Universiteit Leiden

Economic Hara-kiri?

A cross-analysis of the approach of Japan (1990-1996) and the European Union (2008-2014) on the issues of deflation, price-stability and currency appreciation subsequent to their crises.

Name: D.P.C. Kraaijeveld
Student number: s1457268
Supervisor I: Dr. D.M. Oude Nijhuis
Supervisor II: Dr. iur. J.S. Oster

Contents

Table of Figur

Y

Introduction

On the 29th of April 2014, the renowned business-magazine Forbes published an article with the header: *The Next Japan: How Deflation Threats Europe.*[1] Not soon after, other major newspapers and media were reporting of the major danger which Europe is in because of the threat of deflation. Bloomberg stated that over 74 percent of investors see deflation in Europe as a risk, and even warned that Europe was heading for the same disastrous deflation that Japan had experienced for over twenty years.[2] Press-agency Reuters informed the public on the severe issue currently threatening the European Union (EU) , and stressed that the disinflation Europe is experiencing now very much looks like the start of the so-called 'Lost Decade(s)' in Japan, and stated that the forecast for the EU looks even worse than in Japan.[3] The media blamed the European Central Bank of forbearance, and urged them to finally take action. Otherwise the economy of the EU would be in severe trouble.[4]

However, is this really the case? Is the European Union heading down the tragic trench of deflation stagnating the economy for several years, just like Japan did in the 1990s? Is the approach of the ECB and other financial authorities triggering the forecasted deflation? Is Europe currently committing economic hara-kiri in the same way Japan did in the 1990s? And is the deflationary spiral the future for our economy? Several questions that are in line with the main question of this thesis: When

1 http://www.forbes.com/sites/realspin/2014/04/29/the-next-japan-how-deflation-threatens-the-european-union/, retrieved on 20/7/14.

2 http://www.bloomberg.com/news/2014-03-05/ecb-may-repeat-japan-mistake-that-triggered-lost-decade.html, retrieved on 20/7/14.

3 http://blogs.reuters.com/macroscope/2014/02/13/japan-style-deflation-in-europe-getting-harder-to-dismiss/, retrieved on 20/7/14.

4 http://www.cnbc.com/id/101340902, retrieved on 21/7/2014.

comparing both the approaches on deflation by the Japanese and European central and financial authorities, why and how did Japanese authorities fail to combat deflation in the period 1990-1996, and how do European authorities cope with the problem of deflation in the period 2008-2014? And, based on that approach, can the European Union expect the same Japan-style deflation in the future? Sub-questions to this main-question will be how both authorities tackle the issues of internal demand via price-stability, and how both authorities will tackle the issue of external demand via currency-appreciation.

In this thesis a comparative analyses will be made between the deflation in Japan in the 1990s and the current disinflation/deflation in the European Union. This thesis will especially focus on the role of financial authorities in both Japan and the EU, and the measures they have taken to attack the issue of deflation. A light will be shed on the definition of deflation and on the debate on the causes, consequences and approaches on deflation in both Japan as well as the EU. Also a closer look will be taken on why several measures, taken by the financial authorities worked or did not work, especially on the areas of internal price-stability to raise public demand, and on the area of currency-appreciation to boost external demand. Chapter 1 will describe the top-down measures by the financial authorities, and chapter 2 and 3 will explain why this did (not) or would (not) work.

Although the issue of deflation has more than one cause and approach, this thesis will mainly focus on the monetary policy, and the measures the central financial authorities could take, and have taken. Issues as wages, employment, social-economic factors, demographics and spending-patterns of consumers are regarded to be relevant, however they will not have a central role in this thesis.

Why the European Union and Japan should be compared is for several reasons. Firstly, the issue of deflation has captured Japan for more than twenty years now. Japan therefore proves to be a great example when comparing the European approach of central and financial authorities on deflation with the Japanese. as well as to see if we can learn from the mistakes made by the Japanese government, that is if they even

made mistakes. Secondly, in the European Union, the issue of deflation has occurred for several member states, but now deflation threatens the European Union as a whole. If the European Union wants to learn how to attack this development, we can analyze how a similar economy such as Japan - in terms of size - has tried to escape this trap. This thesis contributes to the academic debate because the issue of deflation is relatively new to Europe. If an analysis can be made on the approach between the European Central Bank and the Bank of Japan and the Japanese Ministry of Finance, and if it can give a forecast on the issue of preventing and attacking deflation in the European Union, I would consider this relevant as well as contributing to the academic debate.

Thirdly it also has a degree of social relevance for the reason I mentioned in the beginning of the introduction. This thesis will give an overview of what deflation is, what is does to an economy, how it can be restrained and what can be done to escape the deflationary spiral. That is why I consider this thesis to give an insight to those who are not familiar with this subject, and will elaborate on the tendentious coverage of the media.

The methodological approach of this thesis is as follows. Due to the fact that this thesis is a comparative study, a lot of secondary literature has been used in my analyses. Mainly literature form academic economic journals and several books on the subject of deflation. Moreover, newspaper-articles, corporate reviews and presentations have been used. Furthermore I will use several primary sources, mainly data from the European Central Bank, the statistical bureau of the European Union; Eurostat, the World Trade Organization the Ministry of Finance of Japan and the Bank of Japan. These primary data have been used in graphs and tables to show and explain the consequences of deflation, trends and forecasts, and the effects of measures taken by financial authorities. These graphs have been made and provided by a statistical and graphical appliance-website, which also provided a database for these data.

This thesis will compare the periods 1990 until 1996 in Japan and the period 2008 until 2014 in the European Union. The reason behind this is that in 1990 Japan faced the bursting of their asset- and housing bubble;

main causes for their economy to cave in. I have chosen this time-frame, so there will be a solid six-year spread to see the effects of deflation and subsequent monetary-policy, and also because in 1997 the Asia-crisis started, where I tried to avoid spurious relations between that crisis and the deflationary crisis in Japan. On the other hand, I have chosen to apply the same six-year spread to the European Union, starting in 2008, because that was also the year where the recession and economic depression hit the European Union, and the potentially impending deflation stems from the economic difficulties that started then.

1: Deflation

1:1 Deflationary theory

This chapter will briefly summarize the positive and negative effects of deflation, the causes of deflation and will give a brief overview of the academic debate. The definition of deflation is a decrease in the overall price level in economies. It is often linked with negative macroeconomic shocks, and poor macroeconomic outcomes. The negative outcomes may result from the negative shocks that typically cause deflation.[5] But there are other possible causes as well. Deflation may lead to increased real debt weight, higher real interest rates and - if deflation becomes embedded in expectations - a downward spiral of decreasing demand and prices.

1.1.1 (Neo)-Keynesian and Monetarist view on deflation

Although not everyone agrees with the Keynesians and Monetarists[6], the (neo)-Keynesians and Monetarists are under the opinion that deflation is almost the worst thing that can happen to an economy. Albeit that both economic movements have different views how to tackle the problem of deflation, they do both agree that deflation itself has negative consequences with possible long-lasting effects.

Nobel-laureate Paul Krugman has pointed out in several books and articles the negative effects of deflation. Krugman states that due to deflation – here perceived as the general falling of prices, not the contraction on the money supply – will cause people not to spend their money, after all, keeping your money in the bank seems like a sound investment, because of the positive revenues on your savings.[7] Krugman continues by stating that people will also not be prone to take a loan at the

5 Yetman, H., ‘Anatomy of Deflation’*, Hong Kong Institute for Monetary Research Working Paper*, April 2008, pp. 3.

6 The Austrian School of Economics, see Appendix 1.

7 Krugman, P., 'Thinking About the Liquidity Trap', *Journal of the Japanese and International Economies, v.14, no.4,*(December, 2000), 221–237, 225.

bank, knowing that the loan has to be repaid with money that is more worth than the money they'd borrowed in the first place. This may lead to a perpetual depressed economy due to the fact that people expect deflation, and also vice versa; deflation can continue because the economy stays depressed.[8] Behold, the deflationary trap which also occurred in Japan.

Ben Bernanke, the former chairman of the Federal Reserve in the United States, often tended to combat this problem by lowering their interest rates, but the nominal interest-rate cannot exceed the zero percent point - also known as the zero-bound – because lenders will not agree on a negative nominal interest rate when they just as easily can hold their cash in their drawers.[9] Bernanke continues by stating that the *real* interest-rate[10] that is paid by the ones who are borrowing is the expected rate of deflation. Meaning that is deflation is four percent, the *real* costs of acquiring funds will also be four percent, because of the fact that the loan must be paid back with money, which purchasing power is four percent larger than the money originally lent. Ergo, the *real* cost of borrowing becomes unaffordable, and purchases like houses or capital investments decline as a result of that. [11]

Bernanke also sees another huge risk that is imposed by deflation. He agrees with the points made by Krugman, but Bernanke states that, deflation and the zero-bound on interest-rates do not only create problems for individuals or businesses which are seeking a loan, he also sees further negative effects of deflation on people who already have substantial debt from a pre-deflationary period. This is a significant problem because even if the people that are in debt are able to refinance their existing loans with

8 Ibid., 226.

9 Bernanke, B., 'Deflation: Make sure "it" does not happen here', *Keynote speech before the National Economist Club*, Washington D.C., 21-11-2002.

10 The real interest rate equals the nominal interest rate minus the expected rate of inflation. The real interest rate measures the real cost of borrowing or lending.

11 Bernanke, B., ' Deflation: Make sure "it" does not happen here'.

low nominal interest-rates, they must still pay back the initial loan in money with increased *real* value.[12]

Krugman continues on elaborating the distressing effects of deflation by countering the argument of Austrian economist Murray Rothbard. Rothbard saw a stimulus in employment and business activity in the occurrence of deflation, namely when wages dropped faster than consumer prices. However, Krugman states that deflation triggers downward nominal wage rigidity. This implies that economies do not have the capability to manage falling wages except if they also have a large amount of unemployment, so that employees are willing to accept lower wages due to the fact that they should be lucky to have a job in the first place.[13] This means that the a possible positive effect of deflation can only occur in the situation of mass unemployment, which in return will stagnate the economy.[14]

1:2 Academic debate on the causes, consequences and approach of deflation in Japan after 1990

If we want to compare the different crises between Japan and the European Union on the issues of deflation, price-stability and currency appreciation, we have to look at the causes and consequences of both crises. In Japan, the cause of the financial crisis and the period of long-lasting deflation was not only due to the housing bubble, but also caused by the overpricing of assets. What happened in Japan was a result of the rapid growth of the economy in the eighties. After this growth, an asset price bubble came into existence thanks to the fast rise of asset-prices and overheating economy in Japan, as well as uncontrolled credit expansion. An overheated economy is a result of a so-called *boom* in a certain economy. It occurs when a country's productive capacity is

12 Ibid.

13 Krugman, P., 'Japan's trap,' *Foreign Affairs* (1999), 1-15, 6-7.

14 Farmer, R., 'Animal Spirits, Financial Crises and Persistent Unemployment.', *The Economic Journal 123.568* (2013), 317-340, 318.

unable to keep up with the growing aggregate demand for products, this eventually will cause a demand pull inflation. When the asset-bubble collapsed, the overheated economy cooled down very rapidly and the asset prices plummeted. The demand pull inflation turned into deflation. Due to the decrease of the value of assets and the decrease in the value of housing, many companies became insolvent, and as result of that also many banks became insolvent because the loans they had provided to the companies could not be paid back. This all resulted in a downward spiral and a deflationary trap.

Many people have published on the cause of the Japanese financial crisis and the deflation the consequential deflation. For the Japanese financial crisis Gary Saxonhouse and Robert Stern, both attached to the University of Michigan, gave a negative role to the financial institutions in Japan. They state that the Bank of Japan (BOJ) and the Japanese Ministry of Finance (MOF) both were too lenient towards the problems that arose in their country. The article states that the bubble could have been nipped in the bud if the MOF had tightened their monetary policy as early as 1989. They also state – even though they realize that maintaining or even raising discount rate that was agreed upon in the Louvre Accords[15] in 1987 was politically very difficult to achieve – that the BOJ and MOF should have done so due to the fact that the interest rates in the U.S. and Germany were also raised.[16]

Kiyohiko Nishimura and Yoko Kawamoto, both working for the consultancy firm McKinsey, stated in their article that the problem after 1990 persisted and aggravated not only due to the reticent approach of the Japanese financial authorities, but also due to the aloof attitude of large national-based firms. They acknowledged that since the so-called *baburu keiki* burst at the beginning of the 1990s, a large amount of

15 The Louvre Accords were a set of agreements which were signed by the Members of the G6 in order to stabilize the international currency markets as an effect of the declined value of the U.S. dollar, which made the Japanese Yen more expensive on the world market.

16 Saxonhouse, G. and Stern, R., 'The Bubble and the Lost Decade.', *Japan and the World Economy*. 26:3, pp. 267-81, 268-271.

companies have been too reluctant to do something about the wages and employment benefits of their employees, even though they should have done so due to declining market conditions. Nishimura and Kawamoto saw this as a very strange attribute of Japanese businesses because – according to normal economic practices – businesses should adapt their actions to the economic conditions of the moment. Nishimura and Kawamoto saw this wage-rigidity nationwide, not just in the labour-market, but also in other sectors like the public sector, and in corporate management.[17]

In a brief essay commissioned by the British ministerial department for business, innovation and skills (BIS), Kenji Nishikazi et al, state that there is no single factor that caused deflation in Japan. Nishikazi states that the negative outcome gap, the low inflation expectations and a supply shock from emerging markets all contributed to the emergence of the deflation. However, they state that the foremost reason for the deflation was the bursting of the asset-bubble.[18]

Takatoshi Ito, professor and dean of the University of Tokyo, has seen that the recovering of the crisis in Japan took a very long time. He states in his article that the role of the BOJ was very important in the whole financial crisis, but that they also were too reticent in adjusting the asset prices prior to the crisis. Ito states that this asset-pricing inflation is the real cause of the crisis and the deflation that occurred afterwards. A solution for this problem was flexible inflation targeting (FIT), a sound monetary mechanism to recover from such a crisis. However, the application of this would be difficult in several manners because monetary policy is just the interest rate, which cannot be lower than zero (see Krugman). Therefore Ito state that the second best approach for the financial crisis would be to improve rules and regulations on banks and other financial institutions and also have increased supervision on said institutions. According to Ito this

17 Nishimura, K. and Kawamoto, Y., 'Why Does the Problem Persist? "Rational Rigidity" and the Plight of Japanese Banks', *The World Economy*, 26 (2003), pp. 301-324, 306-307.

18 Nishizaki, K., 'Chronic Deflation in Japan', *BIS Paper No.7*, pp. 11-19, 12.

should be done in order to lower risk in the finance-area, and make it difficult to engage in actions which are morally hazardous, such as financial fraud or tax-evasion.[19] However, this did not occur, so a real approach on this aspect of targeting deflation was lacking.

In another article of Ito, which he co-wrote with a colleague of him Tokuo Iwaisako of the Harvard University in Boston, Massachusetts, he points out the fact why the crisis in Japan simmered for so long.. He points out that the easy monetary policy that the BOJ and the MOF adopted was mainly based on the historically low discount rates. Ito points out that the mistake they made here was that after the bubble burst, no real changes were initiated in this area to radically alter the Japanese economy. Ito also stipulates that the lack of vicissitudes made by the BOJ and the MOF were the reason that the Japanese market suffered another blow in 1997, initiating the full-scale Asian financial crisis. [20]

Professor Hiroshi Yoshikawa, attached to the economic department of the University of Tokyo as well, points out in his book *The Lost Decade* the behaviour national Japanese banks and the BOJ showed during the overheating economy and the collapse. Yoshikawa states that the BOJ did not do enough to stop the transition from banks loans towards direct financing issued by the national banks, and that the monetary policy of the BOJ and the MOF of deregulation and liberalization of the capital markets during the bubble was facilitating the bubble even more. The effect of all this was that large firms came into bad debts which were difficult to repay and to amortise.[21] Yoshikawa also criticises the BOJ and counters the idea of the tight deflationary money-policies the BOJ always claimed to have to combat a high yen (¥). However, Yoshikawa points out that since 1971 the BOJ always maintained an easy monetary policy at the appreciation of the yen. We will focus on that even more in chapter 3.1. Yoshikawa counters

19 Ito, T., 'Monetary Policy and Financial Stability: Is Inflation Targeting Passé?', *ADB Economics Working Paper Series No. 206*, (July 2010). pp. 1-19, 5-7.

20 Ito, T. and Iwaisako, T., 'Explaining asset bubbles in Japan', *Monetary and economic studies,* Vol. 14.,1996, pp. 143-193, 145-148.

21 Yoshikawa, H., 'The Lost Decade', (Tokyo, 2000), 57.

the argument that the low discount-rates were adopted to counter a high yen, because this only facilitated the bubble even more.[22] The third point Yoshikawa makes is the enormous mistake the BOJ and the MOF made by ignoring the obvious collapse of the bubble for well over a year simply because they already decide to pursue fiscal austerity for government spending.[23]

Another consequence was that the Japanese government had a huge public debt. This is because the Japanese government – according to Keynesian theory – initiated in huge stimulus packages in order to boost their economy once again. Between 1992 and 1995 the Japanese government injected over 65.5 trillion yen into the Japanese economy, also they eased tax-rates in 1994. In the next decade Japan had injected over 100 trillion yen spread over 10 different stimulus packages into their economy, in order to get out of a recession and deflation. However none of them worked. As a result of this Japan had the highest public debt in the world, exceeding 200 percent of their GDP. They also had a poor fiscal framework due to the easing of taxes, so they were incapable to solve the public debt problem in the short run. However the poor fiscal framework and fiscal alleviation was one of the reasons the government-debt was so extensive.

Toshihiro Ihori, attached to the economic faculty of the University of Tokyo states that the slow and inadequate attitude of the Japanese financial authorities is one of the reasons that the bubble burst and subsequently deflation arose, but also gives another reason why this crisis simmered so long after. Ihori states that the renewed taxation levels in Japan after the bursting of the bubble did not provide enough weight to counter the fiscal deficit as a result of the financial crisis. Simultaneously, businesses and other political parties cried for more extensive public procurement and the intensification of anti-cyclical measures on order to get the Japanese economy back on the right track. Responding to these cries, the MOF implemented several measures in order to stimulate

22 Yoshikawa, H., ‘The Lost Decade’, 104.

23 Yoshikawa, H., ‘The Lost Decade’, 71.

aggregate demand. However, these anti-cyclical measures were not effective at all, subsequently escalating the fiscal deficit to staggering amounts.[24]

The reason why these stimulus packages did not work is quite simple according to Krugman. His (neo)-Keynesian approach shows that there is a perpetual lack of demand in Japan and this is what caused the recession and deflation. The stimulus packages should raise demand with the public due to the availability of money in the economy. However, due to the lack of trust in the economy, people tend to save their money or invest in the treasury bonds, rather than to increase their spending. This is the so-called liquidity trap; there is money available, but nobody is prone to use it actively. So the stimulus packages are in that sense useless because they do not sort the supposed effect, according to Krugman.[25]

One other effect of the recession and deflation in Japan was the lack of trust in the Japanese banks. Because the Japanese banks had a lot of bad debts in their books – a large amount of loans that had not yet been paid back, but so far not been written off - these banks could not loan out any money before they obtained a healthy capital-ratio[26]. Therefore, the banks were not prone to loan out money, and if they did decide to lend out money, they did this at a high interest rate, which made it less interesting for consumers to actually take out a loan. The Keynesian solution for this problem is to take banks out of the equation and allocate money directly to consumers without the banks acting as the middleman. However, due to the fact that the government allocates this money, an optimal allocation of currency is not established due to the fact that supporters of the government will obtain the released funding. Benjamin Powell, an Austrian School, economist shows this in the example of Japan. The Liberal Democratic Party (LDP) had been allocating money through the Fiscal

24 Ihori, T., 'Japan's Fiscal Policy and Fiscal Reconstruction', *International Tax and Public Finance*, , *Volume 13, Issue 4*, (August 2006), 489-508, 491-492.

25 Krugman, P., 'Reckonings purging the rottenness', *New York Times,* 25-4-2001.

26 Capital-ratio is the ratio of a bank's core equity capital to its total risk-weighted assets

Investment and Loan Program, however the money that it allocated was mainly injected in political allies of the LDP such as the construction industry. This is also called crony capitalism. Powell's point is that this bias allocation of money does not reflect consumer preferences and therefore does not raise the purchasing power nor aggregate demand of the consumers. Therefore, the Keynesian approach does not sort the supposed effect and recession and deflation simmered.[27]

In the beginning of the 21st century, the BOJ and the MOF in Japan tried another approach to end the ongoing deflation in their country. They tried the principle of quantitative easing (QE). Quantitative easing is the extension of the money supply in a country, mainly realised by the central bank by buying debt- and equity securities, and government bonds. Japan continued this policy for five years, and abolished this policy in 2006 stating that the QE policy did not have the supposed effect of directly combatting the ongoing malaise in Japan. Hiroshi Ugai, stated in paper commissioned by the BOJ that the effects of the QE-policy were not detected or at least very small, mainly due to the fact that these were implemented in combination with the zero-bound interest rate.[28]

Although different approaches on curing the lasting recession and deflation were given, none of them proved to work. All in all, the consequences of the deflation in Japan were that the public debt rose to be the biggest in the world, the aggregate demand of the consumers fell tremendously as well as the value of their assets (stock and housing). Also the faith in banks and the faith in the economy disappeared. Because no real countering act sorted the supposed effect of boosting the economy, Japan has faced a recessed and deflationary economy over the last twenty years. This resulted also in a worsened economic position on the world market and subsequently put Japan in a deflationary spiral. Price decreases will lead to a lower production, which will lead to lower wages

27 Powell, B., 'Explaining Japan's Recession', *Mises Daily*, 19-11-2002.

28 Ugai, H., 'Effects of the quantitative easing policy: A survey of empirical analyses', *Monetary and Economic Studies-Bank of Japan 25.1* (2007), 1-63, 44-45.

and demand, which will eventually lead to a further decrease of the product prices.

As we can see in the figures below, the rate of disinflation[29]/deflation gradually goes down as a result of the bursting of the asset-price-bubble. Also, the trend, shown in this graph shows that stimulus packages and the tax-reduction did not help increase consumer spending or raise aggregate demand; they aggravated the deflation even more.

Graph 1: Japanese Inflation-rate | Trendline

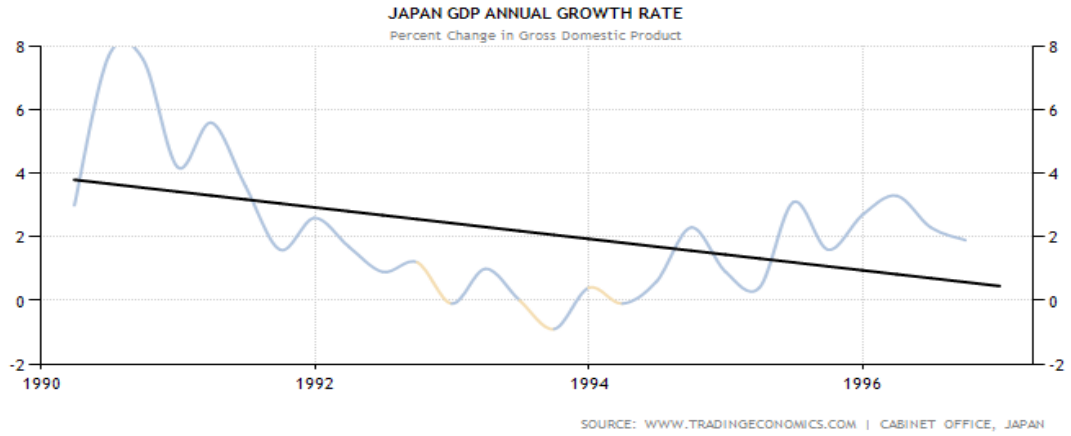
[30]

The deflation also had a major effect on the growth of the Japanese economy. As previously mentioned, the deflation caused a liquidity trap and a deflationary spiral. For Japan this had the effect that their annual growth rate dropped tremendously, with resulted in a negative growth-rate in 1993-1994. The trend-line shows that for the long term, no significant changes could be made in this negative spiral.

29 The gradual and persistent reduced rate of inflation without reaching the point of deflation.

30 http://www.tradingeconomics.com/japan/inflation-cpi, retrieved on 13/6/14.

Graph 2: Japanese GDP Growth-rate | Trendline



[31]

In this graph the rapid expansion of the government debt to GDP-ratio is shown. I previously mentioned that the stimulus-packages did not sort the supposed effect, but only intensified the debt of the Japanese government. From 67 percent in 1990, to 91.2 percent in 1996. An increase of over 36 percent in 5 years, with a debt that was almost the size of Japans GDP. When illustrating this, the current percentage of Japanese government debt to GDP is 227.2 percent of GDP. All as a result of the deflation and a stagnating economy.

Graph 3: Japanese government debt compared to GDP

[32]

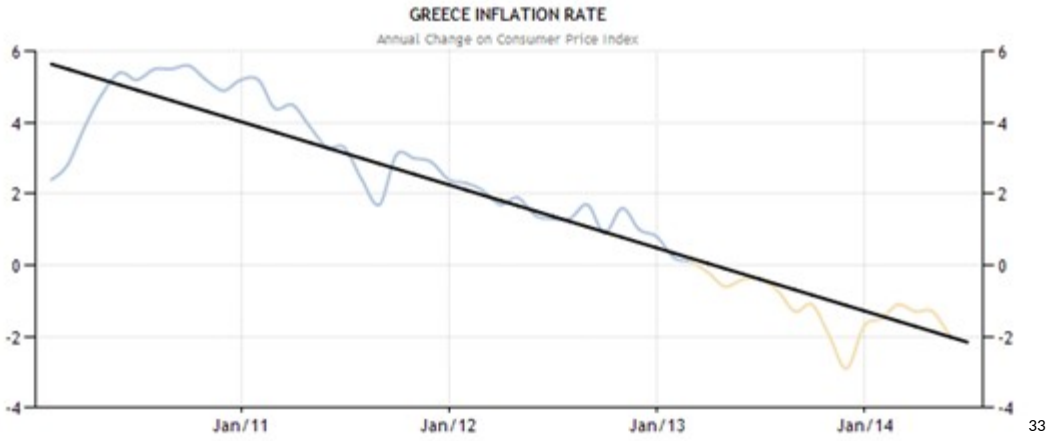
31 http://www.tradingeconomics.com/japan/gdp-growth-annual, retrieved on13/6/14.

32 http://www.tradingeconomics.com/japan/government-debt-to-gdp, retrieved on 13/6/14.

1:3 Academic debate on the causes, consequences and approach on potential deflation EU

As we have previously seen, although some say that no single factor can be accounted for the crisis and subsequent recession and deflation in Japan. The general consensus is that the bursting of the asset-price bubble in Japan was the main reason, and the fall of demand which followed. However in the European Union and in the Eurozone this is slightly different. Since 2008 Europe has experienced the effects of the sub-prime mortgage crisis, the sovereign debt crisis and the euro crisis among others. One striking feature when comparing Japan to the EU are the regional differences on the issue of deflation. The competitiveness of nations within the European Union and the Eurozone have led to regional deflation instead of deflation which was evenly severe across the entire EU. This is very important in understanding and defining the causes and consequences in the EU compared to those of Japan. Southern European countries, which are members of the European Union, have already experienced disinflation and deflation on a large scale. Greece for instance has already had deflation for over a year, and has experienced disinflation over the last 3 years. The trend-line shown in the graph below shows that the forecast on the issue of deflation, which will aggravate even more in the upcoming years, if no substantial efforts will be made to combat this on a European scale.

Graph 4: Greek Inflation-rate



33

Eventhough I already mentioned that the occurrence of deflation is asymmetrical in Europe, the current trend is that not only the Southern European countries experience disinflation and deflation, but also the economically stronger and more competitive nations such as Germany and the Netherlands are now facing the risk of deflation. The graph below illustrates the inflation rate of Germany over the last two years. In this graph we see that several peaks that indicate inflation (July 2013) but the current state of affairs indicates a trend of disinflation as well, what might lead to deflation in the economically most strong nations of the European Union.

33 http://www.tradingeconomics.com/greece/inflation-cpi, retrieved on14/6/14.

Graph 5: German Inflation-rate

34

There are numerous reasons for this disinflationary/deflationary trend in Europe. First of all there is the issue of unemployment. The rate of unemployment in Europe since the start of the crises in Europe has risen to over 12 percent. High rates of employment tend to push the wages down because people who do not have a job tend to accept lower wages. Lower wages tend to pull down the price of consumer goods as well. However, the high rates of unemployment also cause a downward shift in demand, which – just like the case in Japan – can lead to deflation.[35]

Secondly, there is the issue of internal devaluation. Firgo states that countries which became uncompetitive and that have the Euro as their currency cannot devaluate their currency in order to regain competitiveness. Because they lack this monetary instrument, the only action they could take to regain this competitiveness is to try to implement internal devaluation. This suggests that countries try to lower costs and prices by lowering wages. By doing so these countries could make their export-products more attractive because of the reduced prices of these products and regain the aforementioned competitiveness.[36] However, due to weak external demand and high competitiveness from

34 http://www.tradingeconomics.com/germany/inflation-cpi, retrieved on 14/6/14.

35 Setterfield, M., 'Wages, demand and us macroeconomic travails: Diagnosis and prognosis.', in *After the Great Recession: The Struggle for Economic Recovery and Growth* (2013), 158-184, 161.

the Northern European countries, Southern European countries are experiencing difficulties in actually regain the aforementioned competitiveness.[37]

Thirdly, there is a problem with rising interest rates, just as there was in Japan. With inflation falling and even turning in deflation in several parts of Europe, the real interest rate is rising. Although the ECB cut interest rates by 25 basis points[38], this is smaller than the fall in inflation. The net result is that effective real interest rates have risen. This depresses investment and spending further, creating a negative downward spiral. Also, in many European economies, effective bank rates are significantly higher than the ECB base rate. Firms are finding it expensive and difficult to get credit – despite official rates being very low.

Another potential cause of deflation is the strong value of the Euro on a world scale. The European Union has always had an aggressive monetary policy, to combat the risk of a too high inflation, and are now pursuing the same in the case of potential deflation. Because the ECB did not have an easing policy on the money supply (M1 – see appendices) – as Japan did – the value of the Euro compared to the dollar or the pound sterling did not drop. This meant that the external demand for goods in Europe dropped as well, because of their relative expensive currency, so that the decreasing demand for goods in Europe have not been compensated with the external demand.[39]

Then there is the cause of deflation due to the attitude of banks. The Europeans perceived – partially correct though – that banks and bankers were the real source of the pain now experienced by the economy. Bankers traded with money they in fact did not have, and sold financial products to

36 Firgo, M., 'Exits from the crisis: Reforms and Growth', in 'Political Economy in the Eurozone: Reforms and their Limits' (2013), 24-45, 25.

37 Ibid, 26.

38 http://www.businessinsider.com/ecb-meeting-november-2013-11, retrieved on 13/6/14.

39 Evans-Pritchard, A., 'Europe moves nearer to Japanese-style deflation trap with shock price falls', *The Telegraph*, 31-10-2013.

clients who did not understand the consequences of the product they ‘purchased’. In order to avoid this and to regain trust of the public into banks, several rules and regulation were concocted to intensify the supervision on banks in Europe even more. However, due to the fact that rules and regulation - such as the Single Rulebook of the European Banking Union (EBU), and the international rules on banking established at the Basel I, Basel II and Basel III treaties - were tightened very much in order to keep the banks on a leash, this also had consequences for the money supply in Europe. Because the new regulations required a higher capital ratio for banks, they raised their own interest-rates on lending money, and lowered the rates on savings, in order to maintain the targets set by the regulations. This made lending money from the banks more expensive, so people tend to not take out a loan anymore, which constrained the money supply in the Eurozone even more.[40] Because less money is available, the demand for goods drops as well. This means that also the prices of goods fall, and we already saw the potential effects this has on the growth of an economy.

Fifthly, there is the issue of financial austerity. Because the members of the European Union have to comply and abide with the budgetary rules of the European Union, there is no real space for individual countries to directly solve their disinflationary/deflationary problems in their own country. Individual monetary easing is not possible, nor is the lowering of taxes to increase consumer spending if they want to abide with the rules of the EU. Countries can lower taxes in order to stimulate their people to spend more, but then there can be the risk that those countries will not have their budget in order, and that those budgets will exceed the 3 percent deficit rule. In order to maintain the fact that the budget deficit cannot exceed the 3 percent of GDP, austerity measures are called upon to actually accomplish that. Due to the fact that even less money is available for the consumers, money they do hold stays tight in their pockets. Furthermore prices for the consumers will decrease even more.

40 Gould., J.E., ‘Roadmap to a banking Union’, *The Financialist by Credit Suisse*, 8-1-2014.

This will lead to an increase of value of the money, which makes it even less likely to spend, because then saving is more profitable than spending. All in all, this leads a deflationary spiral which causes economic retardation.[41]

On June 5th 2014, the – until then reticent on the issue of deflation - European Central Bank (ECB) announced that the issue of stagnating growth and possible deflation in the whole of the European Union was the most important point on the agenda for the ECB. Mario Draghi, the president of the ECB announced a series of precautions which should directly deal with the disinflation and the possible deflation. Among these measures is the negative interest of 0,1 percent that banks have to pay to the ECB if they want to deposit money with the Central Bank. One can conclude that this as a measure which stimulates banks to loan out money instead of depositing it with the ECB.

Next to this,, the ECB recently announced a 400 billion euro lending programme in order to try to give banks incentives to lend to consumers This programme is also known as the Targeted Longer-Term Refinancing Operations. (TLTRO).[42] If this is enough to combat the current threat I cannot say, but we can make a comparison between both the approaches in Japan and in the European Union, and also on the type of disinflation/deflation between the both regions.

1:4 Cross analyses deflation Japan ’90-’96 vs. Europe ’08-‘14

When comparing the deflation in Japan in the period 1990-1996, and the deflation in the European Union, we see differences but also quite a few similarities. As stated before, the deflation that occurred in Japan after 1990 was a direct effect of the collapse of the asset-price-bubble and the housing bubble in Japan. This economic shock effected the entire nation of Japan due to the instant collapse of aggregate demand, as well as the drop of prices. The overheated economy of the 1980s cooled down very rapidly, and the value of assets and housing plummeted. Although the Japanese

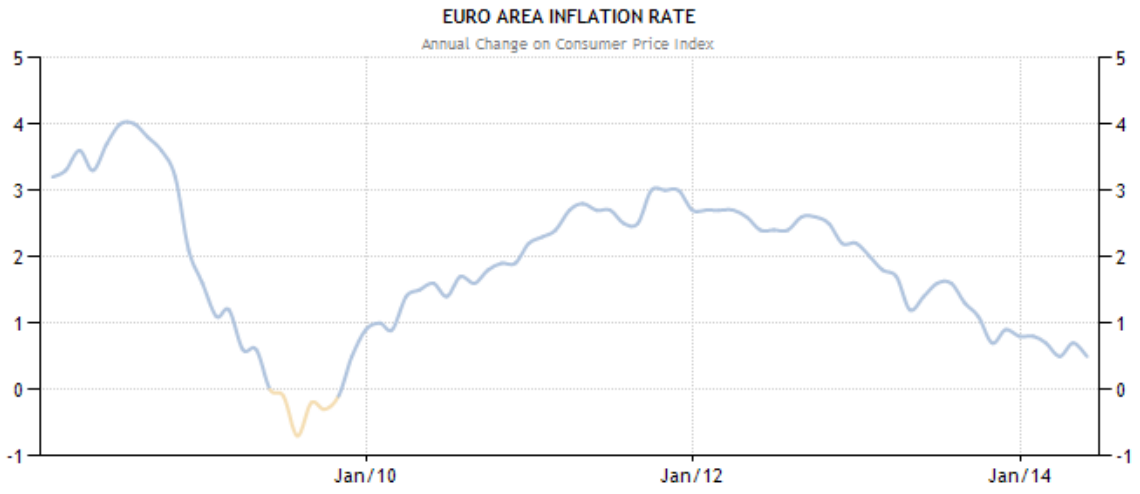
41 Wolf, M., ‘ The foolish praise for austerity’, *Financial Times,* 30-9-2010.

42 Irwin, N. ‘Europe’s Central Bank Gets Serious About Fighting Deflation’, *The New York Times*, 5-06-2014.

government regarded deflation as something bad, they did not immediately try to tackle this problem. Literature about this subject states that the reticent approach of the Japanese government, as well as the role of the Bank of Japan has been one of the reasons that a deflationary spiral occured, and that this deflation could simmer for a longer time. Also the reluctance of big national firms to change wages in order to fight this deflation is perceived as very negative. Although the Japanese government and central bank tried to impose several measures to combat the deflation, (such as the zero-bound interest rate, quantitative easing and lowering of taxes) none of these measures sorted the supposed effect of ending this deflationary period. External effects such as the weak export position due to the value of the Yen, as well as the supply shock of emerging markets such as China did not contribute to the escape of the trap. The consequences now for the Japanese is that due to the loosened fiscal policy, and the – wrongly allocated - stimulus packages that should have boosted the economy their national debt in 1996 was over 91.2 percent of GDP, and anno 2014 more than 200 percent of GDP. This and the lack of consumer trust have engaged Japan in a deflationary trap since the beginning of the 1990s.

When we take a look at the European Union we see that the deflation occurred is somewhat different. After the crises in 2008, we see that several parts of Europe indeed experience disinflation and even deflation, especially the southern members of the EU. However, we also see that in the European Union, and especially in the Euro-area, the disinflationary/deflationary effects of the government debt crisis and the Euro crisis were obviously there, but that there were signs of a trending positive inflation in the period 2010-2012.

Graph 6: European Inflation-rate



43

As supposed to Japan, in the period 1990-1996 no positive inflation was witnessed whatsoever, as we have seen in graph 2. So we see that deflation in Japan in the period 1990-1996 was continuing, whereas in the EU this is not the case.

Another difference are the measures taken by the European Union. Although, both the European Union as well as Japan did not take the issue of deflation very serious at first, they did impose measures at a later stage. Where Japan tried to boost demand by easing taxes, Europe has not done so yet. However, it is also impossible for them to do so. At first, as compared to Japan, Europe has no single income taxsystem, where incometax is a single competence of the Member States. The European Commission, European Parliament nor the ECB has a say in this according to article 65 of the Treaty on the Functioning of the European Union (TFEU).[44] However, even if they did have the authority to impose incometax reductions, Member States still have to abide with budgetary rules on – for example – government expenditure, government debt, and budget deficit. Even though it was very difficult to grant tax cuts to their inhabitants, several European countries still established a certain tax cuts

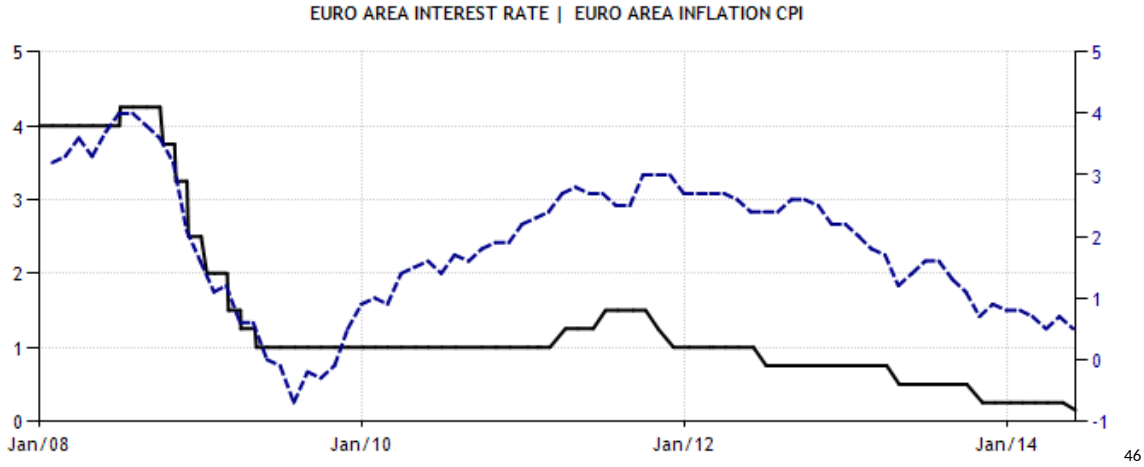
43 http://www.tradingeconomics.com/euro-area/inflation-cpi retrieved on 28/06/2014

44 European Union, 'Treaty on the Functioning of the European Union', article 65.

in an indirect way, like Spain who did increase social welfare spending, or direct tax cuts like in Germany, where income tax reductions took place what amounted to 9 billion euros.[45] Germany was able to do so, because they had a healthy budgetary plan, and this tax reduction did not distort their financial plan, but this is an exception on the current rule in Europe.

Although the consequences of deflation vary among many economists, both Japan and the European Union regard deflation as a negative factor in the economy. Another similarity between both regions is that they both lowered their interest rate to a bare minimum on order to boost lending and spending for consumers. We see that the lowering of the interest rate of the ECB has the sorted effect in 2010, when the interest rate reached the 1 percent, as we can see when comparing the inflation rate compared to interest rate. The low interest rate ultimately pushed the inflation rate in the Euro-area up again.

Graph 7: Interest-rate Europe | Inflation-rate Europe



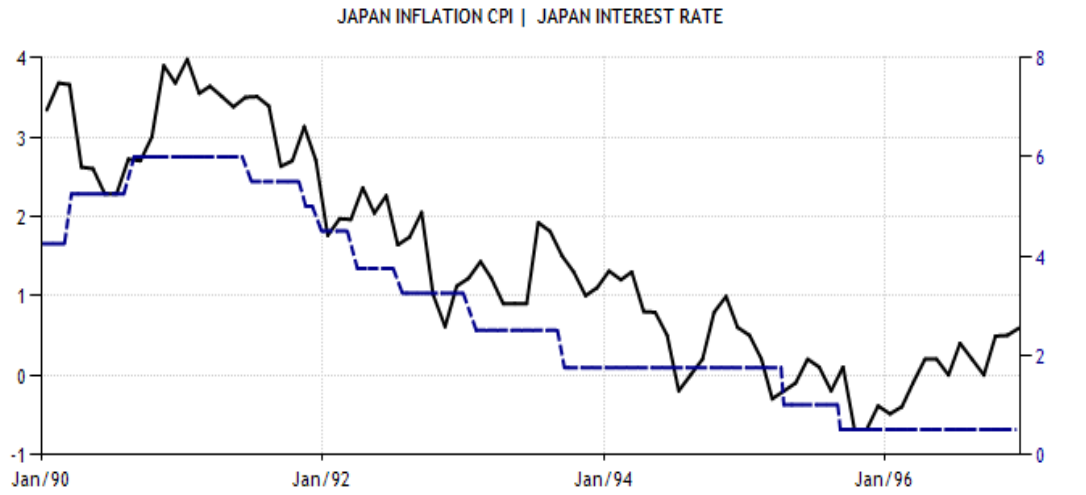
[46]

The same was tried in Japan in the period 1990-1996, however here the lowering of the interest rate did not have to foreseen effect, as show in graph 9.

45 http://www.spiegel.de/international/germany/help-for-europe-s-biggest-economy-germany-seals-50-billion-euro-stimulus-plan-a-600977.html retrieved on 28/06/2014.

46 http://www.tradingeconomics.com/euro-area/interest-rate retrieved on 28/6/2014.

Graph 8: Interest-rate Japan | Inflation-rate Japan



[47]

Another comparison on the different forms of deflation is the issue of stimulus packages. We already saw that Japan was trying very hard to reflate their economy with a lot of stimulus packages. This amounted in a staggering 100 billion dollars over a period of 10 years. However, this also lacked the boosting effect the Japanese government hoped for, because the misallocation of those funds by the Japanese, and the only thing it really amounted to was the huge government debt. Before June 5th 2014 with the announcement that the ECB would provide the TRTLO, European Member States had already tried to boost their own economies at a national level by increasing government expenditure in projects such as speeding up infrastructure spending, like the Netherlands, and the reduction of insurance contributions in Germany.

One more similarity between the European Union on the issue of deflation is the role of commercial banks. We already saw that the banks obtained higher interest-rates because the risk of debtor-insolvency was also high due the crises – both in Japan as well as in the European Union. In both cases the banks did not lower their lending interest-rates, so consumers were not prone to take a loan so the demand was diminished due to the high interest-rate, which led to a contraction of the money-supply (M1).

47 http://www.tradingeconomics.com/japan/inflation-cpi, retrieved on 28/6/14.

2: Approaches on internal price-stability

In the previous chapters we have seen that both the BOJ and the ECB did install several economic instruments to cope with deflationary problems in both regions. However, we also witnessed that in the case of Japan all these measure did not sort the effect they intended. Increasing the money-supply should have raised demand, and therefore prices; but this did not occur, so consumers still postpone consumption and investment. The same goes for the lowering of interest-rates by the BOJ as well as for the stimulus-packages. All these governmental measures that were taken, were concocted to balance and stabilize prices in order to combat deflation. In this chapter a deeper look will be given as how Japan and the EU tried to maintain or achieve price-stability and why certain measures did not work in Japan, and try to give a forecast as why the measures taken by the ECB are more susceptible to work.

Although the formal definition states that price-stability is a situation where prices in an economy do not change and therefore stay stable, in this thesis with price-stability I emphasize the price-stabilizing factors to cope with deflation and turn it into at least a zero-level growth of decline.

2:1 Achieving stable prices in Japan after 1990

As previously mentioned, Japan entered a period of deflation after the bursting of the bubble. According to Paul Krugman this was also due to the fact that Japan entered into a liquidity-trap. I already briefly touched upon that subject, but here the ramifications of this liquidity-trap in the case of Japan will be explained, and also why Japan could not escape deflation due to this liquidity-trap.[48] Lars Svensson, professor of Economics at Princeton University, states that there are several measures that could be taken to escape from a liquidity trap and a deflationary spiral, but the most important one is that of a low nominal interest-rate which is applied by banks. However, we already saw that this in fact cannot be lower than zero, the so-called zero bound. Nevertheless, financial authorities could also take other measures to influence this, there is another way for central

48 Krugman, P., ‘It's Baaack: Japan's Slump and the Return of the Liquidity Trap’, *Brookings Papers on Economic Activity,* 2:1998, p. 137-205, p.190-191.

banks to manipulate this, explicitly via the real interest.[49] So, even if the nominal interest-rates are zero, or near to zero, the central banks can still influence the real interest-rates if it can positively manage to influence the private-sector expenditures on in/deflation. Svensson continues by stating that if the financial authorities could achieve to influence the trust of the private-sector in a positive way and make them believe that deflation was ending soon, the real-interest rate would also drop, and due to this the economy would automatically emerge from the recession and deflation, and would escape the liquidity-trap. If the private-sector would not be expecting the end of the deflation, the real-interest rate would stay high, and the economy would stay depressed with an ongoing deflation, and a lot of trapped money.[50] This is a bit like a self-fulfilling prophecy; in the way that Svensson states that if you want it to happen, it will happen, which – in my opinion – is a bit short-sighted.

When we project this theory on the matter of Japan we see that there this policy failed. The Bank of Japan failed to influence the private-sector in believing that the future has (high) inflation-rates. The reason behind this was that during the 1980s, when Japan experienced great growth, the central bank often would promise low future inflation, but eventually the central bank could not guarantee this, so the trust of the private-sector in the Bank of Japan shrunk. In the 1990s the same occurred, now only the other way around, so the BOJ could try to influence the private-sector, but they already experienced that they could not deliver, and later on the idea of deflation was embedded in the expectations of the private-sector, so the BOJ could not do much to change that idea.[51]

---

49 The real interest rate is the difference between the nominal interest rate and expected inflation

50 Svensson, L., 'Escaping from a liquidity trap and deflation: The foolproof way and others', *No. w10195. National Bureau of Economic Research*, 2003, p. 4-5.

51 Ibid., p. 6.

2.1.1 Extending the money-supply

Another point we can focus on is the money-supply in Japan. In chapter 1 we saw what caused the deflationary spiral in Japan, mainly the low aggregate demand of consumers in Japan. The aforementioned policy of quantitative easing would provide the Japanese economy with a huge amount of extra money which they then could use to buy products and thus raise demand. The problem with this is, that this QE-policy was only introduced in the beginning of 2001, and at that point the deflationary crisis in Japan was already present for a whole decade. Its relatively positive effects were simply too little and too late, and could not manouver the Japanese economy out of the deflation. And here lies the main misinterpretation made by the Japanese government and central bank. They already tried to extend the money-supply (M1) in their country, but the amount of money that was injected in the economy was far too little in order to compete with the deflation and boost prices, stabilizing the deflation and turning the negative spiral upwards. The Bank of Japan and the Japanese government stated that they already had done all they could do, by lowering income tax, and – more importantly – lowering the interest-rate. In addition, due to the loosened fiscal policy, there was no real money available for the MOF to cut even more taxes or increase public procurement. The only thing the BOJ and the Japanese government could do was initiate structural reforms in the several economic sectors, such as in the hard-hit banking sector. But here is the crux of the story. According to Krugman and Svensson, the limit regarding all the central bank could do was not reached at all. Krugman stated in 1998 that there is no limit on how much money a central bank can increase its national money supply, for example by buying government debt., so the government could engage in more tax cuts of public procurement.[52] Economic theory suggests that more money available, and the more it circulates leads to an increase of the price level as well as an increase of real expenditures. ***MV***

52 This actually happened 4 years after, when Japan initiated in the policy of quantitative easing. See p.14.

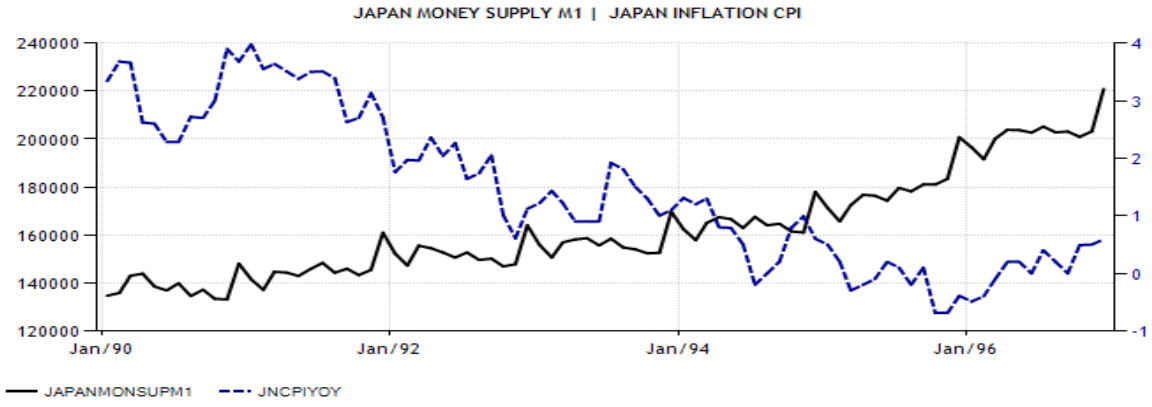
= *PT*, this is called the equation of exchange. [53] However, Krugman suggests that the Japanese did not take this opportunity due to the fact that they were afraid that rising the money supply even more – printing lots of money – would lead to a too high inflation, similarly to Argentina on several occasions, Zimbabwe in the 2000s and Germany in the 1930s. Krugman counters this argument by stating that this would only be the case if people would spend so rapidly that it would exceed the economy's capacity, which was highly unlikely.[54] In sum, the reason why the monetary expansion mid-nineties did not work, was because it was not done efficiently, nor with enough money.[55] The result of this can be seen in graph 9, although a gradual increase of the money-supply (M1) is achieved, the supposed effect of the increase of the money-supply (M1) on the rate of inflation is only aggravated. The effect of the expansion of the money-supply on the appreciation of currency is explained in the third chapter of this thesis, and the effect of that on the level of import and export in Japan and Europe.

53 Krugman, P., 'It's Baaack: Japan's Slump and the Return of the Liquidity Trap', 191-192.

54 Ibid., 192-194.

55 Svensson, L., 'Escaping from a liquidity trap and deflation: The foolproof way and others', 6-8.

Graph 9: Japanese Money-supply | Japanese Inflation-rate



[56]

2.1.2 Corporate structural reforms

Thirdly, the issue of structural corporate reforms by the Japanese government, mainly in the banking sector. After the bursting of the bubble, the Japanese realized that there were several measures to be taken in order to prevent this from happening again, and to continue combatting the disinflation/deflation. First of all, they had to reform the banking sector, because they realized that the banking sector was key in reviving the economy. As previously stated, the banks supplied loans to companies and consumers who in fact were not able to repay them, the so-called non-performing loans. This was a big problem for those banks, because the capital-ratio and reserve capital was impaired. Before the bursting of the bubble, the BOJ was very reticent in adjusting the Japanese financial system, mainly due to the fact that the opinion of the BOJ was that everything was going well, so change was unnecessary. After the bursting of the bubble the Japanese government tried to re-adjust the banking sector, however no substantial changes were made. Between 1990 and 1995 the Japanese financial authorities did very little to cope with the problems banks suffered, due to the collapse of the bubble. This was due to the fact that the Japanese government had – apparently false – hope that the economy would re-emerge from the crisis quite soon, so intervention was not necessary, because full economic recovery would 'save' the banks anyway. And even after 1995 – when it became clear that

56 http://www.tradingeconomics.com/japan/money-supply-m1, retrieved on 2/7/14.

Japanese banks were in deep trouble – the BOJ and the MOF still hesitated to take strong action, because they were afraid that their actions would trigger public panic with the Japanese population. Especially because of the Japanese lack of a viable deposit scheme and a solid legal framework to restructure banks in order to deal with a banking crisis on a large scale.[57] This forbearance of the BOJ and MOF towards banks in Japan can be seen in several actions of these institutions. For one, the BOJ had the authority to withdraw banking-licenses from banks, but did only so after these banks became insolvent, so when de-licensing of banks was the only thing left to do. With this aloof attitude, the BOJ and the MOF took the risk that the solvency ratio[58] of these banks could infect the Japanese economy longer than necessary.[59]

2.1.3 Banking supervision

Another point that shows that the BOJ and the MOF were not acting accordingly is that the financial authorities did not supervise the banks enough in their time of dire straits. After 1990, the BOJ should have supervised the banks with the non-performing loans better, in order to make them financially viable again. Instead of doing that, the BOJ did not intervene in the actions of banks. In this way, banks could still pay dividends to their stakeholders, even though they had a negative output on their balance. Also, the financial authorities did nothing to target the other main problem of the banks, namely the balance-extension.[60] This does not sound like a big problem, but in fact it is due to the fact that it lowers the solvency and heightens the debt ratio of a bank, due to the great amount of debt capital in their books. So a bank may look very

57 Kanaya, A., and Woo, D., 'The Japanese Banking crisis in the 1990s: Sources and Lessons', *IMF Working Paper WP/00/7*, January 2000, 1-47, 26.

58 Solvency ratio is the total outside liabilities divided by the total assets.

59 Kanaya, A., 'The Japanese Banking crisis in the 1990s: Sources and Lessons', 27.

60 The increase of active and passive assets equally.

healthy, with a lot of assets, but in practice it has a limited amount of own equity, which – when these loans become non-performing – creates the enormous problem that a bank has financed more than it had in own equity, and subsequently repay their loans, eventually becoming insolvent themselves.[61] Real banking supervision in Japan was established as late as 1998, one year after the Asia-crisis and eight years after the beginning of the deflationary crisis. The so-called Financial Revitalization Legislation (FRL) - which was composed of a Financial Reconstruction Commission and a Resolution and Collection Cooperation – did tackle some of the aforementioned problems with Japanese banks, but this was too late in the deflationary process.[62]

2.1.4 Fiscal Policy

Last but not least is the point of the Japanese fiscal policy. We already say that the Japanese government lowered income-tax to stimulate public aggregate demand and spending. However, the lowering of income tax had an adverse effect. Instead of spending, the Japanese consumers were prone to save even more establishing the exact opposite than what was supposed. This can also be attributed to the lack of trust in the economy, and the expectation of low growth or even contraction of the economy the economy.[63] And, because of the adversative effect of the tax reduction, the government came into budgetary and financial difficulties themselves, making it harder to target inflation with stimulus-packages, because it lacked the money to do so, except with loaned money which would only increase the government debt of Japan even more.[64]

---

61 Boonstra, W., 'ECB, bankentoezicht en politiek werken elkaar tegen', in *Kennis en Economisch Onderzoek Rabobank*, 2 juli 2014.

62 Hall, M., 'Recent banking sector reforms in Japan: an assessment', *Asian Business & Management 6.1,* (2007), 57-74, 62-63.

63 Nishizaki, K., 'Chronic Deflation in Japan', 15-16.

64 Kuttner, K., 'Passive savers and fiscal policy effectiveness in Japan', *Institute for International Economics*, (2002), 1-25, 14.

So to conclude, there are several reasons why deflation-targeting measures from the Japanese financial authorities did not work. First of all, the financial authorities failed to bring back trust in the financial system in an early stage, even though they introduced a very low interest-rate for banks. Secondly, they have extended the money-supply in Japan, but the allocation of the money was biased, and the amount of money was emitted too dispersed. It was like trying to extinguish a campfire one drop of water at a time, instead of snuffing it with a bucket of water at once. Thirdly, the Japanese announced corporate structural reforms were virtually non-existent, especially the reforms that were quintessential for the banking sector. This reserved approach of the BOJ and MOF caused the banks infecting the Japanese economy even more, and when the Japanese financial authorities finally decided to intervene – as promised - in the banking sector, it was too late, and even then not all the problems weret addressed adequately. Finally, the fiscal approach of the MOF was initially a good idea, but it did not sort the supposed effect due to the tendency of the Japanese to save rather than to spend. Additionally, this aggravated the Japanese problem even more due to the dire financial position the government came. (see graph 4)

2:2 Price-stabilizing measures in the EU and ECB after 2008

We saw that the Japanese government and their central bank tried to combat the deflationary crisis on the issues of structural corporate reforms, fiscal policy and an increase of the money-supply among others. In Europe and the Eurozone, financial authorities have tried to combat those issues in a rather different way, in order to make them more effective than the Japanese. For one there is the total restructuring of the banking sector in Europe, as well as the tightened supervision on banking in the EU. After the crisis had hit the European Union and the Eurozone in 2008, the ECB and the European Commission were quite reticent in combatting the crisis. However, after the government debt crisis in 2009 occurred, the EU was very quick to establish several rules and regulations in order to containing the problem, and prevent it from happening again. The first real step in this was the establishment of the European Financial Stability Facility (EFSF) and the European Financial Stabilisation Mechanism (EFSM) in 2010 which was agreed by all the members of the EU and had the objective to preserve the financial stability in the Eurozone, and would provide financial assistance for those who did not have their government budgets in order. In aiding distressed Member States in an early stage, the EFSF could tackle recession, subsequent economic retardation and eventual disinflation/deflation.[65]

2.2.1 Stability Mechanisms

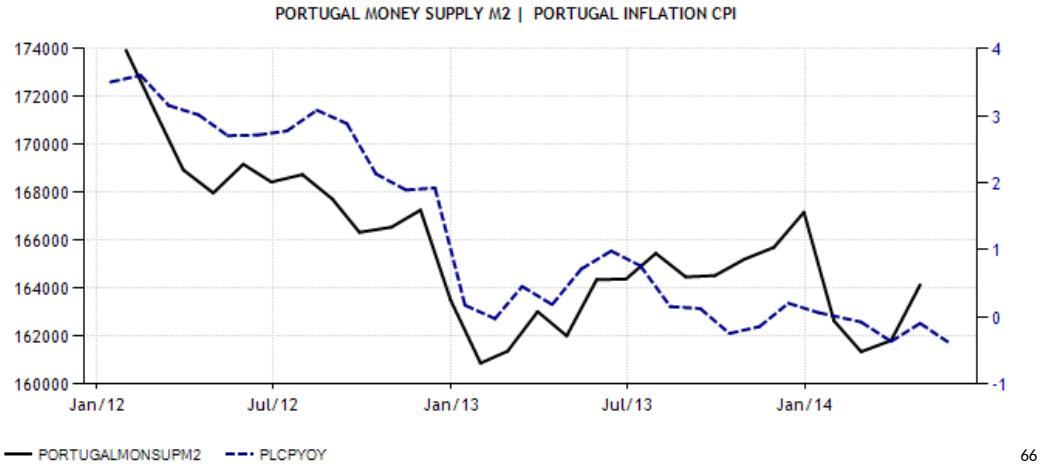
Actions by the EU to combat the recession and the disinflation did not stop there. The ESFS and the ESFM were seen as temporary measures to aid distressed governments. In October 2010 it was decided to replace the aforementioned institutes and create a stable rescue mechanism, namely

65 Aiding needy Member States financially gives the Member States the opportunity to stimulate their economies at own accord, via stimulus packages, fiscal easing etc. It also prevents Member States from going bankrupt, which has devastating effects on the economy of a country, as well on the economy of economically linked countries. Because of the fact that Member States in the EU are very economically interdependent, the crisis that will emerge from a Member States bankruptcy will affect surrounding Member States as well and will create an economic symmetric shock throughout the European Union.

the European Stability Mechanism (ESM). This ESM is another permanent refinancing programme which implies a structural financing of every Member State. The ESM consists of three components. 80 billion euro is directly available and is deposited by the Member States in five terms. Another 420 billion euro is hold back for credit guarantees for ESM-bonds, and an additional 250 billion euro can be made available by the International Monetary Fund (IMF). So in total a staggering 750 billion euro can be made available if one or more Member State of the EU proverbially go under.

However, there are a lot of rules and regulations Member States have to comply to if they want to apply to the ESM – a so-called bail-out. Structural reforms, reducing public procurement and make their national budgets healthy again are essential in that case. This, however, can and will have a negative effect on the rate of growth and inflation in that country, as can be seen in the example of Portugal in the graph below.

Graph 10: Portugal Money-supply | Portugal Inflation-rate



66

When government expenditure falls, and taxes rise in order to maintain to the budgetary standards set by the EU in order to apply for such a bail-out, this has a massive effect on the amount of money available in that country. People will have less money to spend, and less money (M1) is circulated in the economy. We already saw what a reduction of the money-supply does for the rate of growth and the rate of inflation in Japan, and the same could happen in the European Union. So we see that the

66 http://www.tradingeconomics.com/portugal/inflation-cpi retrieved on 9/7/2014

austerity measures that are required to apply for bail-out funds that are generated by the ESM can aggravate the deflationary spiral even more.[67] This can be seen in the example of Portugal in the graph above.

2.2.2 European Banking Union

Another measure taken by the European Union was the strengthening of the supervision on banking. Although the establishment of the European Banking Union (EBU) was not initially established as an anti-deflationary policy, it does however contribute to the price-stability process combatting deflation, because of the fact that the EBU was created in order to recapitalize undercapitalized banks who were facing liquidity and debt problems themselves, and weren't able to finance others. The EBU was created as part of the so-called Six-pack measures. These legislative measures were taken to have a more prudential macro-economic surveillance in Europe. The banking union was a part of this and it entailed the establishment of a Single Rulebook, a supervisory mechanism for banks and a single resolution mechanism. The first is a set of rules and laws that guarantee that other banks in the banking union rescue needy banks, instead of national governments, and imposes capital requirements for banks so that banks have an adequate amount of money and limit liquidity risk.[68] The second guarantees the strict supervision on banking, and the monitoring the implementation of the single rulebook. The third would guarantee the aforementioned recapitalization by means of a recovery fund, funded by banks within the banking union; this all under the supervision of the ECB. All and all this has several great advantages for the financial sector in general and for the safeguarding of the European banking sector. A banking union breaks the loop between the solvency of

67 Palley, T., 'The Simple Macroeconomics of Fiscal Austerity, Public Sector Debt and Deflation', *No. 8-2010. IMK at the Hans Boeckler Foundation, Macroeconomic Policy Institute*, (2010),1-18, 11-12.

68 Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC, L 176/366 and L176/421-422.

national banks and their governments, and therefore preserves a sovereign fiscal position of European states because they do not have to intervene financially anymore into national banks. Also in the other direction, a banking union inhibits government bonds to threaten domestic banking stability - as domestic banks classically own national government bonds -.[69] Also the deposit insurance measure is applied in many countries to protect people who have money with the bank up to 100,000 euro in the European Union, from losses caused by a bank's incapacity to repay its debts when unpaid. This should convey economic and financial stability to the European population and gain back trust in the economy itself.

This however also entails a problem regarding disinflation/deflation. When the risk is circumvented from national governments to the banks itself, and thereby to the investors of those banks, it is less profitable and more volatile to invest in those banks.[70] So the external capital of banks will fall, which implies that banks have to loan more with central banks in order to maintain the set capital requirements agreed upon in the Single Rulebook, as well as in the Basel accords. In order to compensate with that, banks will convey that loss on the interest-rate on money they loan out. When the interest-rate is higher, we already saw that people were less eager to loan simply because it is more expensive. And less loaning is less spending, which leads to the fall of prices.[71]

2.2.3 Macroeconomic Imbalance Procedure

Another measure that was taken prior to the ghost of deflation was another part of the previously mentioned Six-pack, namely the Macro-Imbalance Procedure (MIP). This MIP commits Member States to a set of directives and goals regarding economic growth or decline in the

69 Schoenmaker, D., 'Efficiency Gains of a European Banking Union'. *No. 13-026/IV/DSF51. Tinbergen Institute Discussion Paper*, 2013, 1-23, 16-17.

70 Allen, F., Carletti, E., 'The Financial implications of a banking union', in Banking Union for Europe: Risks and Challenges, CEPR, London (2012), 115-118, 116.

71 Kraaijeveld, D.P.C., 'On the effects of a European Banking Union', *Unpublished*, (Leiden, 2014) 1-13, 7.

Member States. It was designed to prevent and correct deleterious macro-economic developments such as high current account deficits and unsustainable debt. The MIP consists of a scoreboard which targets five external imbalances and seven internal imbalances, which have a European legal basis as stated in Regulation 1174/2011 and 1176/2011.[72] These measurements to cope with economic imbalances on a large scale are generally a good incentive for Member States to oblige with the demands the MIP sets, because of the fact that when Member States do not comply with the MIP, Member States can eventually be fined up to 0.1 percent of the national GDP. So through this, the surveillance of the macroeconomic movements throughout Europe can be monitored in a much better fashion, and controlled due to the big stick in the form of the fine that can be imposed.

However, the possible problem for price- and financial stability lies within this fine. A previously mentioned, Member States have to abide with the internal and external rules set by the European Commission, otherwise they will be fined. But here is the flux. Such a fine – which can amount to 800.2 million dollars for e.g. the Netherlands[73] - has a major impact on the financial stability of a Member State, and therefor on the stability of prices and consumer trust. Because when a Member State already experiences economic imbalances such as e.g. a general public debt that exceeds the set 60 percent of GDP, such a fine would only aggravate the financial problems and would put such a Member State only deeper in a downward negative spiral. The good news is that the European Commission to this date has never fined a Member State even though several Member States did not comply with the MIP. That subsequently raises the question if the supposed fine is not given, what is the added value of such a fine in the first place, and how does the MIP really contribute to price- and financial stability if no real sanctions will be imposed. Member States will lack the incentive to really abide, because the fine is not imposed, and if the fine

72 The MIP-scoreboard is added as an appendix in this thesis.

73 http://data.worldbank.org/country/netherlands retrieved on 14/7/2014.

would be imposed, the economic decay of such a country would aggravate even more.[74]

2.2.4 TLTRO and a negative interest-rate

The latest measures that were introduced are the TLTRO and the negative deposit interest-rate with the ECB. The latter gives the incentive to the banks not to store their money with the ECB because that will cost the banks money (0,1 percent). So the banks are enticed to lend money out, because that is more profitable for them. The ECB's directive wants to ensure price-stability, and the ECB tries to do so by aiming for an inflation-rate of approximately two percent on the medium-long term. The ECB tries to manipulate inflation by establishing the interest rates, for example if the inflation is too high, the ECB raises the interest-rates in order to make it less attractive and expensive to borrow, and more attractive to save.[75] Vice versa, if the ECB wants to rise inflation, it lowers its interest-rates in order to make it more attractive to borrow, and less attractive to save. Now, in the euro-area the inflation-rate is expected to be nowhere near the aimed two percent for a prolonged period, so the ECB has ordered to lower the interest-rates in order to boost inflation. The ECB has several ways to influence the interest rates, but it has three main interest-rates they could change. Firstly, the interest-rate of the lending capacity for overnight lending to banks. Secondly, the interest-rate on the deposit facility and thirdly the interest-rate for the main refinancing operations. The latter is the rate at which banks could lend from the ECB and the second is the rate which banks receive if they deposit money at the ECB. As of now, all the three interest-rates have been reduced, in order to combat deflation.[76] The ECB states that in order to keep a viable, functioning money-market in which also interbank loans can take place, all

74 Gros, D., ' Macroeconomic Imbalances in the Euro Area: Symptom or cause of the crisis?.' *CEPS Policy brief 266* (2012), 1-12, 10.

75 http://www.ecb.europa.eu/home/html/faqinterestrates.en.html, retrieved 14/7/2014.

76 Ibid.

these rates cannot be roughly the same, because if they were, market distortion would take place. Since a couple of years there was a certain margin between the refinancing-rate and the deposit-rate, about 0,25 percent. The refinancing-rate was at 0.25 percent and the deposit-rate was already at 0 percent. This meant that when the refinancing-rate was cut with 0.10 percent – in order to boost refinancing - the deposit-rate was also cut with 0.10 percent which meant a negative interest-rate on deposits, in order to preserve the margin. This measure taken by the ECB is a novelty in monetary policy, because never before has central bank done such a thing, however by doing so it guarantees an increase of the money-supply on the market, which in return would stimulate aggregate demand. Because of the fact that this measure is taken very recently, no real data is available to see substantial change, however, economic theory – as mentioned by Krugman – states that this will have a positive effect on price-stability and combatting deflation, due to the effect on the extension of the money-supply.[77]

The last measure I would like to reflect on is the TLTRO – the Targeted Longer-Term Refinancing Operations –. This stimulus programme, that amounts to 400 billion euro, is targeted for banks who can subscribe to the TLTRO for cheaper loans. The TLTRO licenses the ECB to grant four-year loans to banks at a low fixed interest-rate in order to boost banks to lend to SMEs and households, which have been known to be the weak links in European economic recovery.[78] This large, extra stimulus is perceived as a major boost in combatting disinflation deflation, because there will be a direct allocation of money to the small and medium sized enterprises (SME), boosting their demand in return.

This stimulus package looks like another great boost for the European economy, however there can also be a downside to the TLTRO. First of all, the TLTRO grants a four-year loan, this means that refinancing

77 Krugman, P,. ‘Thinking about the liquidity trap.’, 234-235.

78 http://www.ibtimes.com/draghis-latest-ecb-program-tltro-might-bring-nearly-1t-banks-survey-1627052, retrieved on 14/7/2014.

is needed in 2018, so this is not solving anything, it is just moving up the moment for the European financial authorities to really do something about the lack of demand, and the lack of a prone-to-loan attitude of SMEs. Another risk that sticks to the TLTRO programme, is that mainly banks will benefit from this programme, because of the fact that banks will use the TLTRO-funds to recapitalize current investments, instead of using the funds to directly capitalize SMEs, because banks want to oblige to the Basel-accords and the regulations of the ECB on non-performing loans.[79] However, the fact that banks use this fund to recapitalize current investments on SMEs means that there will be reserve capital available for new loans, and that the TLTRO will contribute to the expansion of capital disbursed by banks.[80]

2:3 Cross analyses price-stability Japan ’90-’96 vs. Europe ’08-‘14

When we compare the different approaches on price-stability in order to combat deflation in Japan and the EU, the first thing that stands out is the reticent approach of both the EU and the financial authorities in Japan. This can partly be explained by the fact that economies always move in a cyclical manner (the Kondratief-wave, the Juglar-cycle and the Kitchin-cycle), so severe intervention is not always necessary due to the fact that the economy would ‘heal’ itself.[81] However, in the case of Japan we can conclude that even after the patient attitude of the Japanese financial authorities in the hope for better times, Japanese prowess to actively deal with the issue of deflation and price-stability was insufficient. We witnessed that the measures taken by the Bank of Japan, and the

79 Beck, R., et al. ‘Non-performing loans: what matters in addition to the economic cycle?’, *European Central Bank, Working Paper Series No. 1515* (2013), 1-32, 10.

80 Fichtner, F., et al, ‘An investment agenda for Europe’, *DIW Economic Bulletin 4.7 (2014),* 3-6, 6.

81 Clements, M., et al., ‘Forecasting economic and financial time-series with non-linear models.’ *International Journal of Forecasting 20.2* (2004) 169-183, 172.

Ministry of Finance were too little, too late and therefore ineffective. This can be blamed on the lack of effective and timely corporate restructuring, the problems that arose from the loosened fiscal policy, the lack of regaining public trust by banks, and ultimately the indisposition of the Japanese financial authorities to expand the money-supply (M1) in Japan. Also the stimulus-packages that were granted by the MOF and BOJ were – due to the biased allocation of government funds, and the divided insufficient extension of the money-supply – did not sort the supposed effect. In sum, we can see that Japan has tried to take measures to fight the deflationary spiral, and that some measures that were taken in fact worked and were adjusted in time – such as the lowering of the interest-rate -, however, on several other occasions we must conclude that the measures did not work at all, and this can be mainly contributed to the reticent approach of Japanese authorities.

When paralleling this with the European approach we also see a similarity on the initial reticent approach, yet, this approach can also be contributed to the interpretation of cyclical economies just like Japan. Nevertheless, the difference is the way Europe has dealt with their crisis. Very soon after the crises emerged, the European Commission took steps in enhancing macroeconomic surveillance, setting guidelines for banks in the form of the European Banking Union, guaranteeing savings-deposits up to 100,000 euros and therefore creating trust among consumers. Although these measures were initially targeted to combat the ongoing recession, they also proved helpful in sustaining price-stability and fight deflation. Other – more recent – measures such as the TLTRO and the negative interest-rates for banks, which were directly proposed and introduced when the EU perceived disinflation/deflation as a serious threat for the European economy, show the active and hand-on approach of the European financial authorities. The effects of these recent measures cannot be shown yet, however large systemic European banks (Credit

Agricole)[82] as well as smaller European investment banks (Natixis)[83] all forecast positive effects on turning the disinflation/deflation in the near and distant future as a result of the TLTRO-measures and the negative interest rates.

Another point of comparing the EU and Japan is on the area of austerity and fiscal approach. We have seen that the Japanese were very lenient in granted fiscal benefits and tax reductions in order to raise aggregate demand, prices and through that alleviate deflationary pressure. This however, resulted in an astounding government debt for the Japanese, and rather than spending the mobilized funds, the Japanese consumers put this money on their bank-accounts. Therefore we can say that the mitigated fiscal approach of the MOF failed in combatting deflation. In Europe, however, we witnessed no fiscal reductions whatsoever. In fact, European Member States has pursued austerity measures to cope with the MIP-scheme, and in some cases even increased tax in the form of VAT[84], in order to keep the government debt at a low. Yet, this approach could also have a downside for growth and might aggravate the low inflation and deflation even more, due to the fact that this directly implies a contraction of the money supply, and undermined proper funding in order to stimulate the economy again, raising demand, therefore raising prices and turning deflation around.

On price-stability between the EU and Japan it can be stated that the Japanese approach of late intervention by financial authorities did not work to alleviate the Japanese economy out of their deflationary spiral. In the case of the EU we see that an early approach of the ECB on stimulus packages, increased macroeconomic- and banking-surveillance, the foundation of stability mechanisms cheap loans funded by the ECB, and a unprecedented negative interest-rate, are more likely to work due to their

82 Credit Agricole , 'The 400bn TLTRO question', in *Focus*, *Credit Agricole Group economic and sector analysis, Aperiodic – n°14/45* – (2014) 1-4, 4.

83 Natixis, 'Impact of the TLTRO', in *Flash Markets, Economic Research No. 542,* (7/7/2014), 1-16, 15.

84 E.g. in the Netherlands in October 2012, and in France in 2014.

non-reticent approach. Yet, some of the measures taken by the ECB and the EU could work aversively. Even though the first three aforementioned arguments were initiated before the EU perceived disinflation/deflation as a real threat, they do contribute to a faster and more efficient way out of a deflationary spiral. Where Japan and their financial authorities mainly tried to cure the deflationary decease via price-stability, the EU is more prone to prevent. However, no data is yet available to state that the EU-approach is more effective as of now, except in the relation of interest-rate and inflation-rate.

3: Currency appreciation

Where chapter two was mainly about the internal approach of the financial authorities to turn deflation around, this chapter will focus on the external side of deflation and the role of the financial authorities to boost external demand, therefore boosting prices and inducing inflation in Japan and the EU. One way to boost external demand is to devaluate a countries currency in order to make it cheaper for foreign parties to import from said country. In this chapter we will take a look at how respectively Japan and the EU tried to boost external demand via currency appreciation, and how did had an effect on aggregate demand, external competition and ultimately on deflation. Clearly, this also had an effect on employment, productivity, wages and regional imbalances but this thesis will not touch upon those subjects.

3:1 Currency appreciation of the Yen

Since the Louvre-accord and Plaza-accord[85] in the second half of the 1980s, the Japanese gradually became more expensive compared to the dollar. Due to the aforementioned accord, it was decided that the US dollar was overvalued, and therefore the Yen was actually undervalued. In the next years the Yen tremendously increased in value compared to the dollar, making their export position less beneficiary, and even dropping from 260.34/$1 in February 1985 to 83.53/$1 as shown in the table below.

Table 1: Value of the Yen compared to the U.S. Dollar

85 Both accords were called upon by the US due to their trade deficit with - among others – Japan and the overvaluation of the dollar compared to other world-currencies.

Year	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1985	254.11	260.34	258.43	251.67	251.57	248.95	241.70	237.20	236.91	214.84	203.85	202.75
1986	200.05	184.62	178.83	175.56	166.89	167.82	158.65	154.11	154.78	156.04	162.72	162.13
1987	154.48	153.49	151.56	142.96	140.47	144.52	150.20	147.57	143.03	143.48	135.25	128.25
1988	127.44	129.26	127.23	124.88	124.74	127.20	133.10	133.63	134.45	128.85	123.16	123.63
1989	127.24	127.77	130.35	132.01	138.40	143.92	140.63	141.20	145.06	141.99	143.55	143.62
1990	145.09	145.54	153.19	158.50	153.52	153.78	149.23	147.46	138.96	129.73	129.01	133.72
1991	133.65	130.44	137.09	137.15	138.02	139.83	137.98	136.85	134.59	130.81	129.64	128.07
1992	125.05	127.53	132.75	133.59	130.55	126.90	125.66	126.34	122.72	121.14	123.84	123.98
1993	125.02	120.97	117.02	112.37	110.23	107.29	107.77	103.72	105.27	106.94	107.81	109.72
1994	111.49	106.14	105.12	103.48	104.00	102.69	98.54	99.86	98.79	98.40	98.00	100.17
1995	99.79	98.23	90.77	83.53	85.21	84.54	87.24	94.56	100.31	100.68	101.89	101.86

[86]

Therefore, when the crisis emerged in 1990, Japanese producers experienced the problems that an expensive Yen entails. We already saw that due to the crisis, the internal aggregate demand fell, so producers had to export more in order to stay economically healthy. However, due to an expensive Yen, foreign consumers were not prone to buy Japanese goods or service simply because they were more expensive. The BOJ and the MOF are authorities who could influence the expensive Yen in order to boost external demand, but failed to do so because of multiple reasons.

3.1.1 Expanding the money-supply

There are several measures central financial authorities can take to artificially appreciate or depreciate their national currency. First of all, the opportunity to extend of decrease the circulating money-supply in Yen. Japan experienced an increase in value of the Yen, so logically an extension of the supply of Yen would devaluate the currency, simply because more supply will create less demand and will therefore lower the value of the Yen.[87] Therefore, printing extra Yen, or emitting more Yen on the world-market would depreciate the value of the Yen. Another option for financial authorities is the purchase of a currency to which the Yen was linked, namely the dollar.[88] Because both the currencies are bilaterally

86 Bank of Japan, 'Foreign Exchange Dates', retrieved on 16/7/2014.

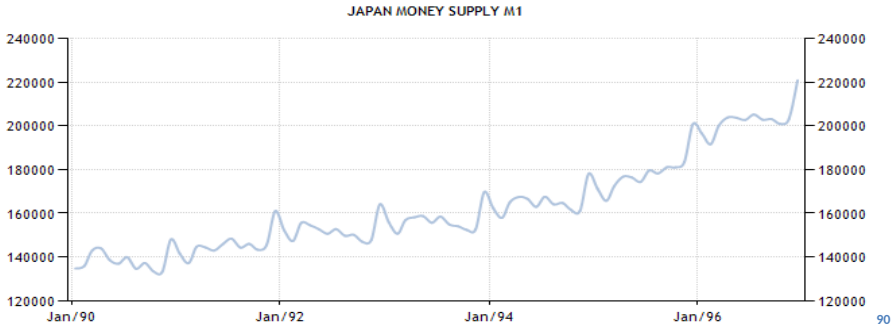
87 Devereux, M., Genberg, H., 'Currency appreciation and current account adjustment.', *Journal of International Money and Finance 26.4* (2007), 570-586, 571.

88 A decrease of supply in dollars equals a higher demand, which subsequently means a higher price as well.

converted, a more expensive dollar has the direct effect that the yen becomes cheaper.[89]

This, however, is all theory. In the case of Japan we see several external effect which inhibited Japan to act accordingly, as well as malignant effects of own policy in order to initiate internal demand and inflation. Firstly, we already saw that Japan failed to extend the money-supply (M1) sufficiently in the first years. This can also be seen in graph 12.

Graph 11: Japanese Money-supply



3.1.2 Foreign exchange market

As we can see, Japan only increased their money-supply just with 45 percent in six years, where – according to economists – more than double was required.[91] However, when the Japanese finally started to extend M1, the American market saw that this – concise – extension of the supply of Yen was bad for their own trading position in the world, so in return the American Federal Reserve started to buy Yen, and sell dollars, so that the American market would not suffer from the renewed Japanese currency-strategy. In return, the Japanese had to buy dollars back again, however due to the earlier mentioned fiscal alleviation from the Japanese government, no government funds were available to do so, except if they

89 Devereux, M., 'Currency appreciation and current account adjustment', 571-572.

90 Bank of Japan, 'Money-supply,' *Time Series Databank, Bank of Japan.* (1990-2000).

91 Krugman, P., 'It's Baaack: Japan's Slump and the Return of the Liquidity Trap', 180.

obtained extra money by increasing their government debt.[92] When the Japanese finally started to buy foreign-currency, the deflationary spiral had already hit quite hard, so Japan was – just as is was with internal price-stability- too reticent in their approach.

Table 2: Japanese amount of Foreign Exchange Reserves

Year	GDP Growth Rate (%)	Exchange Rate	Foreign Exchange Reserves (US$)
1990	5.2	144.8	78,500,590,000
1991	3.4	134.7	72,058,840,000
1992	1.0	126.7	71,622,670,000
1993	0.2	111.2	98,524,340,000
1994	1.1	102.2	125,860,200,000
1995	1.9	94.1	183,249,800,000
1996	3.4	108.8	216,648,000,000

[93]

3.1.3 Emerging Markets

Another problem Japan had were the emerging markets in Japan's vicinity. In the beginning of the nineties neighbouring States, such as South-Korea and Taiwan, emerged as a competing market for Japanese producers. Due to the fact that they produce at a lower cost, it is a direct competitor of the Japanese market and therefore they pinch orders, which lead to even lesser demand. To combat this tendency, the Japanese government could have imposed wage rigidity, so that producers had a bigger margin to lower their prices in order to compete with emerging markets, however, with wage rigidity the PPP[94] and the demand on a national level goes down as well, due to the fact that there is less money to spent.[95] So that was not an option.

---

92 Nanto, D., 'Japan's Currency Intervention: Policy Issues.' *Currency Interventions, Fluctuations and Economic Issues* (2005), 49-69, 59-60.

93 World Bank, 'Japan's GDP Growth Rate, Yen/Dollar Exchange Rate, and Foreign Exchange Reserves', 1970-2007.

94 Purchasing power parity.

95 Genberg, H. 'External shocks, transmission mechanisms and deflation in Asia', *Bank for International Settlements, Monetary and Economic Department*, (2005), 1-31, 26.

Another problem for Japan is the speculation with currency due to the low interest-rates the MOF and BOJ have established. The speculation with exchange-rates to lend cheaply, and deposit somewhere where he rates are higher – so-called carry-trade[96] – influences the rate of the Yen. Because the interest-rate in Japan was near zero percent, carry-trade in Japan rose and the supply of yen decreased, therefore soaring the price of the Yen once more.[97]

We can conclude that the Japanese government tried to influence and devaluate their national currency in order to make Japan more competitive and to raise demand and induce inflation. However, to a – again – reticent approach in extending the money-supply and in purchasing dollars, as well as an unbalanced national fiscal programme, Japan could not cope with their deflationary crisis. Admittedly, the surge of upcoming markets such as Taiwan and Korea, and to a lesser extent China also contributed to this, as well as the monetary policy of the USA in artificially keeping their currency low compared to the Yen, and currency-speculation.

---

96 Carry trade also implies a certain liquidity-trap, for the reason that the money-supply is circulated, however it is not spend. So the benefits of the extension of the supply of money to counter deflation is limited.

97 Darvas, Z., 'Leveraged carry trade portfolios', *Journal of Banking & Finance 33.5* (2009) 944-957, 951.

3:2 Appreciating the Euro.

In the European Union the issue of currency appreciation is different, because disinflation and deflation are quite recent matters. We see in the graph below that the conversion of the dollar and the euro in the last several years pushed the value of the euro quite upwards, making it more expensive. We already saw what an expensive currency can do for your export-rate, and for foreign demand for goods and services in that region. However, the European Union, and the Eurozone in specific has not really suffered from the historic high value of the euro compared to its main counterpart the dollar.

Graph 12: Value of the Euro compared to the U.S. Dollar

98

This can be shown in the current account surplus that the European Union has, and have had for the last six years. In the first quarter of 2014 the European had a current account surplus that amounted to 25,4 billion euro. That means that the Europe Union exports far more than it imports and its trading position in the world is still profitable, so until now no serious currency depreciation and intervention of the ECB was needed.

Table 3: Current Account Balance European Union

98 European Central Bank, 'US-dollar- Euro exchange rate', https://www.ecb.europa.eu/stats/exchange/eurofxref/html/eurofxref-graph-usd.en.html, retrieved on 19/7/14.

EU28	Q1/2013	Q2/2013	Q3/2013	Q4/2013	Q1/2014
Current account balance	32.9	47.3	29.8	32.7	**25.4**
Balance of trade in goods	3.8	9.9	0.3	7.7	**1.8**
Balance of trade in services	42.5	41.0	44.2	43.5	**45.9**
Current account balance as % of GDP	1.0%	1.4%	0.9%	1.0%	**0.8%**

[99]

However, we see that the trend – as shown in table 3 – is a downward one. Although the European Union still has a current account surplus, it loses ground and meanwhile the unemployment levels[100] in the European Union are rising. In order to make European exports rise again, and thereby lowering unemployment, the ECB should extent the money-supply of the euro even further and the ECB should buy dollars on a large scale. This has also been advised by the International Monetary Fund, but no steps in that direction have been taken yet.[101]

Another point why the ECB has not done a lot in depreciation the current expensive euro is because of the amount of trade that is between the EU and the rest of the world. Over 68 percent of the total trade in Europe is inter-European.[102] That means that the EU has little interest in the value of the euro, because it is their currency and no exchange conversion has to be applied. Yet, for the other 32 percent it is key that is has to become more attractive for foreign markets to import from the European Union in order to boost demand, up productivity, up employment levels, up wages, up prices and eventually up inflation.

---

99 Eurostat News Release, 'Second estimate for the first quarter of 2014 EU28 current account surplus €25.4 bn €45.9 bn surplus for trade in services', 114/2014 - 18 July 2014.

100 Unemployment lowers demand, therefore prices and induces disinflation/deflation.

101 http://online.wsj.com/articles/imf-urges-ecb-to-consider-a-large-scale-asset-purchase-program-1403198290, retrieved on 19/7/14.

102 http://www.wto.org/english/res_e/statis_e/its2013_e/its13_world_trade_dev_e.pdf, retrieved on 19/7/14.

3.2.1 Foreign exchange market

Mario Draghi has already announced that the high value of the euro compared to the dollar is one of the reason that the inflation rate in Europe is close to zero, however in the ECB projections released in June, no significant steps are made to depreciate the euro in order to make trade with Europe more attractive, in terms of buying foreign currency.[103] However, with the measures taken by the ECB displayed in chapter 2, we see that the ECB has already extended the money-supply (M1) in Europe, lowering the value of the euro. Also, they have done so in a rapid pace.

To conclude, the European financial authorities have already take some measures to make the EU more attractive to import from, subsequently raising production, demand and finally prices, in terms of extending the money-supply (M1). However, the ECB hasn't used their full potential. The measure of acquiring of dollars to lower the value of the euro, has not been displayed yet. However, the necessity of euro depreciation is not a key priority due to the existing current account surplus, and the large percentage of inter-European trade.

103 ECB,' June 2014 ECB staff macroeconomic projections for the Euro area', *ECB*. (2014) http://www.ecb.europa.eu/pub/pdf/other/ecbstaffprojections201403en.pdf, retrieved on 19/7/14.

3:3 Analysing currency appreciation Euro vs. Yen

When comparing both the measures that the BOJ and MoF have taken in the past, and the measures currently taken by the ECB, we see similarities and differences. We see that the BOJ and MoF have reticently extended the money supply in order to make the Yen more attractive, but just like we concluded in chapter 2, they failed to do so in an adequate and timely manner. The ECB did extent the money-supply of euros in an early stage, therefore coping with the issue of currency appreciation sooner. We also see that the BOJ and MoF tried to depreciate the Yen by buying foreign currency – namely dollars – but due to their erratic fiscal position - which they obtained in order to boost internal demand, which should induce inflation - they lacked the funds to do so in a proper way. However, the Japanese financial authorities have done more in the foreign exchange field then the ECB, which has not acquired foreign currency in order to make the euro more attractive on the world market. However, for the euro this was not as big a necessity as for the Yen, due to the fact that the Japanese economy[104] was for more reliant on exports[105] than the European Union, which – due to its internal market and trading block-system – is more reliant on inter-European trade.

Another point why Japanese authorities should have done more is the surge of emerging markets in the vicinity of Japan. The emerging markets like Taiwan, Korea and China diminished the demand for Japanese goods as well, so the BOJ and the MoF should have done more to devaluate their currency in order to boost demand. The ECB did not have this problem because no real emerging markets threatened the foreign trade in Europe. An extra problem the Japanese had was the currency-speculation in the form of carry-trade, and the monetary-policy of competing economies such as the Unites States. Surely, the European

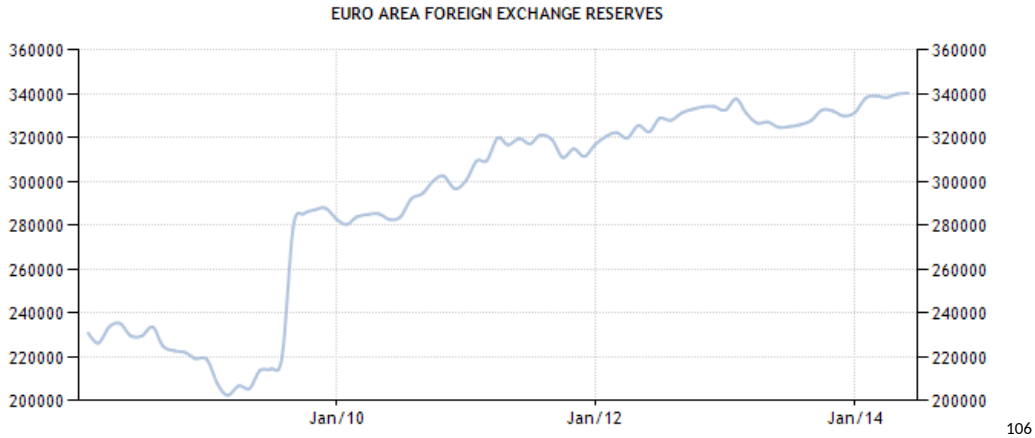
104 Japan ranking third in overall exports and import lists with over 43 percent of Japanese trade is foreign trade.

105 http://www.wto.org/english/res_e/statis_e/its2007_e/its07_appendix_e.htm, table 1-17. Retrieved on 20/7/14.

Union also has these problems but are financially strong enough to cope with these problems, when they would tackle these problems in an early stage.

The European Union does not face the issues mentioned above. But if we only compare the approaches of the ECB and the BOJ and the MoF we see that the Japanese have tried to do more in depreciating their currency in order to make in more attractive for exports, however they have failed in establishing a cheaper currency, on the contrary they established a gradually more expensive Yen up till 85/1$ in 1995, worsening their trading-position across the world. The ECB has done less; they have extended the money-supply (M1) but this was more to boost internal spending than boost external demand. The ECB could also buy more foreign currency, however as of now, no real steps have been taken to do so on a large scale, except for in 2010, where in one time for 60 billion USD currency was bought, as can be shown in the graph below.

Graph 13: European Foreign Exchange Reserves



106

Furthermore, the European Union has many trade-partnerships across the world to guarantee themselves from a certain perpetual trade influx. So, even when the European Union relies heavily on its internal market, also for external demand they have already made the necessary steps, such as the transatlantic trade and investment partnership (TTIP), and is currently negotiating even more trade-agreements with other nations and regions

106 http://www.tradingeconomics.com/euro-area/foreign-exchange-reserves, retrieved on 21/7/14.

all over the world to secure demand.[107] Japan also had trade-agreements but on a far smaller scale, namely only the Asian Pacific Economic Cooperation (APEC), resulting on more heavy reliance on currency-appreciation, in order to further boost external demand.[108]

107 European Commission, ‘Overview of FTA and other trade negotiations’, 8/7/14.

108 Manger, M., ‘Competition and bilateralism in trade policy: the case of Japan's free trade agreements,’ *Review of International Political Economy 12.5* (2005), 804-828, 807.

Conclusion

This thesis has defined deflation, and described the causes and consequences of deflation in Japan in the period 1990-1996, and in the European Union in the period 2008-2014. Furthermore, it has given a clear overview of the intentions as well as the measures taken by both the central financial authorities of Japan and the EU, and it gave a clear overview of the reasons of deflation in Japan and in the European Union. When analysing Japan and the EU on the issues of deflation, price-stability and currency-appreciation, I can conclude that – although Japan tried to use all theoretic countermeasures to deflation – Japan failed in their approach. Not only because the lack of confidence by the Japanese population, but mainly due to the fact that the Bank of Japan and the Ministry of Finance have been too reticent in their approach in combatting deflation. Almost every measure they took, from extending the money-supply in the form of tax alleviation to the form of stimulus-packages to restructure the banking sector, were too little and too late.

However, not only in the internal market of Japan they failed, also in the external field. Due to their own fiscal shortcomings – steps that were taken to raise internal demand and prices - , they lacked the funds to purchase foreign currency to depreciate their own Yen in order to boost external demand, therefore raising productivity, wages and subsequently prices. It is because of this that the deflation in Japan could simmer for such a long time entering not only into a deflationary trap, but also into a liquidity trap. Once the Japanese financial authorities realised that they had to intervene, they were too late in reversing the problem.

Consumer trust and business confidence was thus diminished to such an extent that the measures that were taken, did not seemed to help anymore, and Japanese consumers and businesses were not inclined to spend more, despite the governments stimulations. The cleared money for the extension of the money-supply was not spent, it was put into savings accounts, which had the effect that demand and prices were going down even more, and that the public debt of the government rose even more;

exactly the opposite of the intended effect. Even when the BOJ and the MoF decided to stimulate demand with extra money, they did not do so adequately . It was trying to kill a campfire with water, only one drop at a time. The only measure that was taken in time by the Japanese financial authorities, was the lowering of the interest-rate, however, due to the lack of confidence and the reluctant approach of banks, lowering of interest-rates just did not do the trick.

When we compare this with the approach of the European Union, we see that the European Union operated more effectively, but more importantly, they have done so in time. Extension of the money-supply has been swift and adequate, as well as the lowering of the interest-rate after the several financial crises that occurred in the EU. Admittedly, the measures of creating stability-mechanisms, restructuring banks and the introduction imbalance-procedures caused no direct effects of an impending deflationary hazard. However, they did contribute to a stronger framework to target economic problems, such as deflation, in the future. Likewise they proved the tendency of Europeans – as a whole – to follow incentives created by the ECB, how cautious this tendency might have been. Also the measures that were taken to directly tackle deflation in Europe were taken rapidly as well as adequately. Compared to Japan, ECB-measures - like the negative interest-rate for banks - and the TLTRO have been introduced in time, and are more likely to contribute to the solution, albeit that to these measures several problems also stick for the future. When we look at the financial approach of the EU towards external demand, we see that the ECB and others have not done everything in their power to boost external demand, where especially in the area of acquiring foreign currency the ECB could be more thorough.

The fiscal alleviation the Japanese government gave to their population eventually caused more problems in Japan, such as there are the huge government debt and the continuing lack of confidence in the economy by businesses and consumers. In Europe, also due to the legal structure of the European Union, no fiscal cuts were granted on a large

scale. This also implied a not that high European-government debt which could invoke further economic problems.

Coming back on the main question of this thesis: When comparing both the approaches on deflation by the Japanese and European central and financial authorities, why and how did Japanese authorities fail to combat deflation in the period 1990-1996, and how do European authorities cope with the problem of deflation in the period 2008-2014? And, based on the different way of approaching, can the European Union expect the same Japan-style deflation in the future? Research shows that the approach in Japan of financial authorities mainly did not work due to the fact that the BOJ and the MoF were very reticent in their intervening approach, next to the measures that they took that proved to be inadequate and sometimes biased. According to literature and my own research we can state that the measures that were taken by the European Union have proven to be far more effective and have the tendency to tackle the problem of disinflation/deflation in a much earlier stage, preventing Europe from entering a deflationary trap and a liquidity trap. The European Union has created more viable conditions to facilitate growth and inflation due to earlier intervention. Japan failed to create these circumstances, and that – among other reasons- resulted in the deflationary crisis it has been in for over twenty years.

Ulterior motives for Japanese deflation lay also in the external problems Japan had to face such as emerging markets, currency-speculations such as carry-trade, and monetary-policy from competing nations such as the United States, of whose economy Japan has been very much depending. The European Union does not have that problem to such an extent, also because the lack of competing emerging markets, and the fact of having several trade-agreements world-wide which guarantee them a perpetual influx of external demand, even if their main focus (trade wise) is their own internal market.

To answer the second part of the question, I cannot give a straight answer. Although the European Union has done a lot to combat deflation and have done so in an suitable way, one must realize that this is only a top-down approach, with actions that so far might trigger economic

change. This however is no certainty and also other bottom-up factors contribute to the reflation of the economy in the European Union. Economics is no natural science and action equals reaction does not always apply in this area of expertise, due to the numerous variables the economy entails. The issue of deflation can be tackled by adequate monetary policy, but the main problem with deflation is gaining public confidence in order to raise demand and thus boost the economy. This makes this problem an issue of behaviour psychology where financial authorities can trigger a reaction but cannot enforce it; it still remains up to the businesses and consumers to act accordingly to boost demand. Although, we have seen that European businesses and consumers are more prone to the measures taken by the ECB, compared to the Japanese. This is clearly demonstrated when we compare the measure of reducing the interest-rate and its effect of the inflation-rate between Japan and Europe.[109] Perhaps early intervention create more consumer-trust and business-confidence - which subsequently could raise demand and prices, therefore counteracting against deflation-, and with late intervention a more reticent attitude of businesses and consumers can be expected. It is also possible that Europeans have more faith in the potential power of the ECB and the EC in countering economic problems. Yet further research is needed to confirm and prove that both of these statements.

As mentioned before, this thesis did not include bottom-up approaches of deflation. Further study could be done in the areas of wages, employment, productivity, regional competitiveness, labour-immobility in both regions and even the role of the media as well as politics in confining the public with tendentious negative news. Also social-economic differences between the Japanese and the Europeans might give other reasons why Japanese approaches on deflation did not work, and are more likely to work in Europe, such as the tendency of especially the Dutch and the Germans to take out more loans. Mortgages in the Netherlands are still subsidised in the form of tax reductions, and

109 See graph 7 and 8, where in Europe a certain turning-point can be witnesses as a result of the low interest-rate, and in Japan none at all.

also study-financing is a form of a loan from the government in the Netherlands. As said, more research has to be done in the bottom-up approach on deflation, as well as a closer look in regional differences in deflation. We witnessed that some parts of the European Union already experience deflation for a while, and how this regional effect can also be tackled by both the central financial authorities, as well as by companies is still to be seen.

To conclude, the supposed economic hara-kiri of monetary-policy that Japan embarked upon, will probably not be the case in the European Union. The EU has created and instigated a stronger framework of institutions to cope with the problem of deflation, and has – unlike Japan- in an early stage devised and implemented measures that would tackle the issue. One can also conclude that the Europeans are more likely to react to the incentives taken by the European central and financial authorities, therefore making them more effective, as compared to the Japanese and the measures taken by their authorities, looking at the effects of both policies. Therefore the European Union has created more viable conditions to facilitate growth and inflation. So merely looking at monetary-policy, the European Union is not heading down the tragic trench of deflation, as nowadays often is stated in the media. If these measures would definitely help against an upcoming deflation in the EU, I cannot say yet, due to the widely diverse range of variables that could boost or knock demand on a level beyond the powers of financial authorities and their top-down approach.

Leiden, 28th of August 2014

D.P.C. Kraaijeveld

Bibliography

Academic Journals

- Allen, F., Carletti, E., ‘The Financial implications of a banking union’, in Banking Union for Europe: Risks and Challenges, CEPR, (2012).
- Bagus. P, ‘Deflation, When Austrians became Interventionists’, *The Quarterly Journal of Austrian Economics Vol.6 No. 4* (2003).
- Beck, R., et al. ‘Non-performing loans: what matters in addition to the economic cycle?’, *European Central Bank, Working Paper Series No. 1515*, (2013).
- Clements, M., et al., ‘Forecasting economic and financial time-series with non-linear models.’ *International Journal of Forecasting 20.2*, (2004).
- Darvas, Z., ‘Leveraged carry trade portfolios’, *Journal of Banking & Finance 33.5*, (2009).
- Devereux, M., Genberg, H., ‘Currency appreciation and current account adjustment.’, *Journal of International Money and Finance 26.4* (2007).
- Farmer, R., ’Animal Spirits, Financial Crises and Persistent Unemployment.’, *The Economic Journal 123.568,* (2013).
- Fichtner, F., et al, ‘An investment agenda for Europe’, *DIW Economic Bulletin 4.7* (2014).
- Genberg, H. ‘External shocks, transmission mechanisms and deflation in Asia’, *Bank for International Settlements, Monetary and Economic Department*, (2005).
- Gros, D., ‘ Macroeconomic Imbalances in the Euro Area: Symptom or cause of the crisis?.’ *CEPS Policy brief 266* (2012)
- Hall, M., ‘Recent banking sector reforms in Japan: an assessment’, *Asian Business & Management 6.1,* (2007).
- Ihori, T., ‘Japan’s Fiscal Policy and Fiscal Reconstruction’, *International Tax and Public Finance*, *Volume 13, Issue 4*, (2006).
- Ito, T. and Iwaisako, T., ‘Explaining asset bubbles in Japan’, *Monetary and economic studies,* Vol. 14,(1996).
- Ito, T., ‘Monetary Policy and Financial Stability: Is Inflation Targeting Passé?’, *ADB Economics Working Paper Series No. 206*, (2010).
- Kanaya, A., and Woo, D., ‘The Japanese Banking crisis in the 1990s: Sources and Lessons’, *IMF Working Paper WP/00/7*, (2000)
- Kraaijeveld, D.P.C., ‘On the effects of a European Banking Union’, *Unpublished Leiden University*, (2014).
- Krugman, P., 'Thinking About the Liquidity Trap', *Journal of the Japanese and International Economies, v.14, no.4,* (2000).
- Krugman, P., ‘It's Baaack: Japan's Slump and the Return of the Liquidity Trap’, *Brookings Papers on Economic Activity, vol.2,* (1998)
- Krugman, P., ‘Japan’s trap,’ *Foreign Affairs,* (1999).

- Kuttner, K., ‘Passive savers and fiscal policy effectiveness in Japan’, *Institute for International Economics*, (2002).
- Manger, M., ‘Competition and bilateralism in trade policy: the case of Japan's free trade agreements,’ *Review of International Political Economy 12.5* (2005)
- Nanto, D., ‘Japan’s Currency Intervention: Policy Issues.’ *Currency Interventions, Fluctuations and Economic Issues*, (2005).
- Nishimura, K. and Kawamoto, Y., ‘Why Does the Problem Persist? “Rational Rigidity” and the Plight of Japanese Banks’, *The World Economy*, 26 (2003).
- Nishizaki, K., ‘Chronic Deflation in Japan’, *BIS Paper No.7*. (2012).
- Palley, T., ‘The Simple Macroeconomics of Fiscal Austerity, Public Sector Debt and Deflation’, *No. 8-2010. IMK at the Hans Boeckler Foundation, Macroeconomic Policy Institute*, (2010).
- Rothbard, M.N., "America's Great Depression"*, The Positive Theory of the Cycle*, (1963).
- Saxonhouse, G. and Stern, R., ‘The Bubble and the Lost Decade.’, *Japan and the World Economy*. 26:3,(2003).
- Schoenmaker, D., ‘Efficiency Gains of a European Banking Union’. *No. 13-026/IV/DSF51. Tinbergen Institute Discussion Paper*, (2013).
- Setterfield, M., ‘Wages, demand and us macroeconomic travails: Diagnosis and prognosis.’, in *After the Great Recession: The Struggle for Economic Recovery and Growth* (2013).
- Svensson, L., ‘Escaping from a liquidity trap and deflation: The foolproof way and others’, *No. w10195. National Bureau of Economic Research*, (2003).
- Ugai, H., ‘Effects of the quantitative easing policy: A survey of empirical analyses’, *Monetary and Economic Studies-Bank of Japan 25.1* (2007).
- Yetman, H., ‘Anatomy of Deflation’*, Hong Kong Institute for Monetary Research Working Paper*, (2008.

Books

- Firgo, M., ‘Exits from the crisis: Reforms and Growth’, in ‘Political Economy in the Eurozone: Reforms and their Limits’ (2013).
- Yoshikawa, H., ‘The Lost Decade’, (2000)

Newspaper Articles and Corporate Magazines

- Boonstra, W., ‘ECB, bankentoezicht en politiek werken elkaar tegen’, in *Kennis en Economisch Onderzoek Rabobank*, *vol. 3*, (2014).
- Credit Agricole , ‘The 400bn TLTRO question’, in *Focus*, *Credit Agricole Group economic and sector analysis, Aperiodic – n°14/45* – (2014).
- Evans-Pritchard, A., ‘Europe moves nearer to Japanese-style deflation trap with shock price falls’, *The Telegraph*, 31-10-2013. (2013).

- Eurostat News Release, 'Second estimate for the first quarter of 2014 EU28 current account surplus €25.4 bn €45.9 bn surplus for trade in services', 114/2014 (2014).
- Gould., J.E., 'Roadmap to a banking Union', *The Financialist by Credit Suisse*, (2014).
- Irwin, N. 'Europe's Central Bank Gets Serious About Fighting Deflation', *The New York Times*, 5-06-2014.
- Krugman, P., 'Reckonings purging the rottenness', *New York Times,* 25-4-2001, (2001).
- Natixis, 'Impact of the TLTRO', in *Flash Markets, Economic Research No. 542*, (2014).
- Rockwell jr., L.H., 'Deflation: Hurray!', *The Free Market Vol. 23 No. 8,* (2003).
- Powell, B., 'Explaining Japan's Recession', *Mises Daily*, 19-11-2002.
- Wolf, M., ' The foolish praise for austerity', *Financial Times,* 30-9-2010.

Presentations and Speeches

- Bernanke, B., 'Deflation: Make sure "it" does not happen here', *Keynote speech before the National Economist Club*, Washington D.C., 21-11-2002.

Primary Sources

- Bank of Japan, 'Foreign Exchange Dates'.
- Bank of Japan, 'Money-supply,' *Time Series Databank, Bank of Japan.* (1990-2000).
- Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC, L 176/366 and L176/421-422.
- European Central Bank, 'US-dollar- Euro exchange rate', 2004-2014.
- ECB,' June 2014 ECB staff macroeconomic projections for the Euro area', *ECB*. (2014) http://www.ecb.europa.eu/pub/pdf/other/ecbstaffprojections201403en.pdf.
- European Commission, 'Overview of FTA and other trade negotiations', (2014)
- European Union, 'Treaty on the Functioning of the European Union', article 65.
- World Bank, 'Japan's GDP Growth Rate, Yen/Dollar Exchange Rate, and Foreign Exchange Reserves', 1970-2007.
- http://www.tradingeconomics.com/japan/inflation-cpi. * Original data from the Japanese Ministry of Finance.
- http://www.tradingeconomics.com/japan/gdp-growth-annual. * Original data from the Japanese Ministry of Finance.

- http://www.tradingeconomics.com/japan/government-debt-to-gdp. * Original data from the Japanese Ministry of Finance.
- http://www.tradingeconomics.com/greece/inflation-cpi. * Original data from Eurostat
- http://www.tradingeconomics.com/germany/inflation-cpi. * Original data from the German Ministry of Internal Affairs
- http://www.tradingeconomics.com/euro-area/foreign-exchange-reserves. * Original data form Eurostat
- http://www.tradingeconomics.com/euro-area/inflation-cpi. * Original data form Eurostat
- http://www.tradingeconomics.com/euro-area/interest-rate. * Original data form Eurostat
- http://www.tradingeconomics.com/japan/inflation-cpi. * Original data from the Japanese Ministry of Finance.
- http://www.tradingeconomics.com/japan/money-supply-m1. * Original data form the Bank of Japan
- http://www.tradingeconomics.com/portugal/inflation-cpi. * Original data from the National Statistics Bureau in Portugal.
- http://data.worldbank.org/country/netherlands.
- http://www.ecb.europa.eu/home/html/faqinterestrates.en.html.
- https://www.ecb.europa.eu/stats/exchange/eurofxref/html/eurofxref-graph-usd.en.html.
- http://www.wto.org/english/res_e/statis_e/its2013_e/its13_world_trade_dev_e.pdf.
- http://www.wto.org/english/res_e/statis_e/its2007_e/its07_appendix_e.htm, table 1-17.

*The website trading-economics.com provides current and historical economic data from countries, and has also the capability to put these data in graph, figures and tables. These data originally comes from national statistical bureaus, ministries and banks, but to be clear and transparent in my actions, I used the appliance on the website to create the graphs, which directly uses these data.

Websites

- http://www.forbes.com/sites/realspin/2014/04/29/the-next-japan-how-deflation-threatens-the-european-union/.
- http://www.bloomberg.com/news/2014-03-05/ecb-may-repeat-japan-mistake-that-triggered-lost-decade.html.
- http://blogs.reuters.com/macroscope/2014/02/13/japan-style-deflation-in-europe-getting-harder-to-dismiss/.

- http://www.cnbc.com/id/101340902.
- http://www.businessinsider.com/ecb-meeting-november-2013-11
- http://www.spiegel.de/international/germany/help-for-europe-s-biggest-economy-germany-seals-50-billion-euro-stimulus-plan-a-600977.html
- http://www.ibtimes.com/draghis-latest-ecb-program-tltro-might-bring-nearly-1t-banks-survey-1627052
- http://online.wsj.com/articles/imf-urges-ecb-to-consider-a-large-scale-asset-purchase-program-1403198290

Appendices

❖ Measurements of money supply

Measures of the Money Supply Compared

Component	M0	M1	M2	M3	MZM[1]	TMS[2]	Shedlock's M Prime
bank reserves[3]	✓						
currency in circulation	✓	✓	✓	✓	✓	✓	✓
US government demand deposits + note balances						✓	✓
checking/transactions accounts/demand deposits		✓	✓	✓	✓	✓	✓
other checkable accounts		✓	✓	✓	✓	✓	✓
travellers checks		✓	✓	✓	✓		
savings accounts			✓	✓	✓	✓	
demand deposits of foreign commercial banks						✓	
demand deposits of foreign official institutions						✓	
money held in money market funds			✓	✓	✓		
small certificates of deposit (CDs)[4]			✓	✓			
large certificates of deposit (CDs)[5]				✓			
Sweeps							✓

❖ Austrian School of Economics on deflation

The Austrian School of Economics sees deflation not necessary as something negative as such. First and foremost, the Austrian School does not define deflation as a general fall in prices, but they perceive it to be a contraction of the money supply. Murray Rothbard, an American economist and political philosopher, states that deflation is not as bad as the Keynesian and Monetarist economist claim it to be. Rothbard refutes that deflation would depress business, secondly he refutes that a deflation induced increase in real debt would hinder production, and thirdly he contradicts that deflation would aggravate a depression. Rothbard states that falling prices could even lead to a stimulus for employment and business activity, if for example the wage rates drop faster than product prices.[110] Another point the Austrian School makes is stated by Llewellyn Rockwell, the current chairman of the Ludwig von Mises Institute. Rockwell

110 Rothbard, M.N., 'America's Great Depression', *The Positive Theory of the Cycle*, 17.

states that deflation isn't always bad and that mild deflation sometimes can signal a healthy economy. Rockwell states that for businesses deflation can be very prosperous. When the costs of replacing machinery in a factory is reduced as a consequence of deflation, more money is available for investments, marketing and salary of employees. Also, amortization is cheaper because companies had reserved more money than needed. This will have a positive influence on the general profit of a company what indirectly entices investors with more dividend.[111] Moreover, Rockwell states that in times of depression deflation is even needed, because of the fact that soaring prices in times of economic despair will put a lot of people in the position of not be able to pay more expensive goods with the money they do not have.[112]

- **Macroeconomic Imbalance Procedure Sheet**

Indicator		Accepted range
Current account balance	3-year moving average, % of GDP	between +6 % and -4 %
Net international investment position	% of GDP	> -35%
World export share	in current value, 5-year percentage change	> -6%
Real effective exchange rate	vis-à-vis 35 industrial countries, based on consumer-price indices, 3-year percentage change	-/+5 % (euro-area) -/+11 % (non euro-area)
Nominal unit labour cost	3-year percentage change	< 9% (euro-area) and <12% (non euro-area)
Private sector debt	% of GDP	< 160%
Private sector credit flow	% of GDP	< 15%
House prices relative to consumer prices	year-on-year changes, in %	< 6%
General government debt	% of GDP	< 60%
Unemployment rate	3-year moving average, in %	< 10%

111 Rockwell jr., L.H., 'Deflation: Hurray!', *The Free Market Vol. 23 No. 8,* (August 2003).

112 Ibid.