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Backgrounder: Unconventional Monetary Policy

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This PortfolioConstruction Forum Backgrounder was conceived and published by PortfolioConstruction Forum as core pre-reading for those wanting to get the most from PortfolioConstruction Forum Markets Summit 2014, whether attending live or after the fact via the online Resources Kit.

INTRODUCTION

Since the Global Financial Crisis began in 2008, most major developed countries or zones have instigated some form of Unconventional Monetary Policy (UMP). Of course, UMP - QE, forward guidance, asset buying - has only been tried a handful of times over the last century, mostly in the past five years. How and when will it end? And what does that mean for the markets?

UMP and its intended and unintended consequences is a rich and complex topic and one that is critical for all portfolio construction practitioners to understand due to its impact on the markets, and therefore investment portfolios over the coming three to five years, and beyond.

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This Backgrounder explains why UMP is undertaken, how it works, what it does, whether it's inflationary, and what some of the unintended consequences of UMP policies might be. Intentionally, it does not consider what might happen from here. This is the arena for the PortfolioConstruction Forum Market Summit 2014. This Backgrounder aims to inform and set the scene for delegates as well as Members who don't attend the live program but rather "attend" it via the online Resources Kit afterwards.

We trust this Backgrounder enhances your understanding of UMP - and that, combined with the materials available in the online Markets Summit 2014 Resources Kit, you gain a better understanding of the impact of UMP on the medium-term outlook for the global economy, key markets and asset classes - and, of course, the impact on portfolios!

Graham Rich, Publisher, PortfolioConstruction Forum

1. FIRST, LET'S DEFINE IT

Over the past six years, the term Quantitative Easing (QE) has become a catch-all phrase that many now use to describe a multitude of exceptional actions undertaken by a central bank. However, like much jargon, it is often misused. Most discussion we hear about QE is really about Unconventional Monetary Policy (UMP). UMP takes in QE, forward guidance, asset buying and other actions undertaken by central banks.

So – let's start by defining UMP and QE.

Normally, a central bank can act on its goals of stable inflation and full employment through influencing short-term interest rates. Very rarely, the economic situation may be so dire that very low, or zero, interest rates, will not be enough to stimulate the economy. Make no mistake, though, such a situation is rare indeed.

Prior to the GFC, the standard wisdom was that central banks could do little when faced with a Zero Lower Bound for interest rates. Few people bothered debating or discussing this but a few few researchers did look at this issue, primarily in relation to the Japanese situation and the Great Depression[1]. Bernanke and Rogoff (2004)[2] outlined three courses of action open to central banks under such circumstances. They are:

- Provide guidance to the markets that interest rates will remain very low for an extended period or other unconventional actions will be undertaken – called forward guidance (or, sometimes, jawboning).
- Buy assets other than short-term securities. It could be any asset, but is usually longer dated bonds. This effectively changes the composition of a central bank's balance sheet.
- Increase the size of its balance sheet. The central bank can buy far more assets, from a larger variety of sellers, than it needs to in order set rates to zero. This also effectively changes the size and composition of a central bank's balance sheet. Technically, this is QE.

These three options now effectively constitute UMP. Obviously, a number of central banks have undertaken all three since 2008, in reaction to the market dysfunction and economic malaise caused by the GFC.

2. WHY DO IT?

The aim of UMP is not dissimilar to the objectives of conventional monetary policy. Broadly, the primary goals of central banks are usually based on achieving Stable, moderate inflation and/or full employment[3]. And, in times of crisis, central banks' goals tend to extend to

responsibility for the orderly functioning of markets, or financial stability.

Usually, a central bank's primary tool to achieving these aims is conventional monetary policy – the setting of short-term interest rates through the buying and selling of short-term government instruments[4]. In the normal course of events, conventional monetary policy is a very effective means of delivering on the aims of central banks[5].

If, however, an economy is very weak or looks like it may become very weak, short-term interest rates are bound on the downside to a very low, or zero, level. This is known as the Zero Lower Bound (ZLB). When rates become very low, conventional monetary policy just doesn't work well.

If things are REALLY bad, even 0% interest rates can represent quite tight monetary policy. This could happen because of deflation (or expected deflation), an expected drop in demand, or even war. In such times, the effective real interest rate is still positive. For example, if inflation is -5% and interest rates are 0%, real interest rates are actually quite high, just when the economy needs stimulation. This is called a liquidity trap[6]. Ideally, if it were able, a central bank would instigate a negative interest rate policy in such a setting. But, obviously, that cannot happen. So central banks resort to other means to continue to calm the financial system, stimulate the economy and raise inflation or inflationary expectations. And that's where UMP comes in.

Make no mistake, UMP is unconventional. It is considered a risky, daring and extraordinary set of actions. The full implications and effects are not fully known[7] – most is theoretical – despite a plethora of opinion. That's because UMP has only been tried a handful of times over the last century, and most of those attempts have been in the past five years[8] . Because it occurs so infrequently, it is an area that was not widely researched, studied or taught until 2008.
It really is an area where most financial angels fear to tread.

3. HOW DOES IT WORK?

In many ways, UMP works similarly to conventional monetary policy. However, with UMP, a central bank is attempting to revive a very weak economy, probably while stymied by the ZLB.

Conventional monetary policy targets short-term interest rates via central banks purchasing short-term securities from banks and providing reserves in return. Such reserves effectively look like a bank account with the central bank and, in most countries of the world, banks are then paid some interest on those reserves. Reserves can generally be considered as being made up of two parts – statutory reserves, which were needed to meet a bank's capital requirements[9], and excess reserves. Often, the later either does not earn any interest for banks or might earn amounts lower than the Official Cash Rate (which can be manipulated by the central bank). So, banks will find ways to deploy cash quickly in order to earn a better

return rather than hold excess reserves. Usually, this is done through lending. It is the way a central bank helps to "create" money.

In a UMP environment, the actions that a central bank might undertake include:

- Forward guidance – effectively, the central bank foreshadows future policy, further than it normally would. A central bank could offer guidance about interest rate policy or other UMP actions, such as bond buying. It could link policy to variables such as current or future inflation, or employment. This has recently been used by the Bank of England (BoE) and the US Federal Reserve (Fed).
- Buying assets other than short-term securities – In the main, over the past five years, central bank asset buying has generally been focused on long-term government instruments and mortgage-backed securities offered by a variety of sellers, not just the banks. In the case of the Bank of Japan (BoJ), it has also included equities and REITs.
- Buying a lot of assets, so that the central bank's balance sheet expands significantly – This means banks hold larger reserve accounts, with a lot more excess reserves. Combined with the interest rate being paid on the reserves, this effectively means a central bank can replace inter-bank money markets – that is, banks don't trade assets amongst each other, instead they sell assets to the central bank. This helps maintain market function when markets are weak.

These actions will stimulate the economy in two main ways, although a number of other channels will intertwine[10]. The literature on the subject will often emphasise different channels and will often use different nomenclature. Nonetheless, the essence of transmission is covered here.

Firstly, and simply, forward guidance will impact expectations – and, expectations will impact actions. As long as a central bank can "credibly promise to be irresponsible"[11], people and markets will usually act on this information. Funnily enough, this is thought to be the most valuable and influential of the UMP tools[12] [13] [14]. However, it only remains so if a central bank is true to its word.

When a central bank buys longer dated bonds, it will push long-term interest rates and risk premia down, and bond prices up. This will, in turn, move investors from short and/or long-term government securities into other, riskier, assets. When a central bank buys other assets, such as corporate bonds, this will also drive down risk premia[15]. Hence, an upward movement in equity and property markets and a downward movement in the currency should all be seen as expected consequences of UMP. Investment flows to emerging markets are also foreseeable consequences. Janet Yellen outlined this in a 2011 speech[16].

These actions should also lead to a wealth effect, where people feel wealthier due to a rise in asset values and a fall in debt burden, and so consume more. However, wealth effects are generally not huge.

4. WHERE HAVE WE COME FROM?

Much has been written about the Global Financial Crisis over the past five years. Very good summaries of events are listed as recommended readings in Appendix 1.

In this Backgrounder, we provide a very brief overview of UMP events since the US Depression, focusing on some of the outcomes where possible.

4.1 The Depression in the US

The US undertook QE for the first time in 1932, when it purchased US$1bn of Treasury securities[17] [18]. QE continued through to 1936. There is little good research on how the action contributed to the Depression. At the time, there were concerns that it would be inflationary. However, records show deflation of around 25% from 1931 to 1933, while inflation was subdued from 1933/4[19].

4.2 Japan in the early 2000s

Japan undertook a zero interest rate policy, expansion of bank reserves (current account balances) and purchase of long-dated bonds from about 2001 to 2006. This was in reaction to the bursting of the tech bubble which occurred after an already poor decade of poor growth and deflation[20] [21]. Core CPI only turned positive in 2005.

Various studies have found that the most important UMP tool during that period was forward guidance[22]. The Japanese government clearly communicated that the programme would not end until CPI (current and prospective) was positive. Studies also found that the action of increasing the size of the balance sheet was not inflationary. Rather, inflation levels were also driven mainly by expectations[23].

4.3 The Global Financial Crisis

Lehman Bros collapsed in September 2008. In the immediate aftermath, all central banks tried to restore dysfunctional markets and undertook a range of extreme actions in order to do this. After the initial chaos, however, central banks in the US, UK, Eurozone and Japan all adopted various forms of UMP as they concentrated on restoring normal function in financial markets, stimulating growth and preventing deinflation[24]. It is these policies that we summarise.

4.3.1. US

The Fed lowered interest rates to between 0.0% and 0.25% in December 2008 (from 5.25% in September 2007), thereby becoming constrained by the ZLB. The Fed then began to provide

forward guidance about the likely path of interest rates and announced a program to buy agency debt and mortgage-backed securities (MBS). At the same time, it began paying interest on both required and excess reserves, which it had not done before[5]. The BoE also began doing this in 2009 while the ECB began doing this in 1999[26]. Currently, they pay the same rate of interest for both, but this could change in the future[27].

In the months that followed Lehman Brothers failing, the Fed announced that it would buy back around US$1.25tn of mortgage-backed securities and direct debt issued by Fannie Mae, Freddy Mac and Ginnie Mae and US$300bn of long-term Treasury securities[28]. This was known at the time as an LSAP (Large Scale Asset Purchase) but eventually came to be commonly referred to as QE1.

The US economy then started to improve, but stalled again in 2010. In response, in November 2010, the Fed announced another LSAP – eventually referred to as QE2 – during which the Fed announced it would buy back US$600bn of long-term Treasuries.

In September 2011, the Fed announced it would purchase US$400bn of long-term bonds and sell an equivalent amount of short-dated bonds. It also said it would use the proceeds of maturing securities to buy mortgage-backed securities. This became known as Operation Twist (as it was buying long and selling short). This program was expanded by around US$270bn in June 2012, aiming to bring down long-term interest rates.

QE3 – which is also known as QE infinity – was announced in September 2012. The Fed decided to begin purchasing US$40bn per month of mortgage-backed securities. In terms of forward guidance, it also announced that it would maintain short-term interest rates at around 0% until at least 2015. In December 2012, the Fed announced it would increase the amount of open-ended purchases from US$40bn to US$85bn per month (being US$40bn of MBS and US$45bn of long-term bonds).

In June 2013, Ben Bernanke, then Chair of the Fed, announced a tapering of some of the Fed's QE policies, contingent upon continued positive economic data. Specifically, he said that in September 2013, the Fed could scale back its bond purchases from US$85bn to US$65bn a month. He also suggested that the Fed's bond buying program could be finalised by mid-2014. After markets reacted badly and economic indicators remained weak, the Fed decided in September 2013 to hold off tapering its bond buying program.

In further forward guidance, Bernanke suggested that if inflation followed a 2% per annum target rate and unemployment decreased to 6.5%, the Fed would likely start raising rates[29].

In December 2013, Bernanke announced that the Fed would begin tapering purchases from US$85bn per month to US$75bn per month from January 2014.

4.3.2 UK

In March 2009, the BoE announced that it would lower its bank rate (cash rate) to 0.5% per annum, the lowest it is able to move to. It also announced that it would begin purchasing long bonds. Between March 2009 and January 2010, it purchased £200bn of long-term bonds. This differentiated it from the action in the US. The BoE only bought gilts, not securitised assets of any sort. In October 2011, the BoE announced another £75bn of purchases and, in January 2012[30], another £50bn followed in July 2012, by another £50bn.

The BoE also signalled its intent not to increase interest rates above 0.5% per annum until unemployment fell below 7.0% (at time of writing, it sat at approx 7.6%), unless one or more of the following events occurred:
- Prospective CPI rose higher than 2.5% per annum;
- Medium-term inflationary expectations were no longer anchored; and/or,
- Financial stability was threatened.

Although this may seem small after looking at the US numbers, it represents about 26% of UK GDP, larger than the US program in total.

4.3.3 Eurozone

The Eurozone has also undertaken some UMP. In 2008, it began "long term refinancing options" (LTROs) during which the European Central Bank (ECB) lent money to banks at very low rates. It also began endogenous credit easing through FRFA repos that same year. In 2009, it began buying €60bn in covered bonds and announced 12 month LTROs. In May 2010, it announced it would purchase sovereign debt in secondary markets. In late 2011, the ECB began purchasing €40bn in covered bonds and offered 36-month LTROs. In September 2012, it began a new program for buying sovereign debt. Nonetheless, although the ECB has undertaken some UMP actions, its commitment to the policy has been comparatively small.

4.3.4 Japan

The BoJ has experience in UMP, after suffering two decades of weak growth and low inflation/deflation. Over the past five years, it has acted a significant number of times to expand its balance sheet in a wide variety of areas, including the purchase of Japanese Government Bonds (JGBs), corporate paper and bonds and securities such as ETFs, and JREITs from a variety of market participants. Over the past five years, the BoJ's UMP programme has been the largest and the broadest of all central banks', at 37.3% of GDP. A full list of BOJ actions from December 2008 to December 2012 appears in Appendix 2.

4.3.5 In summary

Beginning late 2008, most major developed countries or zones instigated some form of UMP.

Although this Backgrounder focuses on the US, the size of the action in the UK and Japan has been larger when measured as a percentage of GDP. The ECB, on the other hand – and in line with its austerity approach – has undertaken virtually no action, with only 3.5% of GDP being deployed to UMP policies[31].

5. HAS IT WORKED?

A loaded question! Opinions abound as to whether UMP has been successful, sufficient, inconsequential or dangerous.

UMP is one set of tools used by central banks to meet their goals – so this Backgrounder considers consider success only in terms of a central bank's goals – managing inflation, employment and, in exceptional circumstances, financial stability. Some of the other effects are considered later.

The International Monetary Fund (IMF) has written extensively on whether UMP has been successful[32]. Its view is that UMP was very successful globally during the early part of the Global Financial Crisis, when turmoil was at its highest in averting a financial melt-down. However, some of the IMF research suggests UMP has been most successful in the US since that time, but not as successful in the UK and Eurozone. In the US, financial intermediation has been the most positively affected, while the UK and Eurozone remain weak in this regard.

Nonetheless, interest rates, long rates and credit spreads have been lowered in all jurisdictions where UMP has been undertaken. This has underpinned the more conventional goals of central banks, being growth and price stability. However, given the time lags associated with reaching these goals, the evidence is not yet completely clear.

Various branches of the US Fed have also undertaken studies, particularly focusing on the success of the US programme. One study[33] found that UMP most likely has provided a positive fillip to both GDP and inflation – that is, it has been inflationary – but less effective than conventional monetary policy.

Other studies conducted by various academics[34] [35] have shown that UMP in the US does work to lower the term structure and credit spreads. Others point to the effect of Bernanke's "taper-talk" in May and June 2013 as being evidence of the effect UMP has had on long rates[36].

Although there is general agreement with the view that rates are generally lower than they might otherwise have been – so the Fed has done what it set out to do – the effectiveness of those actions on employment and inflation have been questioned. Some claim the lack of clear outcomes is due to the way banks have lent during this period or the efficacy of forward guidance[37]. Others have questioned the broadness of the portfolio rebalancing effect as the spillover of falling risk premia has not been as broad as intended[38].

However, most importantly, many studies found that the most important element of UMP was forward guidance[39].

In Japan, studies have shown that UMP "has been effective in supporting economic activity and inflation"[40] [41] [42]. Generally, it is thought to have had more impact on economic activity, but less on inflation, and the most recent period of UMP (ie 2008 onwards) is thought to have been more effective than earlier actions.

Similarly, in the UK, studies suggest that the actions of the BoE between 2009 and 2012 stimulated the economy as much as a 2.5% to 5.0% interest rate cut might have been expected to have done[43] [44].

In the Eurozone, where the least amount of UMP (as defined here) has been undertaken, the evidence is that retail interest rates stressed markets far above those in the core countries. This has impeded recovery[45] [46].

6. IS UMP INFLATIONARY?

Whether UMP has been inflationary has been a significant topic of debate since the initiation of this global round of UMP. For the first few years of the Global Financial Crisis, the inflation/deflation debate raged around the world. Many expected UMP to ignite inflation as it represented extreme growth in the monetary base. Others expected deflation to result, as demand remained weak.

Despite significant UMP through the developed world, inflation generally remains subdued and under target levels almost (except for the notable exception of the UK, where it has been above target levels since 2009[47]). So, the simple answer might be – no, UMP is not inflationary.

Given that periods of rapid monetary growth have usually ended with hyper-inflation, the following questions arise:
1. Is UMP not monetary growth?
2. If it is, why hasn't it been inflationary?

6.1 Is UMP monetary growth?

By definition, UMP is an increase in the monetary base, so it must represent monetary growth. US data reinforces this view as it shows that money supply has grown very significantly since the introduction of current UMP measures – as shown in Figures 1 and 2

.

Figure 1: US M1 Money Stock

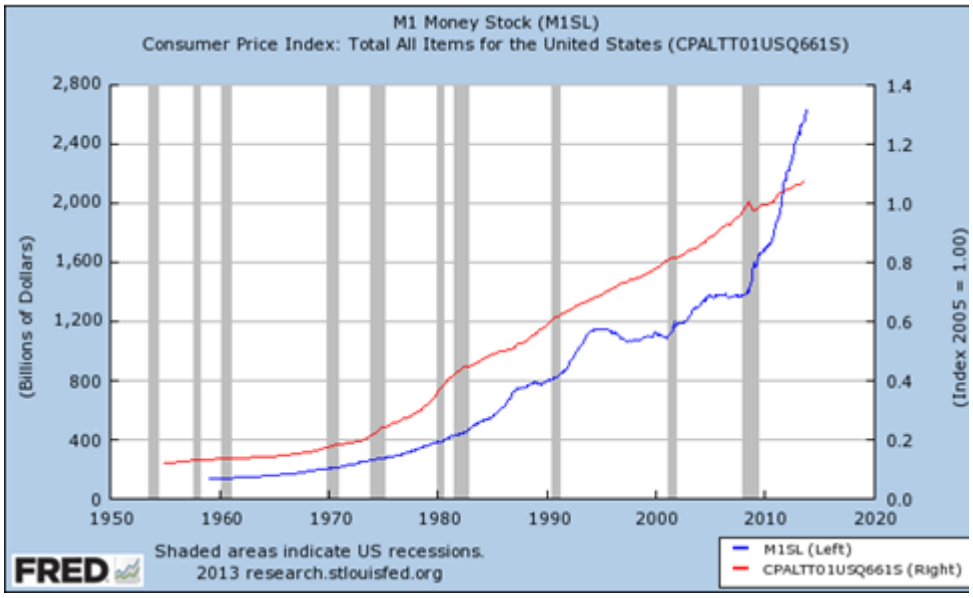
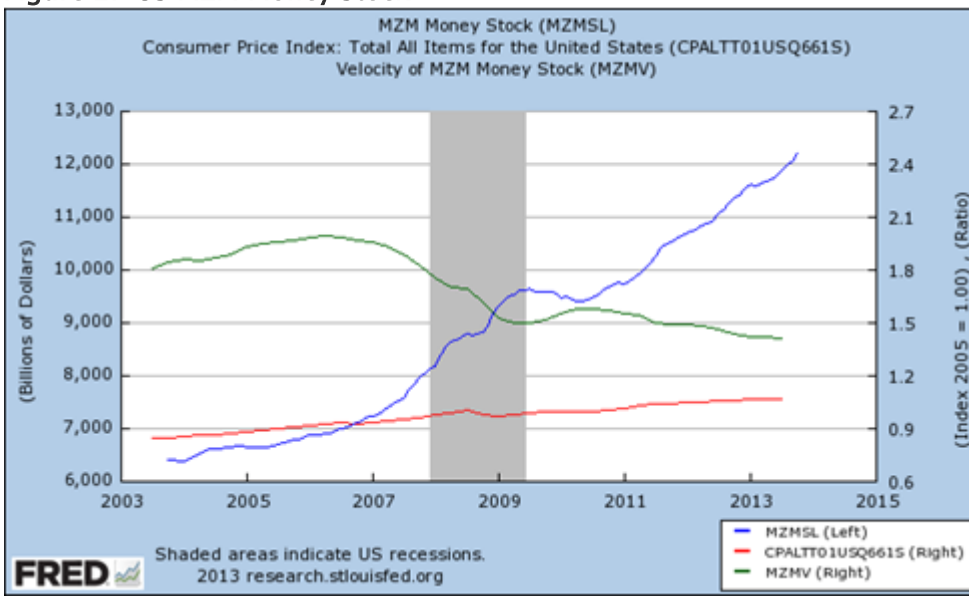


Figure 2: US MZM Money Stock



So why hasn't it been inflationary to date? Like everything to do with UMP, there are disparate views on this.

A number of commentators believe it is due to the changes regarding the payment of

interest on reserves that has effectively ensured that UMP has not been inflationary[48] [49] [50] [51].

For inflation to occur, not only does there have to be an increase in money supply but the velocity of money must assist in ensuring money is transferred between banks, businesses and people. When banks are being paid the same, relatively good, rate of interest on both statutory and excess reserves, the need to lend out excess reserves is lessened and will only occur when opportunities presented offer a reasonably better risk/return outcome. In effect, excess reserves have taken the place of interbank lending, meaning the velocity of money has been slow.

However, another view is that it has been inflationary[52]. Perhaps without UMP, the developed world may have faced a period of deflation, which may have been avoided as a result of central bank actions.

7. UNAVOIDABLE AND UNDESIRABLE CONSEQUENCES

There is some evidence that UMP has had consequences that perhaps were understood, albeit undesirable and unavoidable, in the instigation of the policies. However, it is also clear that there is confusion over the actual intentions and intended consequences of UMP and a lot of the discussion in the popular press is based on an incorrect understanding of this.

For example, many commentators believe the rise in the price of risky assets is unintended – this is simply not true[53]. Price increases in corporate bonds and stock markets are clearly intentional outcomes of UMP. Asset price bubbles, however, are not. Discussion as to whether we have entered bubble territory is becoming increasingly prevalent[54].

Further, some recent studies have concluded that UMP has discriminated against savers through lower interest rates[55] [56]. This seems intuitively obvious but technically, very low interest rates are not part of UMP policy. Zero interest rates can exist without UMP and vice versa. Nonetheless, the distinction is probably only academic – savers are observably disadvantaged by current policy and it was clear this was an understood, but unavoidable, consequence.

However, there are a few other side effects of UMP that may have been anticipated, but certainly not welcomed by central banks.

Firstly, there is evidence that UMP has exacerbated inequality. As outlined, UMP partly relies on a wealth effect – an increase in asset prices – to coax people into spending more. Asset price movements will by definition help the wealthy, with the intention being that the wealth effect will trickle down into the creation of jobs. However, it will also increase inequality, at least in the short term. For example, studies show that in the US from 2009 to 2012, the top 1% of incomes grew by 31.4% while the bottom 99% of incomes grew by 0.4%[57] [58]. Hence, the top 1% captured 95% of the income gains in the first three years of the UMP experiment. Further, the income share of the top 1% of earners in 2012 was at a similar level as before both the Global Financial Crisis and the Depression, increasing to around 22.5% in 2012

from 19.7% in 2011[59] [60].

In the UK, there is also evidence that UMP has acted to boost inequality. A 2012 BoE study concluded that low interest rates had been the dominant influence on most households, so that incomes were lower for many[61]. The elevation of asset prices boosted the net value of the 5% of households that hold 40% of those assets in England. The study calculated that the richest 10% of British households saw its value of assets increase by around $500,000 during the 2009-12 period.

And, this could have contributed to social unrest[62]. Some commentators have argued that UMP has improved profits (particularly of the banks) without trickling down to wages or jobs, thereby stoking social tensions[63]. Real wages, for instance, have fallen in both the US and UK. In Germany, meanwhile, where there has been no quantitative easing, real wages have risen[64].

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Appendix 1: Some excellent summaries

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http://www.stanford.edu/~rehall/HallJacksonHole2013 (for the economists out there)

Appendix 2: Japan UMP actions Dec 2008 –Dec 2012

Dec 2008 – BoJ announces it will lend an unlimited amount to banks at near 0%, similar to ECB increases monthly JGB purchases to ¥1.4tr/month
Jan 2009 – BOJ will purchase up to ¥3tr in commercial paper.
Feb 2009 – BOJ will purchase up to ¥1tr in corporate bonds
Mar 2009– increases purchases of JGBs to ¥1.8tr/month
Dec 2009 – ¥10tr in 3mth loans (who to?)
Mar 2010 – another ¥10tr in 3mth loans
May 2010 – ¥3tr for growth projects
Aug 2010 – ¥10tr in 6 month loans
Oct 2010 – ¥5tr in public and private assets
Mar 2011 – ¥5tr inpublic and private assets
Jun 2011– ¥0.5tr in equity purchases or asset backed lending
Aug 2011 – ¥5tr inpublic and private assets and ¥5tr in 6 month loans
Oct 2011 – another ¥5tr in JGBs
Feb 2012 – additional ¥10tr in JGBs
Mar 2012 – ¥1tr in USD and ¥1tr in JGB
Apr 2012 – ¥10tr in JGBs/reduce FROs
Jul 2012 – additional ¥5tr in T bills/reduce FROs
Sept 2012 – additional ¥10tr in T bills and JGBs
Oct 2012 – BOJ will purchase additional ¥10 trillion in public debt and ¥1 trillion in private assets as well as fund up to 100 percent of depository institutions' net increase in lending to the nonfinancial sector
Dec 2012 – BOJ will purchase additional ¥10 trillion in Treasury bills and JGBs
Dec 2012 – BOJ announces it will purchase ¥10tr in bills and JGBs