

QUANTITATIVE EASING LIMITS. EVIDENCE FROM JAPAN

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Abstract

In the post-crisis reality, the Quantitative Easing (QE) has started to be used as a tool for boosting credit activity and to revival the economic growth. While QE initiatives have been enforced by some advanced economies (U.S., Japan, EU) our paper aims to assess their success, basing its assumptions mainly on the Japanese experience. Our analysis will briefly review several important theoretical contributions to this particular topic presented in the recent scientific literature and will further evaluate, through a SWOT analysis, the strengths and the weaknesses of this unconventional monetary policy. In the final part of our research we will assess the possible success of the European Central Bank's (ECB) QE initiative through a comparative analysis which takes into account the "lessons learned" from the Japanese experience. .

Key-words: quantitative easing, inflation, credit activity, Japan economy

JEL Classification: E, E5, E58, E59

1. Introduction

While in the post-crisis era the economic growth remained sluggish in most of the advanced states and even in the emergent countries, the monetary policy started to be used in order to boost economic growth. Since the classical monetary policies failed to deliver the expected results¹, many Central Banks (CBs) resorted to a series of experiments with unconventional monetary tools to stimulate the economy, among them being the quantitative easing.

According to the consensus of the international economic and financial experts (Smaghi, 2009), "conventional" measures of monetary policy refer to the assembly of actions used in "normal" times² by a central bank by setting a target for the overnight

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¹ It should be noted that during the peak of the international economic crisis, some Central Banks (for instance Bank of England and Fed) lowered their interest-rates to almost zero, but this failed to boost economic recovery.

² Such as those registered during the pre-crisis periods.

interest rate³ in the interbank market, adjusting the money supply to it and reducing the short term interest rate. Such monetary operations are destined to encourage consumption and investment. By contrast, as during periods of financial stress traditional monetary policies demonstrated their inefficiency to reach the central banks' goal, hence they turned to unconventional policies (such as QE). Some authors (Gangon, 2016) underline that while QE may boost monetary bases to alleviate financial pressures or to provide an additional stimulus to growth, it may also increase private sector spending and generate the return to inflation target.

Consequently, since specialists consider QE as an effective instrument during time of financial tensions, many developed economies started to use it during and after the financial crisis albeit the national QE programs differed across CBs and relied upon the specific structures of the economies and on the individual reasons for the QE operations. However, there are some common worldwide motivations for QE actions employed in the aftermath of an economic crisis which are not related to the specificity of national economies as long as through its three specific channels this process aims to directly reduce: *i) exposure to market panic propagation ii) expectations of the future short-term policy interest rate iii) the supply of long-term bonds in the market.*

In other words, by purchasing substantial amounts of long-term bonds, central banks tried to reduce long-term borrowing costs, thus simultaneously addressing two outspread specific targets which were actually interconnected: restoring the proper functioning and intermediation of financial markets, and providing further monetary policy accommodation at *zero lower bound (ZLB)*⁴ in times of sluggish economic activity and financial tensions. Both of the two mentioned targets were purposed to sustain macroeconomic stability and to lower the risks associated with the peak of the crisis, such as the collapse of the financial system, deflation etc. (IMF, 2013).

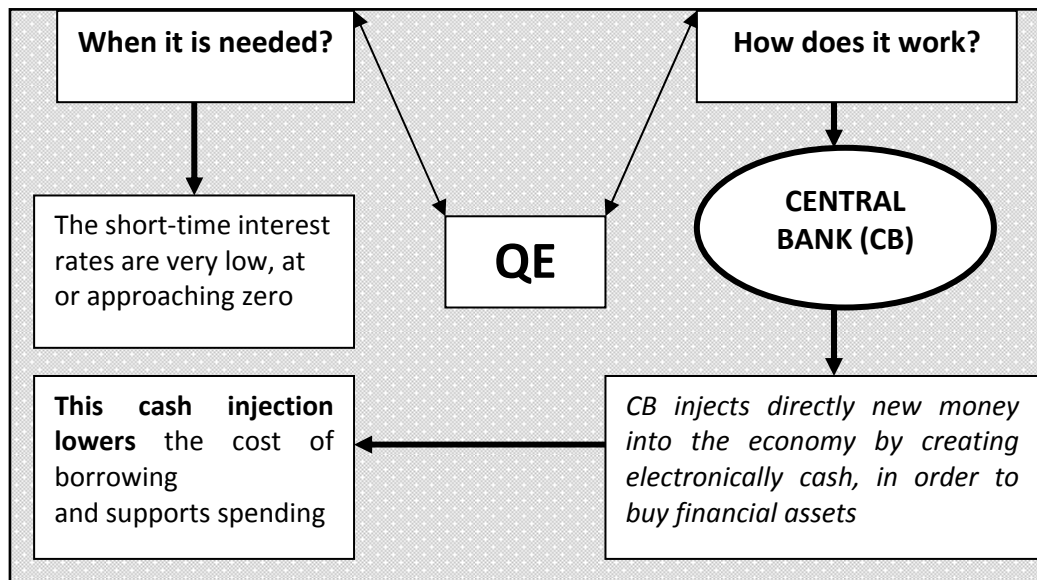
Having their interest rates at zero lower bound after the crisis and since all other measures failed to generate economic growth, various CBs in the developed countries started to purchase government securities from the banking sector in order to increase cash reserves that the banks held into the system. The purpose was that by raising the reserves, eventually this would spill over into lending the resulted cash flow in the national economy, supporting drive asset prices up and removing deflationary forces (Joyce et al., 2012).

Some authors (Schuman, 2010) define QE as an influx of money into the economy conducted by CBs that create money via electronic cash, by buying government securities (e.g. government bonds) or other banks securities from the financial markets. What differentiates QE from standard monetary policy is that the liquidity is infused in the economy not by lowering the interest rate or by printing money, but by creating electronic money that did not exist before. The new created liquidity is added to the bank reserves

³ Also called the key interest rate, the overnight rate represents the interest rate at which large banks borrow money, short term, among themselves or the interest rate the central bank charges a financial institution that borrows money overnight.

⁴ The zero lower bound (ZLB) arises in an economy when the short-term interest rate is at or approaching zero, generating a liquidity trap and lowering the central banks' capacity to stimulate growth. Thence, because financial markets are generally designed to operate under positive interest rates, the ZLB has recently proved to be an obstacle for the monetary policy.

through the quantity of purchased assets, hence through the “quantitative”⁵ easing (See Figure 1).



Source: Authors' synthesis, based on the studied literature

Figure 1: How the Quantitative Easing works

Some analyses point out that unlike the process of money printing that generates banknote denominations, QE uses “invented up money” and therefore it does not lead to hyperinflation. However, QE is not always considered to be a favourable measure for the economy, as we are about to highlight in the following section of our paper.

2. Quantitative Easing as Tool for Stimulating Economic Growth: PROS and CONS

One of the positive effects of QE is related to that the new created money may raise stock prices while lowering interest rates, a process that could boost investment. The QE's most concrete results are the increased interest rates on government bonds and even on corporate debt.

Related to the QE effects, some authors (Schuman, 2010) showed that such unconventional monetary policy may “convince markets that the Central Bank is serious about fighting deflation and high unemployment, also boosting economic activity by raising confidence”. In the economic debate, other authors have argued that while QE may boost economic growth on short term, there is also a “dark side” of this unconventional policy (See Figure 2).

⁵ The term is used to underline the fact that quantitative easing involves the creation of central bank money on a large scale.

For instance, Snyder (2010) points out the weaknesses of QE by analysing the U.S. experience. Snyder argues that while QE could stabilize the economy in the short-term, it may not “crank the debt spiral”.

According to Snyder, QE is not able to lead to an economic recovery relied on a solid financial principle, but rather on a growth based on “debt principle” that will increase inflation and cause speculative asset bubbles. Therefore, according to his opinion, it is not going to fix what is wrong with the economy, as the U.S. case has shown⁶.

Analysing the U.S. experience, Snyder observed that while money is a store a wealth, if it is artificially created (e.g. the QE case) and not through a productive activity, then such wealth is devaluated: “eventually, there will be a day of reckoning because we are spending way beyond our means and at some point we’ll have to pay the price”. Some analyses (The Economist, 2015) have underlined that European Central Bank (ECB) initiative regarding the QE (in 2015, ECB has released a QE package of EUR 1.1 trillion) may not produce the targeted effects (offering a boost to credit activity by injecting liquidity into the European banking system).

Even if in the context of the Greek crisis, the European bank needed an impulse to restart the borrowing activity, the mentioned analysis shows that “QE will start a fall in prices that would inflate the real value of borrowers’ debts, nudging some of them into default”. In other words, the QE’s critics argue that such a type of monetary policy is rather good for banks than for the ordinary citizens.

However, not even banks may be considered the undisputable winners of QE enforcement, given the fact that if consumers defer spending in the hope that the items they want to buy will soon be cheaper, all business, including banks, will be harmed. Moreover, QE may also damage bank’s marginal profit.

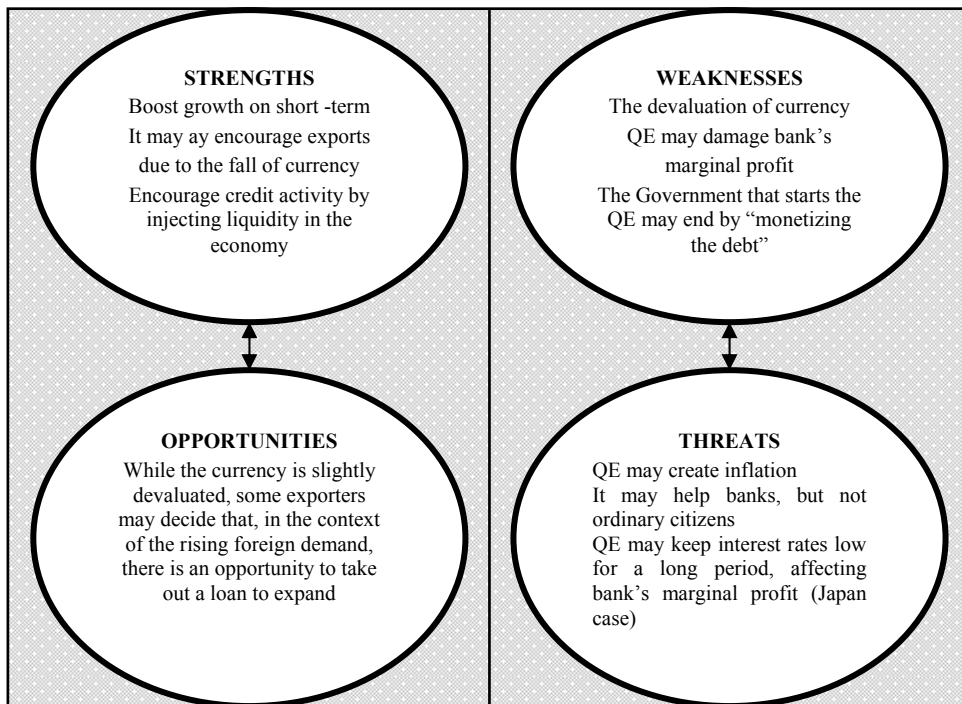
It is commonly agreed that a lender’s profitability is driven by the gap between what it charges borrowers and the interest paid to the depositors. If, due to QE the interest rates are almost zero, few depositors are getting any interest at all on their savings, hence becoming more difficult for banks to offer them attractive rates.

At the same time, borrowers will expect cheaper loans and as a consequence the whole system may experience a blockage. Both U.S. and Japan have used QE repeatedly. Those countries experiences show that interest rates may stay “lower for longer” and hence dramatically reducing the difference in rates for loans of different maturities together with banks’ opportunity to profit (in Japan and U.S. long spells of QE have left interest margins at their lowest levels in decades).

In the Japan’s case, some authors (Andolfatto& Li, 2014) have pointed out that QE has led to unusually large purchases of assets by Central Bank of Japan (BoJ) and that the majority of these assets were Japanese government bonds.

Andolfatto&Li consider that if a QE programme is not reversed at some future date, then the Japanese government is effectively printing money (instead of raising taxes or cutting government expenditures) to pay its debt.

⁶ Up until presently, all the QE rounds from U.S. have failed to boost the credit activity for both businesses and individuals, while monthly U.S. home sales have continued to register low levels.



Source: Authors' synthesis, based on the studied literature.

Figure 2: SWOT analysis of QE effects

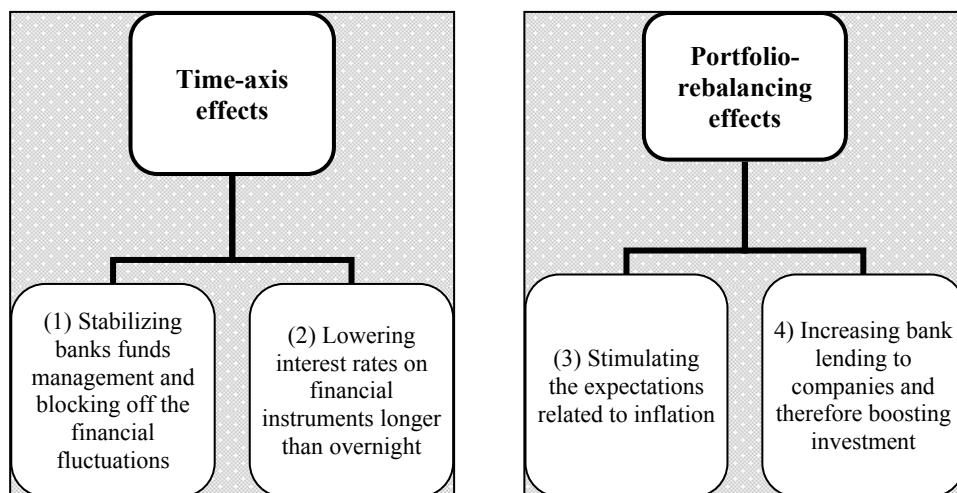
3. Quantitative Easing in Japan – Historical Evidence and Lessons Learned

In the effort to retrieve its long-term stagnant economy⁷ on the basis of the long period of a solid economic growth that lasted for almost three decades (until 1990), in 2001, Japan embarked on an original experiment of uncustomary monetary policy by pioneering quantitative easing instruments and strategies to stop internal deflation through a national programme that lasted until 2006 (QE1).

Under this new policy BoJ started to purchase Japanese Government Bonds (JGB), using this action as a tool to achieve their operating target of current account balances held by commercial banks and other financial institutions at the BoJ in excess of their required reserve levels. Thus, in return of BoJ purchasing their bills and government bonds there was a significant growth in the amount of funds that the mentioned institutions kept in their currents accounts at BoJ (Japan Echo, 2006), operations that had a strong effect on diminishing the already low overnight rate to almost zero. The mentioned monetary measures had as main targets to increase the liquidity of commercial banks and to promote private lending.

⁷ Japan suffered from severe recession for a whole decade (1991-2000), a period commonly known as the "lost decade".

Regarding the estimated effects of QE the policy innovation, the BoJ classified them into four types (pillars), according to the operational measures undertaken and with the transmission channel through which each specific effect was realized (Ugai, 2006) – as summarized in Figure 3.



Source: Authors' synthesis, based on the studied literature.

Figure 3: Estimated effects of the Japanese quantitative easing policy (QE1)

As we already mentioned, the fundamental purpose of QE1 measures undertaken by Japan in early 2001 was to expand the extent of BoJ' balance sheets by increasing the outstanding accounts balances of the Japanese commercial banks and other financial institutions but also to reshape its structure by increasing the acquisition of long-term government bonds. Accordingly, during the five consecutive years when central bank applied this giant programme of unconventional monetary policy, the BoJ increased its current account target as following (see Table 1).

Table 1: Movements in the BoJ current accounts balances during 2001-2004

Date	Changes in current account target of the BoJ (JPY billion)
March 2001, when the programme was launched	From JPY 4,000 to JPY 5,000
August 2001	JPY 6,000
December 2001	At around JPY 10,000-15,000
October 2002	At around JPY 15,000-20,000
March 2003	At around JPY 17,000-22,000
April 2003	At around JPY 22,000-27,000
May 2003	At around JPY 27,000-30,000
October 2003	At around JPY 27,000-32,000
January 2004	At around JPY 30,000-35,000

Source: BoJ Database (2006).

As we can notice from the data presented in the Table 1, between March 2001 and December 2004, the BoJ lifted its current account target by almost nine times, until it reached the upper limit of JPY 35,000 billion.

Bearing these considerations in mind, we could notice that the primary and obviously goal of the above-mentioned policy was that of increasing the monetary base, fact that generated a high purchase of short-term assets, which could be run off once a durable recovery was in place. But, as some specialist concluded (Dudley, 2013), there was also a negative aspect of this method, namely it did not manage to generate the intended major alteration into the commercial banks' balance sheet because the policy emerged rather in a form of interchanging a short-term risk free asset for another, having thus only a minor direct effects on the financial conditions.

As the empirical analyses conclude, the time axis effect was produced and the commitment associated to the lower than expected declines in longer-term interest rates (short to medium term) were reached. But the opinions of the specialists are mixed when it comes to the results related to the expectation of inflation or portfolio rebalancing, considering them (if any) limited correlated with the results and dimensions of the engagement (Ugai, 2006).

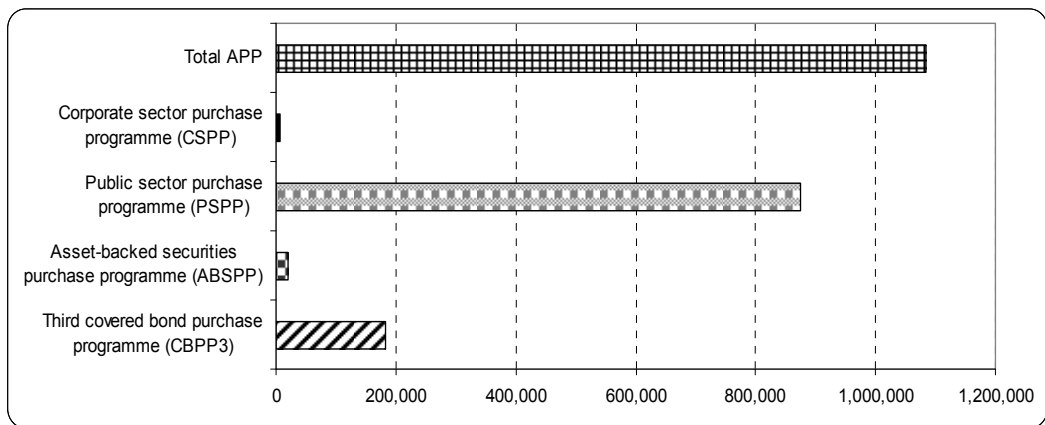
Summarizing the conclusions of the specialists that have analysed the spread and the effects of the first episode of QE ever launched by a central bank, it might be considered as a failure (Gros et al., 2015). But the lack of success of such a policy is difficult to quantify because the effects were never precisely evaluated. Nevertheless, as BoJ itself stated, this monetary policy was not as efficient as prior expected, both because of its size and of the fact that QE failed in its fundamental goal to stimulate the demand enough to eradicate the perpetual deflation.

Subsequently dismissing this unconventional monetary policy for several years as being ineffective, Japan adopted a different phase of QE (2) in 2008, in order to increase the monetary base and thus to reach the 2% inflation rate goal. Therefore, BoJ started a new huge intervention in the market by purchasing different asset classes, measures undertaken to boost the monetary base by almost 20% of national GDP by the end of 2012. Later on, in 2013 when Shinzo Abe was back in power for his second stint as prime minister, BoJ initiated the most challenging QE programme in the modern history (Gros et al., 2015) – as the second arrow of “Abenomics” – intended to almost double the monetary base in only two years. Accordingly, BoJ expanded the amount injected into the system each year to JPY 80,000 billion a year up from JPY 60-70,000 billion a year previously, mainly through the purchase of government bonds. The initial deadline of the programme was 2015 but because of the recent downward effect of oil price on inflation⁸, it was postponed to mid-2016. Besides, as BoJ stated, the programme would last “as long as it is necessary” in order to maintain the 2% inflation target in a “stable manner”. But as inflation trend was only slowly moving up and the stimulus on the real economy were moderate so far, the question that arises is for how long BoJ can afford to continue with such an ample and unprecedented programme.

⁸ The inflation dropped to around zero just before the original deadline of BOJ to reach the 2% inflation target.

4. Is QE a Solution for the Post-Crisis Economic Challenges in the European Union?

As we have shown in the previous subsections of our paper, there are pros and cons in the economic debate regarding the QE effects on the economic growth. In the post-crisis period, the European economy was faced with a slowdown both of the credit and of the economic activity. Confronted with that reality, ECB has put in practice a programme of QE, consisting mainly from the expanded *asset purchase programme (APP)* that includes all purchase programmes under which private sector securities and public sector securities are purchased in order to address the risks of a too prolonged period of low inflation. While APP is part of a package of monetary measures that also includes targeted longer-term refinancing operations, its main purpose remains the purchases of marketable debt instruments in order to inject liquidity into the banking system. APP is divided in four different programmes as shown in Graph 1.



Source: Authors, based on ECB database (2016).

Graph 1: APP holdings in June 2016 (at amortized cost, EUR million)

All those purchase programmes are designated to enhance the functioning of the monetary policy transmission mechanism, to support financing conditions in the euro area, to facilitate credit provision to the real economy and to generate positive spill over effects to other markets. However, as shown in Graph 1, all those purchase programmes initiated by ECB are requiring an important financial effort for the European Union.

In this context, it is only legitimate to try to estimate if they are going to be successfully. Based on other countries experiences, some analyses (The Guardian, 2015) assess that ECB initiative of launching a QE of about EUR 1 trillion, several years after other world central banks embarked on such monetary stimulus, shows a very optimist approach. This initiative could be successful if the U.S. experience⁹ could be repeated in the European

⁹ The U.S. Federal Reserve (Fed) started the QE in November 2008 in order to save the world's largest economy from the depths of the financial crisis. As the U.S. backdrop steadily improved in the aftermath of the Fed's cash injection, the central bank gradually slowed its bond-buying programme from USD 85 billion a month to USD 15 billion a month.

space (in U.S., the QE coupled with low interest rates, freed up capital and encouraged an important rise in risk appetite, helping US shares prices to rise markedly since 2009).

However, the Japanese experience shows the dark side of QE, revealing what could go wrong with European QE initiative. It is commonly known the fact that Japan could be considered the “pioneer” of QE enforcement. In Japan, the QE aimed to restart growth and get prices rising again. The first QE has started in 2001 and lasted five years. Anyhow, those QE programmes failed to rid Japan of its persistent deflation. Based on the Japanese experience the QE’s critics argue that this unconventional monetary policy will probably not deliver the expected results in the Eurozone. The most recent QE in Japan began in 2013 when BoJ started a large such initiative (of USD 1.4 trillion) in order to buy government bonds each month using electronically created money. To put things into perspective the US Fed was spending only a little more per month at USD 85 billion, compared with USD 70 billion allocated in Japan by the BoJ, but the US economy is almost three times the size of Japan’s.

It should be noted that not all the authors are pessimistic about the possible success of ECB’s QE initiative. Tasker (2015) shows that “the first visible sign in Japan’s experience that quantitative easing is working is a massive increase in foreign visitors attracted by the bargain basement currency. So, as the Eurozone embarks on its programme of aggressive monetary reflation, probably the most important lesson is the need for patience among politicians and voters”. Tasker optimism is supported by its opinion that “Abenomics has delivered tangible results and the mood is set to brighten as real incomes turn positive and output rises” the author considering that a similar result could be possible in the Eurozone. However, it is our opinion that the structural differences between Japan’s economy and the Eurozone should not be underestimated in terms of QE impact (See Table 2).

JAPAN	EUROZONE
Japan has not embraced immigration as a solution for an ageing population	As Europe has encouraged immigration after World War II, it is currently confronted with an immigrants crisis of high proportions
Even in the most troubled periods (during the so called “lost decades”) the Japan has not been confronted with such a high unemployment as in the Southern states of EU	There are high levels of unemployment in the states affected by the sovereign debt crisis (Greece, Spain, Italy)
In terms of wealth distribution, Japan is a relatively egalitarian country	There is a widely spread concern over the idea that QE could exacerbate inequality between the wealthy and the poor countries of the EU
Japan does not have the Eurozone’s unique problems of uncoordinated fiscal policy	The Eurozone is confronted with political resistance to financial transfers from surplus to deficit countries.

Source: Authors’ synthesis, based on the studied literature

Table 2: Japan and Eurozone – structural differences and impact on QE possible success

Based on the Table 2 comparative analysis, we may assess that it is difficult for the Eurozone to extrapolate the Japanese experience regarding the QE benefits. As Tasker (2015) pointed out “the ECB may be able to copy the first of Mr. Abe’s famous “three arrows”¹⁰, monetary easing, but there is no European equivalent of his second and third arrows of fiscal policy and structural reform”.

5. Conclusions

While QE is a relatively new type of monetary policy, many of analyses related to its potential short and long term effects are just now making their way into the literature, but we may underline that there are several patterns that could be depicted. First, it is undeniable that the fact that the real effects of QE are associated with empirical evidence that the introduction of or advances in this unconventional monetary policy have been related to some measurable declines in longer-term interest rates.

These have been associated with both changes in private sector’s expectations of future interest rate levels and with purchases of “nonstandard” assets, such in the Japan case has (longer-term JGBs). Second, there appears to be evidence that Japanese QE program aided weaker banks and generated a greater risk-tolerance in the national financial system.

However, Japan case also shows what could go wrong with QE initiative. While it may offer a short term “oxygen bubble” to the economy, it may not be able to eliminate deflation. As some analyses (previously mentioned in our paper) have shown, there is some sort of twisted relationship between lowering interest rates at around zero and inflate rate expectation.

Japanese experience is an example of the fact that QE may fail to reach its goal because when inflation expectations exceeded the threshold, interest rate expectations may respond only gradually to inflation rate expectations (for instance, in 2006, when Japan ended its first QE initiative the y-o-y CPI inflation rate was only 0.5%).

The case of Japan may be considered as an important lesson regarding QE limits while proving that the effectiveness of such unconventional monetary policy may delay to produce the expected results despite the large amount of liquidity available. The most evident cause (in the case of Japan) is related to the frail status of the banking sector.

The managers of commercial banks from Japan preferred to wait for stable economic conditions before taking advantage of the monetary easing coming from the BoJ. Faced with those evidences delivered by the Japanese experience, we may conclude that ECB QE initiative could produce some effects but only if the market confidence is rising. As the Japan case has proved a policy of large-scale assets purchases may not always boost economic confidence or fight domestic deflation. However, other QE initiatives (the UK one) have shown how such monetary policy may contribute to boost the labour market, conducting to a decrease in unemployment rates.

Also, if Japan has a long history in using QE to aid its economic recovery and to fight against the threat of deflation, EU is still a novice as it has never before embarked

¹⁰ The key parts of Abenomics can be summarized in three arrows: dramatic monetary easing, a “robust fiscal policy” and policy for growth and for increase private investment.

on such a programme. Accordingly, EU was more sceptical to the benefits of such a policy even before its implementation.

Moreover, given the complexity of current macroeconomic environment in the EU it is premature to conclude if ECB QE will attend its goal, but as the Japan case has showed, even if some positive results are registered they would have only limited effects on the commercial banks' confidence and none concerning the escape from the deflationary trap.

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