



Quantitative Easing: Impact on the US dollar

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IG Index

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Understanding Quantitative Easing – a form of monetary policy – and its repercussions on the US dollar

Objective

This report examines Quantitative Easing (QE) – a non-standard form of monetary policy adopted by the US Fed – and its possible implications on the performance of the US dollar against major global currencies.

Introduction

The National Bureau for Economic Research (NBER), an institution formally mandated to identify economic cycles in the United States, has revealed that the American economy fell into a recession in December 2007 – making this one of the longest-running recessions in US history.

NBER US Economic Contractions	Duration between peak and trough (months)
Jul 1953 - May 1954	10
Aug 1957 - Apr 1958	8
Apr 1960 - Feb 1961	10
Dec 1969 - Nov 1970	11
Nov 1973 - Mar 1975	16
Jan 1980 - Jul 1980	6
Jul 1981 - Nov 1982	16
Jul 1990 - Mar 1991	8
Mar 2001 - Nov 2001	8
Dec 2007 - ?	15 months in March 2009

Data sourced from the National Bureau for Economic Research (March 2009)

More disturbing is the fact that there is still no sign of an imminent economic recovery: at the end of February, a government report revealed that the United States lost approximately three million jobs in 2008, the biggest annual decline since records began in 1939, and the unemployment rate hit a 16-year high of 7.6%. US GDP, which shrank at an annualised rate of 0.5% in the third quarter, contracted at an annual pace of 3.8% in the fourth quarter of 2008, and the US Conference Board's consumer confidence index tumbled to a record low of 25 in February 2009.

The Federal Reserve has reduced interest rates (the cost of borrowing) in order to ease the economic strains weighing on the economy. The central bank system has, since 2007, cut the benchmark Fed fund target rate from 5.25% to the current range of zero to 0.25%. The US government has also introduced various fiscal and economic stimuli as well as made numerous direct investments in banks.

Finally, and perhaps most significantly, the Federal Reserve recently stated that it will buy up to \$300 billion worth of long-term Treasuries over a six-month period and more than double mortgage debt purchases to \$1.45 trillion – an unorthodox form of monetary policy referred to as Quantitative Easing (QE) by the media. But what is QE? And what are the repercussions of this policy on the US dollar?

Quantitative Easing (QE)

Quantitative easing (QE) is a non-standard form of monetary policy whereby central banks use newly created money to purchase securities, particularly long-term government bonds, with the objective of reviving credit markets and eradicating deflationary pressures. [1] This is usually done by flooding financial institutions with excess liquidity – normally by lowering interest rates. QE is prompted by a lack of alternatives once interest rates have been cut close to zero, as was the case in Japan during its economic turmoil in 2001.

The media often refer to QE as a process whereby a central bank 'prints more money'; but this term should not be taken literally because new money is not necessarily printed during the QE process. A central bank creates new money in the system by increasing its reserves which is, strictly speaking, classified as a liability on its balance sheet.

The Federal Reserve is among those central banks that have been expanding their reserves, but at the same time

utilising them to acquire troubled assets and make direct investments in banks. In doing so, the central bank has also been increasing the asset side of its balance sheet. In theory, these assets could later be sold at a profit once the economy starts to recover.

The latest developments have shifted the Federal Reserve's credit easing plan into a full-blown phase of QE. By purchasing government bonds, the Fed bolsters the liquidity levels of institutions from which it conducts the purchase (usually commercial banks that have been hoarding capital in order to cover unexpectedly large writedowns). Together with insurance schemes, bail-outs and other initiatives, this process should revive confidence among banks, ease credit spreads and lower the cost of borrowing further. A greater demand for government bonds bids up the price of these securities and brings down their yield, which should then be mirrored by a reduction in the cost of other credit instruments.

What are the risks associated with QE?

1. Inflationary risks

The fear is that the Federal Reserve may not be able to remove the excess liquidity from the system once the economy stabilises; in fact, the excess liquidity may ultimately delay any recovery.

If the Fed is too slow in removing excess liquidity, it could lead to elevated inflationary pressures and, in extreme cases, hyperinflation.

This fear was expressed by Jeffrey Lacker, FOMC voting member and head of the Federal Reserve Bank of Richmond, who recently indicated that the Fed should not disregard inflation risk. He believes the Fed may need to tighten monetary policy before credit markets fully recover. Philadelphia Federal Reserve President Charles Plosser also voiced concerns about the record expansion of the Fed's balance sheet, saying the Fed must have a clear path of how it will unwind lending, else it may risk the prospect of runaway inflation once the financial crisis abates.

2, Currency depreciation

The creation of new money increases the supply of a currency in circulation, which means the nominal value of every unit of currency should decrease. The Federal Reserve's actions resemble the Japanese QE policy, which was formally announced by the Bank of Japan (BoJ) on March 19 2001. During this period, the BoJ lowered interest rates to almost zero and the yields on 10-year Japanese government bonds tumbled as the central bank bought assets in order to lower credit spreads. These actions led to a significant expansion in the country's monetary base (currency in circulation) and depreciation in the Japanese yen, which fell by more than 20% against the pound, euro and Australian dollar between 2001 and 2007. Could the Federal Reserve's actions eventually lead to a widespread depreciation in the US dollar?

[1] Deflation is a prolonged period of disinflation, characterised by negative annual CPI data whereas disinflation is when inflation is falling on a monthly basis but annual CPI remains positive. Economic factors, such as a weak labour market, can curb consumer spending and create a deflationary environment. Such an environment can curb spending further as consumers hoard cash, expecting their spending power to increase in the future as prices fall. Such decreased spending can hurt the economy, resulting in businesses cutting back on employment, leading to a vicious deflationary spiral. We are currently in a disinflationary stage. The fear is, however, that economic conditions will weaken further, pushing the US economy into a deflationary phase

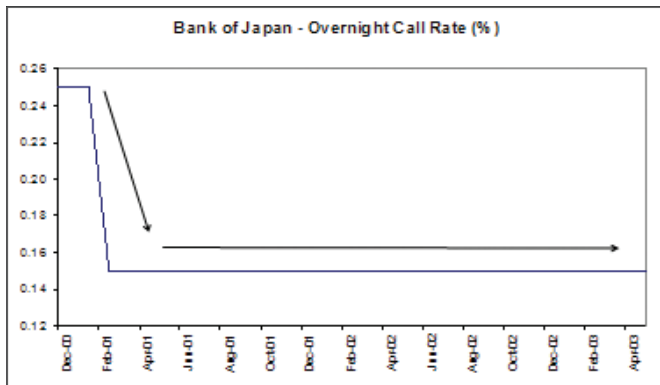
NB: The economic data and factual information mentioned above were sourced from Bloomberg (March 2009), unless specified otherwise.

The following page briefly compares the BoJ and Federal Reserve's policy actions and the impact these may have on bond and currency markets. I will also be explaining the dynamics behind yen and US dollar trends, providing an outlook for the US dollar.

Comparison between the Bank of Japan's QE policy in 2001 and Federal Reserve actions in 2008/09

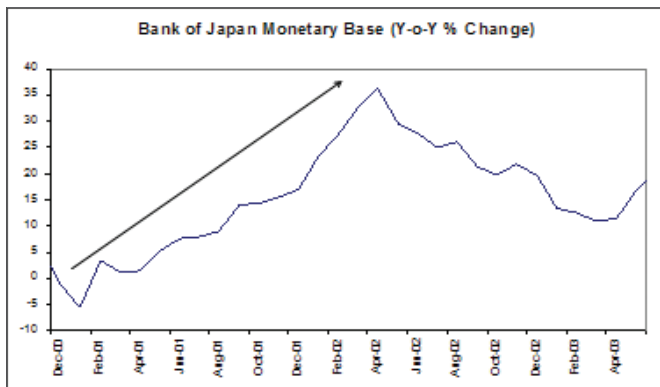
Bank of Japan

1) The Bank of Japan reduced its overnight call rate (benchmark interest rate) to 0%, saying it would maintain interest rates at a low level for a prolonged period of time.



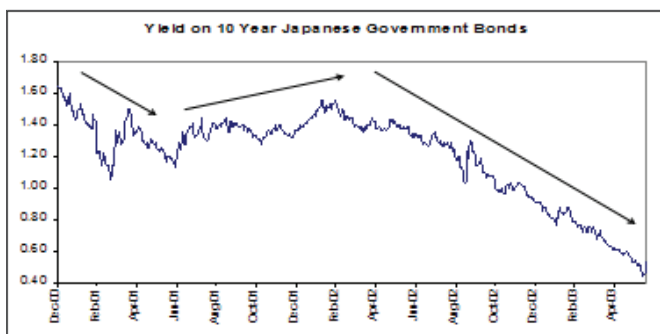
Raw data sourced from Bloomberg (March 2009)

2) The BOJ's monetary base [2] expanded as the central bank bought Japanese government bonds and flooded the money market with excess liquidity.



Raw data sourced from Bloomberg (March 2009)

3) The reduction in the BoJ's interest rate and the acquisition of Japanese government bonds (JGBs) depressed yields during the first two years following the introduction of QE.

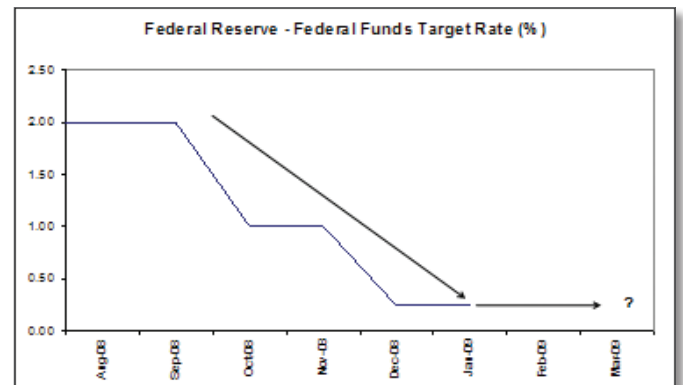


Raw data sourced from Bloomberg (March 2009)

[2] Monetary base = Bank notes in circulation + coins in circulation + current account balance (current account deposits in the Bank of Japan).

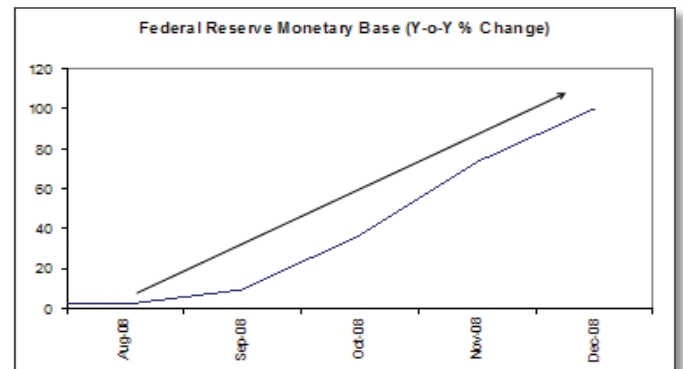
Federal Reserve

The Federal Reserve slashed its federal funds target rate (benchmark interest rate) to a range of zero to 0.25% and said it would leave rates close to zero for the foreseeable future.



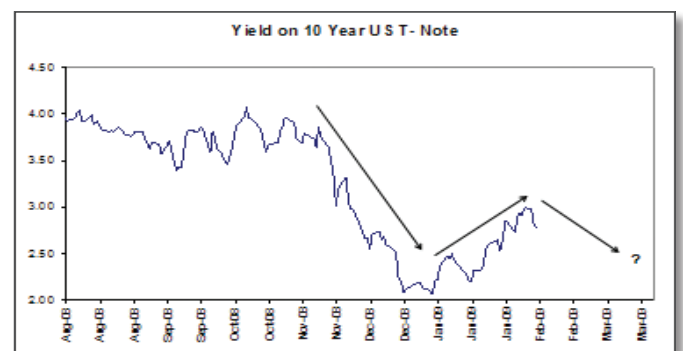
Raw data sourced from Bloomberg (March 2009)

The Fed's balance sheet expanded rapidly to more than \$2 trillion at the end of December, owing to the introduction of economic stimulus packages and the purchase of direct equity investments in banks, among other policy initiatives.



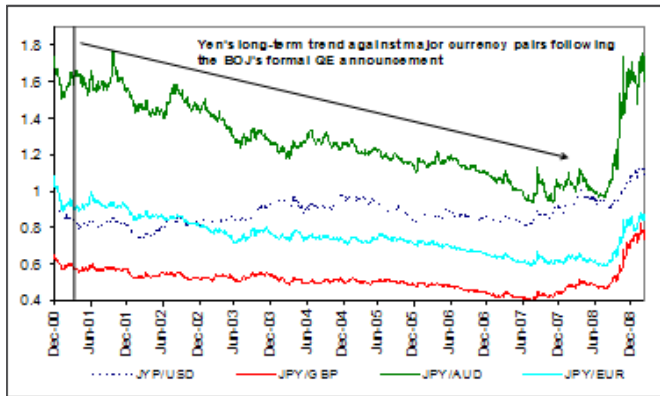
Raw data sourced from Bloomberg (March 2009)

The collapse of Lehman Brothers in September 2008 (along with a number of other dismal events), interest-rate reductions and the Fed's decision to buy bonds has already depressed the yields on 10-year US government bonds. Should the US follow the pattern established in Japan, we could expect bond yields to drop even lower.



Raw data sourced from Bloomberg (March 2009)

Japanese Yen Performance



Raw data sourced from Bloomberg (March 2009)

The Japanese yen had been appreciating against the US and Australian dollars, pound and euro before the BoJ's formal QE announcement.

	JYP/USD	JPY/GBP	JPY/AUD	JPY/EUR
24-May-99	0.81182	0.5079	1.233	0.7654
02-Nov-00	0.92396	0.6392	1.7737	1.07674
% Gain	13.81%	25.85%	43.85%	40.68%

Raw data sourced from Bloomberg (March 2009)

The yen sold off around four months before the BoJ's formal QE announcement; the yen fell between 8% and 16% against major currencies between November 2000 and March 2001.

	JYP/USD	JPY/GBP	JPY/AUD	JPY/EUR
02-Nov-00	0.92396	0.6392	1.7737	1.07674
19-Mar-01	0.8134	0.571	1.6323	0.90466
% Loss	-11.97%	-10.67%	-7.97%	-15.98%

Raw data sourced from Bloomberg (March 2009)

The yen depreciated against major currency pairs after the formal QE introduction. The currency started to appreciate against the US dollar in 2003, however.

	JYP/USD	JPY/GBP	JPY/AUD	JPY/EUR
18-Mar-01	0.8134	0.571	1.6323	0.90466
19-Mar-02	-6.87%	-6.36%	-12.02%	-5.23%
19-Mar-03	2.25%	-6.38%	-14.58%	-13.31%
19-Mar-04	15.13%	-9.95%	-23.96%	-15.80%
19-Mar-05	17.44%	-12.44%	-26.94%	-20.81%
19-Mar-06	6.12%	-13.46%	-28.04%	-21.82%
19-Mar-07	4.55%	-22.97%	-35.30%	-29.37%
19-Mar-08	24.38%	-10.39%	-32.93%	-28.73%

Raw data sourced from Bloomberg (March 2009)

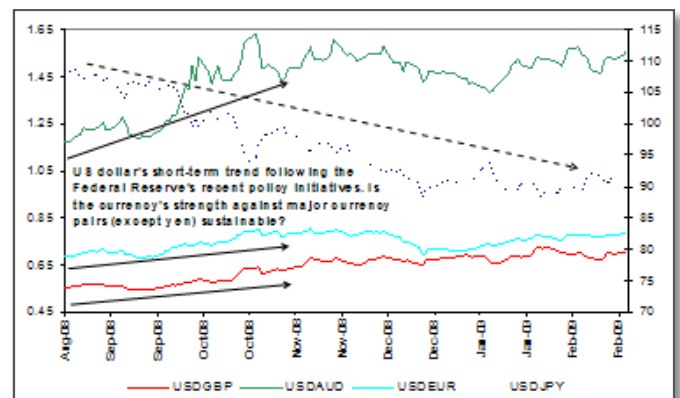
Why did the yen appreciate against the US dollar in 2003?

Investors were able to exploit Japan's economic environment by borrowing at low rates and investing the proceeds in higher yielding countries - making a 'risk-free' profit on the interest-rate differential. This strategy came to be known as 'carry trade'.

Meanwhile, the explosion of the US dot.com bubble in 2001 hit the US severely, forcing the Fed to slash interest rates from 6.5% at the end of 2000 to 1% in 2003, effectively narrowing the spread and profit made by investors from their yen 'carry trades' in the US. This naturally encouraged investors to repatriate funds, causing the yen to appreciate against the US dollar.

In contrast, the yen depreciated against the euro, pound and Australian dollar because yields in these countries remained relatively higher, allowing investors to continue making decent profit from their 'carry trades'.

US Dollar Performance



Raw data sourced from Bloomberg (March 2009)

The US dollar has appreciated against most major currency pairs since the beginning of August 2008, similar to the yen's performance prior to the formal BoJ QE announcement.

	USD/JPY	USD/GBP	USD/AUD	USD/EUR
31-Jul-08	107.98	0.5046	1.0621	0.6414
27-Feb-09	97.96	0.6971	1.5507	0.7862
% Gain / Loss	-9.28%	38.15%	46.00%	22.58%

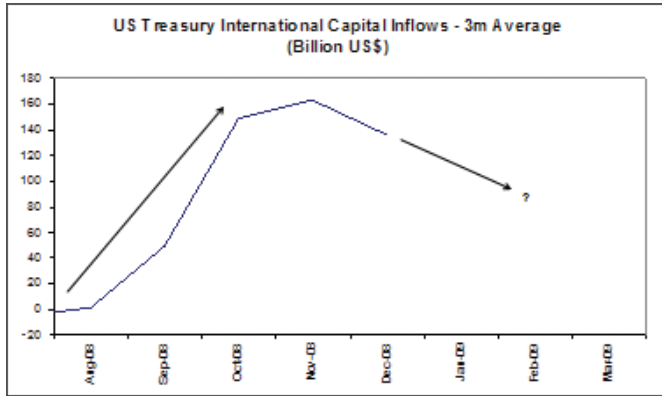
Raw data sourced from Bloomberg (March 2009)

In August, global fundamental economic data started weakening and by mid-September, Lehman Brothers had filed for bankruptcy protection. A month later, yields on 10-year US Treasury notes had started to fall, yet the US dollar appreciated against most currency pairs (except yen). Why?

The bullish trend in the US dollar and yen certainly wasn't justified by domestic fundamental reasons. In the second-half of 2008 it was increasingly apparent the financial crisis wouldn't be confined to the US, resulting in significant foreign capital inflows entering the country and being parked into US government bonds, generally considered a safe haven. This explains the US dollar's appreciation against the pound, Australian dollar and euro. Meanwhile, yen's appreciation against the US dollar has been driven mainly by deleveraging (reversal of the 'carry trade').

'Except for US Treasuries, what can you hold? Gold? You don't hold Japanese government bonds or UK bonds. US Treasuries are the safe haven. For everyone, including China, it is the only option,' Luo Ping, director-general at the China Banking Regulatory Commission, said on 11 February 2009.

The drop in 10-year Treasury yields in August was not just a theoretical response to monetary policy easing, it coincided with the beginning of a large increase in US capital inflows. This backs the view that US dollar appreciation is driven by a flight to US safe-haven assets. The chart below shows US Net Treasury International Capital (TIC) data. A three-month average was calculated in order to smooth out volatility.



Raw data sourced from Bloomberg (March 2009)

US dollar outlook

Brief recap

In the previous section I explained that the primary driver behind the US dollar's broad-based appreciation came on the back of an increase in foreign capital inflows that were moving out of risky foreign assets and into US government bonds, particularly long-term treasuries. I also provided an explanation of yen's appreciation against the US dollar, saying that the unwinding of the 'carry trade' is the main driver.

Notice that there is a common, yet important dynamic behind the appreciation of the yen and US dollar – the appreciation of both have been mainly driven by inflows not tied to domestic fundamental issues.

Going forward

The Federal Reserve's latest announcement to buy up to \$300 billion worth of long-term Treasuries has marked the beginning of a QE process and knocked the US dollar sharply back against major currency pairs, reversing its recent bullish trend. Shown here is the performance of the US dollar a day before and after the US Fed's formal QE announcement.

	USD/JPY	GBP/USD	AUD/USD	EUR/USD
17-Mar-09	98.66	1.4033	0.6593	1.2987
19-Mar-09	94.02	1.4583	0.6936	1.3713
% Gain / Loss	-4.7%	3.9%	5.2%	5.6%

Raw data sourced from Bloomberg (March 2009)

NB: For some currency pairs, this is the biggest one-day move in decades.

Although I do believe there is some more room for US dollar weakness, I am skeptical about its ability to consistently depreciate as the impact of QE on the US dollar is not as simple as saying that an increase in the supply of a

currency will weaken its value because, in reality, value is relative. This means that the value of the US dollar should be assessed in relation to what other central banks are doing and on the by-products of their policies (on domestic inflation/deflation and growth) at that point in the future.

Many countries including Britain, Switzerland and Japan are implementing some or the other form of unconventional policy resembling that former 2001 BoJ QE policy in some way. It remains to be seen whether the ECB will follow suit.

This means that the overall impact of America's QE policy on the US dollar may not necessarily be negative, as it was on the yen back 2001. True, there is a strong resemblance between the BoJ and Fed's policies, and it is also true the Fed's acquisition of Treasuries will help ease tight US dollar supply conditions. This time around, it's a globally-oriented slowdown, however, as compared to the previous situation which was more specific to Japan.

This leads me to believe that the US dollar may, at some point in the near term, regain some of the lost ground, especially against those countries that are implementing QE as safe-haven inflows resume on the back of deepening global economic woes.

Another factor which could contribute to the appreciation of the dollar is an improvement in US trade balance. The weak macroeconomic state in the United States has been creating a situation whereby demand for foreign goods is falling faster than exports. Assuming this trend continues, and short-term currency weakness is likely to ensure that it will, the US deficit should fall –theoretically proving beneficial for the US dollar.

Conclusion

In the long term, I am bearish toward the US dollar as I believe that signs of a global economic recovery will reverse those inflows which have led to the recent appreciation in the US dollar. I think such a phenomenon could occur somewhere between the end of the second-half of the year and first-half of next year.

The latest International Monetary Fund (IMF) report, which was prepared for the recent Group of 20 meeting, reveals global activity is projected to contract by 0.5% to 1% this year, with a modest recovery occurring in 2010 – see chart below. [3]

	Proj.		
	2008	2009	2010
World output	3.2	-1.0 to -0.5	1.5 to 2.5
Advanced economies	0.8	-3.5 to -3.0	0.0 to 0.5
United States	1.1	-2.6	0.2
Euro area	0.9	-3.2	0.1
Japan	-0.7	-5.8	-0.2
Emerging and developing economies	6.1	1.5 to 2.5	3.5 to 4.5

Source: IMF.

Whenever it occurs, a return to global economic growth will, in my opinion, be one of the primary drivers of dollar weakness –with the Fed’s recent liquidity boost only compounding the depreciation in the US dollar.

US Dollar Forecasts

Currency Pair	Contributors	Date	Forecasts			
			Q2 09	Q3 09	Q4 09	Q1 10
EURUSD	BNP Paribas	Feb-06-09	1.20	1.22	1.24	1.20
	ANZ Bank	Mar-05-09	1.25	1.20	1.12	1.10
	BME	Mar-13-09	1.25	1.26	1.29	1.30
GBPUSD	BNP Paribas	Feb-06-09	1.40	1.45	1.48	1.58
	ANZ Bank	Mar-05-09	1.42	1.46	1.48	1.50
	BME	Mar-13-09	1.40	1.44	1.49	1.55
AUDUSD	BNP Paribas	Feb-06-09	0.57	0.59	0.61	0.60
	ANZ Bank	Mar-05-09	0.63	0.58	0.56	0.54
	BME	Mar-13-09	0.63	0.64	0.68	0.67
USDJPY	BNP Paribas	Feb-06-09	78	86	92	108
	ANZ Bank	Mar-05-09	98	100	101	102
	BME	Mar-13-09	95	96	98	100

Data sourced from Bloomberg (March 2009)

BME (Bloomberg Median Estimates): this is the median average forecast which is calculated from the currency projections of various investment management firms.

[3] International Monetary Fund (March 19 2009)

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