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Introduction - Why The Past Should be Studied

A1: Why is it important to study the past
Approaching and analyzing the staggering past of the Japanese economy inevitably involves introduction to the grande history of the global economic system. The establishment of the Bretton Woods system, even after the system came to its failure, had transformed the global financial market from a system of product and goods into a system of intangible influences. The rise of Dollar as the first global reserve backed by sovereignty of the United States had arguably given large room for risk-free fluctuations and pushed the boundary of global aggregate output both on a tangible and financial account. The first appearance of the modern financial market means the end of the classic, simplified economic model of demand and supply and the emergence of a global macro economic structure that accompanies with large influx and outflow of money. Money, specifically the fluctuations caused by it, is bonded with wealth, assets, negotiation, trade, and wellbeing. Economy lies explicitly as the backbone of a nation and the UN Framework of sustainable development goal of promoting decent work and growth. Therefore, it is impartial and central to study past fluctuations of the macro market to understand the reasons why the system failed, and how the government reacted and can react to these events: Analysis of policy used to address highly volatile economic phases is valuable source for future policy makers to take into account. This report specifically focuses on the quantitate easing responses that the Japanese government made following the burst of the Japan asset bubble. The notion connects tightly with SDG 8: Decent Work and Economic Growth as the usual victim of economic crises are innocent citizens whose income, health, employment, family, wellbeing, and overall survival is at stake.

Prerequisites - Basic Economic Concepts Discussed

Interest Rate (IR):
According to Economics by Ellie Tragakes: The cost of borrowing money. Determined by the central bank and by the current flow of money in the domestic market.

Broad Money:
According to Economics by Ellie Tragakes: Sum of currency outside of banks.

Reserve Ratio:
According to Economics by Ellie Tragakes: A percentage set by the central bank that forces all banks to not lend out a portion of each saving made in prevention for a systematic banking crisis.

Monetary Policy:
According to Economics by Ellie Tragakes: A form of macroeconomic policy that is conducted solely by the central bank. Targeting to shift interest rate and money supply to fine-tune inflation and exchange rate.

Quantitative Easing (QE):
According to Economics by Ellie Tragakes: A derivative of monetary policy conducted by the central bank to purchase tremendous assets from individual borrowing banks in effort to increase money supply.

Nominal GDP:
According to Economics by Ellie Tragakes: The value of all final goods and services produced in an economy in a given time period, usually one year. Nominal GDP calculates the value of the final product using the nominal price in that given year. Nominal GDP does not filter out the effect of inflation, thus making it valuable as the trend typically includes implication of market fluctuations.

GDP Deflator:
According to Economics by Ellie Tragakes: An index used to reflect the fluctuation of price levels in real GDP by selecting a base year for establishing a standardized measure of price level that is used to account for GDP in all following years.
Short Term (Long Term):
According to Economics by Ellie Tragakes: Time period where the price for production factor (labour, production site, raw material) is fixed, vice versa to derive long term.

Asset Bubble:
According to Bank of Japan, the asset bubble refers to a rapid rise in asset prices, the overheating of economic activity, a sizable increase in money supply and credit. The widely accepted time period for the JPY asset bubble ranges from 1980 to 1990.

Case Study - Japan, 1980-1990
To understand an economic crises is no easy task. Various factors have to be taken into effect while considering all the possibilities that have led to the ultimate burst. The proposal takes into account the most visible indicators for the wellbeing of an economy with statistics from the World Bank.

1. GDP
As indicated in the graph, Japan’s GDP has more than doubled throughout 1980 to 1990. The major slope change occurred at 1985 until the economy tipped at 1988. Indicating either a surge in the quantity of products produced domestically or high volatility of price level. The rapid jump of GDP was put on a halt by 1989. Indicating the first wave of impact after the implementation of reaction policies by the Japanese government. Since Nominal GDP does not take into account the change in price levels. GDP Deflator is then analyzed to provide a focused lens into inflation.

2. GDP Deflator
As indicated in figure 2, Japan’s GDP deflator has increased by over 12% in the given time period. It was put on a halt at year 1986. Indicating the buffering period of the economy. Inflation is still predominant as the deflator serves as an indicator for annual price level fluctuation. This can be corresponded with the emancipation of annual GDP indicated above. However, from 1988 to 1990. As deflator increased from towards 110. The outrageous growth of GDP was put on a halt. Indicating a growth in general price level accompanied by a retreat of real output produced. This suggests the manifestation of stagflation where positive inflation rate accompanies with negative output growth. This economic state is likely cased by a suspicious injection of money supply that succeeded in driving up price level while failed to incentivize growth and employment. To examine this, analysis on export statistics is
the most appropriate in examining exchange rate which is affected by the relative value of domestic currency to foreign ones.

3.1 Mechanism of quantitative easing, exchange rate, and price level explained

According to figure 3, as the supply of money is coined by the central bank, the supply curve for Japanese Yen (JPY) is represented by a vertical line. As the Japanese government exercises quantitative easing, the central bank purchases long-term bonds and various other assets from commercial banks in order to inject money supply into the macro market. This policy shifts Money Supply (MS) to the right, reaching a new supplied quantity, while the demand curve for money (MD) remains fixed. This indicates a decrease in interest rate from IR1 to IR2. The decrease means loans is now more accessible for investment and saving now becomes a less appealing option. All of the impacts above ultimately leads to the change occurring in figure 4:
Due to the shock of increase in investment, consumption and decrease in saving, the aggregate demand for Japan will shift to the right, creating a higher price level from PL1 to PL2 and output level Y1 to Y2. This phenomena was the ideal intention for quantitative easing, as the central bank aims to pull aggregate supply by large measures. However, inflation serves as a double blade sword. While the interest rate for JPY increases, its foreign exchange rate with other currency decreases due to a general rise in price levels and a relatively higher-valued currency. As indicated in figure 5:

3.2 Export to GDP ratio

In figure 5, the percentage of export as Japanese GDP has decreased for over 4% within 1986 to 1990. According to analysis posed in 3.1, this is the exact adverse effect of quantitative easing: The decrease in export due to increase in price level and exchange rate. What was intended to boost output, productivity and growth is now slowly dismantling the Japanese economy. A decrease in export leads to a decrease in real GDP, which can also be identified in Figure 1 as the decrease in export balanced out the increasing price level and inflation. Sustaining GDP level at a constant.

4. Broad money to total reserve ratio

To conclude, an analysis of reserve ratio statistic is appropriate in identifying the level of quantitative easing incorporated. The ratio gradually increased up until 1986 and dropped sharply in 1987, indicating an increase in reserve ratio and a decrease in the quantity of broad money. Indicating purchases made by government in an effort to inject money supply into commercial banks while lessening the limit for banks to lend in hope of motivating investment. The ratio then gradually changes concavity towards the original level before incorporating quantitative easing. Indicating a failure for government to control the outflow of cash and the state of the economy.

Figure 5 - Export of G&S as Percentage of Real GDP

Figure 6 - Broad Money to total Reserve Ratio
Evaluation - Weaknesses and Alternatives

The quantitative easing policy undertaken by the Japanese Government has inevitably came to a failure, as history suggested. The “lost generation” and the relatively low level of economic growth that followed in the decade after the burst of the bubble all points towards the fallible mindset undertaken by the Japanese government. Recalling the statistics, the 1980s Japanese government, either pushed by the urgency of the status quo or lacking futuristic analytics, failed to predict the long-term impact of quantitative easing. The highly new-classical mindset undertaken by the Japanese governed in believing that interest rate is the connecting mechanism between consumption and economic growth, made its heavy mark on Japanese citizens and consumers and integral parts of the economy. The money supply injected into the financial market failed to facilitate consumption and investment and adversely impacted economic growth. The idea of rational decision-makers was highly challenged, and the once-predominant economic and policy-making solutions was proven invalid. Below presents figure 5 that analyzes the reasons why quantitative easing failed and possible alternatives in aid of these defects.

![Inability to pull](image_url)

Interest Rate
- **CANNOT BE DECREASED BEYOND**
- Alternative: Direct Government Spending

Inflationary Pressure
- **DOUBLE BLADEDE**
- Alternative: Fiscal Policy for decreasing VAT rate and increasing progressive tax

Figure 7 - Keynesian Aggregate Supply Curve
The first issue proposed by data is the staggering fact that like every other monetary policy aiming to adjust interest rate, interest rate itself cannot decrease beyond 0. There is no alternative after the government has decided to set interest rate to 0 which rejects all possibility and the very nature of monetary policy. A possible alternative would be to use the money that Japanese government allocated for quantitate easing into investing into businesses, innovation, allocating efficiency, and production projects of merit goods such as general infrastructure. This will promote the general quality and quantity of production factors in Japan while paving roads for long-term economic growth. The impact on the macro economic model is presented in Figure 8.

The second, and yet the essence in the failure of Japanese quantitate easing, is the sole fact that interest rate alone is unable to convince consumer and producers into an optimistic prospect of the economy. However consumer and producer confidence is essential for purchases and investment to be made at the cost of savings drawn out from banks. An alternative policy would be to directly promote supply side policies such as health care and innovation investment. There are also unpopular beliefs that the removal of minimum wage, labour union and labour protection law will provide incentive for producers to hire. This policy is not recommended not only for its unclear cause and definite pushback from the labour force, but also due to its collision to providing decent work and working environment for citizens. In reverse, a policy of tightening labour protection and promoting vocational training is needed to secure current employment and reducing social upheaval and personal harm such as deceasing morale and increasing stress and tension caused by unemployment. The beauty of supply side policy is that it directly impacts the long run aggregate supply curve indicated in figure 8. While reducing inflationary pressure as the status quo of Japanese economy is believed to possess large spare capacity and can therefore not take the risk of increasing production cost due to extra employment. The implementation of supply side policy signifies the abandonment of new-classical thinking and the adoption towards the Keynesian model. Which stresses the significance of government intervention and direct impact on aggregate supply.

The third major defect of quantitate easing is the inflationary pressure that comes with little to no incentive for output growth. The Japanese government can better react to this event by decreasing VAT rate, increasing government spending and increases progressive tax rate. Progressive tax aims for increasing percentages taxed with increasing income. While VAT targets daily necessities with relatively inelastic price and demand such as clothing, food and sanitation that often possesses regressive qualities when conducing VAT. Implementing these policies will also serve to increase the quantity of production factors made available by ensuring better and more abundant living conditions to the labour force. Its impact on aggregate supply is illustrated in figure 8.

![Figure 8 - Keynesian Aggregate Supply Curve](image-url)
Conclusion - Lessons Taken

Standing as the omnipotent observer of history, it is with ease for us to draw the conclusion that quantitative easing conduced by the Japanese government during 1980-1990 had came to its destined failure. However, the integral factor that attributes to the tipping point of this disaster is harder to be concluded. Looking past the statistics, it had appeared that the Japanese Government had been trapped inside one mindset of thinking, while not acknowledging the true potential of demand and supply. Its interventions where extravagant but yet obsolete, lacking vision and introduced the Japanese economy into the spiral of economic crises. Yet the harm that individuals undertaken, the unbearable burden that was once inhumane for them to shoulder, cannot be witnessed by statistics and economic models. The asset bubble burst in Japan has introduced both a new chapter and a critical lesson for future leaders and policy-makers, that only by sustaining, motivating, and protecting individuals will we have a prosperous, sustainable, and probable macro environment for decent work and growth to take place.
Reference


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“No business which depends for existence on paying less than living wages to its workers has any right to continue in this country.”

“By ‘business’ I mean the whole of commerce as well as the whole of industry; by workers I mean all workers, the white collar class as well as the men in overalls; and by living wages I mean more than a bare subsistence level—I mean the wages of decent living,”

Franklin D. Roosevelt