

Enhancing central bank communications using simple and relatable information

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Sharp rise in external bank communication

External communication is key to monetary policy and has increased rapidly over the last decades.

Mention of central banks in The Financial Times:

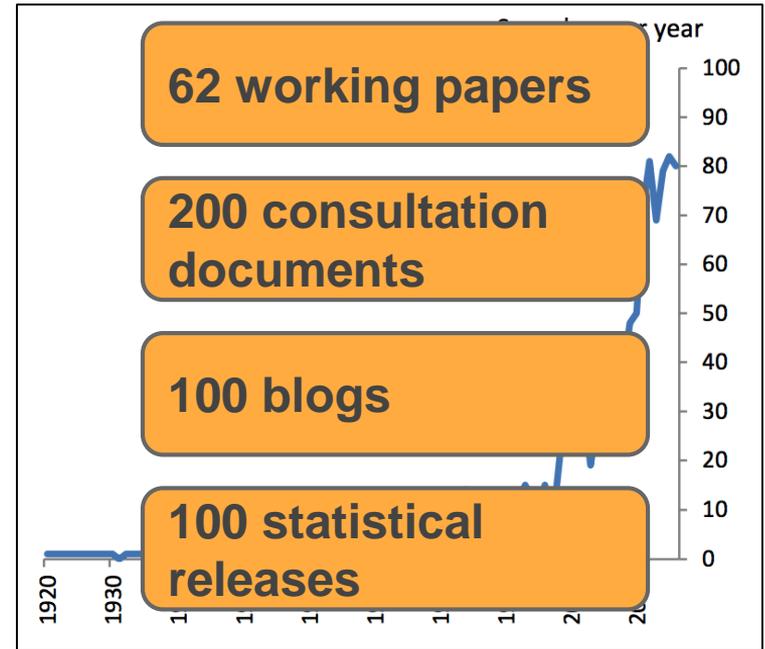


BANK OF ENGLAND

1960: 4,000
2010: 10,000



1960: 2,100
2010: 8,600





Effective central bank communication

- Communication can affect movements in financial markets (Gürkaynak et al., 2005; Nakamura & Steinsson, 2018)
- Towards the general public, it increases operational transparency (Haldane, 2017) and can anchor expectations (Armantier et al., 2016; Hubert & Labondance, 2017).
- Central banks face a ‘twin deficit’ of understanding and trust with the general public (Haldane, 2018).
- Open question how good central bank communication is, particularly to the general public.

Source: Gürkaynak, R., Sack, B., Swanson, E. 2005. Do actions speak louder than words? The response of asset prices to monetary policy actions and statements. *International Journal of Central Banks* 1(1), 55-93; Nakamura, E., & Steinsson, J. (2018). High-frequency identification of monetary non-neutrality: the information effect. *The Quarterly Journal of Economics*, 133(3), 1283-1330; Haldane, A. G. (2017). A little more conversation, a little less action. *Bank of England-Speech*; Armantier, O., Nelson, S., Topa, G., Van der Klaauw, W., & Zafar, B. (2016). The price is right: Updating inflation expectations in a randomized price information experiment. *Review of Economics and Statistics*, 98(3), 503-523; Hubert, P., & Fabien, L. (2017). Central bank sentiment and policy expectations. Haldane, A., & McMahon, M. (2018). Central bank communications and the general public. In *AEA Papers and Proceedings* (Vol. 108, pp. 578-83).



Bank communication to the general public

Federal Reserve Monetary Policy press release (September 2018)

Press Release

September 26, 2018

Federal Reserve issues FOMC statement

For release at 2:00 p.m. EDT

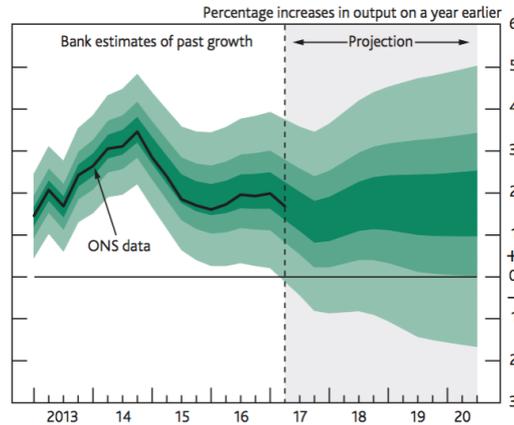
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Information received since the Federal Open Market Committee met in August indicates that the labor market has continued to strengthen and that economic activity has been rising at a strong rate. Job gains have been strong, on average, in recent months, and the unemployment rate has stayed low. Household spending and business fixed investment have grown strongly. On a 12-month basis, both overall inflation and inflation for items other than food and energy remain near 2 percent. Indicators of longer-term inflation expectations are little changed, on balance.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that further gradual increases in the target range for the federal funds rate will be consistent with sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective over the medium term. Risks to the economic outlook appear roughly balanced.

Bank of England's fan charts to communicate uncertainty (August 2017)

GDP projection (wide bands)^{(a)(b)}



Reserve Bank of New Zealand cartoons (May 2018)



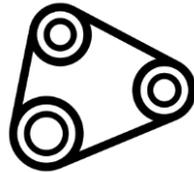


Research objectives

How can central bankers improve their communication with the general public?



Evaluate **existing Inflation Report summaries** on comprehension and trust



Isolate causal effects of visual elements, length and readability



Evaluate a new intervention that makes the content more **relatable**

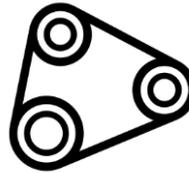


Key findings



Existing materials

Bank of England's **Visual Summary outperforms** standard Monetary Policy Summary on comprehension (+25%), but no difference on trust.



Driving factors

The boost in comprehension is driven by the material's **reading grade**, rather than visuals or word count.



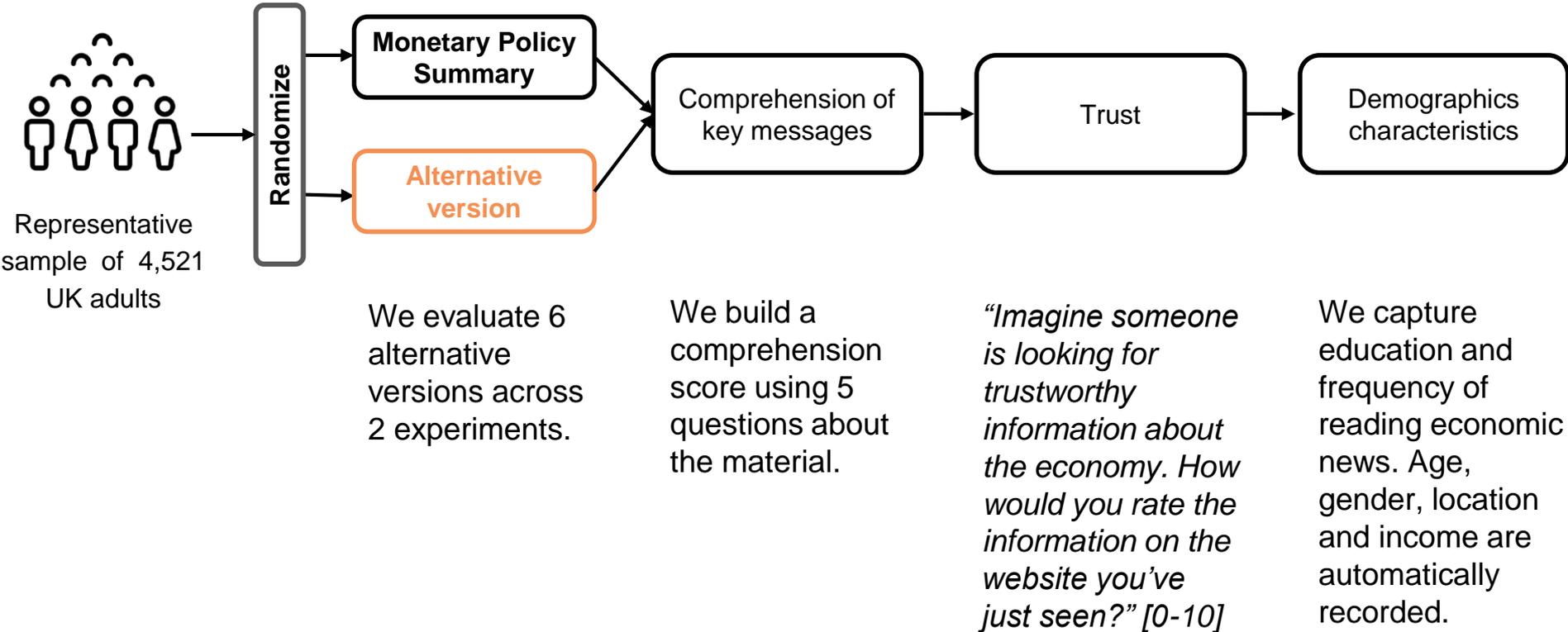
Relatable content

Relating the content to people's daily lives **increases comprehension** (+19%) **as well as trust** (+6%).

Experimental design



Experimental design





Comprehension questions

1. In what way does the Bank of England support the economy?
 - [Make sure that prices don't change; keep changes in prices to 2% per year; keep prices as low as possible; keep changes in prices to 0.5% per year]
2. [Which] of these is true about prices at the moment?
 - [Falling, rising faster than Bank's target; rising, but slower than Bank's target; no change]
3. [What] has happened to the amount of people that are out of work recently?
 - [Decreased; the same; increased]
4. [What] is likely to happen to how much people can afford to buy this year?
 - [Afford less as pay will rise more slowly than prices; Afford less as pay will fall and prices will rise; Afford more as pay will rise faster than prices; Afford more as pay will stay the same and prices will rise; no change]
5. What is the Bank of England's current interest rate?
 - [Numeric free text]



Predictiv - online experiments for policy makers



SAMPLE

- Access to a global panel including 200,000+ adults in the UK and 3,000,000+ in the US.
- Ability to target on niche characteristics.

END-TO-END

- Predictiv offers test functionality, participant recruitment and data analysis.
- Variable incentives and bespoke builds possible.

SCALING THROUGH TEMPLATES

- **Comprehension:** Understanding of key messages and ability to correctly apply it.
- **Choice simulations:** Simulates decision environments that people face in practice.
- **Diagnostics:** Institutional trust, beliefs, friction costs, etc.
- Keen to work with academics to build rigorous experiments that policy makers can use.



Sample and recruitment

- Experiments run on the Predictiv platform.
- Total of 4,521 UK adults completed the experiment (roughly 500 per condition).
- Sample is representative of UK adult population based on observable characteristics (gender, income bracket, age bracket, location).
- Drop-out rate is roughly 15% (average for online experiments). No differential attrition across treatments. Sample is balanced on observables across conditions.





Experiment 1: Evaluating existing materials

Monetary Policy Summary

Inflation Report February 2018
The outlook for the economy

Current Bank Rate
0.50%

The Bank of England's Monetary Policy Committee (MPC) sets monetary policy to meet the 2% inflation target, and in a way that helps to sustain growth and employment. At its meeting ending on 7 February 2018, the MPC voted unanimously to maintain the Bank Rate at 0.5%.

The Committee voted unanimously to maintain the stock of sterling non-financial investments-grade corporate bond purchases, financed by the issuance of central bank reserves, at £110 billion. The Committee also voted unanimously to maintain the stock of UK government bond purchases, financed by the issuance of central bank reserves, at £435 billion.

The MPC's latest projections for output and inflation are set out in detail in the accompanying February Inflation Report. The global economy is growing at its fastest pace in seven years. The expansion is becoming increasingly broad-based and investment driven. Notwithstanding recent volatility in financial markets, global financial conditions remain supportive. UK net trade is benefitting from robust global demand and the past depreciation of sterling. Along with high rates of profitability, the low cost of capital and strong global activity is supporting business investment, although it remains restrained by interest-related uncertainties. Household consumption growth is expected to remain relatively subdued, reflecting weak real income growth. GDP growth is expected to average around 1% over the forecast, a slightly faster pace than was projected in November despite the updated projections being conditioned on the higher market-expected path for interest rates and stronger exchange rate prevailing in financial markets at the time of the forecast.

While modest by historical standards, that rate of growth is still expected to exceed the diminished rate of supply growth. Following its annual assessment of the supply side of the economy, the MPC judges that the UK economy has only a very limited degree of slack and that its supply capacity will grow only modestly over the forecast, averaging around 1% per year. This reflects lower growth in labour supply and rates of productivity growth that are around half of their pre-crisis average. As growth in demand outpaces that of supply, a small margin of excess demand emerges by early 2020 and builds thereafter.

CPI inflation fell from 3.1% in November to 3.0% in December. Inflation is expected to remain around 3% in the short term, reflecting recent higher oil prices. More generally, sustained above-target inflation remains almost entirely due to the effects of higher import prices following sterling's past depreciation. These external forces slowly dissipate over the forecast, while domestic inflationary pressures are expected to rise. The firming of shorter-term means of wage growth in recent quarters, and a range of survey indicators that suggest job growth will rise further in response to the tightening labour market, give increasing confidence that growth in wages and unit labour costs will pick up to target-consistent rates. On balance, CPI inflation is projected to fall back gradually over the forecast but remain above the 2% target in the second and third years of the MPC's central projection.

As in previous Reports, the MPC's projections are conditioned on the average of a range of possible outcomes for the United Kingdom's eventual trading relationship with the European Union. The projections also assume that, in the interim, households and companies base their decisions on the expectation of a smooth adjustment to that new trading relationship. Developments regarding the United Kingdom's withdrawal from the European Union – and in particular the reaction of households, businesses and asset prices to them – remain the most significant influence on, and source of uncertainty about, the economic outlook. In such exceptional circumstances, the MPC's remit specifies that the Committee must balance any trade-off between the speed at which it stands to return inflation sustainably to the target and the support that monetary policy provides to jobs and activity.

Over the past year, a steady absorption of slack has reduced the degree to which it was appropriate for the MPC to accommodate an extended period of inflation above the target. Consequently, at its November 2017 meeting, the Committee tightened modestly the stance of monetary policy in order to return inflation sustainably to the target.

Since November, the prospect of a greater degree of excess demand over the forecast period and the expectation that inflation would remain above the target have further diminished the trade-off that the MPC is required to balance. It is therefore appropriate to set monetary policy so that inflation returns sustainably to its target at a more conventional horizon. The Committee judges that, were the economy to evolve broadly in line with the February Inflation Report projections, monetary policy would need to be tightened somewhat earlier and by a somewhat greater extent over the forecast period than anticipated at the time of the November Report, in order to return inflation sustainably to the target.

In light of these considerations, all members thought that the current policy stance remained appropriate to balance the demands of the MPC's remit. Any future increases in Bank Rate are expected to be at a gradual pace and to a limited extent. The Committee will monitor closely the incoming evidence on the evolving

Visual Summary

Inflation Report February 2018
The outlook for the economy

Interest rates kept at 0.5%

- The fall in the pound has led to higher prices
- The world economy is growing strongly
- The squeeze in living standards is easing
- Inflation will fall back towards the 2% target

The economy now needs a little less support

The Bank cut interest rates to exceptionally low levels during the financial crisis to support spending and to reduce the number of people out of work.

Over the past few years the economy has needed interest rates to stay very low as it recovered from the global financial crisis.

But things are changing. The world economy is now growing. In the UK, the share of people without a job is at its lowest level for over 40 years, and businesses are finding it hard to recruit people, so inflation is above the 2% target.

That means the economy needs a little less support than before. So last November, the Bank raised the official interest rate: it sets, known as **Bank Rate**, from 0.25% to 0.5%.

The economy is strong enough to remove some support

Inflation and the fall in the pound

The Bank's job is to meet the 2% inflation target. Inflation is currently above that target, because of the big fall in the pound following the Brexit vote.

The lower pound has meant that things businesses get from abroad cost more. Businesses will need to pass those rising costs on to their customers. So that has meant higher prices.

The fall in the pound happened around 18 months ago. In the next few months inflation is going to start to fall back towards the Bank's 2% target.

The pound has fallen since the Brexit vote



Results: VS increases comprehension

	Monetary Policy Summary (control)	Visual Summary
Comprehension score (0-5 scale)	2.05	
% understanding most/all (4-5 questions correct)	12%	
% understanding little (0-1 questions correct)	36%	
Trust (0-10 scale)	6.05	

Treatment effects estimated using OLS regression with demographic controls and robust standard errors. P-values were adjusted using Hochberg's method for multiple comparisons.



Experiment 1: Evaluating existing materials

Monetary Policy Summary

The screenshot shows the top of the Bank of England's website. The main heading is "Inflation Report February 2018" with a sub-heading "The outlook for the economy". Below this, a large teal box displays "Current Bank Rate 0.50%". The text below explains that the Monetary Policy Committee (MPC) sets monetary policy to meet the 2% inflation target. It also mentions that the MPC voted unanimously to maintain the stock of sterling non-financial investment grade corporate bond purchases, financed by the issuance of central bank reserves, at £10 billion. The bottom part of the page contains a paragraph of text starting with "The MPC's latest projections for output and inflation are set out in detail in the accompanying Primary Inflation Report."

Visual Summary

The screenshot shows the top of the Bank of England's website. The main heading is "Inflation Report February 2018" with a sub-heading "The outlook for the economy". Below this, a large teal box displays "Interest rates kept at 0.5%". The bottom part of the page features four icons with corresponding text: "The fall in the pound has led to higher prices", "The world economy is growing strongly", "The squeeze in living standards is easing", and "Inflation will fall back towards the 2% target".

Word count

1069

879

**Reading level
(Flesch- Kincaid)**

15.26
(university-level)

7.34
(high school level)

Visual elements

No

Yes

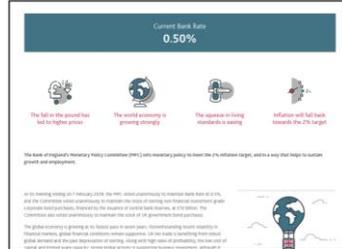


Experiment 2: Identifying driving factors

Monetary Policy Summary (- visuals)



Monetary policy summary (+ visuals)

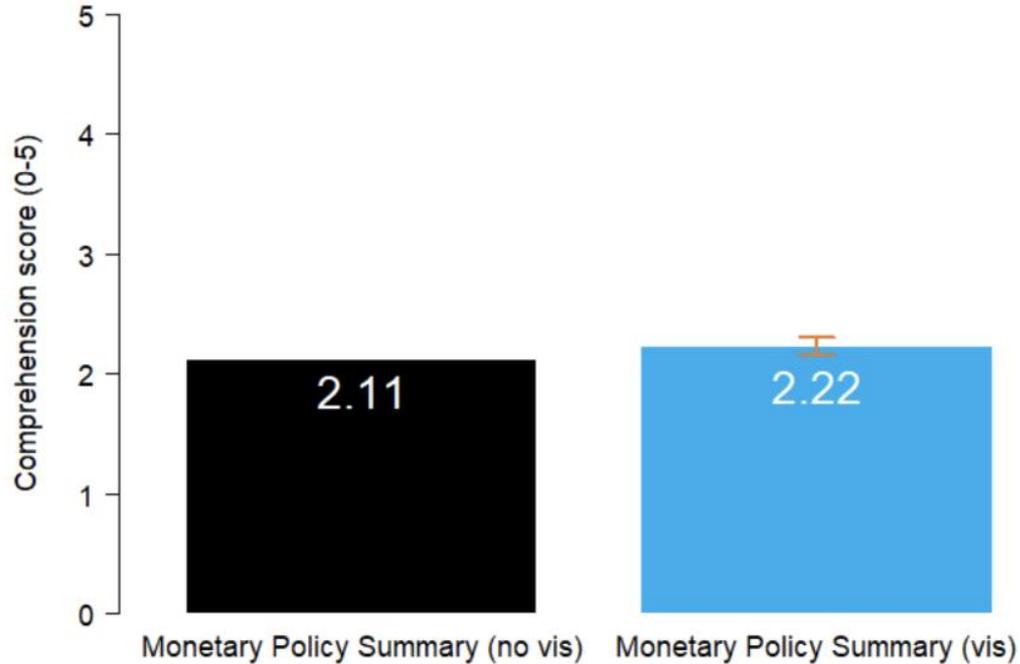


Word count	879	879
Reading level	15.26 (university-level)	13.04 (university-level)
Visual elements	No	Yes

No significant differences in reading grade between the MPS with and without visuals, as well as between the visual summary with and without visuals.



Results: driving factors



N=2,067

**p<0.01, *p<0.05, + p<0.1



Results: driving factors

	Monetary Policy Summary (no visuals)	Monetary Policy summary + visuals	Visual summary (no visuals)	Visual summary (+ visuals)
Comprehension score (0-5 scale)	2.11	2.22	2.43 **	2.50 **
% understanding most/all (4-5 questions correct)	14%	18%	25%	27%
% understanding little (0-1 questions correct)	37%	34%	29%	28%
Trust (0-10 scale)	6.367	6.368	6.324	6.367

*Treatment effects estimated using OLS regression with demographic controls and robust standard errors. P-values were adjusted using Hochberg's method for multiple comparisons. + $p < 0.1$; * $p < 0.05$; ** $p < 0.01$.*



Making material relatable

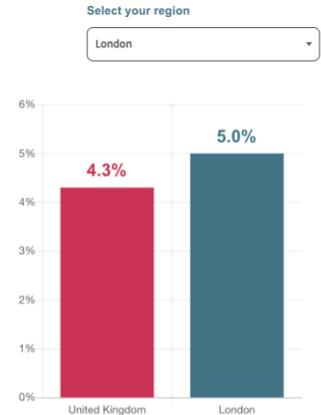
- Increased use of first and second person pronouns and reducing third-person abstractions ('you' instead of 'consumer'; 'we' instead of 'Bank of England')
- More familiar, less technical terms ('prices' instead of 'inflation')
- Relatable examples (cost of groceries, impact on holiday costs)
- Personalization (interactive chart on regional unemployment).

A basket of goods and services that cost you **£100** this year...



...should cost you **£102** next year

CHART [Look at what unemployment is like in your area](#)



Source: ONS data



Experiment 2: Making material relatable

Shortened visual summary



Relatable summary



Word count

425

425

**Reading level
(Flesch- Kincaid)**

6.12
(elementary school)

4.98
(elementary school)

Visual elements

Yes

Yes

No significant difference in reading grade between versions.



Results: reliable material

	Visual summary (+ visuals) - for reference	Shortened visual summary	Reliable summary
Comprehension score (0-5 scale)	2.50		
% understanding most/all (4-5 questions correct)	27%		
% understanding little (0-1 questions correct)	28%		
Trust (0-10 scale)	6.367		

*Treatment effects estimated using OLS regression with demographic controls and robust standard errors. P-values were adjusted using Hochberg's method for multiple comparisons. + $p < 0.1$; * $p < 0.05$; ** $p < 0.01$.*

Conclusion



Future directions



Improving comprehension further and communicating harder concepts like uncertainty in forecasts



How does (improved) comprehension impact consumer decision making?



How does filtering through the media affect understanding and beliefs?



Unpack the impact of reliable information



Work and the economy: strategy and projects

Behavioural interventions that deliver prosperity, stability and well-being for citizens

Improving macroeconomic stability

Projects: Enhancing central bank communications, measuring inflation expectations

Partners: Bank of England, Monetary Authority of Singapore

Improving business productivity and growth

Projects: Making public procurement better, promoting initiatives to improve business performance

Partners: Crown Commercial Service, Department for Business, Energy & Industrial Strategy

Improving access to high quality work

Projects: Encouraging adoption of flexible working, lowering burnout and stress

Partners: private sector organisations, UK Civil Service



Thank you

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