SPECIAL ANALYSIS

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Quantitative easing - printing is easy

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Introduction

It is almost certain that the current period will enter macroeconomic textbooks as a period of large-scale monetary experiments. However, the question is how these experiments will be evaluated. Central Banks over the whole world are trying to combat the effects of the crisis in many different ways. The latest term for the printing of money in an electronic form is quantitative easing (QE). The massive printing of money is taking place or has recently taken place across the developed world – from Japan to the Eurozone to the Anglo-Saxon world.

Quantitative easing is a very non-standard policy which is used only in situations involving low or even negative interest rates – i.e. in situations where standard monetary policy instruments can no longer be used. In practice, it concerns the massive purchase of bonds from commercial banks which receive new money in exchange.

Quantitative easing was first tested at the turn of the millennium in Japan, which was struggling with deflation and the central bank there (the Bank of Japan) had already exhausted standard monetary policy options. Following the outbreak of the economic crisis and the fall of interest rates to zero it returned with much greater intensity in the Anglo-Saxon world where central banks "printed" money worth up to dozens of percent of their GDP. Similarly extensive quantitative easing later appeared in the Eurozone and Japan.

What is quantitative easing?

For the wider public, as well as for many economists, monetary policy is an abstract "magic" where huge amounts are "conjured" and nobody really knows what happens to them. Let's therefore try to clarify the QE term – especially in situations where it becomes a normal part of monetary policy.

In most cases, the primary goal of monetary policy is the maintenance of price stability. Monetary policy instruments are used for this – i.e. instruments that control the money supply – the amount of money in the economy. If it's successful and there remains scope for further operations, then attempts are made to control the supply of money to encourage economic growth.

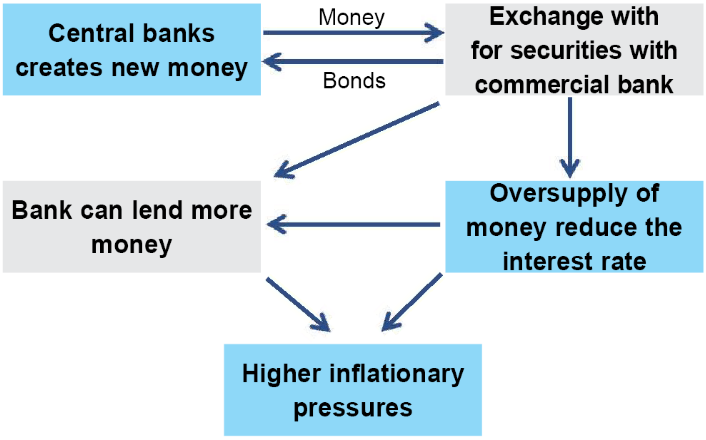
Central banks have a variety of levers for managing the money supply – from subtle calibrations of indirect instruments (for example, interest rates at which money can be lodged with central banks and thereby determine the yield of a "risk-free" deposit) to strong direct instruments – for example, banking regulation. Generally, the stronger monetary policy instruments are, the greater the side effects and central banks are therefore reluctant to use them.

But in a situation where short-term interest rates have fallen to zero, as is the case at present, the operating room for banks remains very limited. And at this moment central banks resort to non-standard instruments such as QE. The difference between classical operations on the free market and various forms of QE is to be found in particular in the assets that central banks purchase. While assets with shorter-term maturity are the focus of standard operations on the money market, in a QE regime a central bank tries to affect the end of the yield curve through the purchase of longer-term bonds. This thereby pushes down not only short-term but also long-term interest rates.

Thanks to this, QE can serve several monetary policy aims – low interest rates can increase inflation and hence help fulfil the primary aim of modern central banks – to achieve their inflation targets. Another effect that in the case of QE often comes in first place is stimulation of the real economy – more intensive investment financing can be achieved by both adequate liquidity in commercial banks that thanks to quantitative easing acquire "free" new money, and lower interest on longer-term assets and hence higher demand for loans from businesses. In practice, quantitative easing can lead to a revival of the share, bond and real estate markets and thereby stimulate demand for capital and investment.

To a large extent, monetary policy also affects expectations – the success of each policy also depends on what degree economic entities believe that central bankers really will keep to a chosen policy and that monetary policy really will lead to proclaimed goals. Thanks to the fact that quantitative easing is a highly untraditional instrument, it may really help central bankers to obtain credibility and "trustworthiness". Moreover, to fulfil the aims of QE it's often enough for market entities to believe that the central bank will act in the foreseeable future and mean it seriously and not has a one-off act.

This begs the question why quantitative easing is a non-standard instrument – if it helps economic performance why not simply always undertake easing and thereby stimulate the economy that way?



The reasons are multiple, but by the far the most important is the threat of inflation – experience with the printing of money, which quantitative easing undoubtedly is, shows that if it goes too far the result can be a hyperinflationary spiral and the utter breakdown of the entire economic system.

This is related to another unpleasant side of quantitative easing – to start printing money is simple and for a central bank it means crediting numbers to commercial bank accounts in exchange for receiving bonds.

From this moment, however, the newly created money becomes a part of the financial system. If the central bank decided to withdraw the newly created money from the economy, this step would only be possible at a substantial cost that may reverse all the success that the quantitative easing brought. In practice, a large part of the new money goes back to the central bank to where banks deposit these funds as reserves.

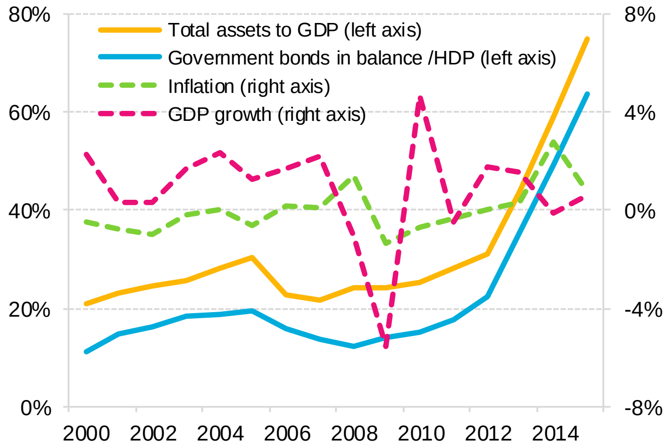
However, to simply take it again from the banks is legally not altogether simple.

Quantitative easing in the world

When evaluating any macroeconomic policy a certain amount of caution is generally required – finding a causal relationship between two variables is a task that is beyond the scope of this analysis – and it's therefore necessary to interpret the following data with reservations. It's also important to bear in mind that "printing money" still doesn't necessarily mean that the funds should go directly into the real economy.

Japan

BoJ Balance and selected macroeconomic indicators



Source: OECD, Bank of Japan (BoJ)

Quantitative easing was used for the first time in history in Japan at the turn of the millennium. Japan had been suffering problems since the start of the 1990s with deflation and a desperate central bank had already exhausted the standard monetary policy options. In March 2001, it therefore launched what had been until then an unprecedented experiment and started to provide liquidity to commercial banks in exchange for bonds.

During the course of 2005 inflation finally rose above zero. In comparison with Japanese GDP the balance sheet increased by only 10 percentage points (government bonds comprised 8 of these). Problems with deflation and slow growth, however, remained in Japan.

In 2010, Shinzo Abe was re-elected prime minister along with the economic policy of "Abenomics". One of its key pillars is quantitative easing – which together with fiscal expansion and structural reforms should return Japan to growth. In 2013, the Japanese central bank officially announced a new programme of quantitative easing. The BoJ's balance since 2010 has tripled and today contains money worth three quarters the Japanese GDP. For now, there is no indication that the programme of purchasing bonds, which was expanded further in autumn 2014, is to end. The Japanese economy is currently growing very slightly and inflation is also at a positive zero, although it can't be compared at all to the strong increase up to the 1990s.

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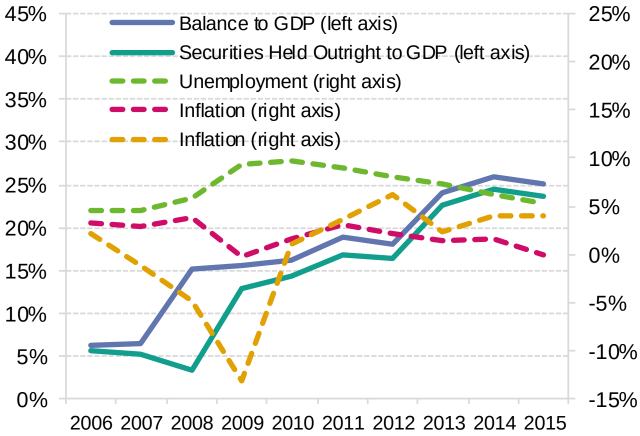
USA

Thanks to the intervention of the American FED, quantitative easing emerged from central bankers' academic considerations and became the centre of economists' attention from all around the world. Three waves of quantitative easing have taken place in the USA and the last one continues today.

The FED began increasing its balance prior to the official announcement of quantitative easing – it had already started in September 2008. Increasing the FED's balance sheet was reflected in the provision of temporary liquidity to American banks so that the financial system would avoid a "credit crunch" and overcome the mutual distrust of banks.

FED balance and US macroeconomic performance



Source: FED, OECD

The first round of quantitative easing called QE1 started soon after the outbreak of the financial crisis in December 2008 and ended in March 2010. Ben Bernanke, then head of the FED, and who carried out the activity, described it as "credit easing". In addition to state bonds and treasury bills, the FED also purchased mortgage-based securities and highly rated corporate bonds. Given the continued poor performance of the American economy, especially the labour market (unlike european central banks the FED has as one of its main aims full employment), a second round of quantitative easing was launched.

At the end of 2010, the FED announced that over the course of the following 12 months it would purchase government bonds worth USD 600 billion. A third round of quantitative easing was nicknamed QE-Infinity in the economic world. While the FED had always announced the exact extent and duration of the intervention in the previous versions, in September 2012 it announced that it would purchase mortgage-based securities for USD 40 billion "until the labour market improved substantially". Massive purchases began immediately following the announcement in 2012 and over the following almost two years the volume of securities in the FED's balance sheet grew by more than 60%. Since autumn 2014, the purchases have stopped and the FED's balance sheet and the securities it holds have remained stable. Currently, the FED's overall balance sheet is nominally more than 5x larger than prior to the outbreak of the crisis.

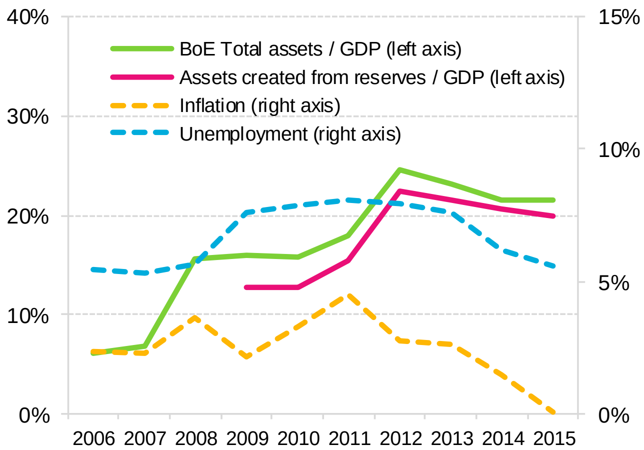
While the FED's balance sheet before the outbreak of the economic crisis corresponded to about 6% of GDP, thanks to the intensive purchases of securities this had already reached 15% by the end of 2008. By the end of the second round, it had climbed to 18% of GDP. Massive purchases again came with the third round of QE when the FED's balance sheet sucked up a further 8% of GDP. At the peak of QE, the American central bank's assets were the equivalent of a quarter of American annual production. The proportion to GDP has fallen since that time, but this is probably due to growth in GDP that has been around 2% since 2010. The avowed goal of American monetary policy was mainly improvement of the poor performance of the American economy, especially the labour market. The American unemployment rate is steadily declining and at the start of 2016 it was close to 5%. This is also why the FED left off from further QE – it is naturally a question of how much this development is due to QE and how much it's the natural development of the American economy. Despite QE, inflation in the USA has reached zero thanks to low commodity prices.

United Kingdom

Experiments with QE were also undertaken by the UK. As in the USA, this did not take place as a one-off – QE there was expanded and extended several times.

The Bank of England established a special fund for this purpose – the Asset Purchase Facility, which upon its creation in 2009 received GBP 200 billion to manage – especially in British state bonds. Over time, the banking council added a further GBP 375 billion to it and which it has been managing since summer 2012.

BoE balance and UK macroeconomic performance



Source: Bank of England (BoE), OECD

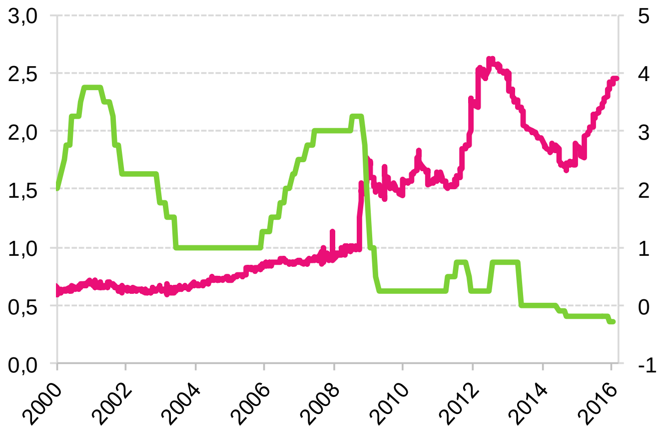
Up to 2011, the Bank of England also purchased some quality corporate bonds. Since that time, however, it's abandoned this effort and has concentrated on state bonds of various lengths of maturity. Since the last increase in 2012, the amount of bonds held has stabilised. The extent of the QE in the UK is very similar to the American one – while the English central bank's balance sheet in the pre-crisis period was around 6% of GDP, since 2012 it has already exceeded the 20% threshold. Thanks to the relatively solid growth in GDP, however, this proportion has fallen in recent years. Not even in the case of English QE is there an obvious connection between inflation and QE.

The ECB and quantitative easing

If we talk about quantitative easing, it's necessary to also mention the ECB. The ECB proceeded with quantitative easing on 9 March last year after it was decided on 22 January 2015 to expand the asset purchase programme for bonds issued by state governments and agencies in the Eurozone and European institutions on the secondary market. The amount of the purchase of these assets was set at EUR 60 bn, which is the equivalent of appr. CZK 1.6 trillion. The original intention was to undertake these purchases from March 2015 until the end of September 2016, i.e. to the amount of EUR 1.1 trillion.

In December 2015, the ECB lowered its deposit rate by ten basis points to -0.3% and extended its asset purchase programme by six months. In total, the ECD was to have pumped EUR 1.5 trillion into the economy, i.e. approximately 15% of the Eurozone's annual GDP. The president of the European Central Bank, Mario Draghi, announced that in addition to state bonds the ECB would also purchase the bonds of municipal and regional entities. A further measure will be that income from matured bonds shall be used for undertaking further purchases.

Total ECB balance and deposit rate



Source: ECB, balance is in trillions euros

In December last year not only was the period of "pumping" money into circulation extended, but the deposit rate was also changed. Not even a quarter of a year afterwards it again looks like the situation from 9 December 2015 when the European Central Bank intervened in the amount of the deposit rate and lowered it by a further 0.1 percentage point to -0.4%. This negative deposit rate means a cost for financial institutions, as their funds at the ECB are charged. Monetary policy settings will be discussed and examined at a meeting on 10 March this year. The effort will resolve the situation in the Eurozone, which has been struggling for a long time already with a low inflation rate. The ECB is seeking a favourable correction in the rate of inflation. The long term goal of the ECB is to keep the rate of inflation in the mid-term under 2%, but close to this level. In addition to low prices for some commodities (mainly oil), achieving this goal will also prevent overly strongly growth and low investment activities. According to European Commission data from its winter economic prognosis, the rate of inflation for 2015 fell to zero. Even despite the strong commitment of the ECB to keep the inflation rate very low. This year and next the inflation rate will slightly increase to 0.5% for 2016 (or 1.5% in 2017). The latest Eurostat figures show that consumer prices in the Eurozone states for February 2016 fell by 0.5 of a percentage point in comparison to the preceding month to -0.2%, and states using the euro are thus in deflation for the first time since 2009.

The greatest impact comes from energy prices, which fell by 8%. Besides a reduction in the deposit rate, it's also possible that the ECD will increase its securities purchase programme by further tens of billions from the present 60 billion per month. Given the level of interest rates, the ECB no longer has many instruments to use apart from quantitative easing.

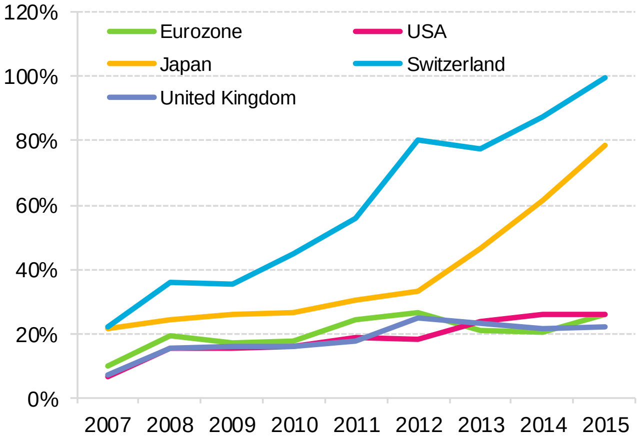
Quantitative easing after a year of existence increased the ECB's balance sheet by EUR 700 billion, i.e. by approximately one third. In comparison with the USA or Japan it is thus not far from a dramatic increase. Despite this, it's necessary to be cautious – especially because in the preceding years the ECB's balance sheet was increased in other ways, e.g. to help states in trouble. While prior to the outbreak of the crisis the ECB's balance sheet was less than one trillion euros, it is at present more than EUR 2.5 trillion.

Conclusion

Monetary expansion is at present taking place all over the world and often doesn't have the name quantitative easing. For example, the Czech National Bank's balance sheet has grown thanks to currency intervention.

What may be surprising, however, is that in those states where QE is most spoken of – i.e. in the Eurozone and the USA – it is far from being the largest. Japan has an extensive monetary policy tradition – the Bank of Japan's balance sheet has had the equivalent of 20% of GDP since at least 2000. However, in all the monitored economies the balance sheet has been significantly inflated – in some countries by up to 5x. This doesn't mean that the amount of money in circulation has increased at the same rate – a large amount of money has returned to the central bank in the form of bank reserves.Nevertheless, the developed world (perhaps also thanks to quantitative easing) is currently returning to growth and has to think about how best to withdraw from the greatest monetary experiment in history and at the same time not hurt its own or any other economy.

Monetary expansion comparison



Source: FED, BoE,BoJ, ECB, SNB

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