

Fiscal News and the Macroeconomy: Evidence from UK Budget Announcements

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Intro

What is the macro impact of news about changes in fiscal stance?

- important given financial meltdown following UK fiscal news in Sept 2022
- news of large tax cuts without spending and debt adjustment saw large increases in yields on government debt

Historically has been hard to answer:

- reverse causality: policy set with state of the economy
- hard to isolate true "news" shocks
- literature typically relies on US military spending news in US
- hard to establish these are really unanticipated shocks

This Paper

New evidence from UK fiscal announcements

Exploit institutional feature of UK fiscal policy

- periodic: March and Sept/Oct
- comprehensive announcements: all changes to tax, spend, debt
- identify **exogenous** variation by measuring **financial markets reaction** in a tight window around policy announcements

This Paper

New evidence from UK fiscal announcements

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Literature Review and Contribution

Identifying effects of fiscal policy on macroeconomy

(Ramey 2011, 2019; Nakamura and Steinsson 2014, 2018; Ben Zeev et al. 2023; Mertens and Ravn 2013; Auerbach and Gorodnichenko 2012)

⇒ novel identification of macro effects of fiscal policy using financial surprises

Forecast Errors as News

Blanchard and Perotti 2002

⇒ alternatively rely on financial markets vs analysts assessments

High-frequency identification of monetary and other shocks

(Kuttner 2001; Gürkaynak et al. 2005; Miranda-Agricoppino 2016; Kängig 2021)... ⇒ extend logic of toolkit to fiscal policy, UK small open economy setting

Data and Empirical Strategy

Data and Outcomes

Announcements: Budget Debate and Finance bills since 1968 (timestamped since 1990) – House of Commons Library. 72 events 1980-2019, 84 until 2024.

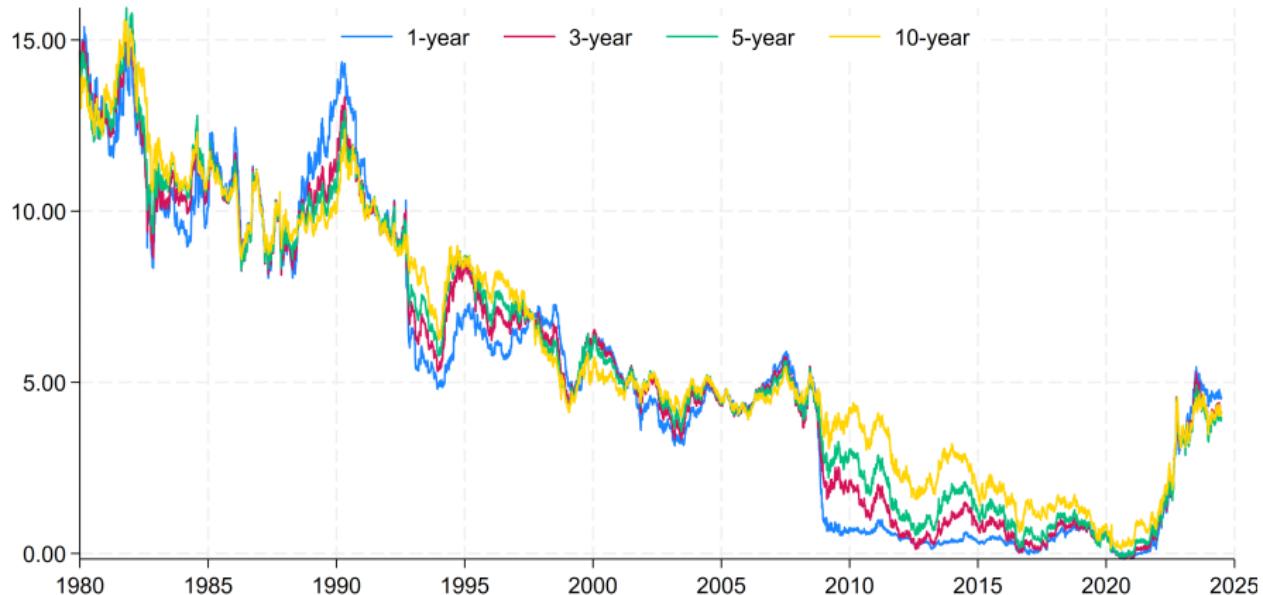
Market Reactions: Inter-day jumps in yields gilts, stocks, FX

Macro data (Office for National Statistics, Refinitiv Eikon):

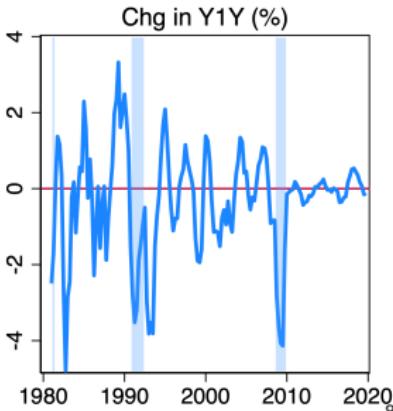
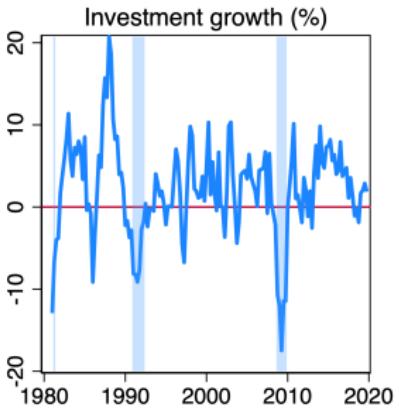
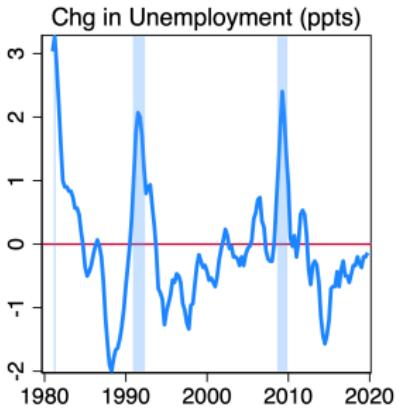
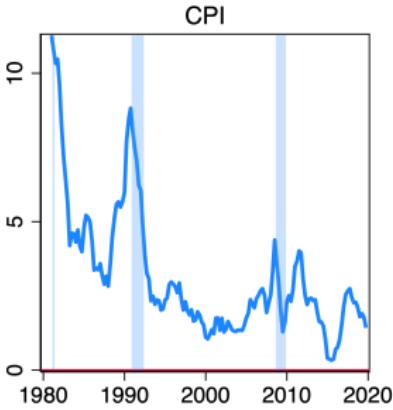
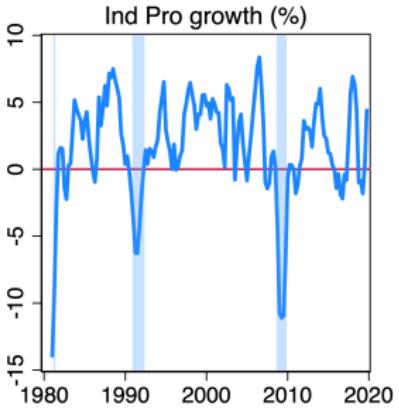
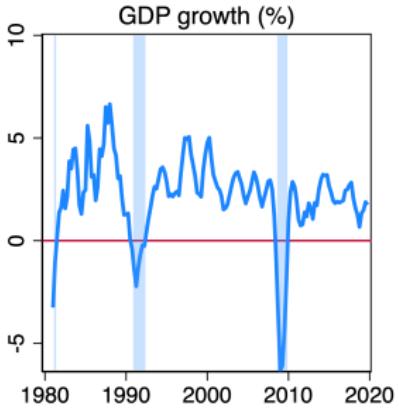
- **Output:** industrial production, GDP, GFCF
- **Prices:** CPI, PPI, RPI, House price inflation,
- **HHs:** Unemployment (LFS and claims), earnings, consumption
- **Firms:** Stock Market FTSE100&FTSE AllShare, GBP-USD, GBP index
- **Credit:** HH loan and mortgage volume growth
- **Sentiment and expectations:**

sample: 1980 - 2019*, monthly and quarterly responses up to $H = 5$ years

aggregation: daily surprises are summed within months (quarters)



UK Macro 1980 - 2019: A Tale of Three Recessions



Fiscal Surprises

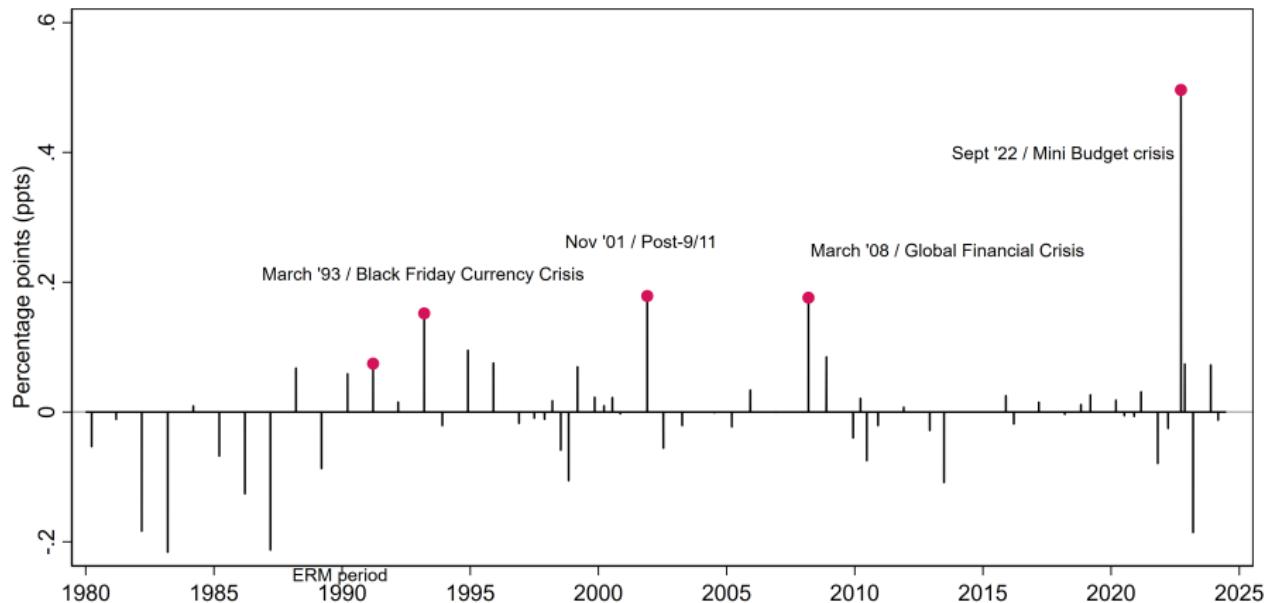
Change in Gov Bond Yields around Budget Speeches along the Yield Curve

- high freq: impact of **fiscal news isolated**
- current info and expected path of fiscal policy “priced in” $E(X_{t+k}|I_t)$

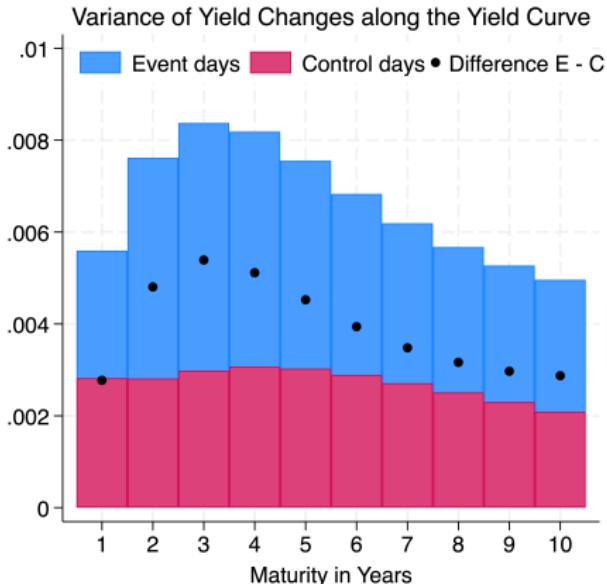
$$F_t^m = \begin{cases} (\text{Yield}_{m,t} - \text{Yield}_{m,t-\Delta}) & \text{on announcement days} \\ 0 & \text{otherwise} \end{cases} \quad (1)$$

- **confounding news?**
 - only 3 budgets on BOE-MPC days since independence
 - 2 FOMC releases
- ⇒ BOE MPC, Fed FOMC event days dropped

Measuring Fiscal Surprises



Which maturity along the Yield Curve?



- highest **event-day variance** at $m = 3$ years
- also **highest vs control days** (two trading weeks before event)
- $\text{var}(\text{event days})$ up to x2.8 controls
- similar exercise to Känzig 2021

Regression Specification: Macro Impact of Fiscal News

Our baseline specification:

$$y_{t+h} - y_{t-1} = \alpha_h(L)y_t + \beta_h F_t + \gamma_h(L)F_t + \Omega_h \mathbf{X}_{t-1} + \mu_{m(t)} + u_{t+h} \quad (2)$$

- **a) shocks:** @3 YTB scaled s.t. 1 unit shock increases 1Y by 25 bpts *on impact, closer to 100bpts by h=12 months*
- **b) lagged shocks:** lags at 6, 12, 24, 36, 48m of shock
- **c) controls:**
 - up to 1 year lags outcome
 - lagged chg indpro, unrate, cpi infl, y1y \Rightarrow (shocks not predictable conditional on controls)
 - month-of-year seasonality
 - Quarterly: corresponding spec. 2, 4, 8, 12, 16, 20q lags, GDP instead of indpro etc
- **d) std errs:** HAC w/ $(h + 1)$ -lags robust

Overview of Channels

Fiscal news shock = signed s.t. pushes up rates +25 bpts on impact
≈ +100bps at peak inside first year

- **Markets Bearish:** selloffs in £s, Stocks, Gov Bonds
- **Debt Sustainability worsens** large increase in deficit, interest/expenditure increases, tax base falls, spending flat
- **Mildly Deflationary** across prices at long horizons, some early increases
- **substantial** Output and Labour Market losses
- **Weak GBP** harms exports as well as imports (imports input in prod) both goods, servs
- **BOE slow to react** and offset tighter conditions over full sample
 - Does BOE independence / Reaction function matter for fiscal news transmission?
 - Bank Rate does react faster in later years

Results

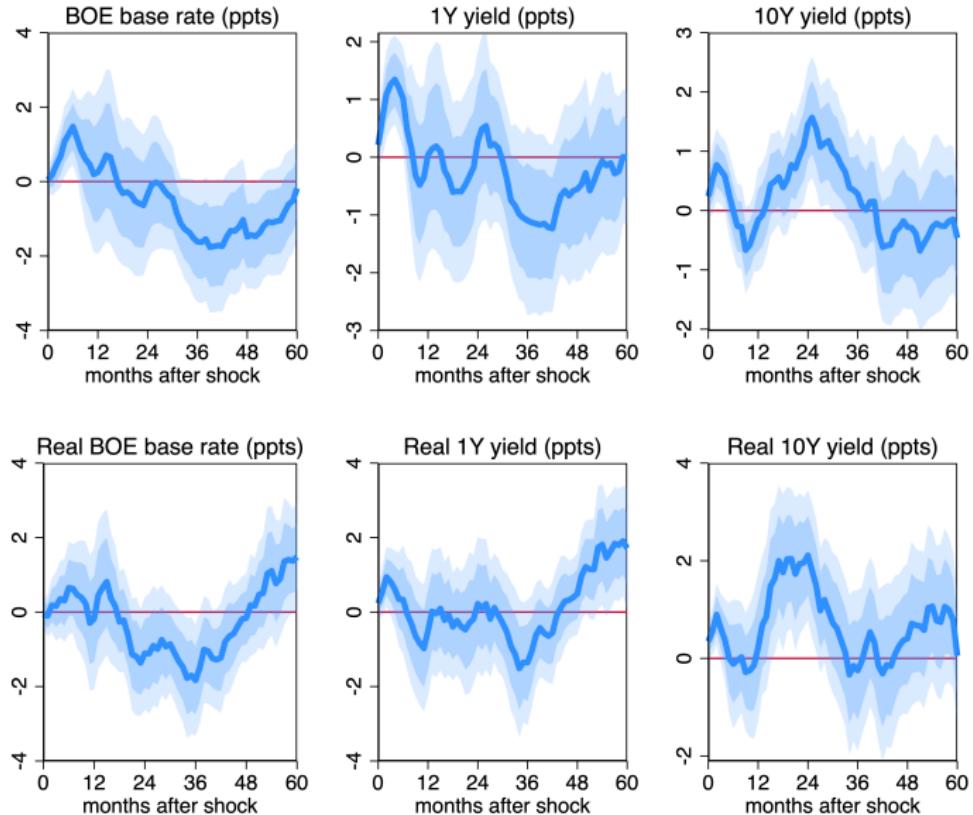


Figure 1: Rates: Financial conditions at long-end deteriorate

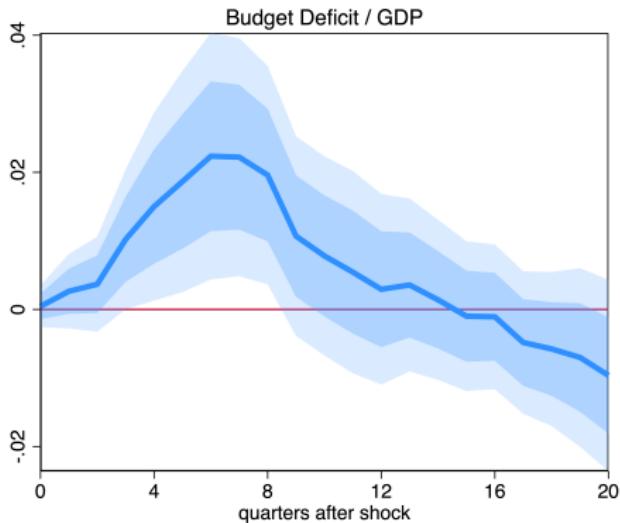


Figure 2: Fiscal: News shocks predict increasing Deficit

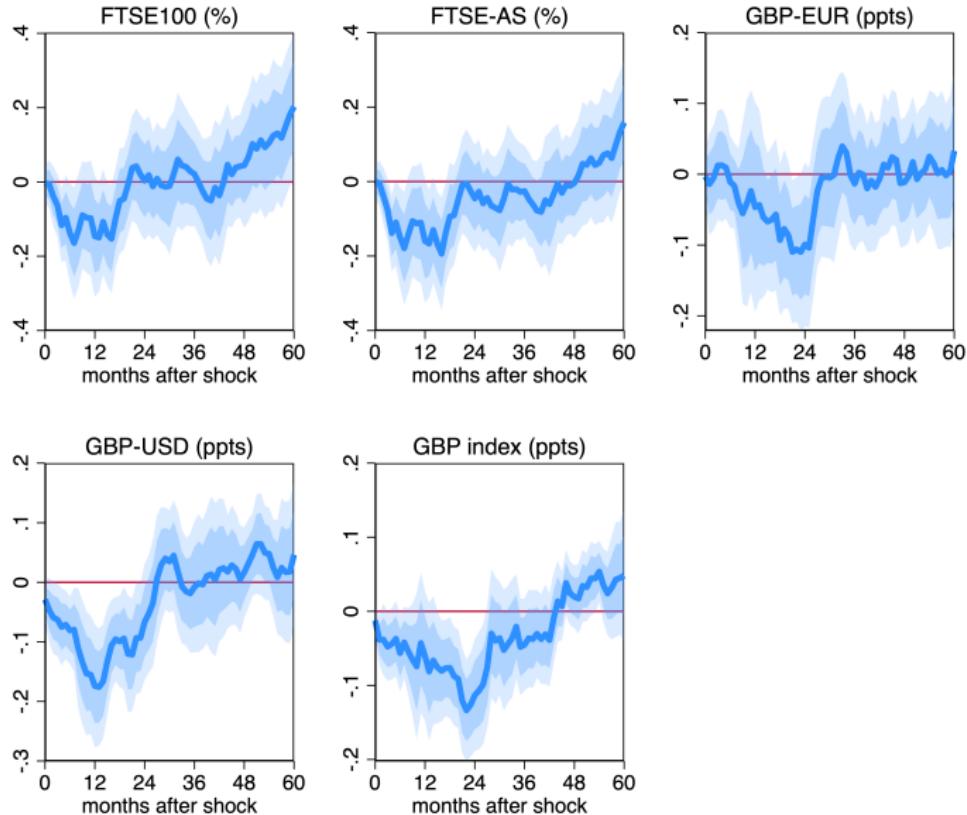


Figure 3: Financial Markets: Sell-offs in UK Bonds and Stocks

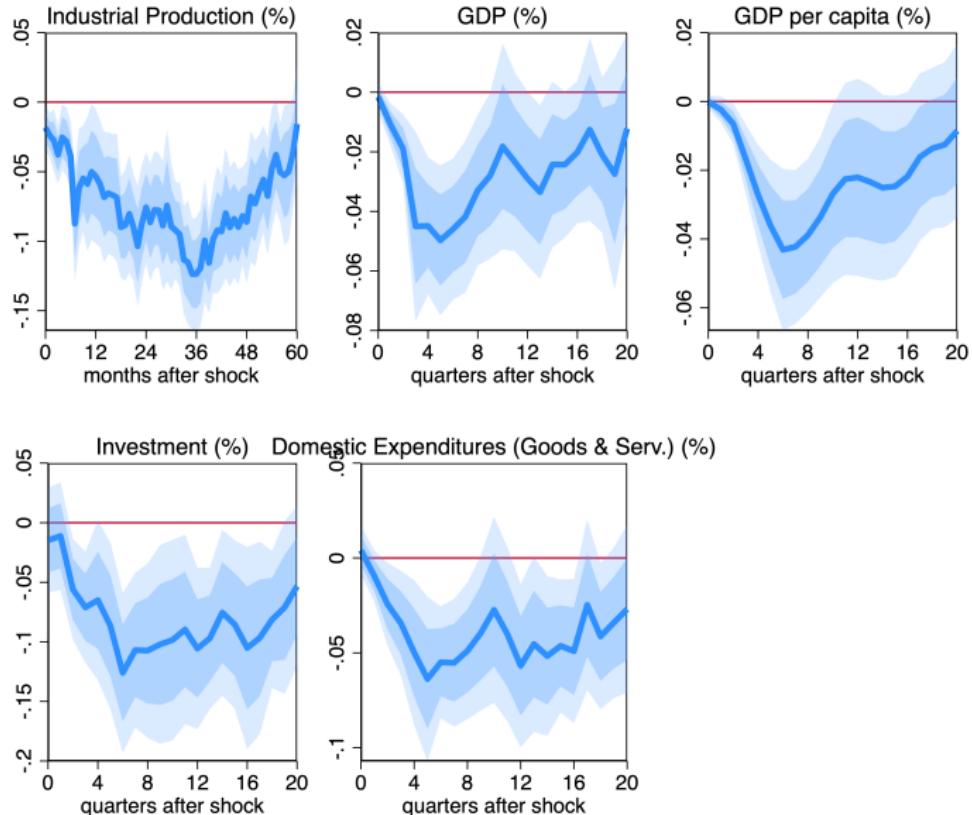


Figure 4: Output and Production: Recessionary

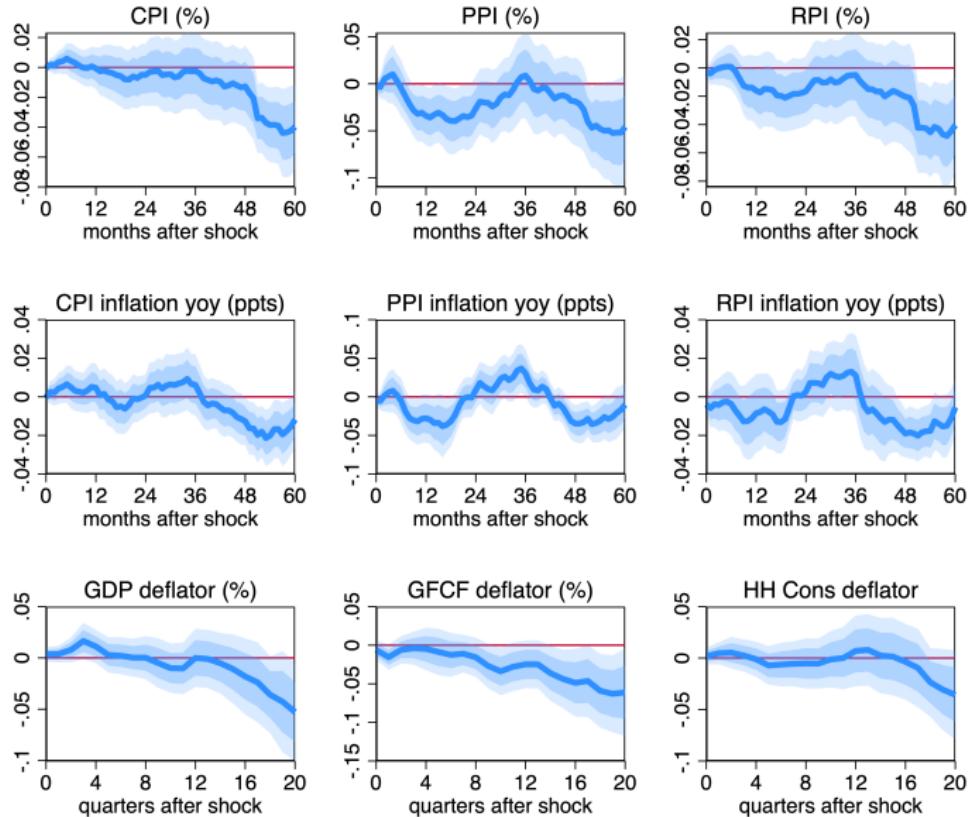


Figure 5: Prices: deflationary in the LT, some increases early on

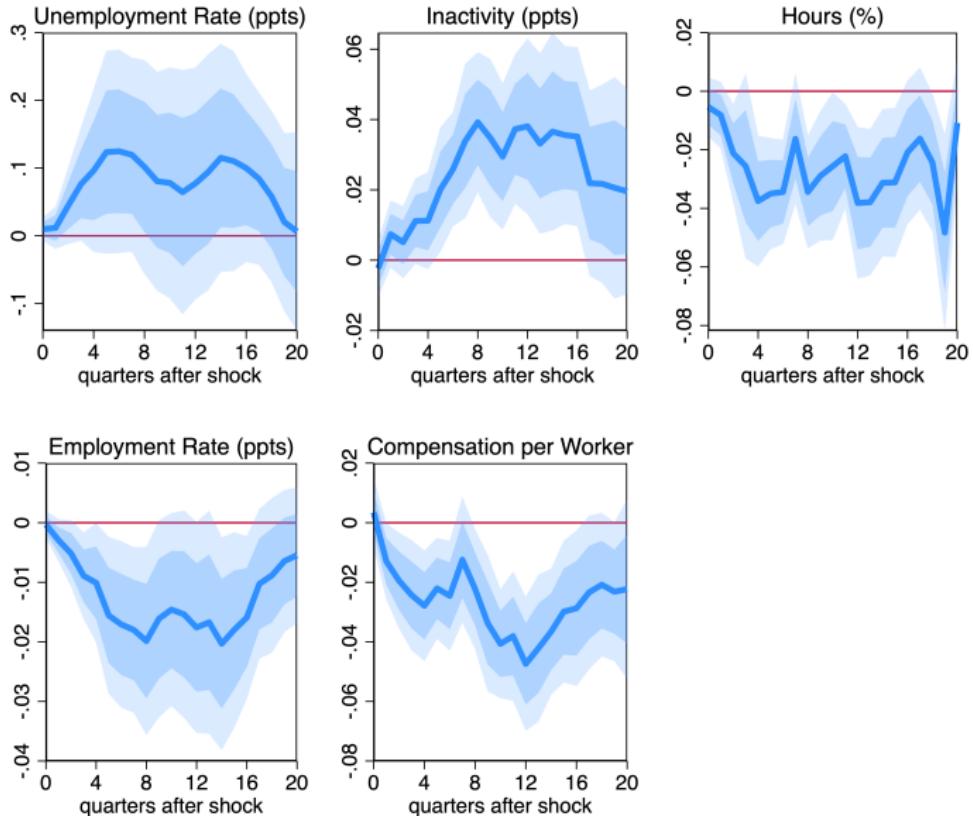


Figure 6: Labour Markets

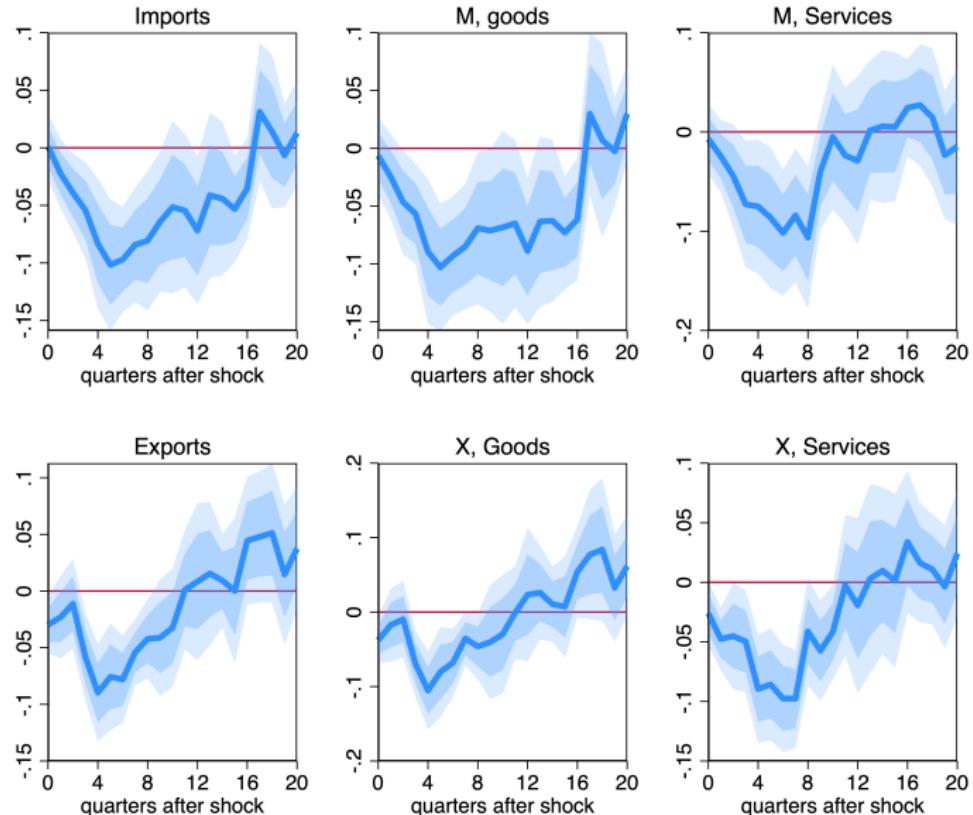


Figure 7: Trade: Imports suffer worse FX rate, Exports harmed too

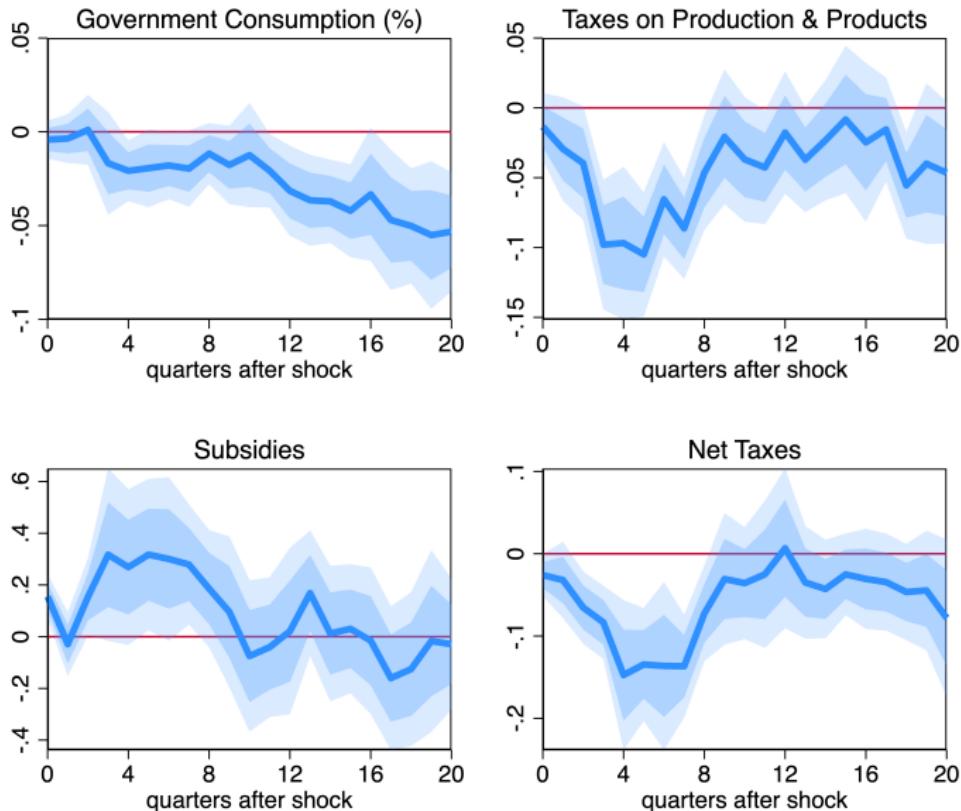


Figure 8: Fiscal: Short Tax cuts, later Spending correction

Extensions / Policy Analysis

BOE dependence in transmission (preliminary)

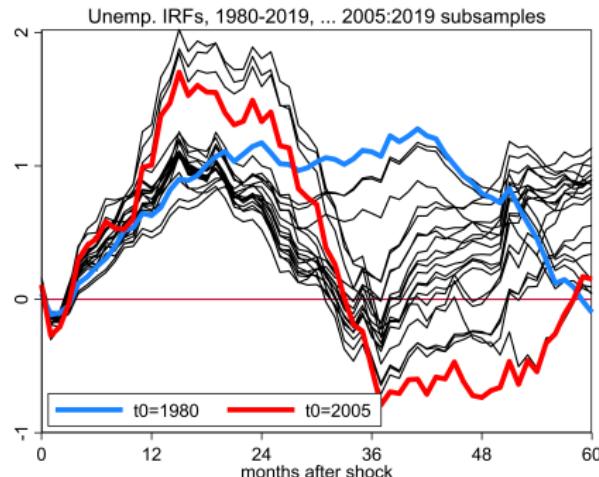
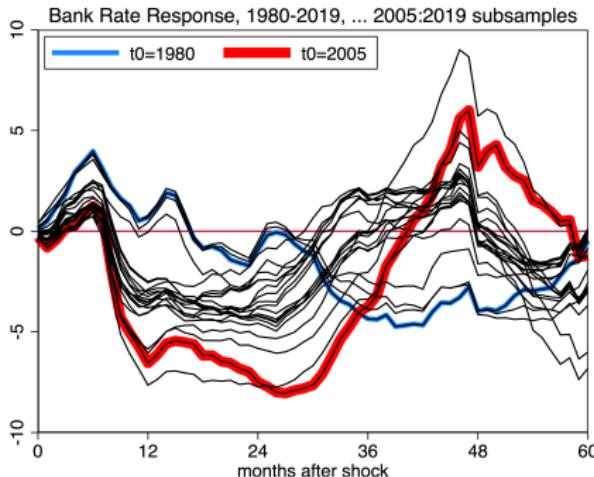


Figure 9: BOE reaction fn: much stronger reaction in later period

Consistent with switch to inflation targeting (1997) application of Taylor principle, highlights monetary-fiscal interactions in transmission

- more easing in months 12:24, much less persistent unemployment 24+

State Dependence (preliminary)

$$y_{t+h} - y_{t-1} = \sum_s f(S_t)[\alpha_{s,h}(L)y_t + \beta_{s,h}F_t + \gamma_{s,h}(L)F_t + \Omega_{s,h}\mathbf{X}_{t-1} \dots] \quad (3)$$

$$f(S_t) = Pr_{t-1}(\text{Recession} | \text{IndProMA12}) \quad (4)$$

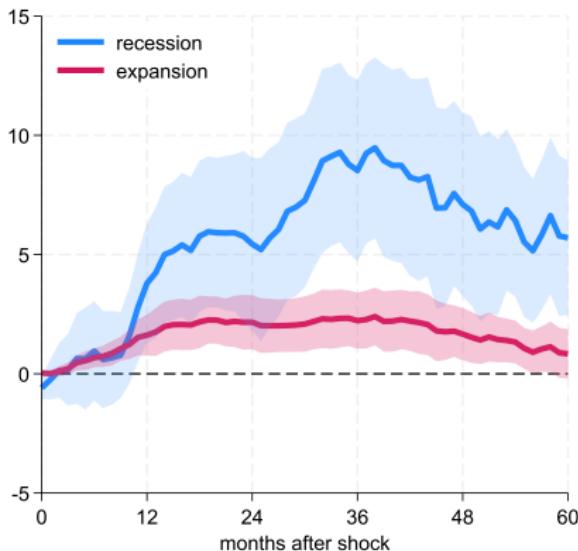


Figure 10: Strong evidence in favour of state-dependence, scaling needs work

Next Steps

- BoE offset in transmission
- State-dependence over business cycle
- Text analysis: linking announcements to changes in yields, stocks etc

Robustness

Can we predict the surprises?

Baseline controls enough to ensure surprises are orthogonal to \mathcal{I}_t (Lloyd and Manuel 2024)

$$F_t = \alpha + \sum_I \theta_I F_{t-I} + (\text{indpro cpi unrate y1y})'_{t-1} \beta + \phi(L) x_{t-1} \quad (5)$$

Table 1: Granger Causality F-Tests- $H_0 : \phi_1 = \phi_2 = \dots \phi_{12} = 0$

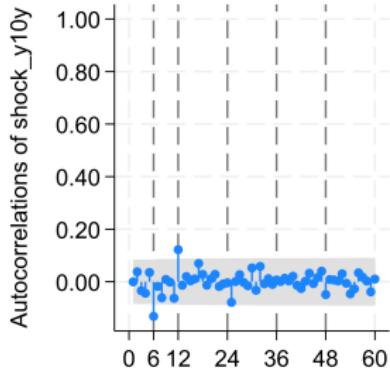
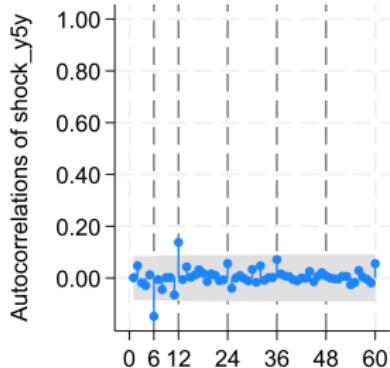
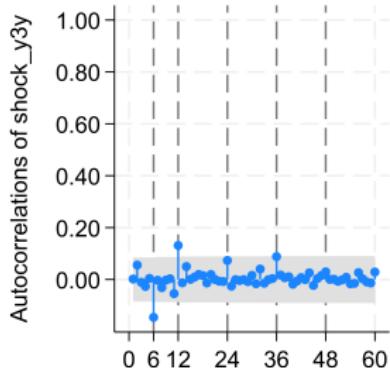
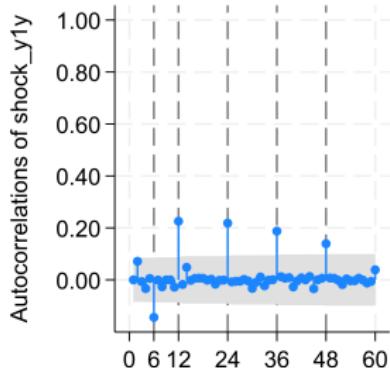
	Fstat	p-value
10YTB	.89	.55
1YTB	.73	.72
Bank Rate	1.1	.36
Business Climate Index	.58	.86
CPI yoy Inflation	.68	.77
Claims	1.47	.13
FTAS	.79	.66
FTSE100	.81	.65
GBP Index	.79	.66
GBPUSD	.72	.73
Industrial Production	1.21	.27
PPI yoy Inflation	.93	.52
RPI yoy Inflation	.56	.88
Real Oil Price	.96	.49
Lagged Shock	1.22	.27
Unemployment, LFS	1.23	.26
Yield Spread	.83	.62

Using 12m lags predictors. depvar residual after lagged controls (unrate, y1y, cpi infl), HAC std errs,

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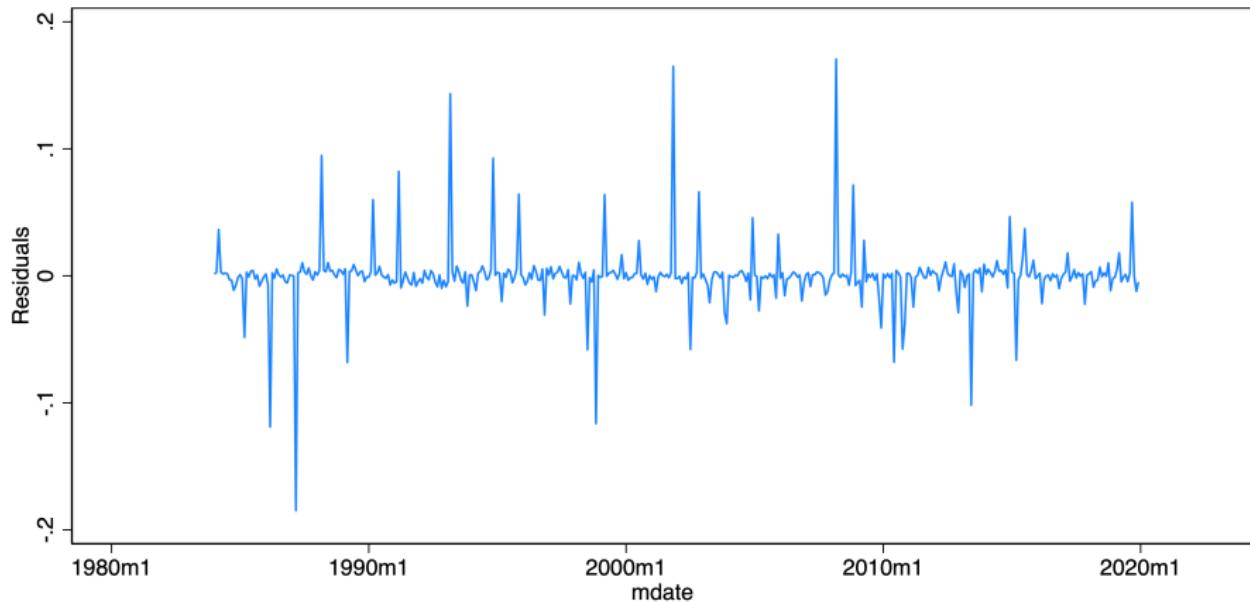
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Autocorrelation of surprises

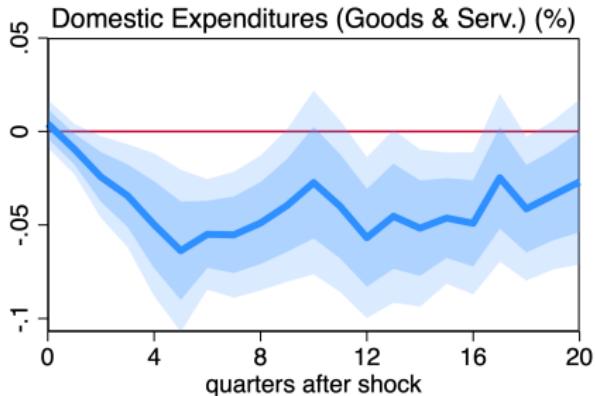
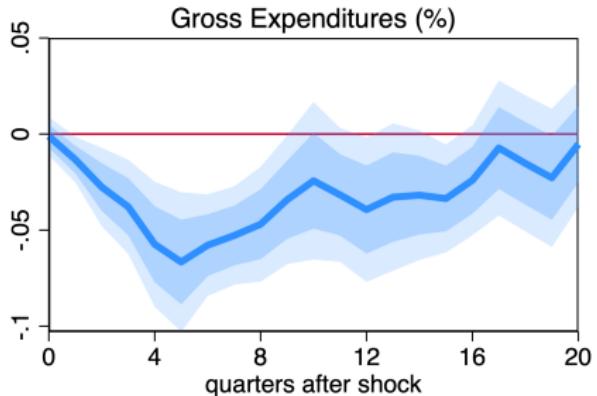
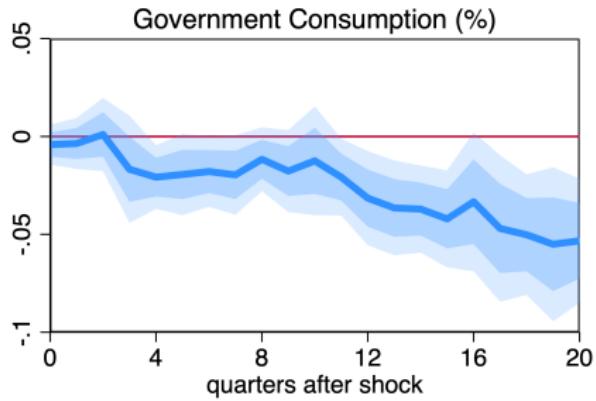
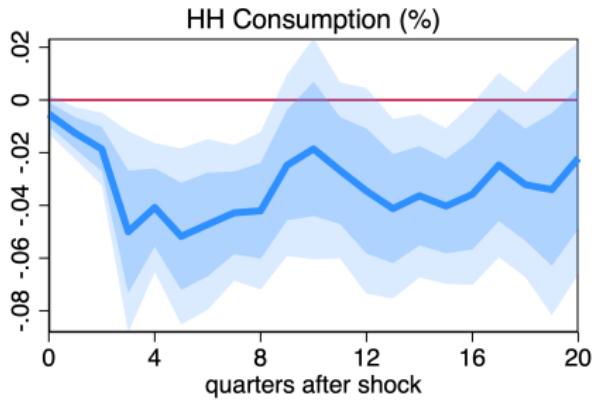


Fitted Orthogonal Fiscal News Shocks: $\hat{\varepsilon}_t^{\text{FN}}$

\mathcal{I}_t : $L(6, 12, 24, 36, 48)$.surprise D.indpro, CPI yoy, D.unrate, y1y



Other Spending



Text Analysis of Budget Speeches (in progress)

Pool documents into single bag-of-words (tokenized)

Common Ngrams

- tax, rate, year, budget, increase, business, propose
- income tax, interest rate, capital gains, public sector
- capital gains tax, rate income tax, national insurance contribution

Dynamic focus over time

- “prices, inflation, sterling” important in early years (80s)
- “investment” in labour years (1997-2010) and 2020s
- ‘Debt, Deficit’ focus in 2010s

economi budget million billion invest
announc new rate **tax** increas peopl
help year make todai public busi propos
incom work

announc todai nation insur
tax rate capit gain two year **interest rate** social secur
public spend tax relief **incom tax** tax system three year
public financ public sector small busi public servic gain tax
unit kingdom real term

propos increas duti nation health servic offic budget respons
corpor tax rate **rate incom tax** **rate corpor tax** employ nation insur
chang take effect north sea oil help small busi mediumterm financi strategi
capit transfer tax **capit gain tax** basic rate incom
nation live wage **nation insur contribut** vehicl excis duti state social secur
sector borrow requir public sector borrow

Figure 11: Frequent 1,2,3-grams

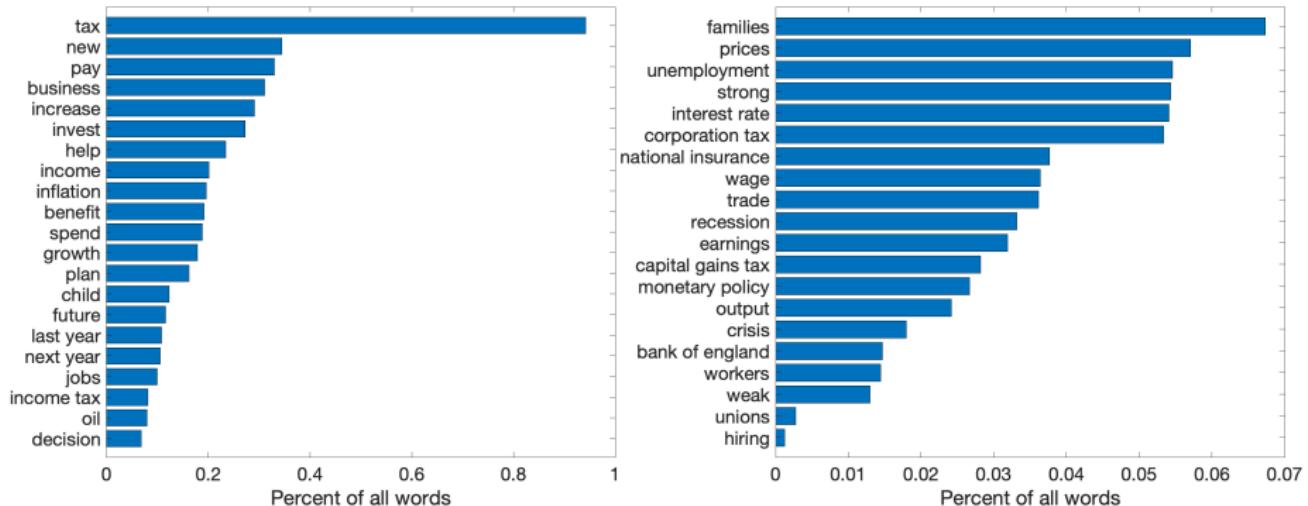


Figure 12: Frequency of key words and phrases

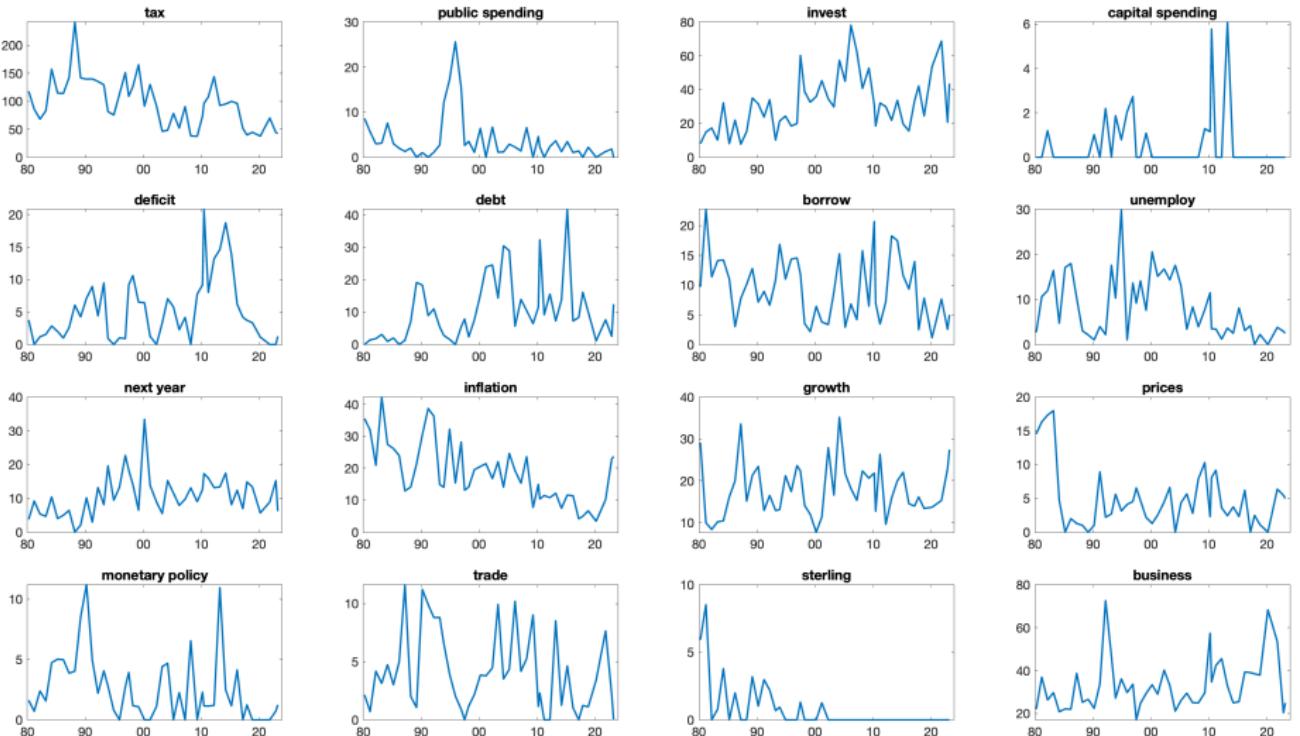


Figure 13: Key words, mentions per 10k words