An Economist's View: Working in Finance

Warwick Finance Societies

Andrew Benito

Managing Director, Goldman Sachs
Research Fellow, IZA.
abenito.work@gmail.com

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Two aims

1. An Economist's guide to working in the financial sector

2. How this is changing
   - tech
   - (post-crisis) regulation
   - Brexit
   - macroeconomics

My (post-Warwick) career in two phases

1. Official sector (1999-2011)
   - Bank of England, BdE, IMF
2. Private sector (2011-19)
   - Goldman Sachs, macro hedge fund

Compare and contrast

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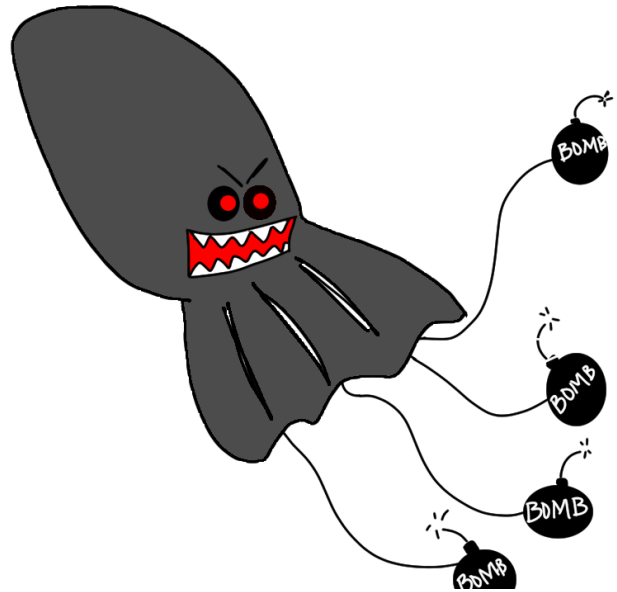



Daily Times
BREAKING
NEWS!

Key macro trends - why macro matters

- Low inflation and subdued growth post-GFC
- Secular stagnation and the fall in neutral (real) rates
- QE, negative rates, and 'unconventional' monetary policy
- Rises in (wealth) inequality (incl inter-generational)

- All connected in modern macro, although rarely in one all-encompassing model
- Minimal, explicit financial sector. Yet a profound impact on the financial sector (on banks, pensions funds, hedge funds).

A macro starting point

New Keynesian Macro dominates central bank thinking

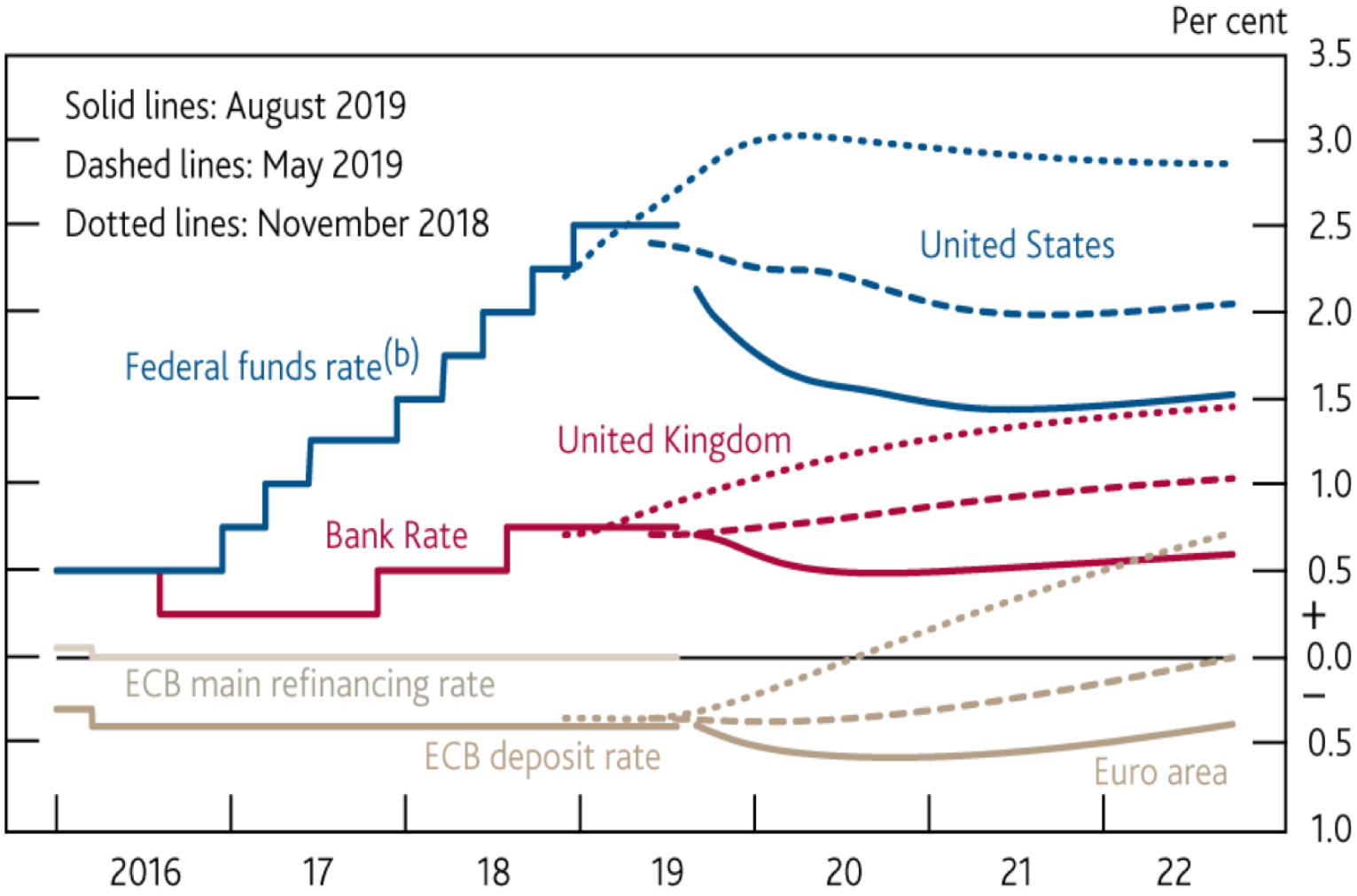
$$IS(Output) : y_t = \alpha y_{t-1} + \beta E_t y_{t+1} + \sigma_r (R_t - E_t \Pi_{t+1} - \bar{R}_t) + v_t \quad (1)$$

$$Phillips(Inflation) : \Pi_t = \gamma E_t \Pi_{t+1} + \delta y_t + u_t \quad (2)$$

$$Taylor(Interest) : R_t = \bar{R}_t + \phi_y y_t + \phi_\Pi \Pi_t \quad (3)$$

Market expectations for R_t have flattened (again)

Based on OIS rates



Estimates of LT real rates ($\bar{R}_t$) have fallen markedly

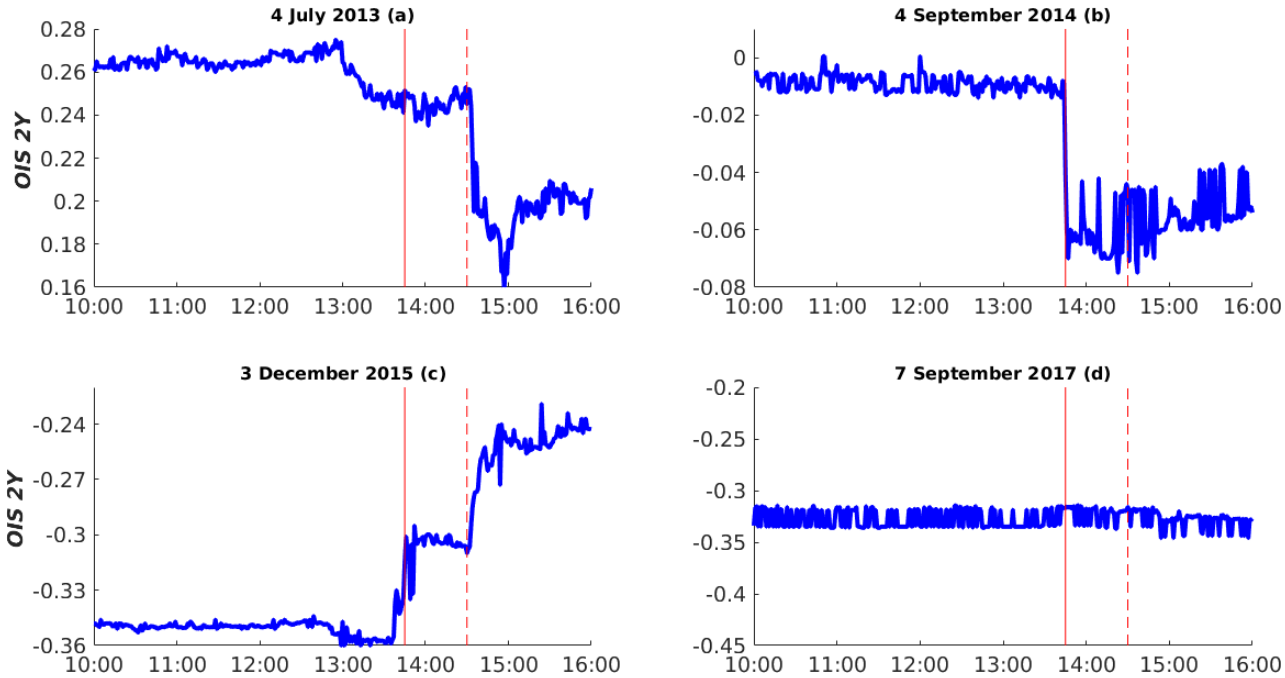
Tables

Table 1: Frequency of policy decisions and press conferences in the euro area

Year	#Policy Events		*#Rate Change*
	policy decision released at 13:45	*press conference start at 14:30*	
1999	23	9	2
2000	24	13	6
2001	24	11	4
2002	12	11	1
2003	12	11	2
2004	12	11	0
2005	12	11	1
2006	12	12	5
2007	12	11	2
2008	13	12	4
2009	12	12	4
2010	12	12	0
2011	12	12	4
2012	12	12	1
2013	12	12	2
2014	12	12	2
2015	8	8	0
2016	8	8	1
2017	8	8	0
2018	6	6	0
Total	258	214	41

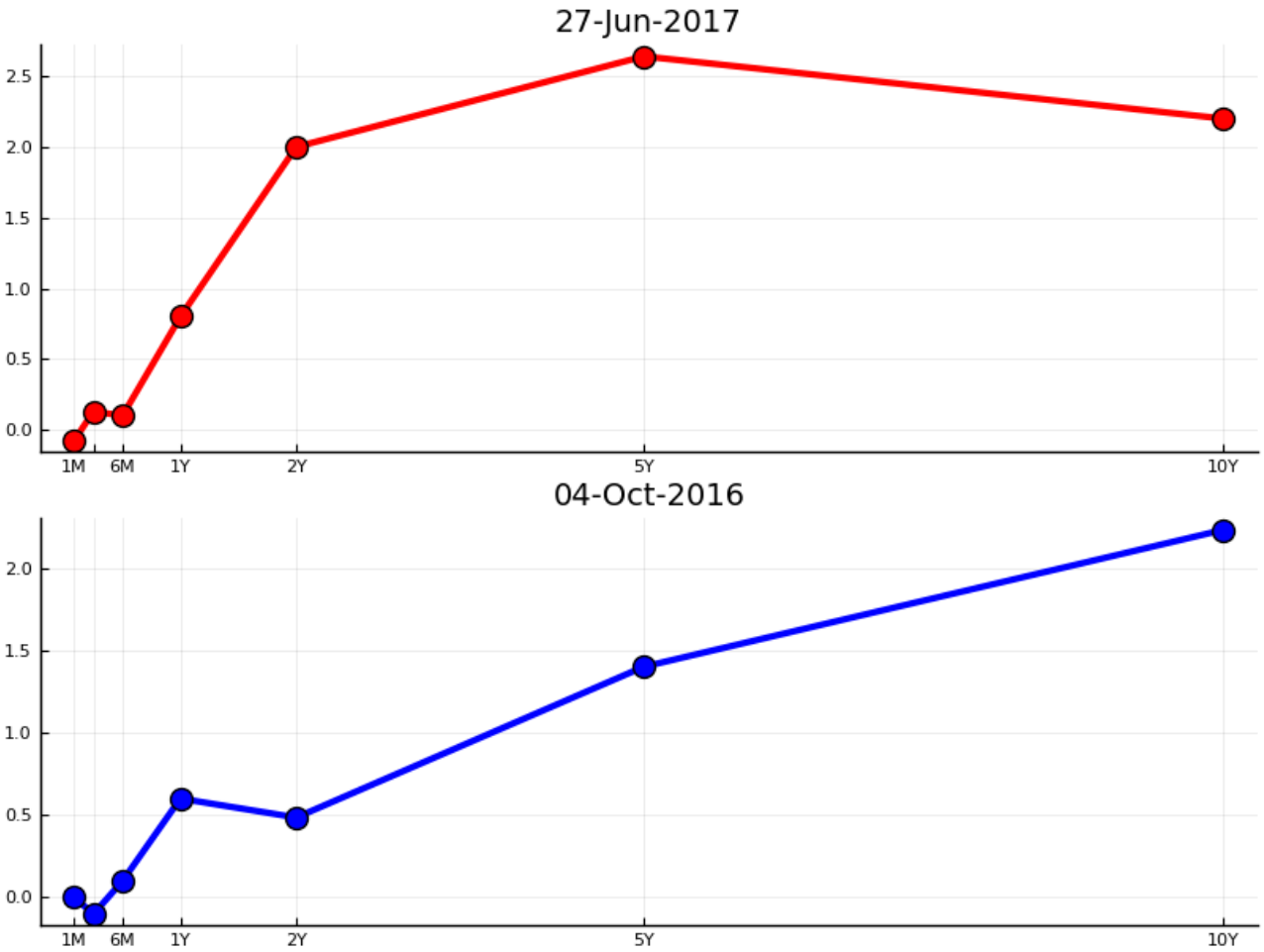
Note: The table reports for each year the number of policy decisions, the number of press conferences and the number of rate changes from January 1999 to September 2018.

Figure 2: Intraday 2-year OIS rate around the press release and the conference windows



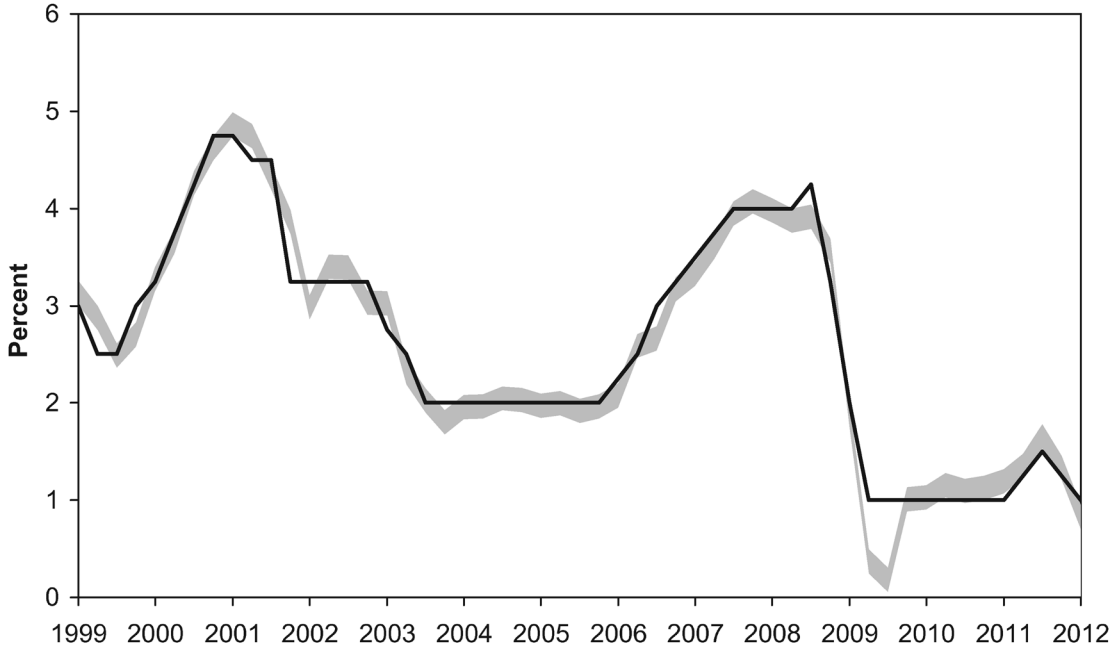
Note: The figure shows the intraday movement (percentage points on the y-axis, trading hours on the x-axis) in the 2-year OIS rate during four selected episodes. The vertical solid line marks the publication of the press release; the vertical dashed line marks the beginning of the press conference.

Figure 9: OIS changes, two illustrative events



Note: The figures show the OIS yield curve changes around two monetary policy events. The first is a speech given by Mario Draghi on 27 June 2017 at the ECB Forum on Central Banking in Sintra "Accompanying the economic recovery" (upper panel). The second is publication of a Bloomberg news article by Jana Randow, Alessandro Speciale, and Jeff Black, which was released on October 4, 2016 and hinted at a decision on tapering by the ECB (lower panel).

Figure 7. Policy Rate and Simple Rule Prescription



Notes: The shaded area represents the envelope of prescriptions from the simple policy rule, $\Delta i = \frac{1}{2}(\pi - \pi^*) + \frac{1}{2}(\Delta q - \Delta q^*)$, that emerge from applying the prescribed change to the level of the policy rate a quarter earlier. $(\pi - \pi^*)$ reflects the deviations in the SPF one-year-ahead inflation forecasts from either of two bounds as shown in figure 4. $(\Delta q - \Delta q^*)$ reflects the deviations in the SPF one-year-ahead GDP growth forecasts from the potential output growth, shown in figure 5. The solid line shows the quarterly change in the ECB policy rate (MRO) following the policy meeting of the second month in each quarter.

Table 2: Determinants of the change in Bank Rate

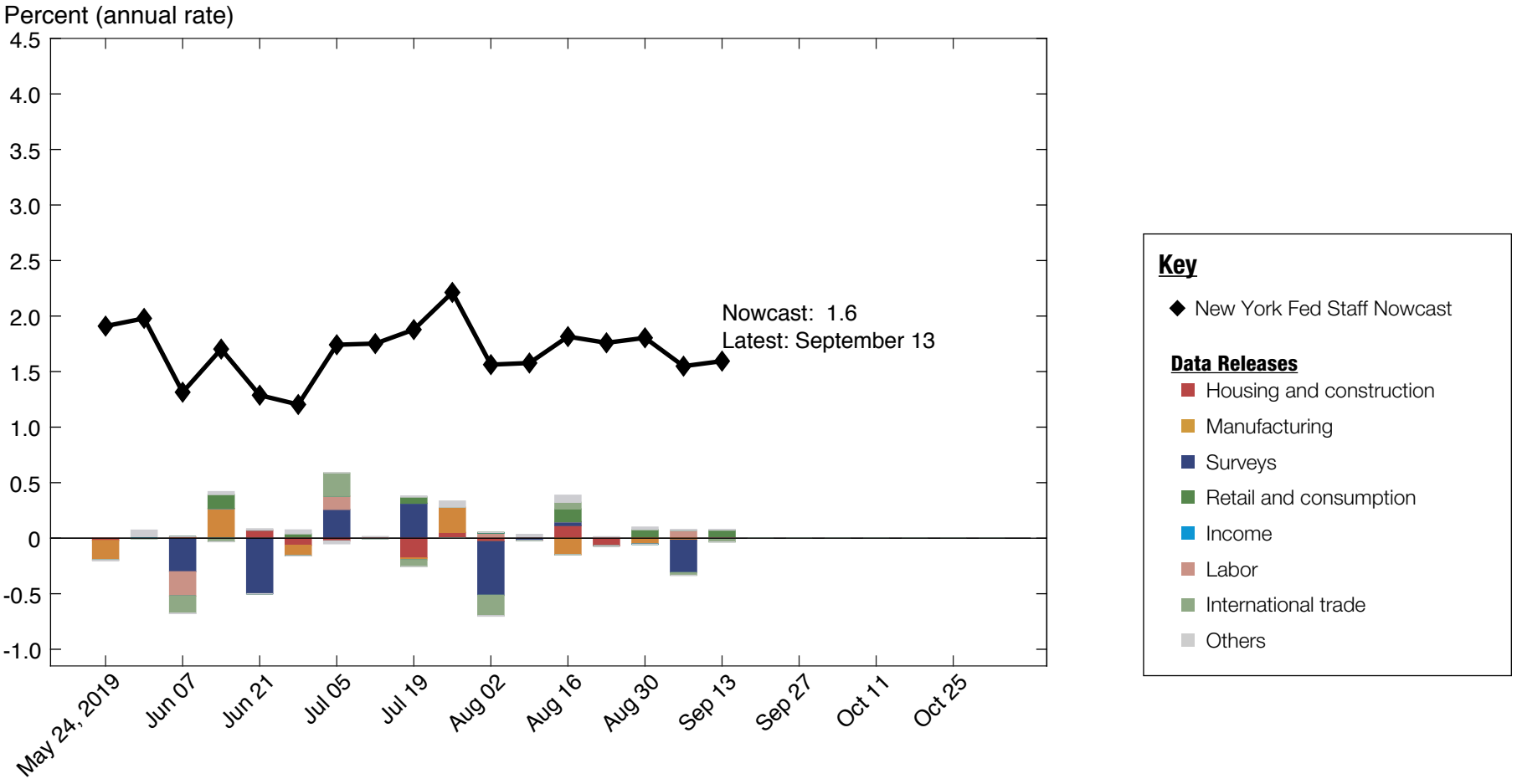
Variable	Coefficient	Standard error
Constant (α)	-0.177	0.279
Initial Bank Rate (i_{t-1})	-0.002	0.026
Forecasted output growth $(\hat{y}^F_{m,i})$,		
Quarters ahead:		
-1	0.011	0.035
0	0.073*	0.041
1	0.049	0.047
2	0.019	0.060
Forecasted inflation $(\hat{\pi}^F_{m,i})$,		
Quarters ahead:		
-1	0.131**	0.065
0	-0.200*	0.104
1	0.003	0.104
2	0.099	0.075
Change in forecasted output growth $(\hat{y}^F_{m,i} - \hat{y}^F_{m-1,i})$,		
Quarters ahead:		
-1	0.061**	0.030
0	0.062*	0.033
1	0.034	0.040
2	0.077	0.049
Change in forecasted inflation $(\pi^F_{m,i} - \pi^F_{m-1,i})$,		
Quarters ahead:		
-1	0.035	0.114
0	0.354*	0.182
1	-0.208	0.169
2	0.090	0.100
Change in unemployment rate (u_{t-i}),		
Months:		
-1	-0.953*	0.496
-2	0.242	0.797
-3	0.659	0.492

Dependent variable: Change in policy target rate Δi_m. $^*/^{**}/^{***}$ indicate significance at $10/5/1$ per cent level. R^2 = 0.29, D.W. = 1.80, F-Statistic = 4.40, N = 235. Sample covers all Bank Rate changes over the period 1975M3 to 2007M12 that are at least two weeks apart. The estimated equation is: $\Delta i_m = \alpha + \beta i_{t-1} + \sum_{i=-1}^{2} \gamma_i \hat{y}^F_{m,i} + \sum_{i=-1}^{2} \varphi_i \pi^F_{m,i} + \sum_{i=-1}^{2} \delta_i (\hat{y}^F_{m,i} - \hat{y}^F_{m-1,i}) + \sum_{i=-1}^{2} \vartheta_i (\pi^F_{m,i} - \pi^F_{m-1,i}) + \sum_{i=1}^{3} \rho_i u_{t-i} + \epsilon_m$.

Forecasting activity (y_t) and inflation (Π_t)

- (Very) hard to forecast, reliably, more than 2/3 quarters ahead
- This doesn't stop some from claiming they can see the future. *Some* of them *will* make money. But, No basis for a career.
- Macro interpretation:
  - New shocks (unforecastable) determine the future
  - By responding to near-term, policy-makers stabilise future outlook
- Nowcasting rather than forecasting for a (short-lived) 'edge'

1| 2019:Q3 GDP Growth



Source: Authors' calculations, based on data accessed through Haver Analytics.
Note: Colored bars reflect the impact of each data release on the nowcast.

1.1 | Nowcast Detail

Housing and construction | Manufacturing | Surveys | Retail and consumption | Income | Labor | International trade | Others

Update	Release Date	Data Series	Reference Period	Units	Forecast	Actual	Weight	Impact	Nowcast GDP Growth
					[a]	[b]	[c]	[c(b − a)]	
Aug 16									**1.82**
	10:00 AM Aug 23	New single family houses sold	Jul	MoM % chg.	-5.88	-12.8	0.010	-0.069	
		Data revisions						0.013	
Aug 23									**1.76**
	8:30 AM Aug 26	Manufacturers' new orders: Durable goods	Jul	MoM % chg.	-0.818	2.05	0.020	0.058	
	8:30 AM Aug 26	Manufacturers' shipments: Durable goods	Jul	MoM % chg.	-0.491	-1.14	0.121	-0.079	
	8:30 AM Aug 26	Mfrs.' unfilled orders: All manufacturing industries	Jul	MoM % chg.	-0.037	0.059	-0.019	-0.002	
	8:30 AM Aug 26	Manufacturers' inventories: Durable goods	Jul	MoM % chg.	0.134	0.354	-0.217	-0.048	
	8:30 AM Aug 29	Merchant wholesalers: Inventories: Total	Jul	MoM % chg.	0.323	0.187	-0.127	0.017	
	8:30 AM Aug 29	Real gross domestic income	Q2	QoQ % chg. AR	1.50	2.09	0.012	0.007	
	8:30 AM Aug 30	Real personal consumption expenditures	Jul	MoM % chg.	0.137	0.428	0.266	0.078	
	8:30 AM Aug 30	Real disposable personal income	Jul	MoM % chg.	0.154	0.059	0.019	-0.002	
	8:30 AM Aug 30	PCE less food and energy: Chain price index	Jul	MoM % chg.	0.145	0.178	0.243	0.008	
	8:30 AM Aug 30	PCE: Chain price index	Jul	MoM % chg.	0.116	0.210	0.142	0.013	
		Data revisions						-0.006	
Aug 30									**1.80**
	10:00 AM Sep 03	ISM mfg.: PMI composite index	Aug	Index	52.8	49.1	0.053	-0.195	
	10:00 AM Sep 03	ISM mfg.: Prices index	Aug	Index	47.5	46.0	0.008	-0.012	
	10:00 AM Sep 03	ISM mfg.: Employment index	Aug	Index	52.0	47.4	0.024	-0.112	
	10:30 AM Sep 03	Value of construction put in place	Jul	MoM % chg.	-0.218	0.056	0.024	0.007	
	8:30 AM Sep 04	Exports: Goods and services	Jul	MoM % chg.	0.420	0.560	0.061	0.009	
	8:30 AM Sep 04	Imports: Goods and services	Jul	MoM % chg.	0.486	-0.138	0.050	-0.031	
	8:05 AM Sep 05	ADP nonfarm private payroll employment	Aug	Level chg. (thousands)	79.6	195.0	*0.476	0.055	
	10:00 AM Sep 05	ISM nonmanufacturing: NMI composite index	Aug	Index	52.5	56.4	0.007	0.026	
	10:00 AM Sep 05	Inventories: Total business	Jul	MoM % chg.	0.132	0.372	-0.075	-0.018	
	8:30 AM Sep 06	All employees: Total nonfarm	Aug	Level chg. (thousands)	119.6	130.0	*0.327	0.003	
	8:30 AM Sep 06	Civilian unemployment rate	Aug	Ppt. chg.	0.025	0.000	-0.221	0.006	
		Data revisions						0.008	
Sep 06									**1.55**
	10:00 AM Sep 10	JOLTS: Job openings: Total	Jul	Level chg. (thousands)	82.2	-31.0	*0.033	-0.004	
	8:30 AM Sep 11	PPI: Final demand	Aug	MoM % chg.	0.118	0.084	0.060	-0.002	
	8:30 AM Sep 12	CPI-U: All items	Aug	MoM % chg.	0.179	0.054	0.083	-0.010	
	8:30 AM Sep 12	CPI-U: All items less food and energy	Aug	MoM % chg.	0.197	0.256	0.102	0.006	
	8:30 AM Sep 13	Retail sales and food services	Aug	MoM % chg.	-0.037	0.361	0.184	0.073	
	8:30 AM Sep 13	Import price index	Aug	MoM % chg.	-0.133	-0.477	0.018	-0.006	
	8:30 AM Sep 13	Export price index	Aug	MoM % chg.	0.015	-0.633	0.037	-0.024	
		Data revisions						0.012	
Sep 13									**1.59**

Source: Authors' calculations, based on data accessed through Haver Analytics.
Notes: MoM % chg. indicates month over month percentage change. QoQ % chg. indicates quarter over quarter percentage change. The weights with the asterisk are multiplied by 1,000 for legibility.

On macro and markets

- Macro: good policy is 'rule-based' ('though not rule-bound). Policy would rarely be market-moving.
- Markets - and policy - would instead react to macro data.
- Yet, as unconventional policy and 'lower for longer' have suppressed market volatility, sensitivity to data has fallen. Market focus on central banks has increased.
- CBs risk market pricing becoming an 'echo chamber' of their communications.

- Regulation has also reduced scope for trading macro data.

Probabilities of different outcomes

Yogi Bera: *"The future ain't what it used to be"*

Brexit and financial services

- *Medium-term*: Brexit as a shock to lower productivity in UK's tradable sectors (eg. finance).
- UK having specialised in provision of financial services within EU Single Market. Ditto: HE, autos, pharma.
- *Short-term*: an uncertainty shock about the Deal and its timing (also weakens fixed investment).

- GBP is forward-looking and weakens markedly, squeezing hhold real incomes now. Consumption-smoothing.
- Difficulty of forecasting does not preclude these 'comparative statics' in any way.

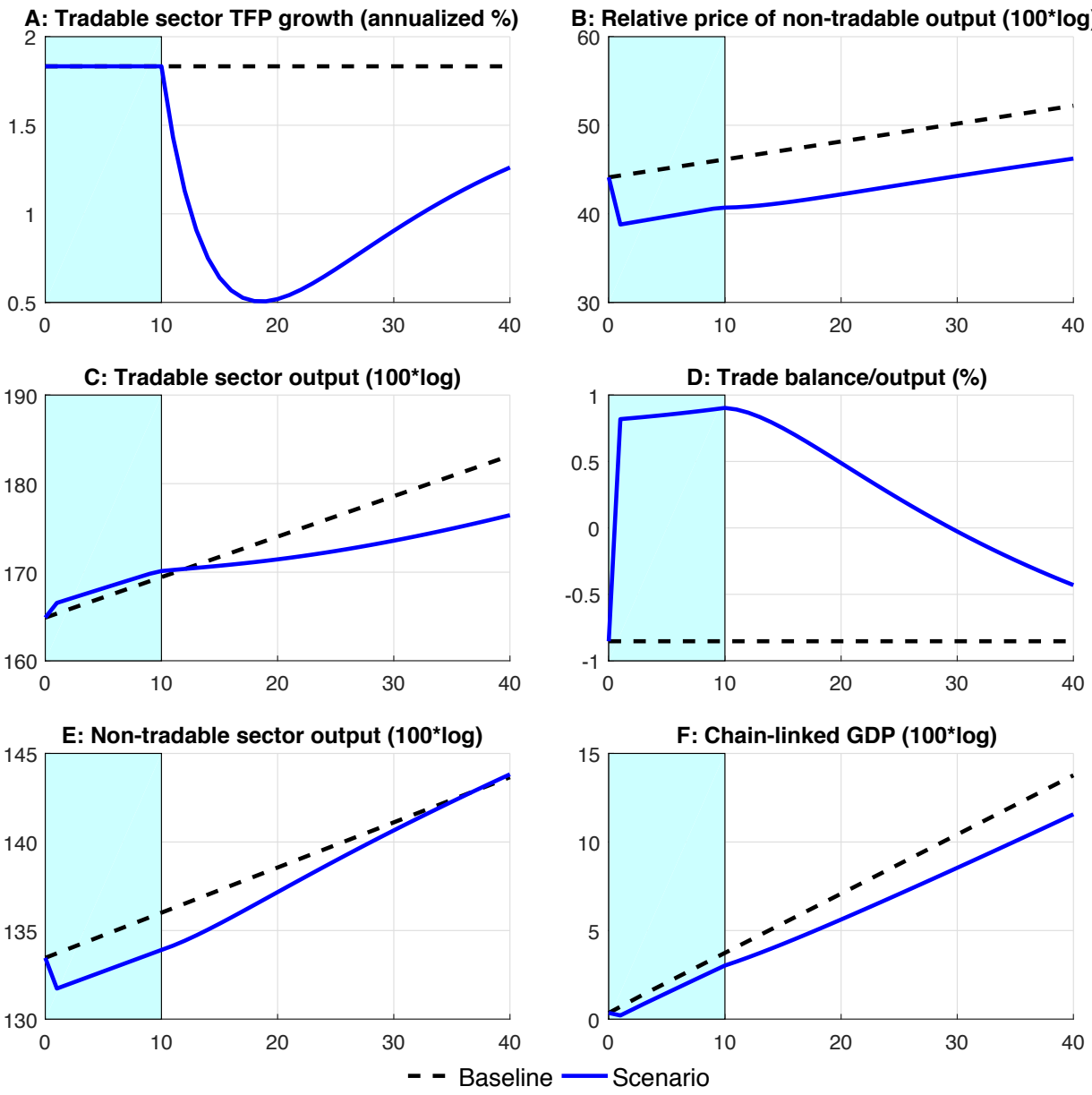


Figure 2: *Headline responses to the tradable TFP growth scenario*

relative price of *non-tradable* output, since it will become relatively more efficient to produce. Panel B shows that the price of non-tradable output falls immediately, even before tradable productivity growth has changed.

During the anticipation phase, tradable goods are relatively profitable to produce because tradable productivity growth has not yet begun to fall. As shown in panels C and D, this effect encourages production of tradable goods and exports in the near term. Once tradable sector productivity falls, however, the incentives to produce tradable goods decline and output and the trade balance fall in the longer term.[29]

Unsurprisingly, the profile of non-tradable output is the mirror image of tradable output, as shown in panel E. During the anticipation phase, non-tradable output is relatively unprofitable and output declines. Once tradable sector productivity falls, non-tradable output becomes

[29]Panel D plots the ratio of the trade balance, TB_t, to the total value of output, $Y_{Tt} + P_t Y_{Nt}$.

Career advice

- Specialise. Invest in your quantitative toolkit. Code! (R, Python, etc.)
- Generalise. Stay curious and open-minded (FT, blogs)
- Communication and writing skills (eg, 'Economical Writing'). Form matters, 'though substance more.
- Recognise muddled thinking and resist wishful thinking.
- Seek good institutions (and, at them, a good mentor) esp. early in your career
- Path versus trajectory. Natural to go from specialised to more general over your career.


GOOD LUCK

A word of warning

- The financial sector assesses news, via asset pricing, 'neutrally'...
- This is its strength (it is unbiased) and yet also its weakness (being blind to what is fair). Moreover, these are two sides of the same coin. But do not confuse the two.
- Do not become the person who knows 'the price of everything but the value of nothing'.
- Do not let your day-to-day focus on markets and prices define your values as an individual and member of society.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