Quantitative Easing – and the implications for Actuaries
&
Economics Discussion

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Society of Actuaries in Ireland
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Introduction

- Context
- Printing money
- Quantitative Easing
- Implications
- Economics Discussion
- Q&A

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Quantitative Easing

- **Quantitative Easing** (QE) is a monetary policy used by some central banks to increase the supply of money. It usually involves both a direct increase in the money supply and a knock-on effect from the fractional reserve system, increasing the money supply further. Although it can involve just making changes to the fractional reserve system, which increases the money supply.

- QE is usually implemented by a central bank by first crediting its own account with money it creates ex nihilo ("out of nothing"). It then purchases financial assets, for example government bonds, agency debt, mortgage-backed securities and corporate bonds, from banks and other financial institutions in a process referred to as open market operations. It can also involve changing the reserve requirements which through the fractional reserve system would increase the money supply.

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Quantitative Easing - Economics

- Impact of Quantitative Easing on
  - Bond Markets
  - Equity Markets
  - Exchange Rate
  - Economic Growth
  - Inflation

  - Summary

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Quantitative Easing – Bond Market

- When the supply of money increases the price of money (interest rates) falls.

- QE will typically involve intervention in bond markets by the central bank – increasing bond prices and consequently lowering bond yields (Imbalance)
- Direct QE is typically used to impact the middle to longer end of the yield curve, which would not be directly impacted by more traditional monetary policy.
- If the QE results in higher inflationary expectations, it may increase yields at the longer end of the yield curve.

Quantitative Easing – Equity Market

- Lower bond yields => improve the relative attractiveness of equities
- Lower bond yields => lower discount rate applied to future earnings
- Higher inflationary expectations, or the removal of deflationary expectations => higher real asset prices (equities are a real asset)
- Newly created excess reserves in the banking system and the higher money supply may flow into equities.
- Lower bond yields should stimulate economic activity, increase corporate profitability and future dividends.
- The result of QE may have a disproportionate effect on the stock market in the short term, creating an imbalance in the economy and this can result in a stock market **bubble** unless the QE results in higher real economic output.
- If QE results in investors being worried about inflationary expectations this could cause a stock market sell-off (excessive inflationary expectations require restrictive monetary policy)

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Quantitative Easing – Exchange Rate

- Initially the exchange rate should fall - unless similar or more severe QE is happening in other countries.
- Lower interest rates reduce the demand for the domestic currency.
- Lower exchange rates should increase the competitiveness of all exports. This is despite increasing the cost of imported raw materials used in production.
- Lower exchange rates should increase the relative competitiveness and demand for domestically produced goods and services stimulating domestic growth in the next two years.
- If QE results in stronger growth, this should lead the currency to appreciate eventually

Quantitative Easing – Economic Growth

- Lowering borrowing rates encourages investment spending by firms, and increases the level of consumer spending (with lags)
- Capital investment spending by firms increases employment levels and therefore incomes (with lags)
- To increase consumer spending you need to do one or more of:
  - Increase disposable income by reducing the cost of servicing existing debt – the effect will be more immediate if borrowing is generally at floating rather than fixed rates
  - Discourage savings and / or encourage spending of savings – lower interest rates provide less reward for savings, however, consumers need confidence (e.g. job security or prospects) before savings are turned to spending.
  - Encourage personal borrowing – lower interest rates make borrowing cheaper, however, consumers need confidence (e.g. job security or prospects) before borrowing to spend
- The return of consumer confidence will take time to emerge
- If QE results in other countries also conducting QE to engage in competitive devaluations, this is likely to hurt international trade, and hurt economic growth

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Quantitative Easing – Inflation

- Impact on commodity prices
- Lower exchange rates will increase the cost of imported goods and services leading to supply side inflation. The impact on the inflation rate will depend on whether these higher costs can be passed on to consumers. Weak demand and the pressure of domestic alternatives are a limiting influence.
- The use of forward currency contracts will create a longer lag.
- Lower real interest rates mean an increased quantity of money is demanded which is met by an increase in the money supply. This can lead to inflation (demand side). Demand side inflation typically has a longer lag than economic growth.

Quantitative Easing – Summary

- QE is essentially a bubble and/or inflation machine.
- Initially, lower bond yield & higher equities. Creating imbalances and distortions, including bubbles.
- The creation and resolution of these distortions and imbalances can have significant impacts on financial markets and consequently, insurance companies and pension funds
- It relies on money illusion, human nature and confidence in the system. If used in an extreme way it could erode confidence in the system.

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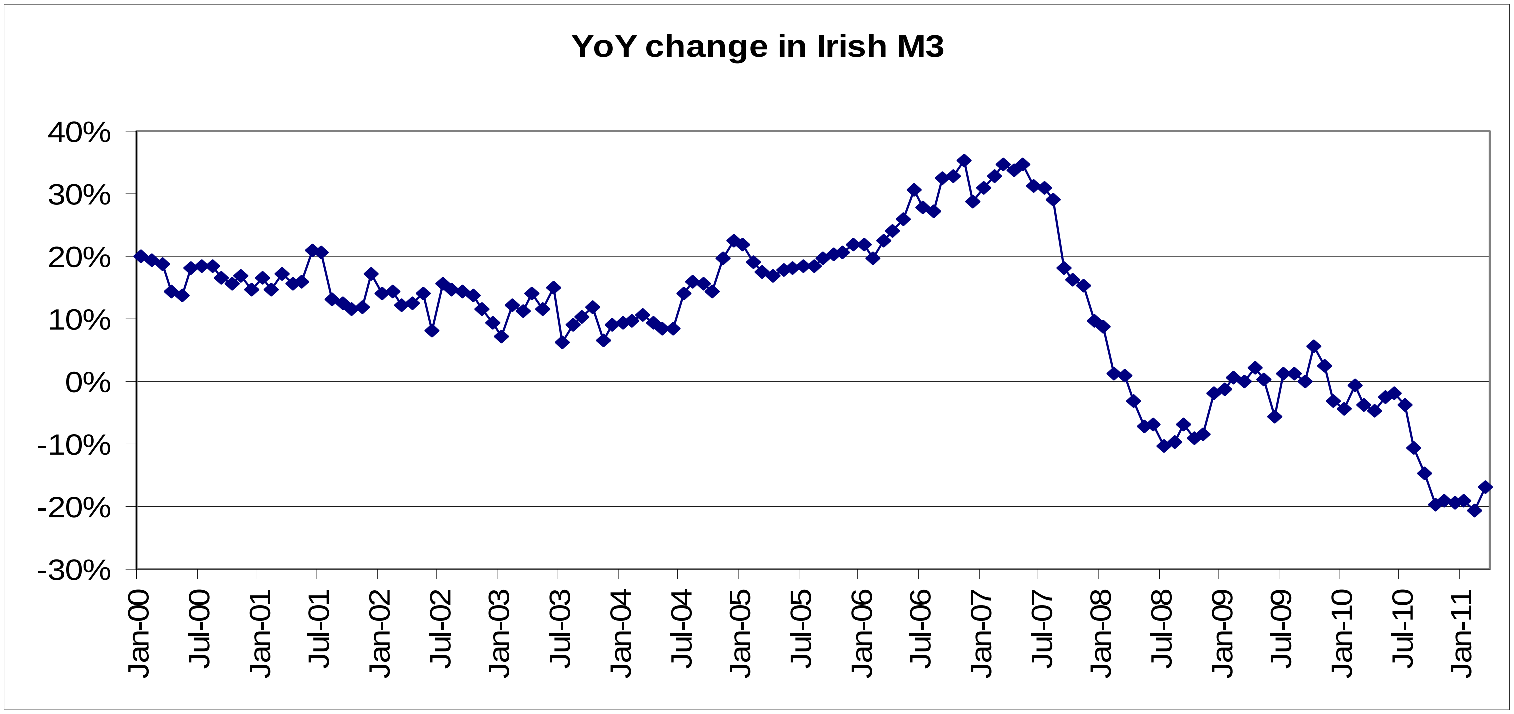
Quantitative Easing - Comments

- Began in the 1980s – through changes in the fractional reserve system.
- Quantity Theory of Money (MV = PQ)
  - More money => higher CPI and/or Asset Prices
- Now experiencing Quantitative Contraction in Ireland
  - QE in reverse
  - Lower asset prices and/or lower CPI
  - Other economic implications

Quantitative Easing – Ireland



Worse than the contraction in the money supply in the US in the 1930s!

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Quantitative Easing – Implications

- Main implication is increased volatility in financial markets
- Equity bubbles, housing bubbles and bond bubbles all impact Pension Funds, Insurance Companies and other Financial Institutions
- Creates opportunities – but also opportunities to panic and make bad decisions.
- Essential to understand the financial dynamics

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Economics Discussion

- Highlight some concepts, theories, developments and aspects to stimulate the discussion
  - Political economics
  - Neo-liberalism
  - Negative Wealth Effect in Ireland
  - The ‘Money Tree’
  - Bond Bubble
  - Climate Change & Resource Depletion

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Political Economics

- First rule of Political Economics is not to shock the system
  - Repeal of the Corn Laws
  - Protect ego of the people – get re-elected.
- Tough decisions generally only taken when forced
  - E.g. IMF bailout in Ireland – decision only taken when forced, similarly with Greece and Portugal
- Governments insolvent (conclusion from 31st May 2010)
  - Refusing to admit it – resorting to borrowing more money, and printing money in the case of the US, UK etc.
- Governments likely to continue to make poor decisions
  - Consolidated corporate tax base (Ireland)

Neo-Liberalism

- Nothing to do with Liberalism!
- Redistribution of income towards the rich
  - Opposite of communism
  - Ayn Rand / Greenspan
- Would recommend watching
  - http://vimeo.com/6803752
- Relatively extreme form of capitalism
  - Speeding up the increase in the inherent rate of volatility in the capitalist system
  - A QE policy is symptomatic of this influence
- Doctrine of the Mean – Extremes breed tragedy

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Negative Wealth Effect

- QE increased the Money Supply by >540% in about 12 years from 1996 to 2007
- Drove up asset / property values
  - Drove up related debt attached to these
- Collapse in asset / property values – negative wealth effect
  - 2 million dwellings * €150,000 price drop = €300b
  - Commercial property = €150b (estimate)
  - Banking collapse/bailout cost = €100b+
  - Irish Equity Market & other wealth erosion = €150b (estimate)

    = approx €700b or about 5 times our GDP
- Same amount of physical wealth – likely significant redistribution in its ownership – effects on Irish Society

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‘Money Tree’

- Discovery of the ‘Money Tree’
  - ‘Risk Free’ profits – guaranteeing traders’ bonuses
- Fundamental assumption
  - Status quo to stay the same in the Eurozone
  - Effectively selling insurance that this would change
- Comparison with Quinn Insurance and Equitable Life
- These traders/banks are being bailed out by the Greeks, Irish and Portuguese

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Bond Bubble

- Huge Government Bond issuance to ‘fight’ the financial crisis
- Interest rates cut to close to zero percent

- Creating an imbalance
  - Generally higher supply should mean a higher price (interest rate)
  - Here a higher supply has come with a lower price (interest rate)

- Bond Bubble?
  - US on Negative Watch
  - Act I Scene I ??

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Bond Bubble

- FED has said that it will reverse it's monetary easing (QE) on any signs of inflation

- This is not credible!
  - If inflation hits the system, bond yields will rise
  - Selling the bonds that they have purchased (as part of QE) at this time would not make sense

- Higher prices generally redistribute income/wealth from the poor to the rich
  - Social unrest
  - Arab Spring

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Bond Bubble

- Bond defaults by big developed countries brought on by rising bond yields
  - could significantly reduce the Money Supply
  - Impact on Stock Market
  - Impact on Economy

- Alternative - monetization of debt - kicking the can and making it even worse.

- Risk to confidence in the entire Financial System
  - QE a tool only up to a certain the point – up to where it can bring down the financial system.

Commodity Prices – CRB Index

UN Food Price Index

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Climate Change & Resource Depletion

- Climate Change & Resource Depletion: The Challenges for Actuaries
- https://www.actuaries.org.uk/research-and-resources/documents/climate-change-and-resource-depletion-challenges-actuaries

Long term outlook

- Some may consider this presentation realistic, others pessimistic.
- However, negative the short or medium term outlook, it does not make sense to bet against the human spirit in the long run!

Q&A

- Thank you for your attention this evening!
- Comments/questions to colm.fitzgerald@dcu.ie or paragonresearchltd@gmail.com

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Evolution of Money Supply

- Renaissance:
  - Bank has 10 Lira - can lend 100 Lira
  - The 10 Lira was to cover liquidity and bad debts
- Late 1980s, early 1990s: Liquidity needs of the public decrease with introduction of ATMs
  - Banks need less liquidity. Bank has €9, can lend €100
- 1990s: Banks begin to use more derivatives and off-balance sheet instruments. Credit cards.
  - Banks has €8, effectively lending €125

Evolution of Money Supply

- 2000s: Banks usage of derivatives and other off balance sheet instruments increases exponentially. Securitisation mushrooms. Agency Risk.
  - Banks has €7-€8, effectively lending €250
- Printing/debasement of money – to the benefit of the banks!
  - We were robbed!
- Late 2000s: Credit Bubble burst. Bank losses are say 10% of €250 = €25. They have €8 = massive insolvency.

- "When private assets go bad they usually become public assets"
  - Governments step in an take up the losses.
  - Massive increase in Government leverage (and money supply)
  - Government debt versus realistic tax generation capability
  - Governments insolvent.

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