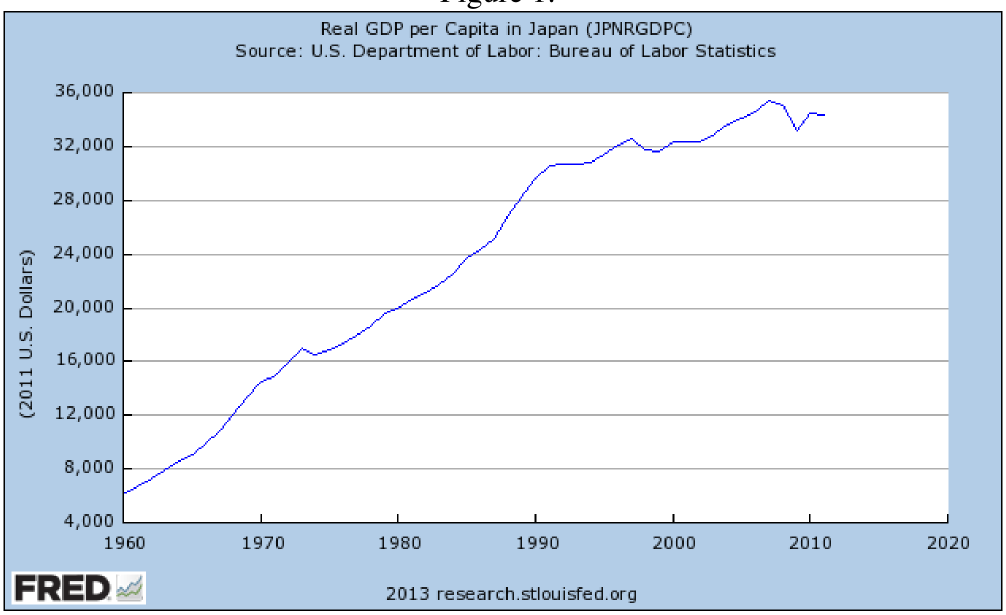
Japan[1]

These notes consider the case of Japan. Although Japan, like almost all developed economies, endured recession in 2008, its problems are widely seen to have begun much earlier. Until about 1990, Japan experienced rapid economic growth. During the 1980s, it served the role of economic bogeyman in the United States, a position currently held by China. There was widespread speculation that Japanese per capita GDP would catch and eventually surpass that of the United States.

But that did not happen. Around 1990, Japanese growth slowed and has remained low ever since. The 1990s came to be known as the "lost decade." Japanese growth did not, however, pick up in the 2000s. Arguably, another decade plus has been lost. The following graph shows Japanese real GDP, note the flattening around 1990:

Figure 1:

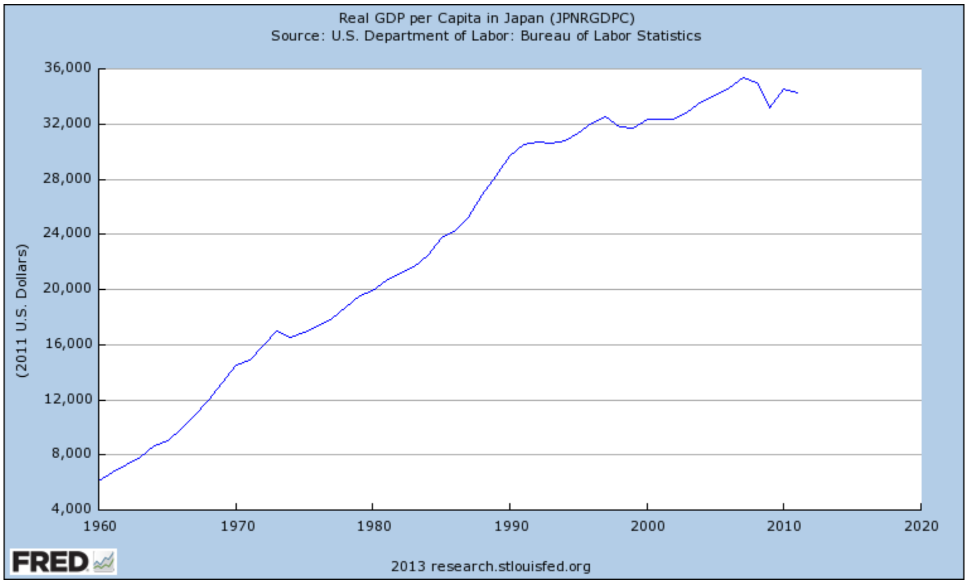


Are the Lost Decades a Myth?

There are a few factors that should make us look deeper than simply looking at real GDP. Like many developed economies, Japan has experienced reduced fertility in recent decades. Unlike many other countries, however, Japan has experienced low levels of immigration. As a result, its population growth rate has decreased dramatically and is now actually negative. We should thus adjust for this by examining real GDP per capita:

[1]These are undergraduate lecture notes. They do not represent academic work. Expect typos, sloppy formatting, and occasional (possibly stupefying) errors.

Figure 2:



The reduction in GDP growth (the slope of GDP) is less dramatic but still significant.

Japan has also experienced a significant increase in life expectancy from 78.8 to 83.0 years.[2] The fraction of its population that is retired has thus increased. We thus look at GDP per hours worked. A reduction in GDP per hours worked suggests a decline in productivity:

Once again, the graph displays a notable inflection around 1990. It is thus hard to dispute that something fundamental happened around 1990.[3] While possibly overstated, the Japanese economy has performed consistently worse than it did prior to 1990.

That Japan has done much worse since 1990 does not mean that in absolute terms Japan is doing poorly. It remains a very wealthy country with high life expectancy, low unemployment, and kick ass food.

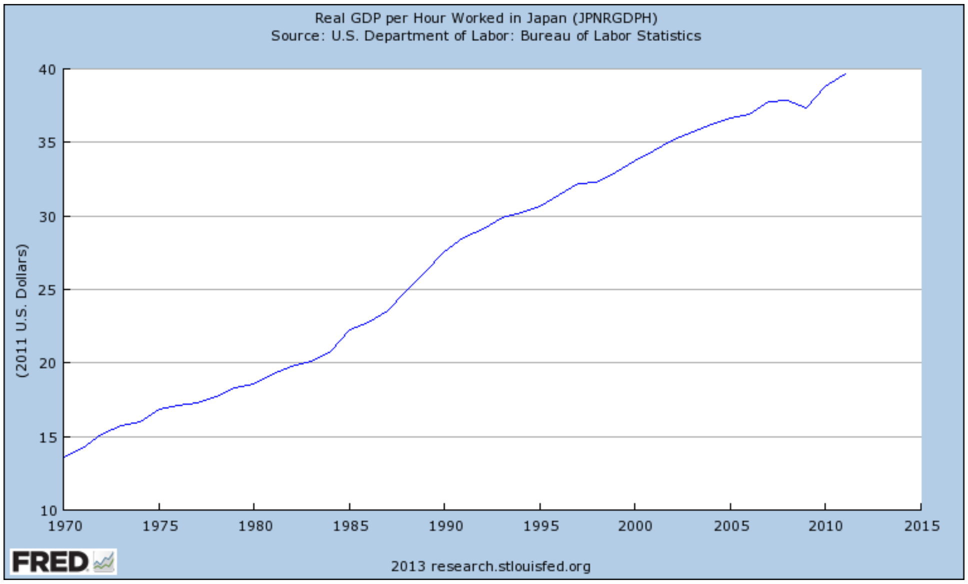
Low fertility rates and high life expectancy, along with low levels of immigration, have put Japan's pension system under intense pressure. It is expected to drive large fiscal deficits indefinitely.

A Burst Asset Price Bubble

[2]See Fingleton, Eamonn, January 6, 2012 , "The Myth of Japan's Failure." *New York Times*. This article argues that Japan's economy has not performed poorly relative to the rest of the world since 1990 and that the Lost Decades are thus a myth. While it raises interesting points, I was unconvinced.

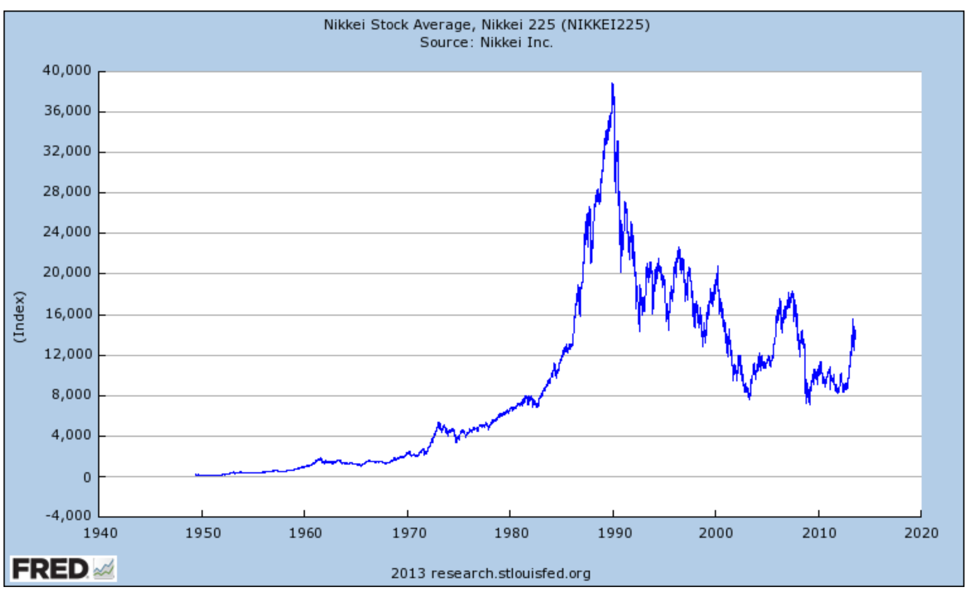
[3]A constant trend would not disprove the idea of a lost decade. If an adverse shock increased unemployment in the long term, we would expect reduced GDP even if GDP per hour remained constant.

Figure 3:



Japan's problems seem to have begun with the bursting of a dramatic real estate bubble. This bubble affected both stock and real estate prices. The following chart shows Japan's Nikkei 225, its main stock index:

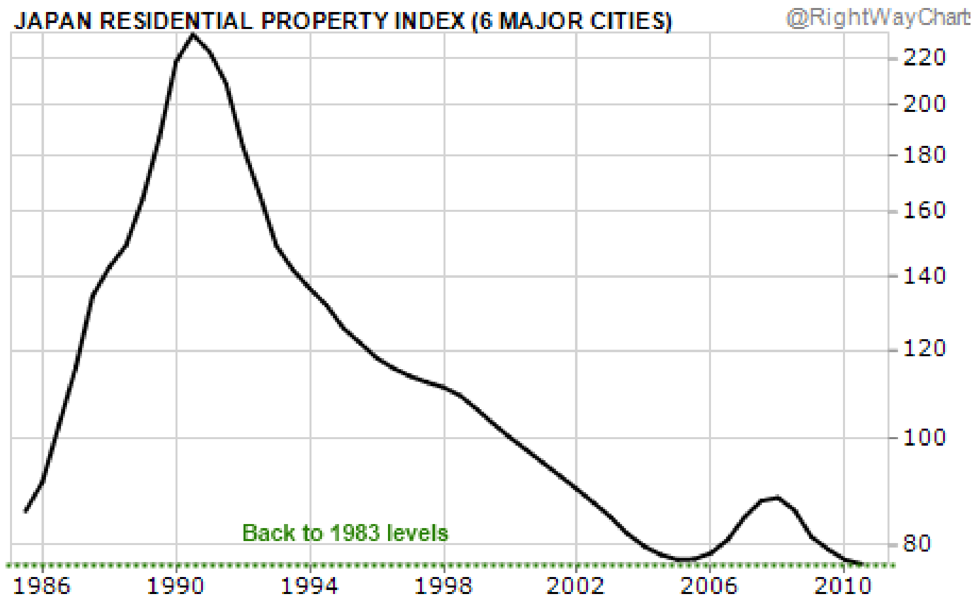
Figure 4:



The Nikkei literally peaks (38,915.87) on the last trading day of 1989. It bottoms out at 14,485.41 in 1995. The magnitude and timeframe of this decline dwarf that of the Dow Jones during the recent recession.

We see a similar story for Japanese housing prices. The following chart shows an Index of real state prices in Japan's six largest cities.[4]

Figure 5:



Again, the decline is larger than what we have experienced in the United States. Starting in 1990, Japanese housing prices decline for 15 years and fall to their 1983 levels.

The basic story is thus familiar. A severe decline in asset prices causes debt-deflation and possibly prolonged stagnation. And Japan has struggled with periods of deflation since 1990, as shown in yet another line chart:

The big question, however, is why policy or other factors have not allowed Japanese growth to recover for such a long period of time. And Japanese policy makers have tried. We now consider this policy response.

Japanese Policy

The basic response of the the Bank of Japan has been to lower interest rates:

Note that the Bank of Japan raised rates prior to 1990. This is often cited as a cause of the burst asset price bubbles. After 1990, the Bank of Japan lowers rates and they have now been at very low

[4]Source: drhousingbubble.com

Figure 6:

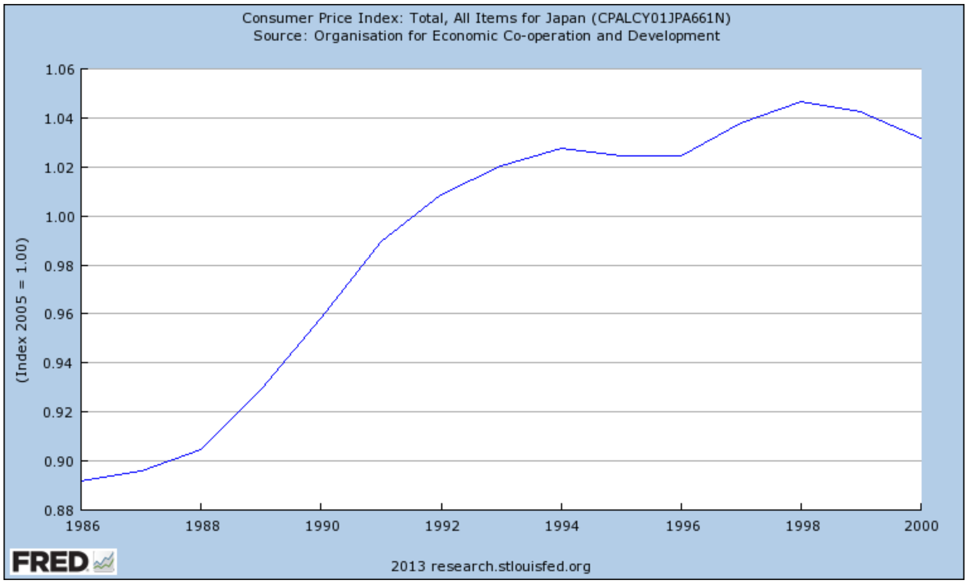
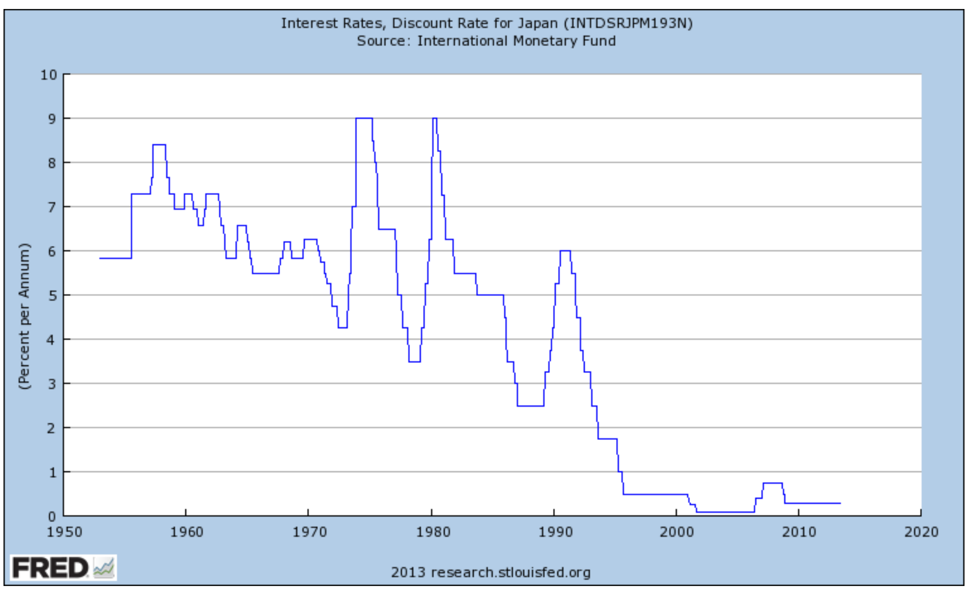


Figure 7:



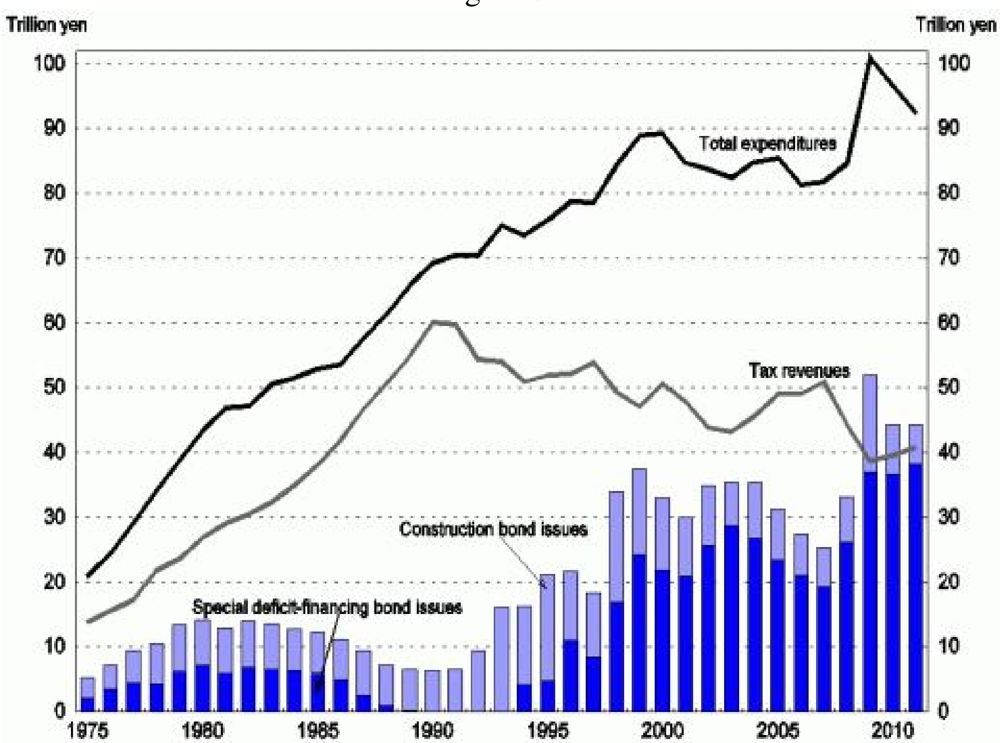
levels for over 15 years. It thus seems clear that Japan has been stuck in a long lasting liquidity trap. The Bank of Japan has been criticized for not resorting to many of the non-conventional measures carried out by the Federal Reserve in recent years. Jim Bullard, President of the St. Louis Fed, made the following illustrative comment:[5]

[5]See Jeff Kearns and Jeff Black. May 21, 2013. "Feds Bullard Says ECB Needs Aggressive QE to Avoid Japan Fate." *Bloomberg.com*.

They just stayed at zero for 15 years thinking that eventually they would come out of that equilibrium and it never happened, so now theyre having to take more extreme measures

One solution to a liquidity trap is expansionary fiscal policy. And the Japanese government has tried this as well.

Figure 8:



Unsurprisingly, this policy has led to major increases in Japanese government debt. The current gross public debt is above 250% of GDP. Net public debt (which excludes government owned financial assets such as the Bank of Japan's U.S. Treasury holdings) is over 140%. Despite these high levels of debt, Japan does not seem to be in immediate danger of a sovereign debt crisis. They do, however, call into question the ability of Japan to engage in further significant expansionary fiscal policy.

Expansionary fiscal policy has not allowed Japanese growth to recover. One explanation is that the initial expenditures may have been poorly directed. Much spending was directed at bailing out "zombie firms" and "zombie banks." These are entities that are too debt ridden to function well but require below market rate loans just to keep operating. They thus suck the blood of living, healthy firms possibly leading to more zombies.[6]

[6]See Ricardo J. Caballero, Takeo Hoshi, and Anil K Kashyap. 2008. "Zombie Lending and Depressed Restructuring in Japan ." *American Economic Review*, Vol. 98(5), 1943-1977.

Figure 9: Japan in 1989

Abenomics

Prime Minister Shinzo Abe has enacted a new plan to try and lift Japan from its deflationary trap. It consists of three "arrows."

1. More aggressive monetary policy. Although the Bank of Japan has long lowered interest rates to near zero, it has generally been less aggressive than the Federal Reserve at employing non conventional monetary policy. Abe appointed a new Governor to the Bank of Japan and it is now publicly promising to do whatever it takes to raise inflation to a 2% target. In practice this means quantitative easing and a dramatic increase of the money supply and Bank of japan's balance sheet. This program, sometimes called QQE, is buyinga ssets at ar tate of about $700 billion per year as of December 2015.

2. More expansionary fiscal policy. Abe has proposed increased expenditures, many devoted to improving Japanese infrastructure. The hope is to avoid the zombie problem and that Japan will be able to bear more debt.

3. Structural reforms. These remain vague. One specific policy that Abe has proposed is increased labor market flexibility that would allow firms to fire employees simply because it is profitable.

Abenomics initially has some success. The Nikkei 225 increased by 80% in the first half of 2013 (see Figure 4), and growth and inflation both increased. But the Japanese economy has not performed nearly as well since that time. Inflation has not returned to 2% and growth continues to be weak.

There are a few reasons for the mixed, at best, sucess of Abenomics:

i. The effectiveness of QE for all countries remains unproven. In neither the U.S. nor Eurozone, has it proven very effective at raising inflation to 2%.

ii. Expansionary fiscal policy doesn't generally work well when it results in a decline in perceptions about credit worthiness. In September 2015, S&P downgraded Japan's credit rating as its debt mounted. A Japanese sovereign debt crisis would be potentially calamitous.

iii. Abe has not been succesful in implementing significant structural reforms.

iv. As the Chinese economy has slumped, this has hurt Japan's important export sector.

It is important to note, however, that there is much about the Japanese economy to like. Unemploymnet has fallen to 3.1% as of October 2015, a very low level. And whuile GDP growth remains sluggish, it is still very high.

Figure 10: Japanese Prime Minister Shinzo Abe

Other Explanations

The timing of the asset price declines, coupled with good theory, strongly suggests a causal relationship. We should, however, consider some other factors that may also be contributing to Japan's perceived stagnation:

1. Convergence. Recall the basic Solow Model. It predicts that countries that are below their steady states levels of capital and output will experience increased growth as they converge. Perhaps some

of Japan's declining growth rate is due to this effect. Recall that Japan's economy was devastated by their defeat in World War II and this likely caused the very high growth rates in the following decades.

2. The Wrong Benchmark. During the 1980s, Japan experienced the upside of asset price bubbles. This may have led to inflated and unsustainable economic growth. If so, then we should be wary of comparing Japanese macroeconomic data to those of the 1980s.

3. Structural Change. For many decades. Japanese growth was export driven (recall that Japanese cars were once seen as low quality but inexpensive alternatives to American cars). But as wages rose and other economies, such as China, emerged, Japan may have lost its comparative advantage at producing many goods for export. Japan may be struggling to transition to a more modern developed economy.