Policy Implications of a Low Interest Rate Environment: *The UK Experience*

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King Midas’ Golden Touch?

The Costs…..

Core Knowledge

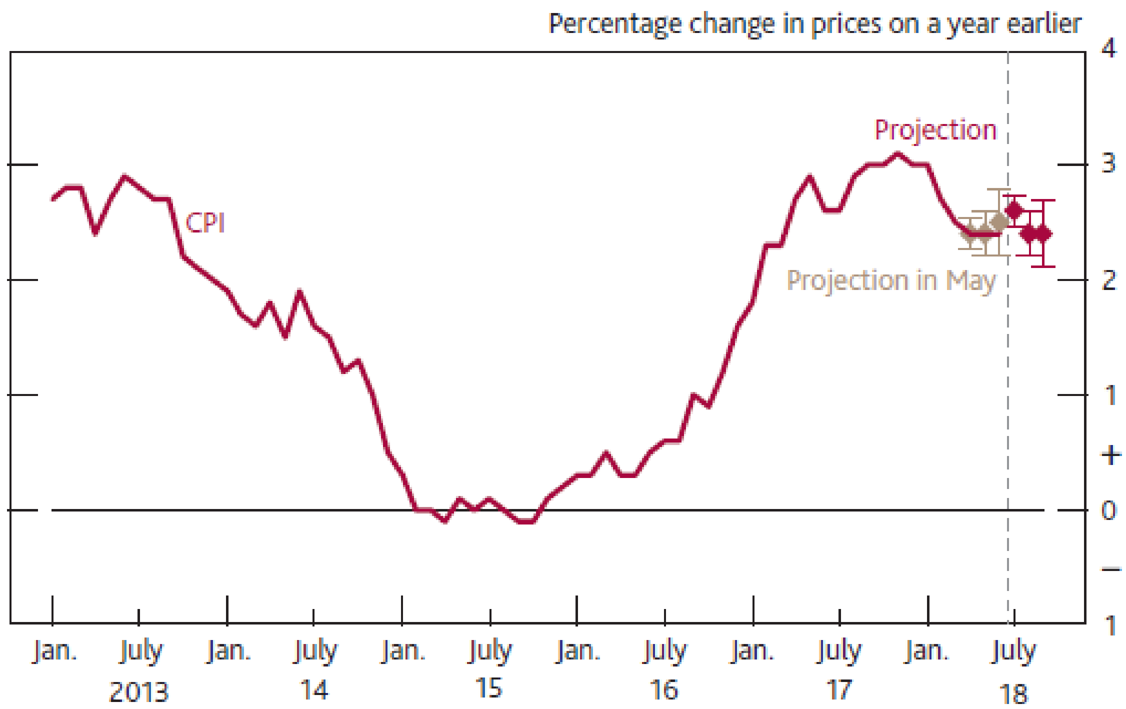
Evaluating the Costs of a Low Rate Environment

Potential Costs	UK Concern?
1) inflationary pressures	
2) limited ability to respond to future slowdowns	
3) asset bubbles and financial excesses	
4) weakens financial institutions (banks, pension & life insurance companies)	
5) inefficient allocation of resources / productivity	
6) vulnerabilities in structure of demand	
7) distributional implications (inequality)	

UK Inflation

Chart 4.1 CPI inflation is expected to have risen to 2.6% in July, and then to fall back from August

CPI inflation and Bank staff's near-term projection[a]



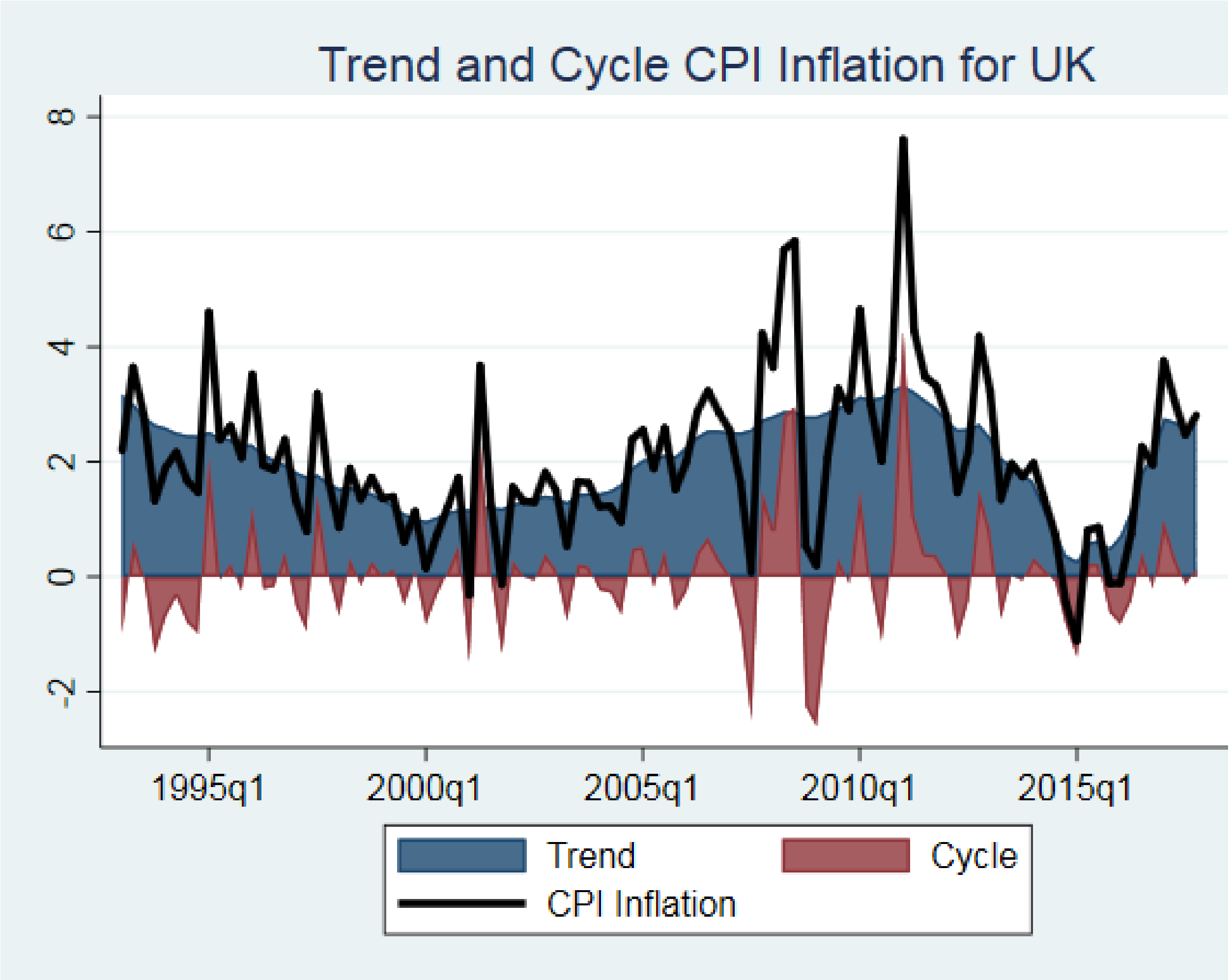
Source: Bank of England, *Inflation Report,* Aug. 2018

Another Approach: Trend-Cycle Decomposition

- **Trend-Cycle analysis**
  - Use time-series to separate inflation into 2 components
    - slow-moving and persistent "trend"
    - temporary, cyclical movements around the trend
  - Minimal assumptions & parameterization
  - Flexibility over time

- **Technical details: Forbes (2018)**
  - $\pi_t - \tau_t = \varphi(\pi_{t-1} - \tau_{t-1}) + \eta_t$, where $\eta_t = \sigma_{\eta t}\zeta_{\eta t}$
  - Use "ARSV" model developed in Forbes *et al.* (2017)
  - Combines UCSV model in Stock and Watson (2007) & auto-regressive (ARUC) model in Chan, Coop and Potter (2013)
  - Allows trend to follow unit root ($\tau_t = \tau_{t-1} + \varepsilon_t$) and captures the autoregressive process in deviations around trend as well as the stochastic volatility observed in the inflation data

Trend-Cycle Estimates:
Headline CPI Inflation in UK



Source: Forbes (2018,). Based on framework developed in Forbes, Kirkham and Theodoridis (2017). Estimates model for CPI inflation, quarterly and seasonally adjusted, at an annualized rate. Model allows for stochastic volatility in the innovations to the inflation process as well as allows deviations in trend inflation to follow an autoregressive process.

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UK: Bank Rate During Slowdowns

Business cycle slowdowns:	Dates of easing cycle:	Months of easing:	Fall in Bank rate over easing cycle:
Jan 1980 - April 1981	Jul 1980 - Mar 1981	9	5.00pp
Jan 1984 - Nov 1985	Mar 1985 - May 1986	15	4.00pp
Nov 1988 - May 1992	Oct 1990 - Feb 1994	41	9.75pp
Nov 1994 - Sep 1996	Dec 1995 - Jun 1996	7	1.00pp
Jan 1998 - April 1999	Oct 1998 - Jun 1999	9	2.50pp
May 2000 - May 2002	Feb 2001 - Jul 2003	30	2.50pp
Jan 2004 - Nov 2004	None	0	0.00pp
Dec 2007 - Jun 2009	Dec 2007 - Mar 2009	16	5.25pp
Average:		***16***	***3.75pp***

Source: OECD and Bank of England.

OTHER TOOLS AVAILABLE!

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Asset Bubbles/Financial Excesses

- **Extensive discussion & literature**
  - Bubbles in certain markets (housing)
  - "Search for yield"
  - Increased debt issuance by companies
  - Excess leverage

- **May be rational given low borrowing costs**
  - But not prepared for higher rates—especially if long period of low rates

- **In UK: addressed through Financial Policy Committee (FPC) with macroprudential tools**
  - So far: helpful
  - Future? Mandate includes option for MPC to step in

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Weakens Financial Institutions

- **Three primary groups:**
  - Banks
  - Pension funds
  - Insurance companies
- **Some reduction in profitability—if rates low for extended period**
  - Increased risk taking, but economic effects usually estimated to be small
    - Ivashina & Lerner (2018), Heider, Saidi, Schepens (2018, Dell'Ariccia, Laeven, Suarez (2014), Buch/Eickmeier/Prieto (2011), Paligorova and Santos (2012), Delis et al. (2012), Chodorow-Reich (2014)
  - BoE estimates
- **Is this a primary concern for monetary policy?**
  - Better addressed through prudential regulations?

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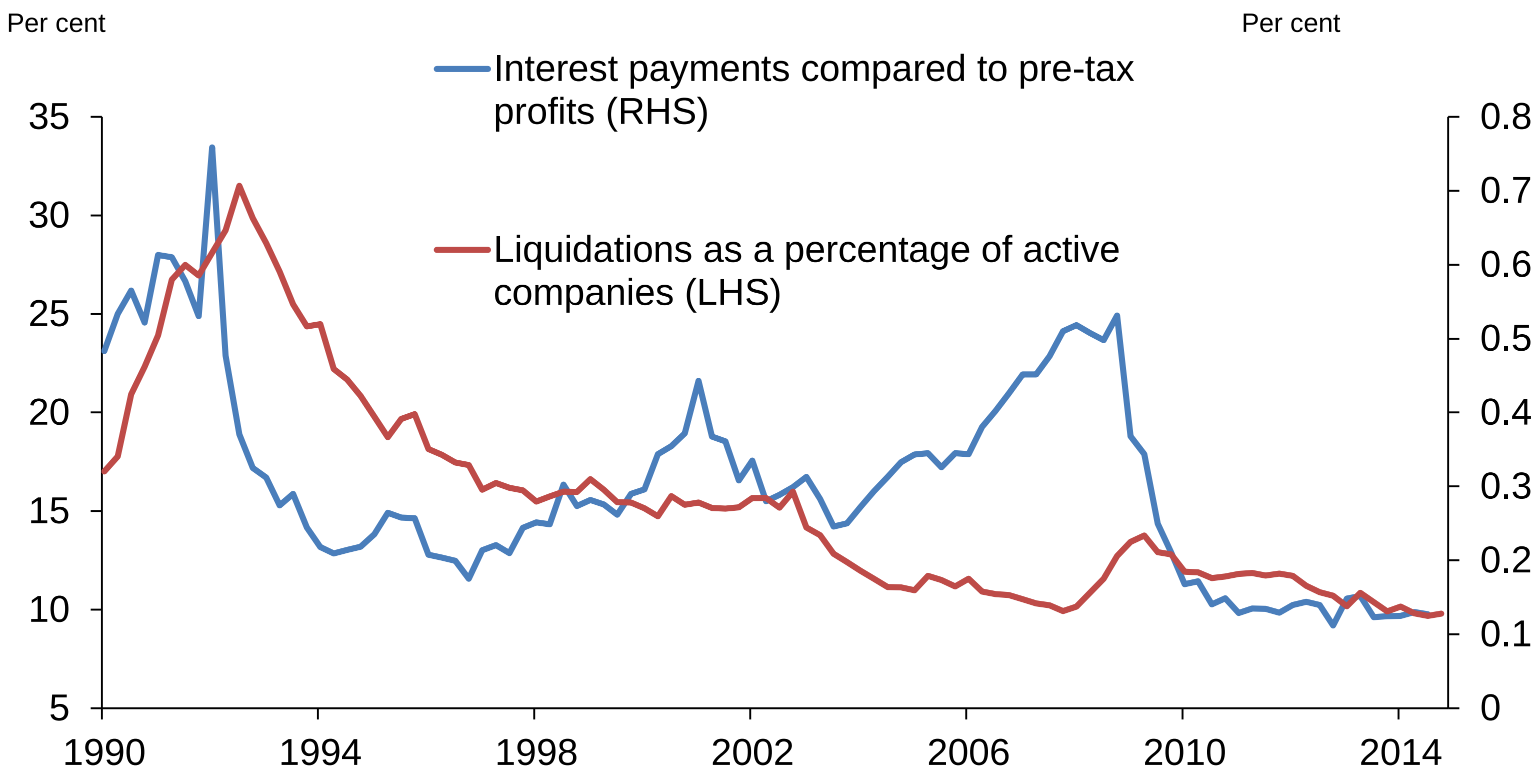
Inefficient Allocation of Resources?

UK: Interest Payments & Liquidations



Factors contributing to the weakness in UK labour productivity

	2013Q4 - Original Vintage	2013 Q4 - Latest Vintage	2014Q4
Shortfall relative to trend	16	13.5	15
Measurement issues	4	2.5	3
Measurement of output	2	0.5	1
o/w R&D capitalisation	1.5	0	0
Lower trend in some sectors	2	2	2
Actual shortfall to explain	12	11	12
Cyclical	0	0	0
Lower CAPU	0	0	0
Labour hoarding	uncertain	uncertain	uncertain
Persistent	6-9	7-9	7-9
Lower physical	2.5	2.5	2.5
Lower intangible	0.5-1.5	1.5	1.5
Impaired resource allocation & high firm survival rates	3-5	3-5	3-5
Total left Unexplained	**3-6**	**2-4**	**3-5**

Source: Bank of England, 2015, updates to June, 2014 article in *Quarterly Bulletin*

A Simulation for the UK

Haldane (March 2017): Productivity Puzzles

- **Raises interest rates from 0.25% to 4.25% in 2017**
  - Increases rate of firm default
  - Assume default if interest coverage ratio <1
- **Costs:**
  - Additional 10% of companies go bankrupt
  - Additional 1 ½ mn job losses
- **Benefits**
  - More “creative destruction”
  - Level of productivity increases by 1-2%
- ***Haldane conclusion:*** *“Should monetary policymakers have sacrificed 1 ½ million jobs for the sake of an extra 1 or 2% of productivity? Hand on heart, I can tell you this one would not knowingly have done so.”*

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Vulnerabilities in Structure of Demand

- **Debt-fueled expansion?**
  - Household savings
  - Personal and corporate debt levels
  - Current account deficit

- **But…**
  - Isn’t this part of how low rates work?
  - What are optimal levels?
  - Mixed evidence on some effects

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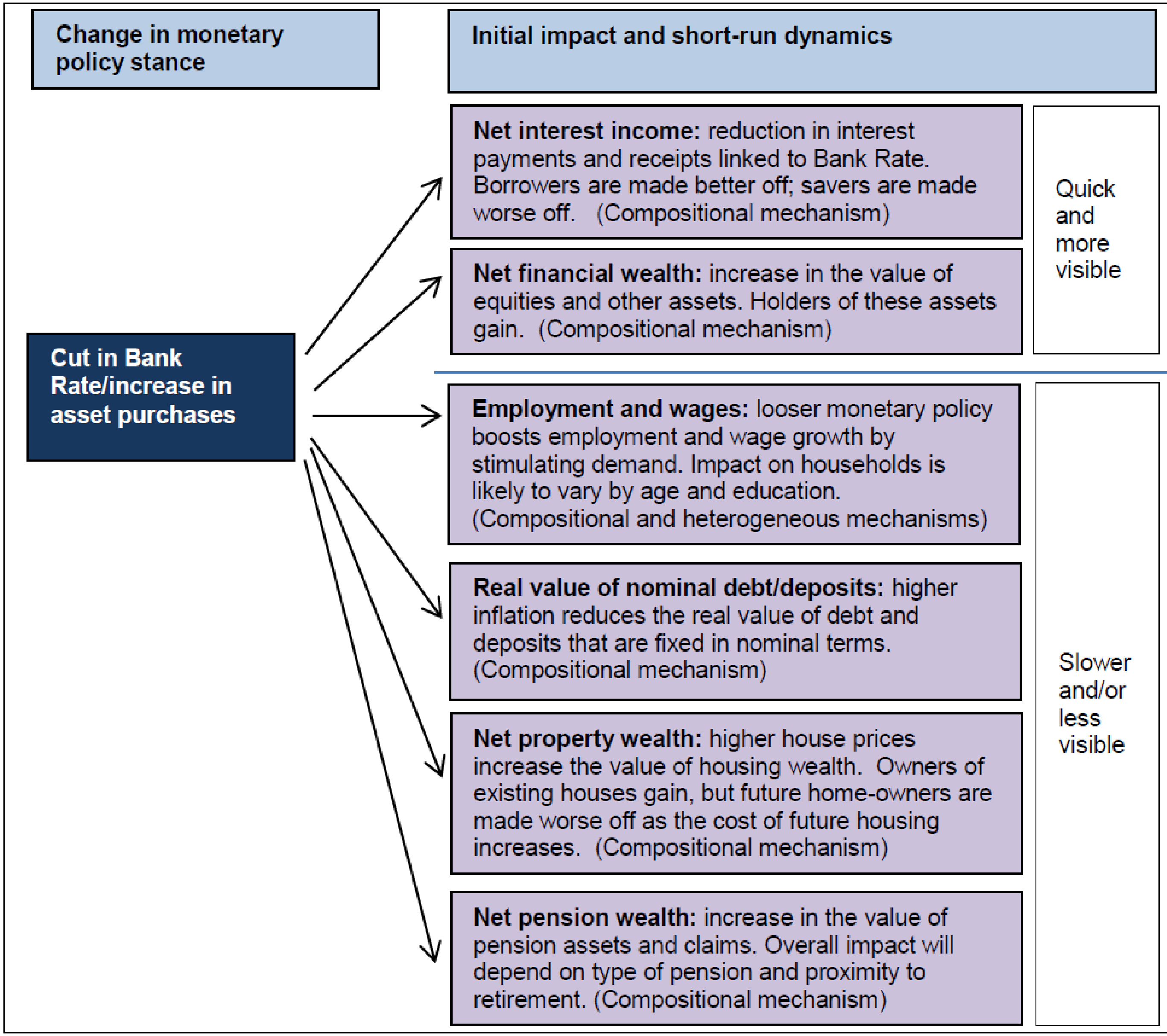
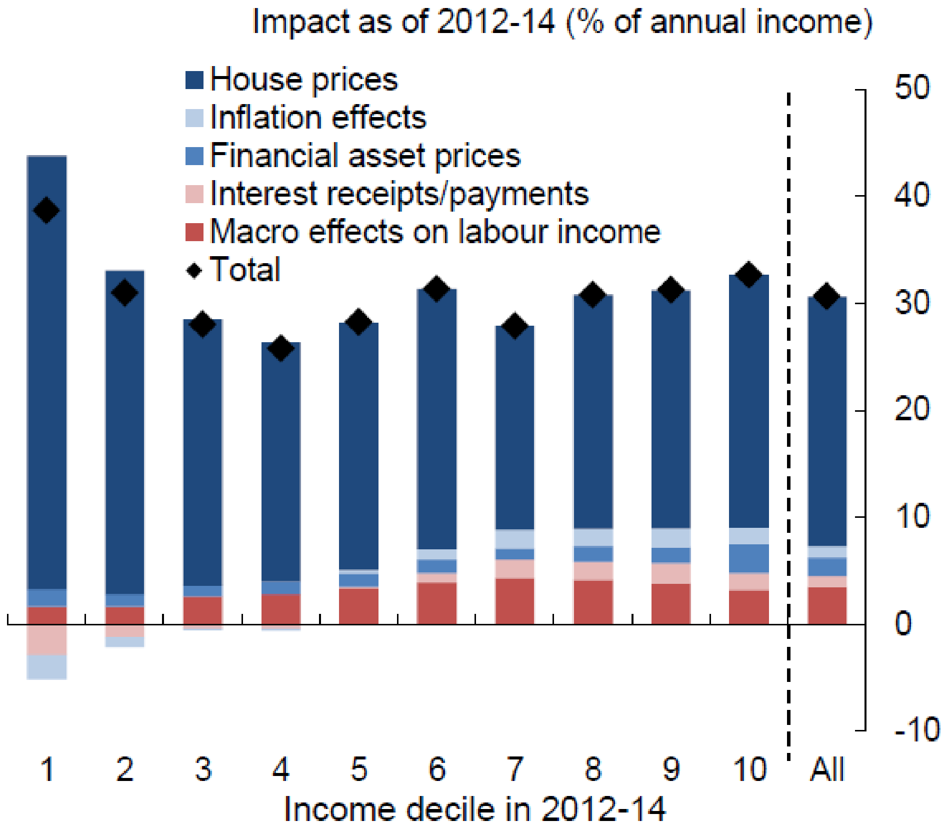
Figure 1: Transmission channels of monetary policy to income and wealth d



Source: Bunn, Pugh and Yeates (2018), Bank of England Staff Working Paper No. 720.

Chart 20: Impact of Bank Rate, across the income distribution (%)

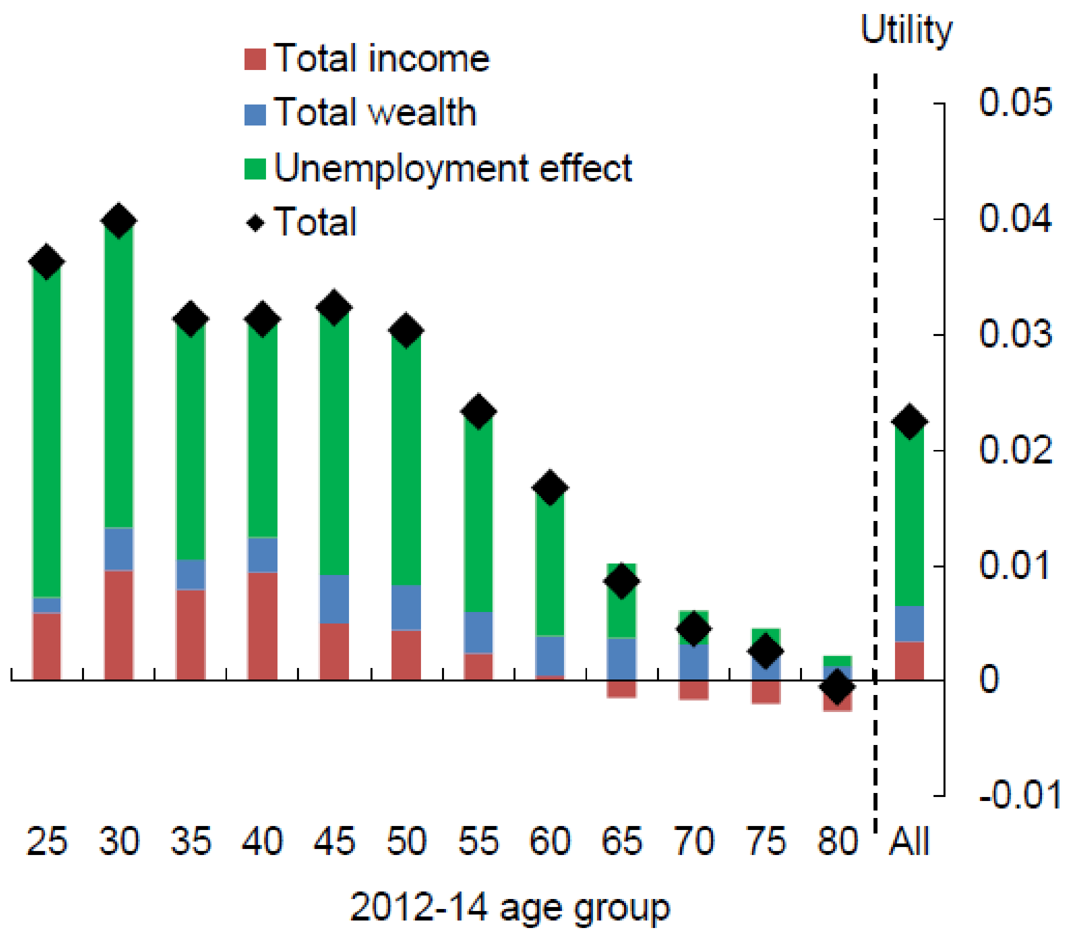


Sources: ONS and Bank calculations

Note: Chart shows average cumulative real impact of changes in Bank Rate since 2007 as of 2012-14 as a percentage of annual income.

Source: Haldane (2018), "How Monetary Policy Affects Your GDP", speech given in April

Chart 23: Impact of monetary policy on welfare, across the age distribution



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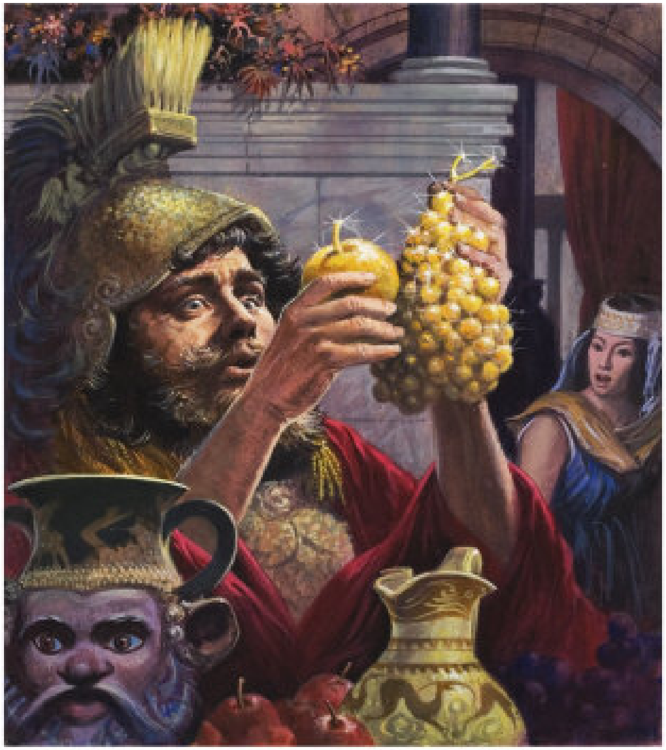
Final Thoughts



King Midas washing away his touch in the River Pactolus