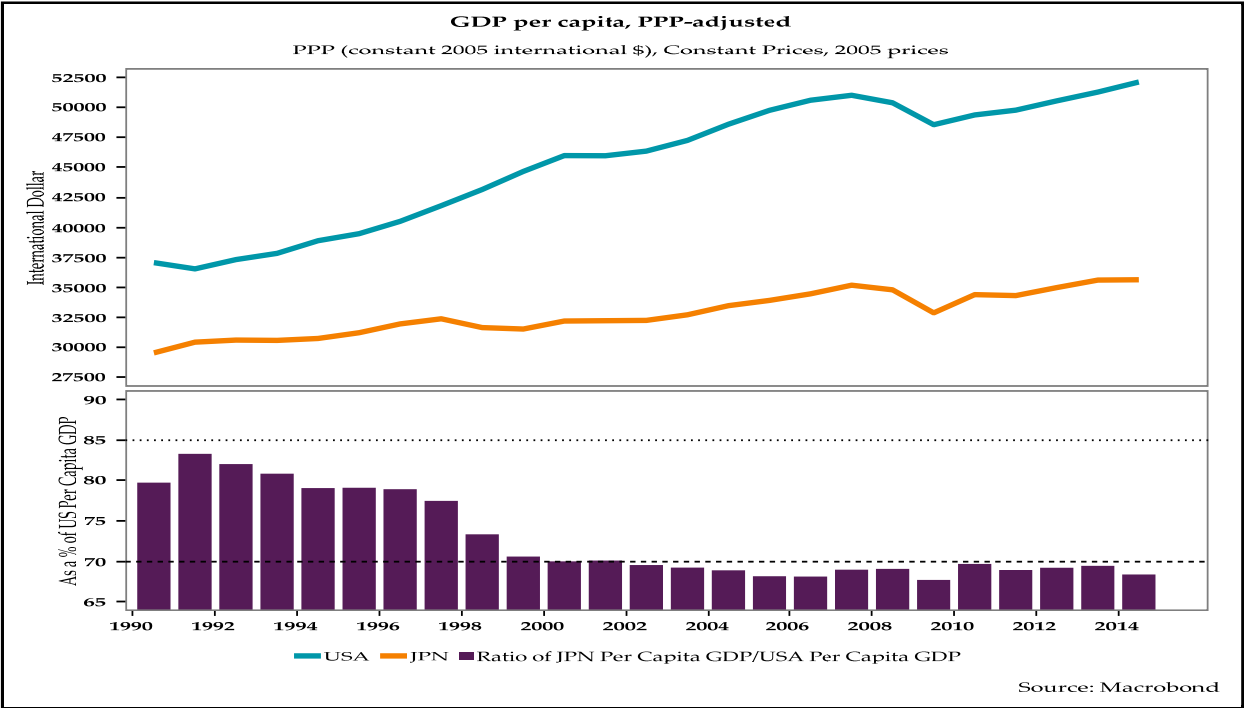
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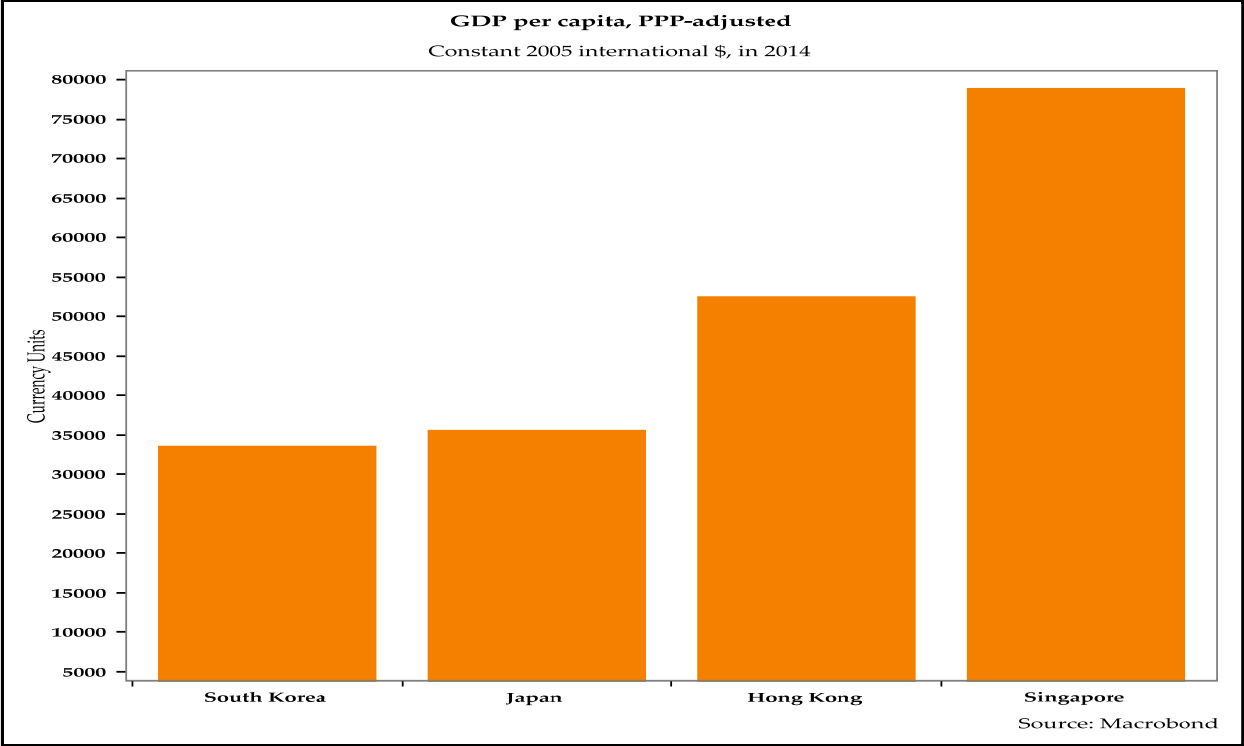
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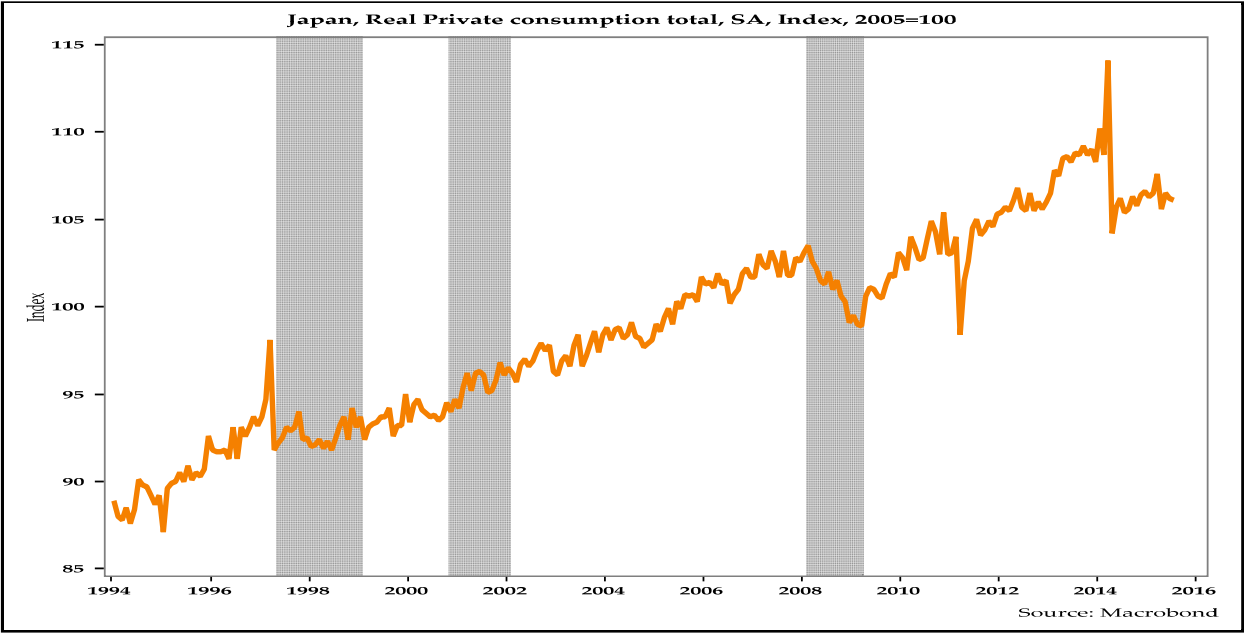
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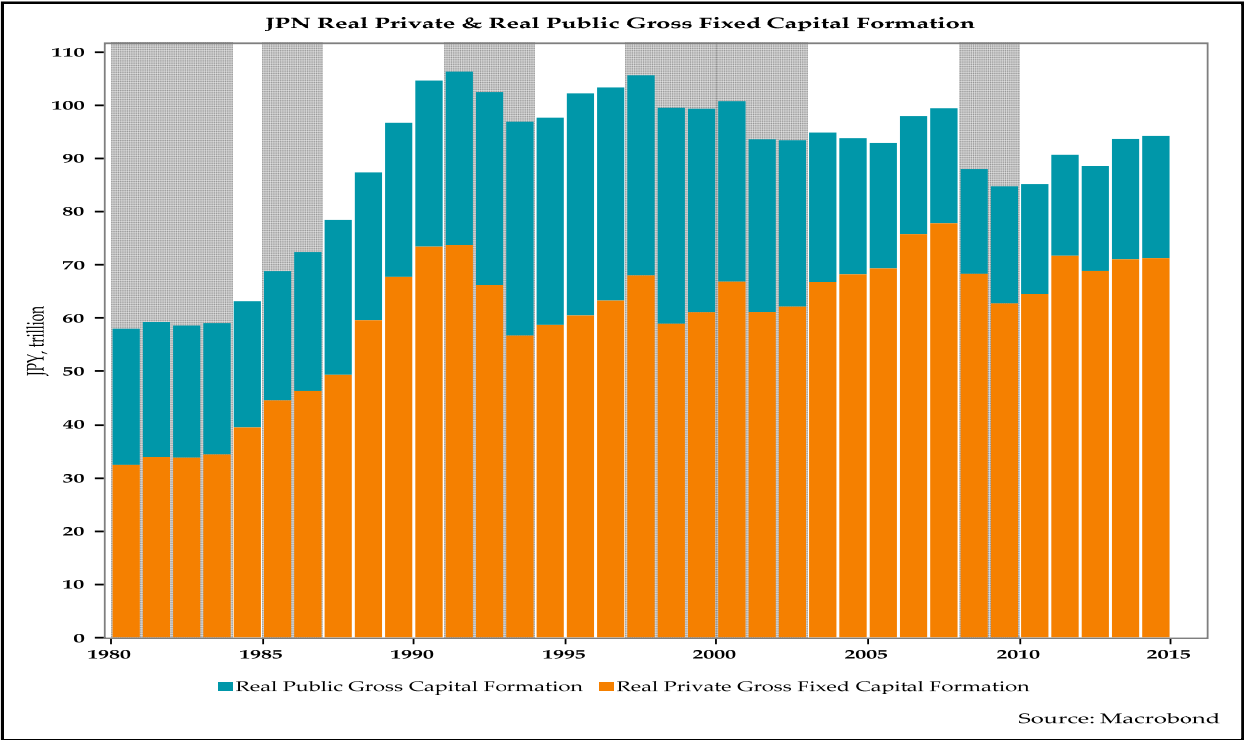
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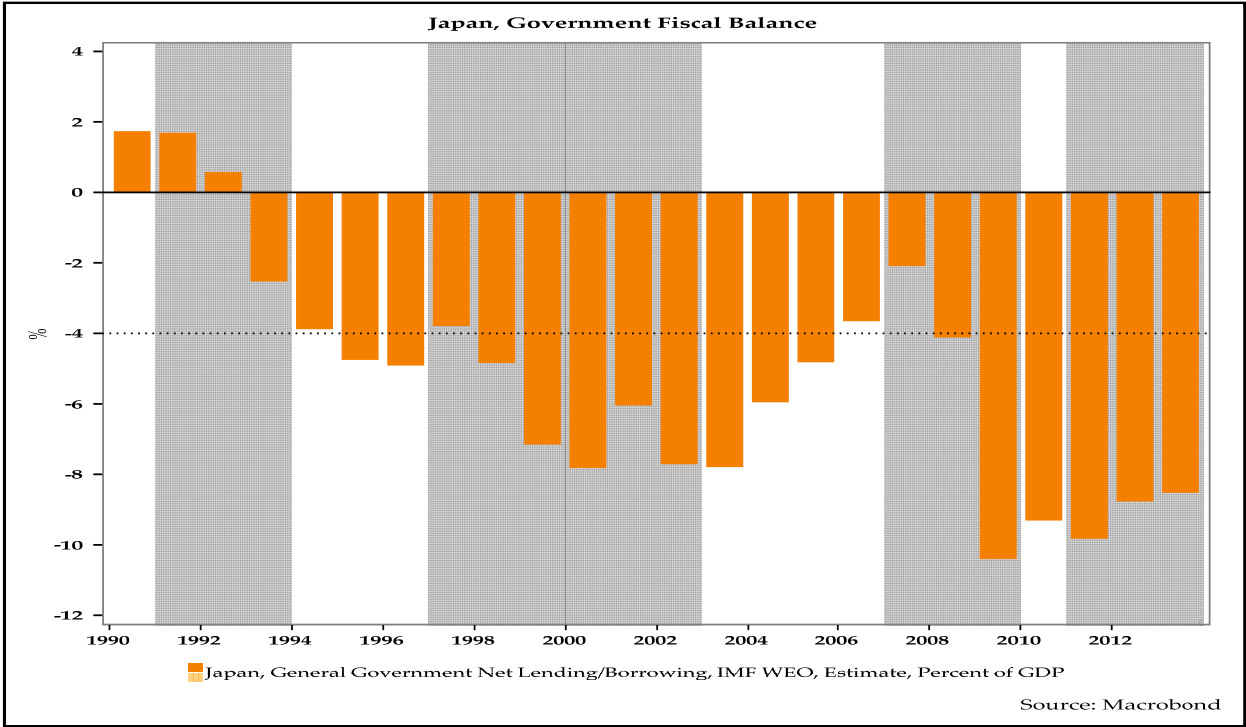
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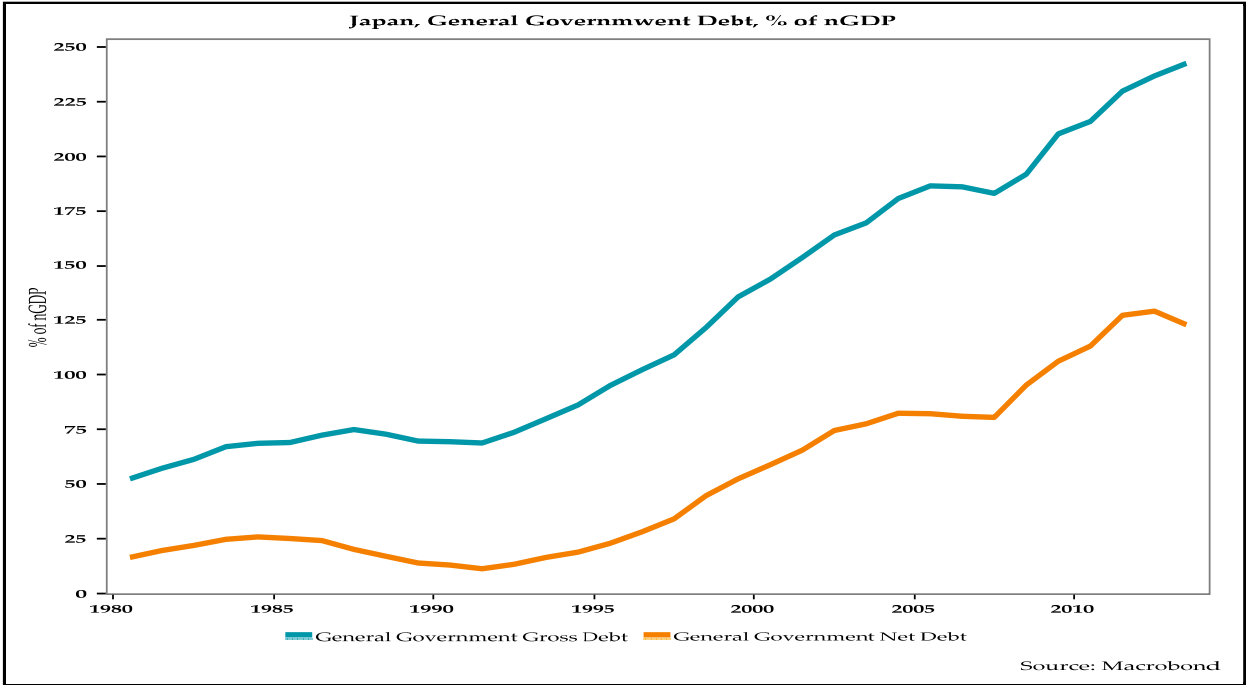
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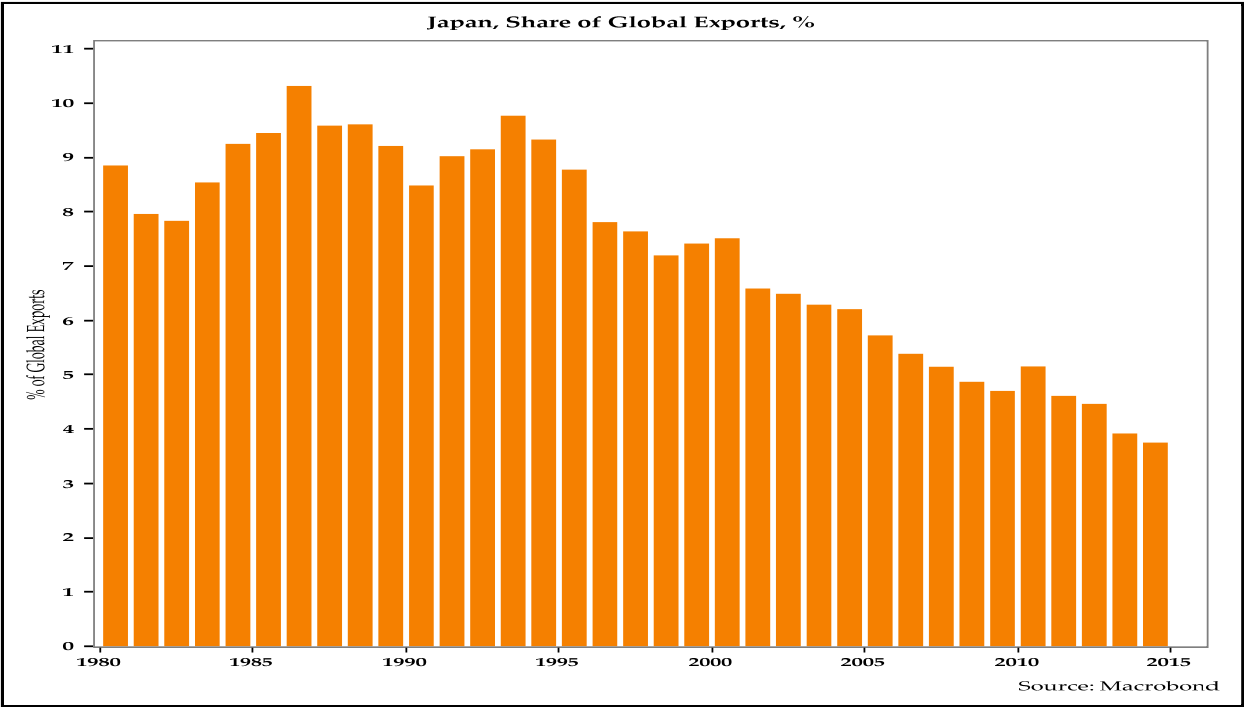
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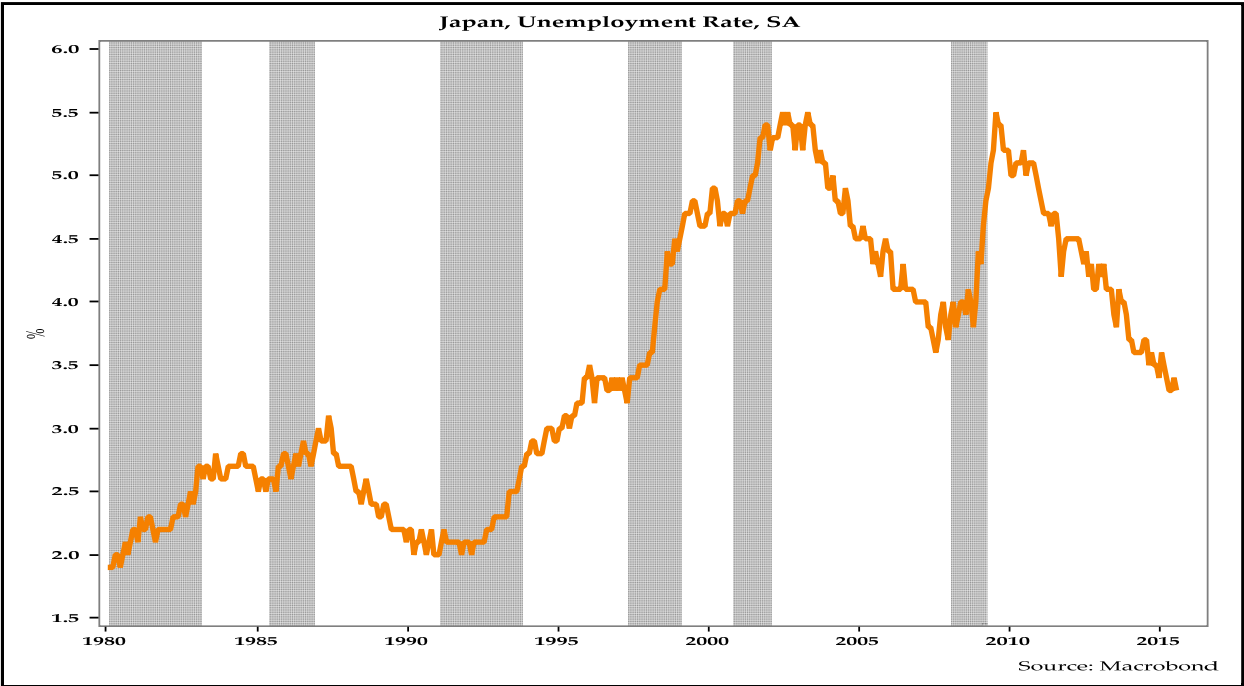
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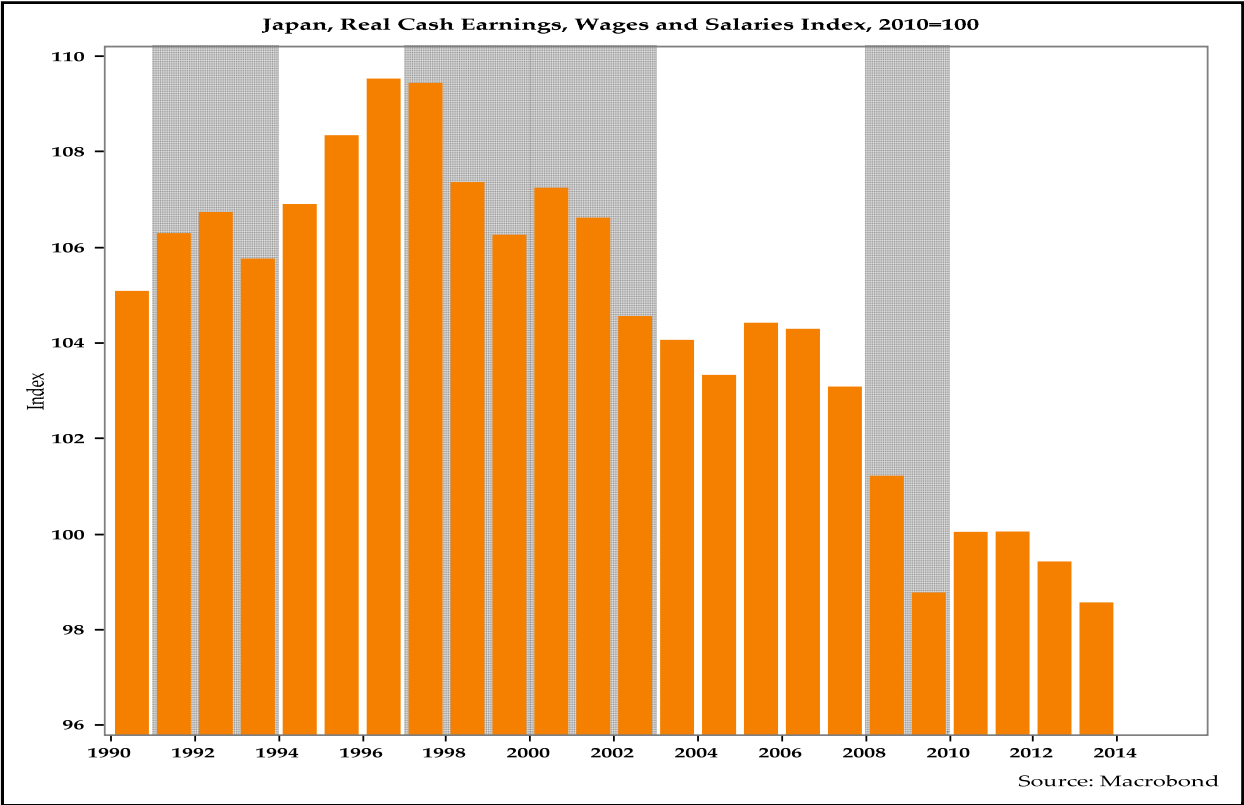
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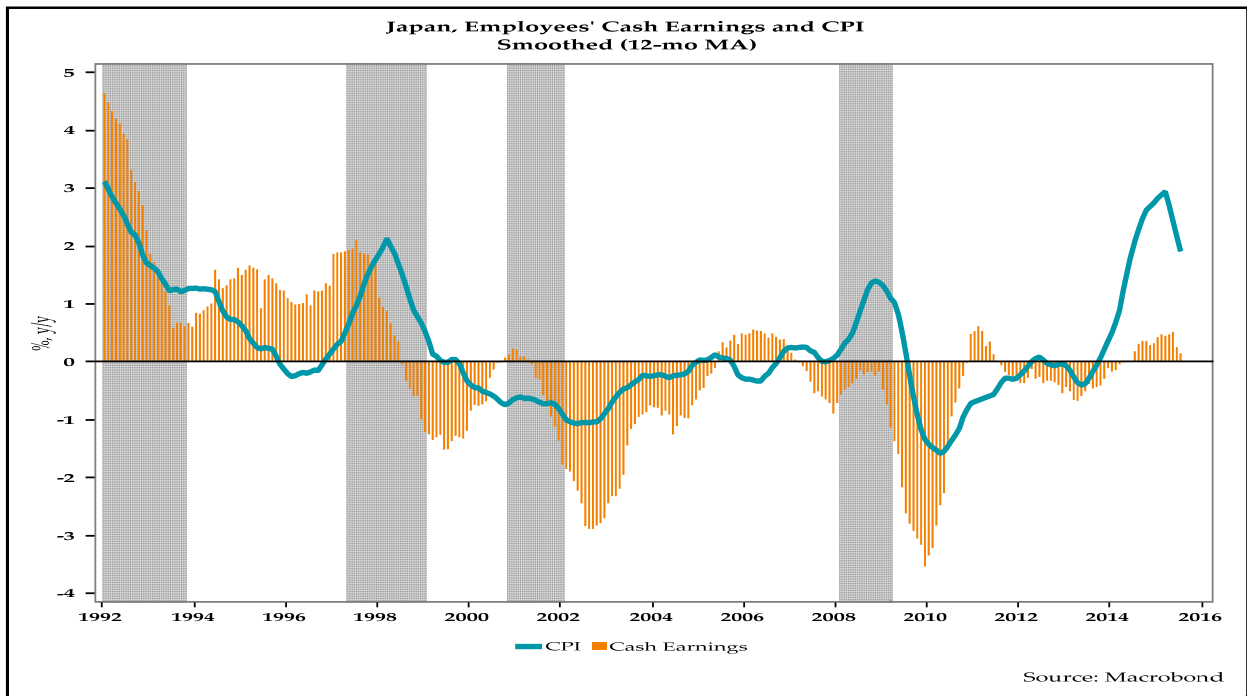


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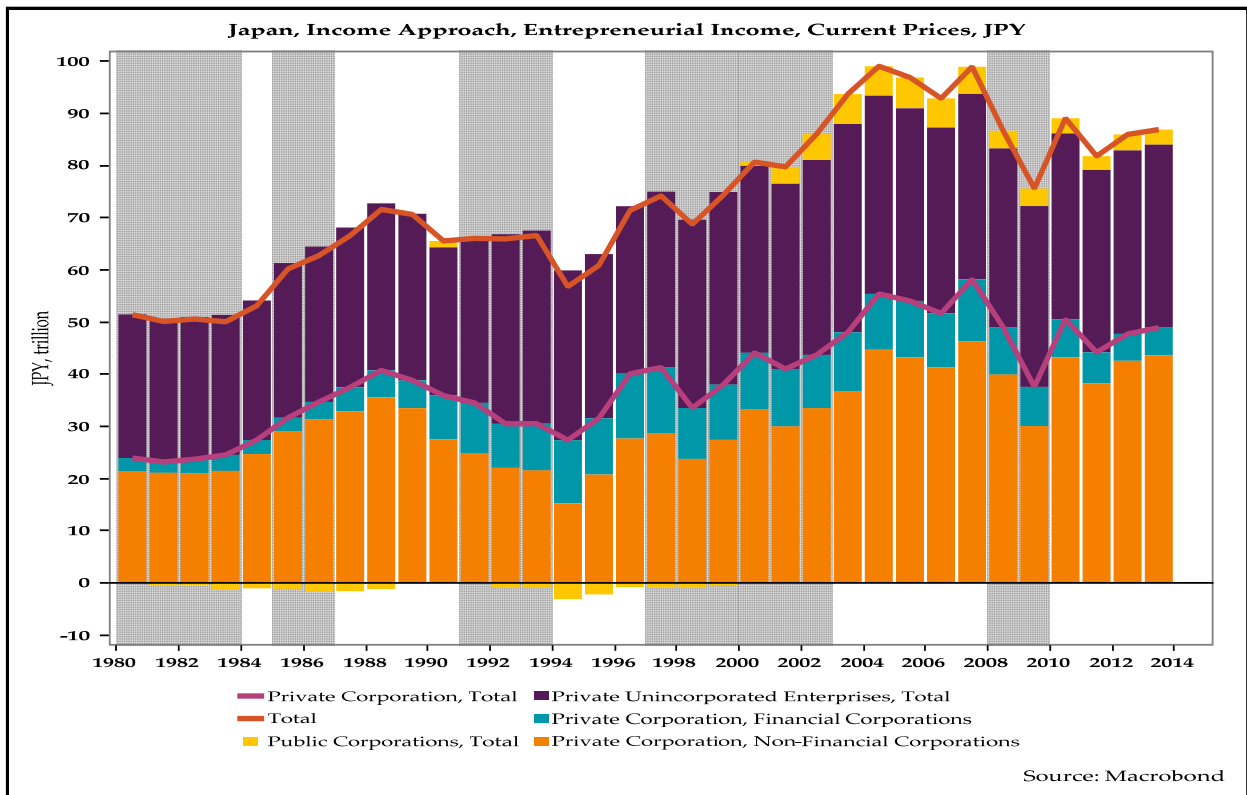




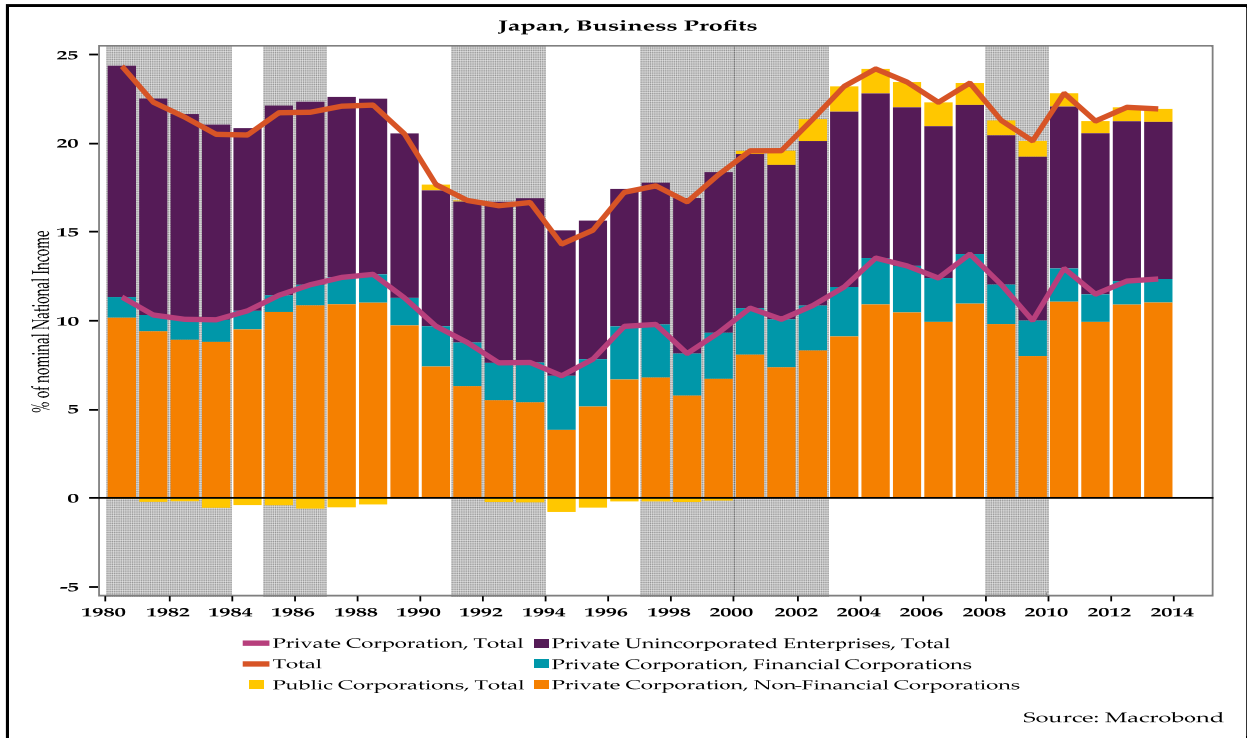
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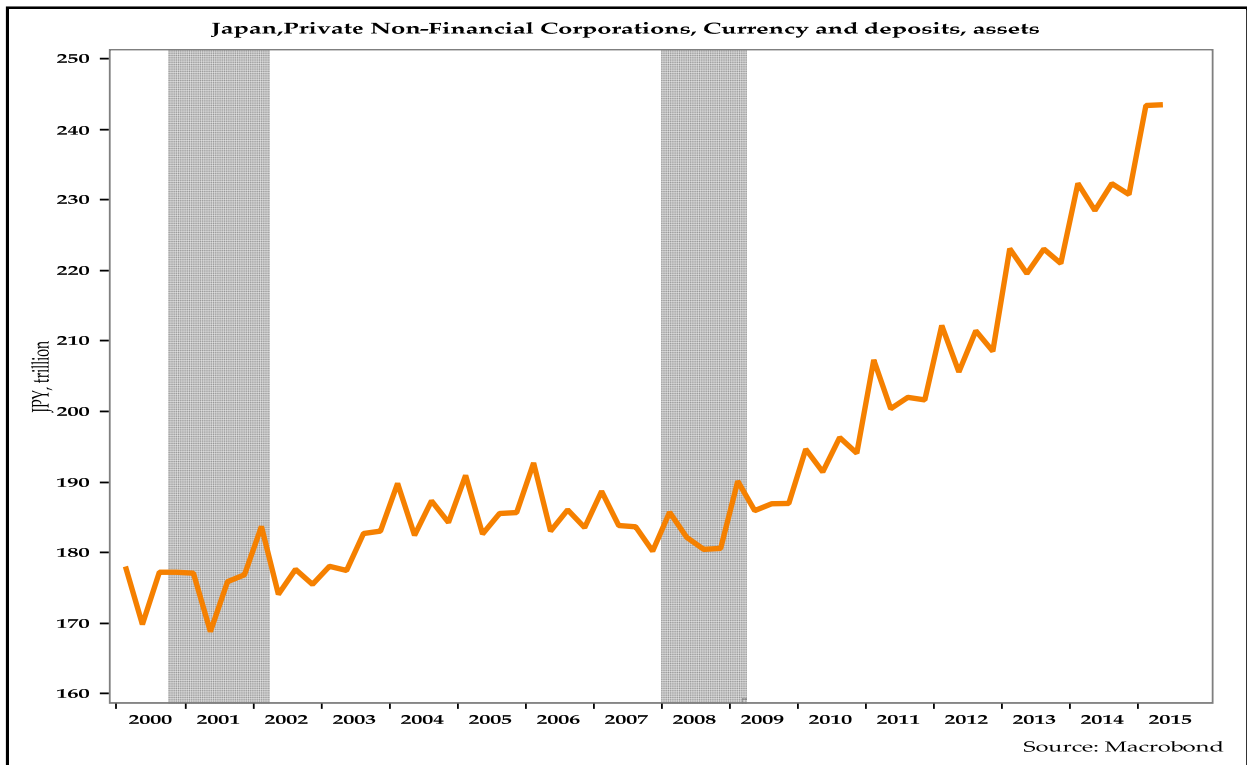
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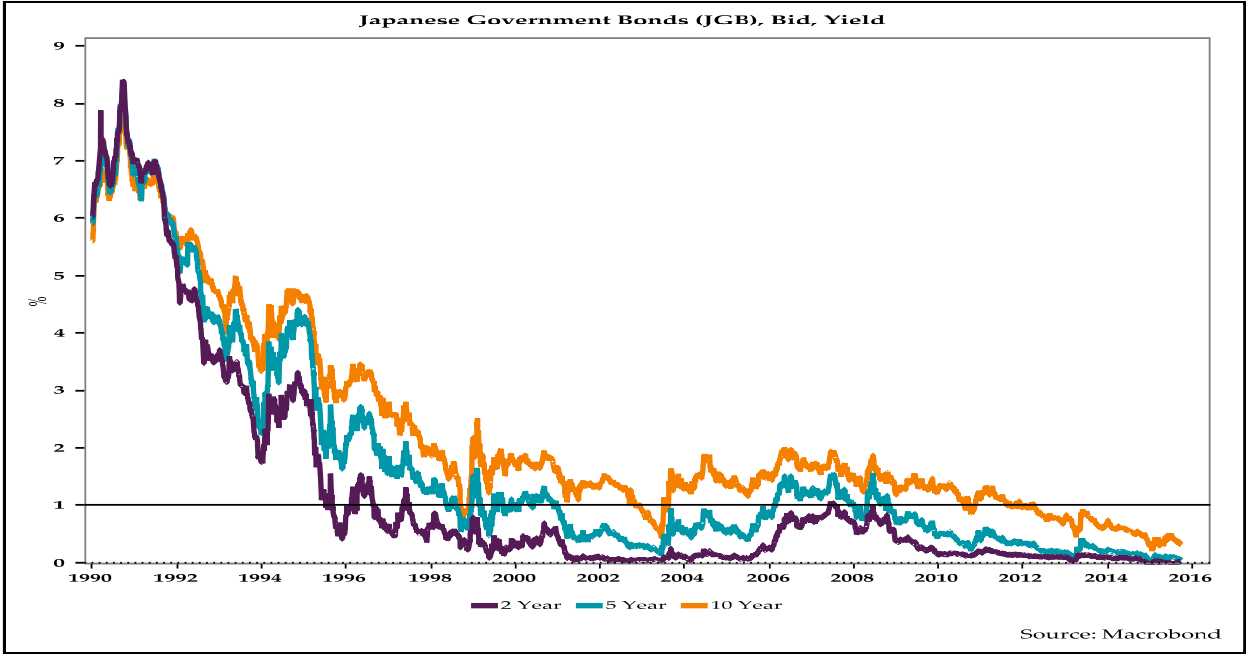
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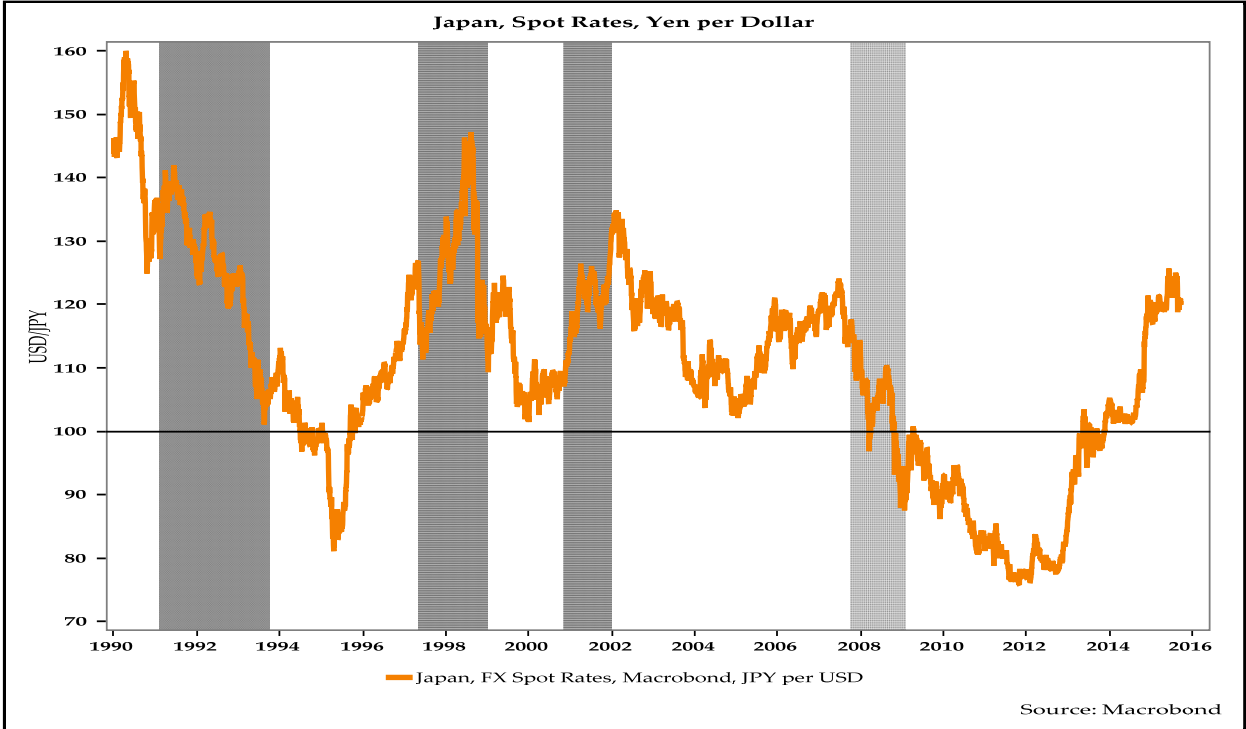
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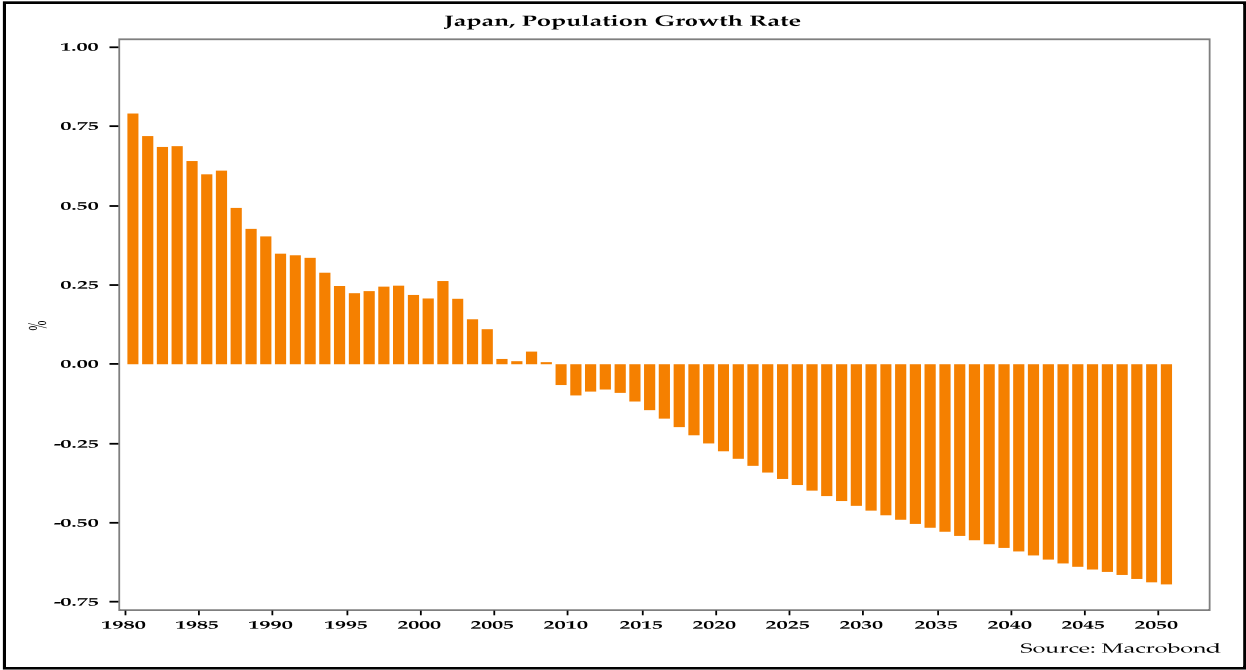
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