

Investment News

Monthly Bulletin from the Insurance & Investment Team

October 2016

Last Month in Brief

The Bank of England have begun to implement their new round of quantitative easing monetary policy in an attempt to stimulate growth; to date the Bank have purchased around £400bn of government bonds since the first round of QE in 2009, with £25bn added to the total in the current round. In September the Bank's Deputy Governor, Minouche Shafik, stated that quantitative easing, as a tool used by central banks, is here to stay. She also signalled that there could be further cuts to the base rate as the Bank responds to the economic impact of the Brexit vote; the pound continues to fall in value.

The Bank of Japan's significant quantitative easing program (around \$790 billion a year) has driven long-term bond yields to record lows. In September the bank announced that they would shift their policy focus away from achieving sustained inflation targets and towards controlling interest rates. Their new objective is to control the yield curve in both the short and long-term, pledging to keep 10-year bond yields at around 0% to ensure there is profit to be made by banks lending to the fragile Japanese economy. Following this announcement the 10-year yield rallied slightly but then fell to -0.075% at 30 September 2016 (only just above the target for short-term rates of -0.1%) as investors lacked confidence in the conviction of the Bank's policy.

In the US, the Federal Reserve rate-setting committee voted against increasing their target interest rate from the current target of 0.25-0.5%. Commentators are speculating that the bank will look to tighten its monetary policy and a rise is expected before the year end.

Chart 1: Equity Indices

Equity markets rose over the month

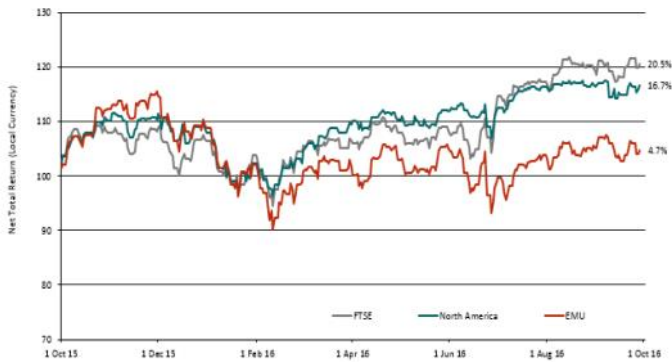


Chart 2: Sterling Credit Spreads

Credit spreads were steady over the month

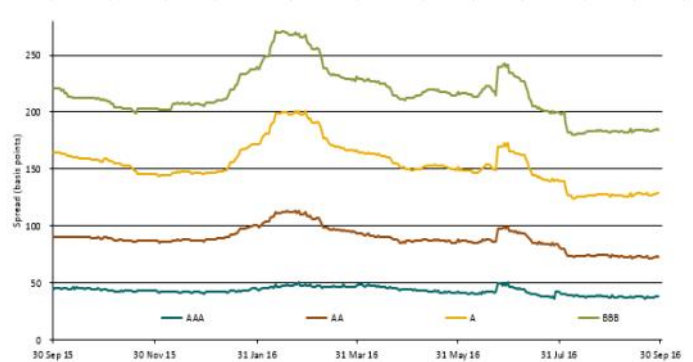


Chart 3: Gilt Yields

Gilt yields rose very slightly during the month

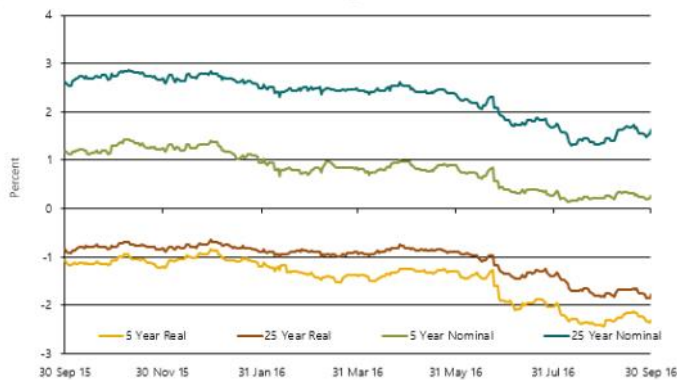
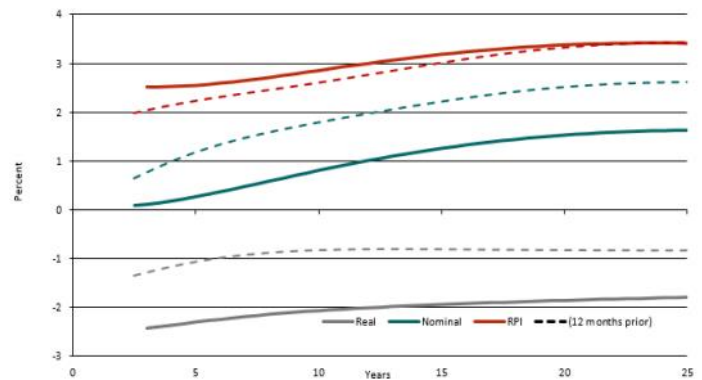


Chart 4: Gilt Spot Curves

Yield curves remained upward sloping



Source: Financial Times, MSCI, Merrill Lynch Bank of America, & Bank of England

	Latest	Previous		Latest	Previous
CPI increase (annual change)	0.6%	0.6%	Base rate	0.25%	0.25%
PPF 7800 funding ratio	76.1%	79.2%	\$/£ exchange rate	1.30	1.31
Halifax house prices (monthly change)	-0.2%	-1.0%	VIX (volatility) index	13.29	13.42

For monthly published indices "Latest" and "Previous" refers to the two most recently published statistics, otherwise numbers are quoted as at the month end.

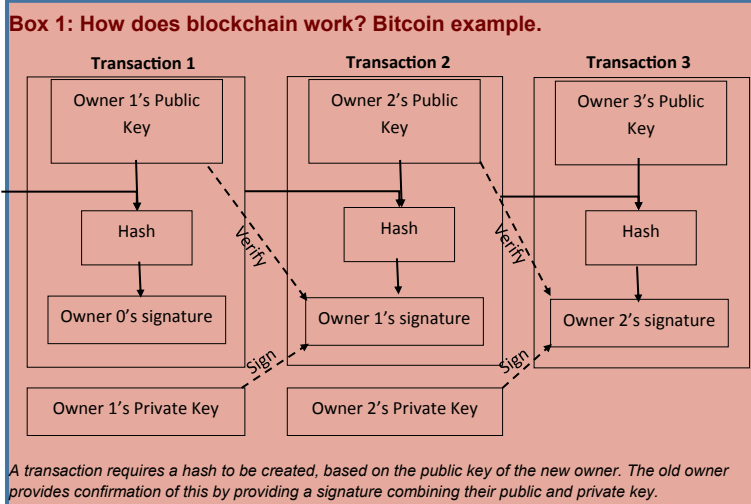
Blockchain — what it is and why it matters

Blockchain is a 'distributed digital mutual ledger technology' or, in simple terms, a clever way of recording data between a group of users in a permanent, decentralised, unchangeable form - as a chain.

It is most commonly recognised as the mechanism underpinning the cryptocurrency, bitcoin, keeping track of everyone who has ever owned a bitcoin.

How does it work?

Blockchain is a chain of information to which new chain-links "hashes" are added with every new transaction (see box 1). A hash is a unique identifier that is created when a transaction occurs. Through the use of hashes the blockchain verifies the identity of parties to the contract and ensures that data cannot be altered or accessed by others. The example in box 1 shows the process of transactions for bitcoin, where the previous owner uses a combination of their unique public and private keys to verify and sign that the ownership of the bitcoin has changed hands to the new owner. It is intended to be impossible for any other party to forge this 'signature' and hence fraudulently transfer bitcoins or otherwise mislead viewers of the ledger.



Once a hash is added to the chain it is time-stamped and cannot be deleted, providing an unalterable audit trail. No central authority is responsible for data, to generate a new block transactions need to be validated by "miners" (computing data centres), rather than one central organisation (such as a bank). It's a peer-to-peer system with no middle man.

Advantages and applications

Blockchains were originally developed as a wholly public tool, such that anyone can view, update and validate chains. However, with financial institutions showing interest in how they can improve their digital services, private blockchains are emerging.

Financial institutions collect, use and disseminate a lot of data and are always looking for new technology which enables them to do this more efficiently, improving their service and reducing costs. Currently organisations keep a record of all the information relating to a contract on a central, private database. A blockchain would present a way to do this that is accessible to a wider group of parties, securely, all in one place, tracking every step along the way.

Any material or information in this document is based on sources believed to be reliable; however, we can not warrant accuracy, completeness or otherwise, or accept responsibility for any error, omission or other inaccuracy, or for any consequences arising from any reliance upon such information. The facts and data contained are not intended to be a substitute for commercial judgement or professional or legal advice, and you should not act in reliance upon any of the facts and data contained, without first obtaining professional advice relevant to your circumstances. Expressions of opinion may be subject to change without notice.

Bitcoin is the figurehead example of an application for blockchain (using it as the basis of a digital currency) which has met with varying degrees of success. Whilst the value of bitcoin has been volatile since its inception, the total value of bitcoin in existence (the monetary base) reached the equivalent of \$12bn in mid 2016 (from a starting point of \$0 at its inception in 2009), the cryptocurrency has been so popular that its major challenges at the moment concern how to allow for even more significant frequency and volumes of trades.

Financial securities trades, such as buying and selling stocks and shares, can be very slow and expensive. Trades generally take two or three days to carry out and can be relatively expensive due to the number of parties involved. If this system were underpinned by blockchain-like technology, it is claimed that these transactions would be orders of magnitude quicker and cheaper. However, the Bank of England, in a recent report, said that despite the potential benefits, such a technology would not likely be adopted soon, considering the significant scalability and regulatory challenges.

In a recent Government's report on blockchain, the Chief Scientific Advisor Sir Mark Walport, identified distributed ledgers, such as Blockchain, as having the "potential to help governments to collect taxes, deliver benefits, issue passports, record land registries, assure the supply chain of goods and generally ensure the integrity of government records and services". The report also pointed out that the use of distributed ledgers could reduce the public sector's vulnerability to cyber-attacks.

Challenges

Despite the enthusiasm throughout the financial services industry (and beyond) towards blockchain, there are many who point to significant stumbling blocks which may prevent the widespread use of blockchain or impact on its effectiveness.

One primary potential problem is that the anonymity often offered by blockchain can help support illegal activity. This has been seen notably through bitcoin, where there are strong suspicions of money laundering and black market transactions.

Another problem preventing widespread use of such technology is that regulation is not sufficiently developed at this point. It would be necessary for a robust system of regulation to be in place before government bodies back blockchain and before corporations and individuals are willing to trust the system and adopt it fully. In the UK, however, the FCA recently confirmed that they were considering approving a "small but significant number of firms" whose financial product is underpinned by blockchain technology. Should such approval be granted this would be a first for blockchain getting the regulator green light.

In sum: blockchain and its competitors have the promise to revolutionise the currently expensive, inflexible, and slow administrative systems used in financial services. However, a large proportion of organisations have yet to consider it seriously as an alternative to the status quo. There remain a number of significant obstacles in the way of progress but in the coming years we may see the financial services industry becoming more streamlined and efficient if these 'fintech' revolutionaries successfully navigate them.

Contact Information

Colin Wilson
Deputy Government Actuary
T: +44 (0)20 7211 2672
E: colin.wilson@gad.gov.uk

Aidan Smith
Chief Actuary
T: +44 (0)20 7211 2632
E: aidan.smith@gad.gov.uk

Andrew Jinks
Investment & Risk Actuary
T: +44 (0)20 7211 2655
E: andrew.jinks@gad.gov.uk

John Plevin
Investment & Risk Trainee Actuary
T: +44 (0)20 7211 3422
E: john.plevin@gad.gov.uk