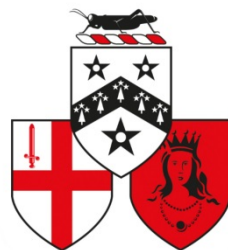


# Assessing the Economic Risks from a UK Exit from the EU - A Tale of Two Regimes

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# A Typical Economists' View

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"Given that there is a commitment to have a referendum, it is a good idea to have it earlier rather than later because a looming referendum feeds uncertainty. A vote to leave the EU may not impact much on growth in 2016, as many plans have already been formulated but would clearly involve a considerable reorientation of the economy, which is likely to be costly in the short run. The medium and long term prospects depend on access to the free trade blocs that make up the structure of world trade and the impact on financial and other services."

*Mystery Economist Surveyed by FT in December 2015.*



# A Tale of Two Regimes

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It will be the best of times, it will be the worst of times, it will be the age of wisdom, it will be the age of foolishness, it will be the epoch of belief, it will be the epoch of incredulity, it will be the season of Light, it will be the season of Darkness, it will be the spring of hope, it will be the winter of despair, we have everything before us, we have nothing before us, we are all going direct to Heaven, we are all going direct the other way.



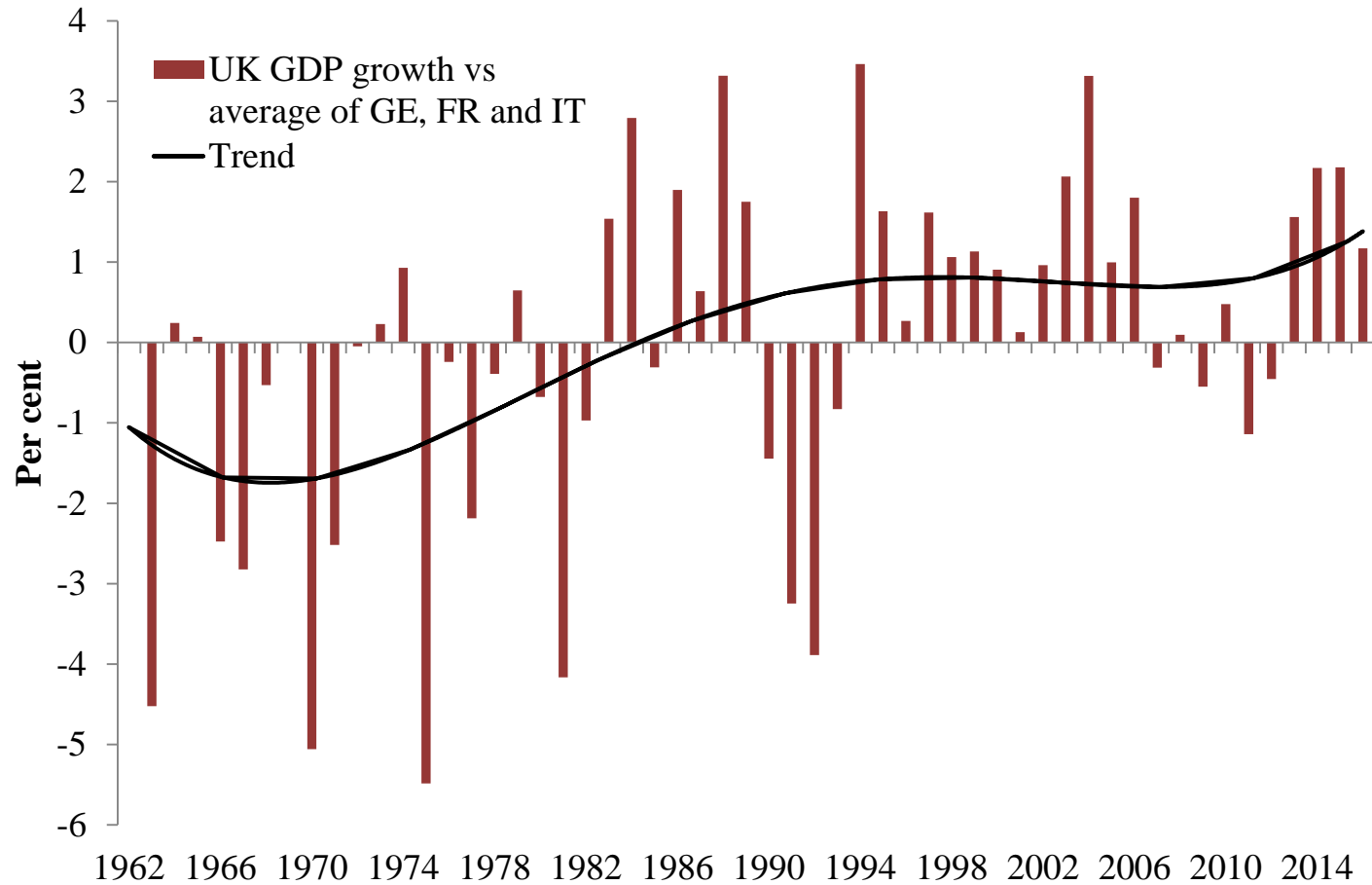
# Project Fear?

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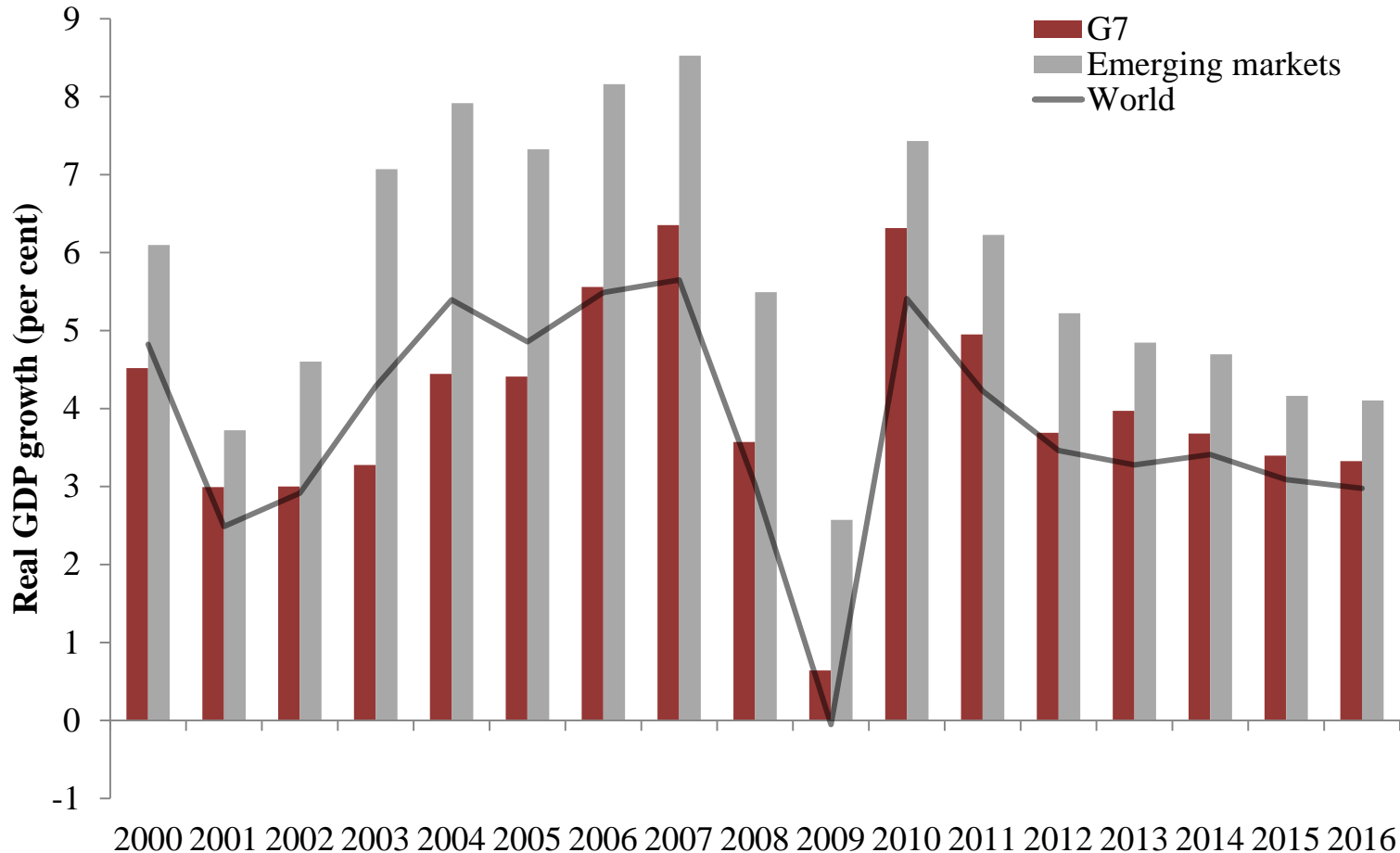
- (i) We expect the total volume of world trade to fall by 6-7 per cent this year,
- (ii) Unemployment is likely to continue to rise rapidly,
- (iii) Between the second halves of (last year) and (this) we expect GDP to rise by little more than 1/2 per cent;
- (iv) Private investment in total is forecast to fall by about 51 per cent this year; (v)
- (v) Average earnings are forecast to rise by 25 per cent through this year and, following the budget measures, the retail price index is likely to show a similar increase.



# Relative UK performance

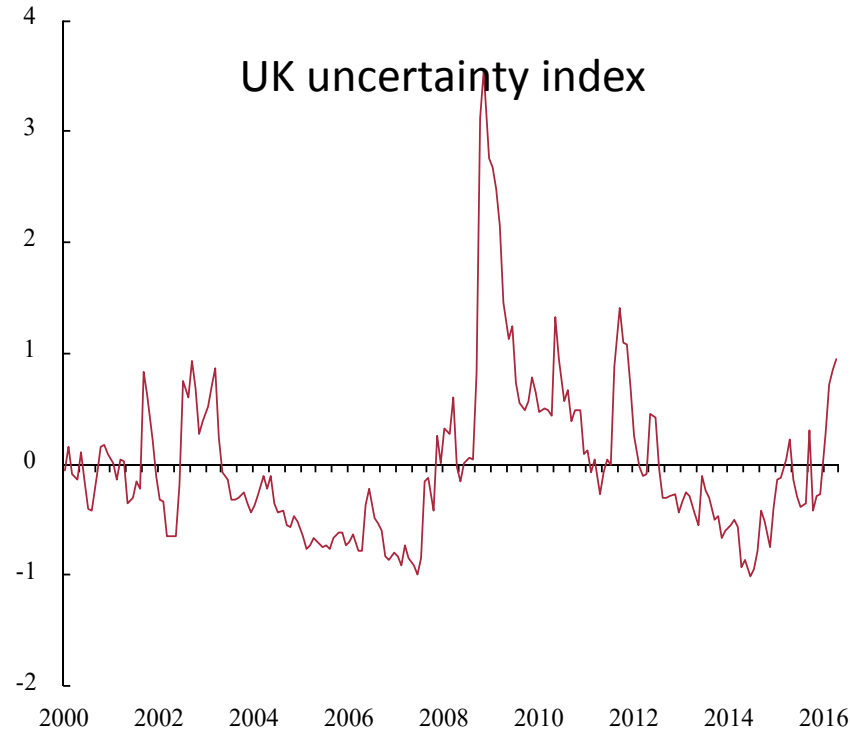


# Emerging and Advanced Country Growth



# Heightened uncertainty since the start of the year

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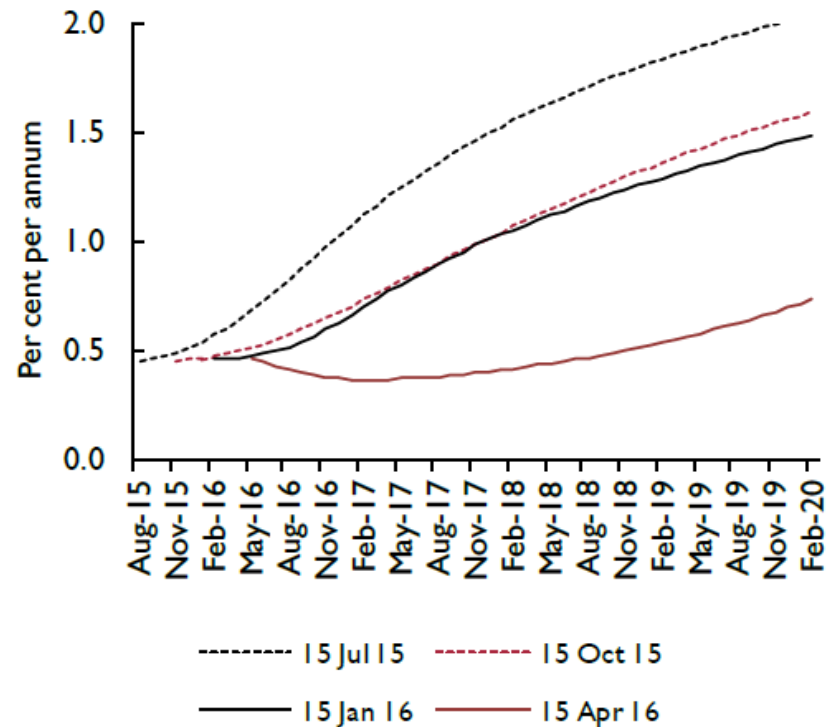


Bears down on consumption and investment in profound manner  
Reflecting the Travellers' Paradox...



# Interest rate expectations have flattened (first interest rate rise priced in for 2020Q1)

## Interest rate expectations



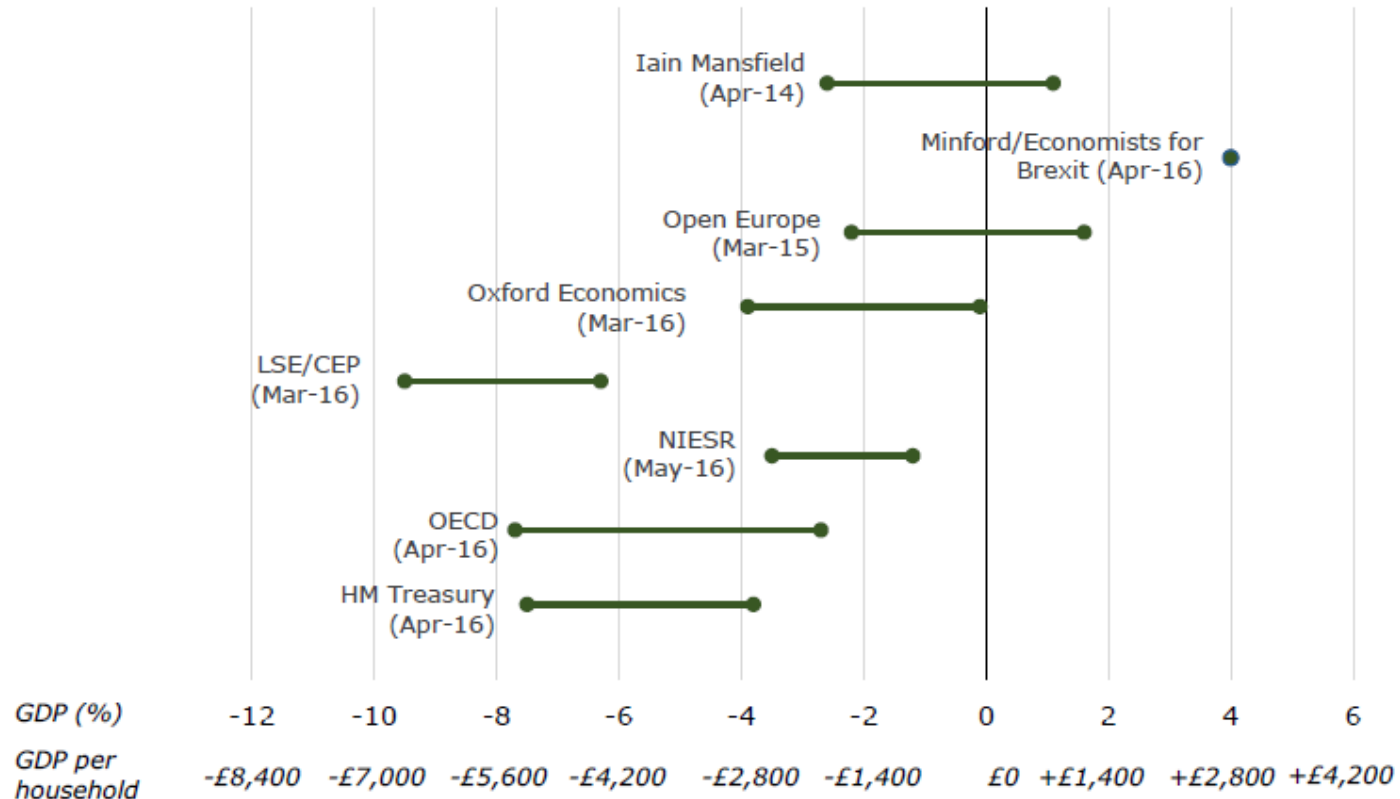
Source: Bank of England, sterling overnight index swap yield curve.





# Too Many Cooks? Or Better Information?

Figure 1: recent estimates of the long-term impact of leaving the EU on UK GDP



# A vote to leave: uncertainty spikes and risk premia rise

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Summary table of short-term shocks introduced from 2016Q3

	<b>Calibrated from</b>	<b>Average size of shock (over first two years unless otherwise stated)</b>
<b>Exchange rate premium</b>	3-month options-implied sterling volatility	2016Q3 shock: 2/3 of the magnitude observed in 2008
<b>Uncertainty</b>	Betting markets and historical data	2016Q3 shock: Three times the level in 2016Q2
<b>Term premium</b>	Joyce et al (2011), Breedon et al (2012), Meaning and Warren (2015)	60 basis points
<b>Household and corporate credit premium</b>	Cantor and Packer (1996), Alfonso et al. (2012), Kiff et al. (2012), historical data and author's calculations	35 basis points
<b>Equity premium</b>	Historical data and author's calculations	35 basis points

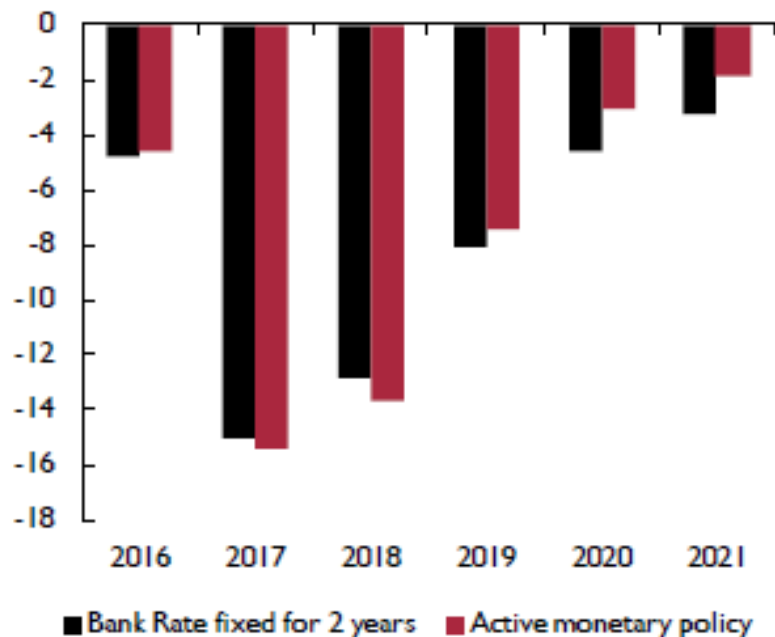
Note: table in *Review* provides only initial rise in 2016Q3

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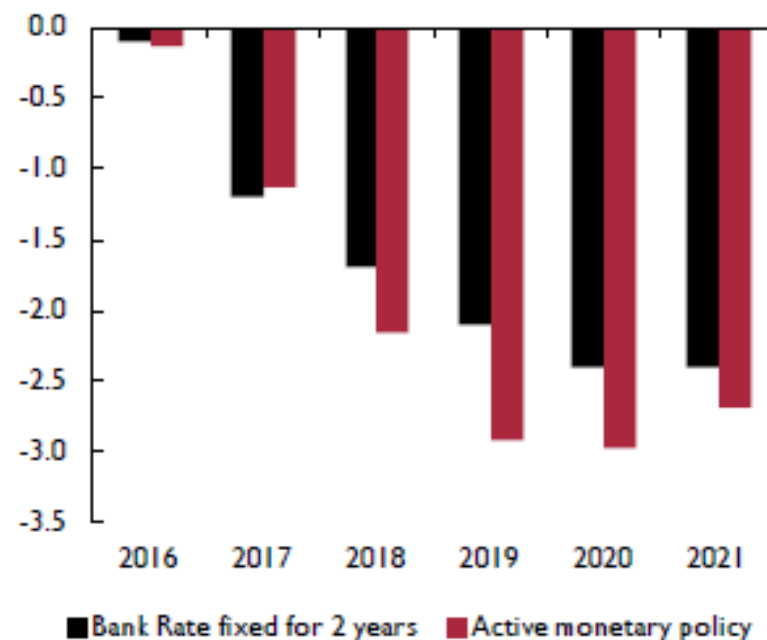


# A vote to leave: private sector investment, at trough, around 15% below baseline

Private sector investment (per cent difference from baseline)



Household consumption (per cent difference from baseline)



Source: NiGEM simulations.

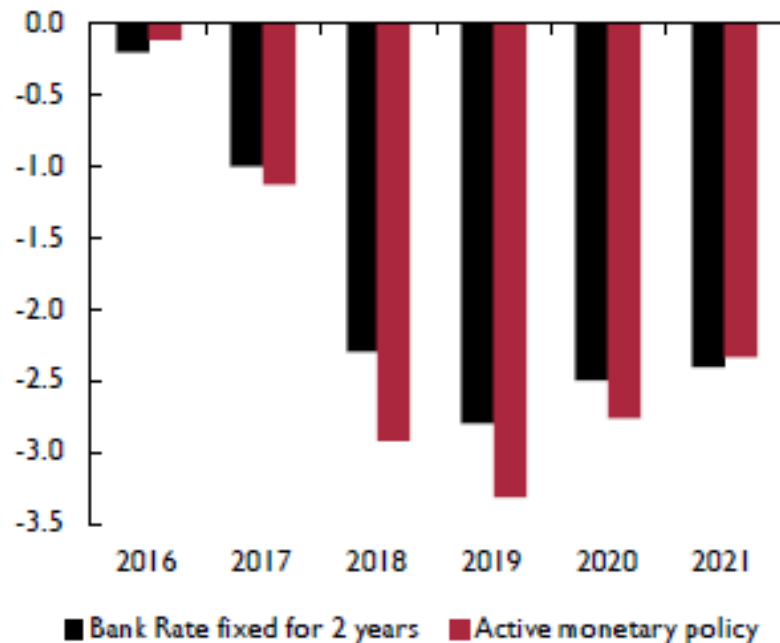
Source: NiGEM simulations.

Note: active policy suggests a tightening of interest rates from 2017. It refers to an endogenous response by the MPC, represented by a Taylor Rule (using the parameters published for the Bank's model COMPASS).



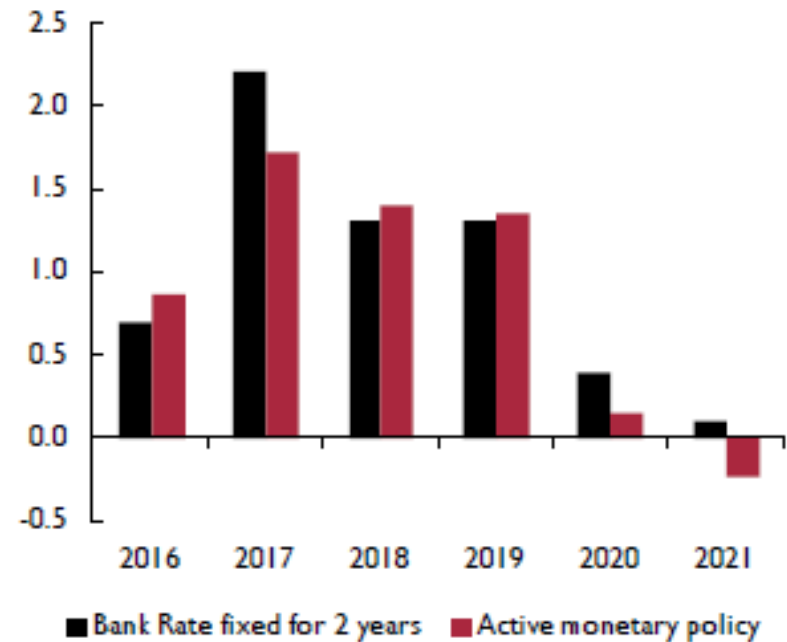
# A vote to leave: GDP negatively affected by the shock of a vote to leave; inflation spikes (relative to counterfactual)

GDP level (per cent difference from baseline)



Source: NiGEM simulations.

Inflation rate (percentage points difference from baseline)



Source: NiGEM simulations.

Note: active policy suggests a tightening of interest rates from 2017. It refers to an endogenous response by the MPC, represented by a Taylor Rule (using the parameters published for the Bank's model COMPASS).



# Summary of short-term economic performance following a vote to leave scenario

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- Heightened risk and uncertainty
  - sterling to depreciate by around 20 per cent
  - Intense bout of inflationary pressure
- Tightening of monetary and financial conditions
  - Fall in investment, relative to counterfactual remain scenario
  - Weigh on household incomes and wealth
- GDP will be 0.7-1% lower than remain counterfactual in 2017
- Even as the short-term effects dissipate, the transition to the longer-run part from the shock of leaving the EU weighs on the economy



# Long Run Impact: Headline Results

% decrease	Switzerland	WTO	WTO+
GDP	1.9 – 2.3%	2.7 - 3.7%	7.8%
Real wages	3.1 – 3.8%	4.6 – 6.3%	7.0%
Consumption	2.8 – 3.5%	4.0 – 5.4%	9.2%

- All results are % declines compared to the 2030 baseline of remaining in the EU
- Switzerland and WTO focus on trade and FDI effects
- WTO+ adds a 5% productivity drop to WTO-optimistic



# Key Mechanisms

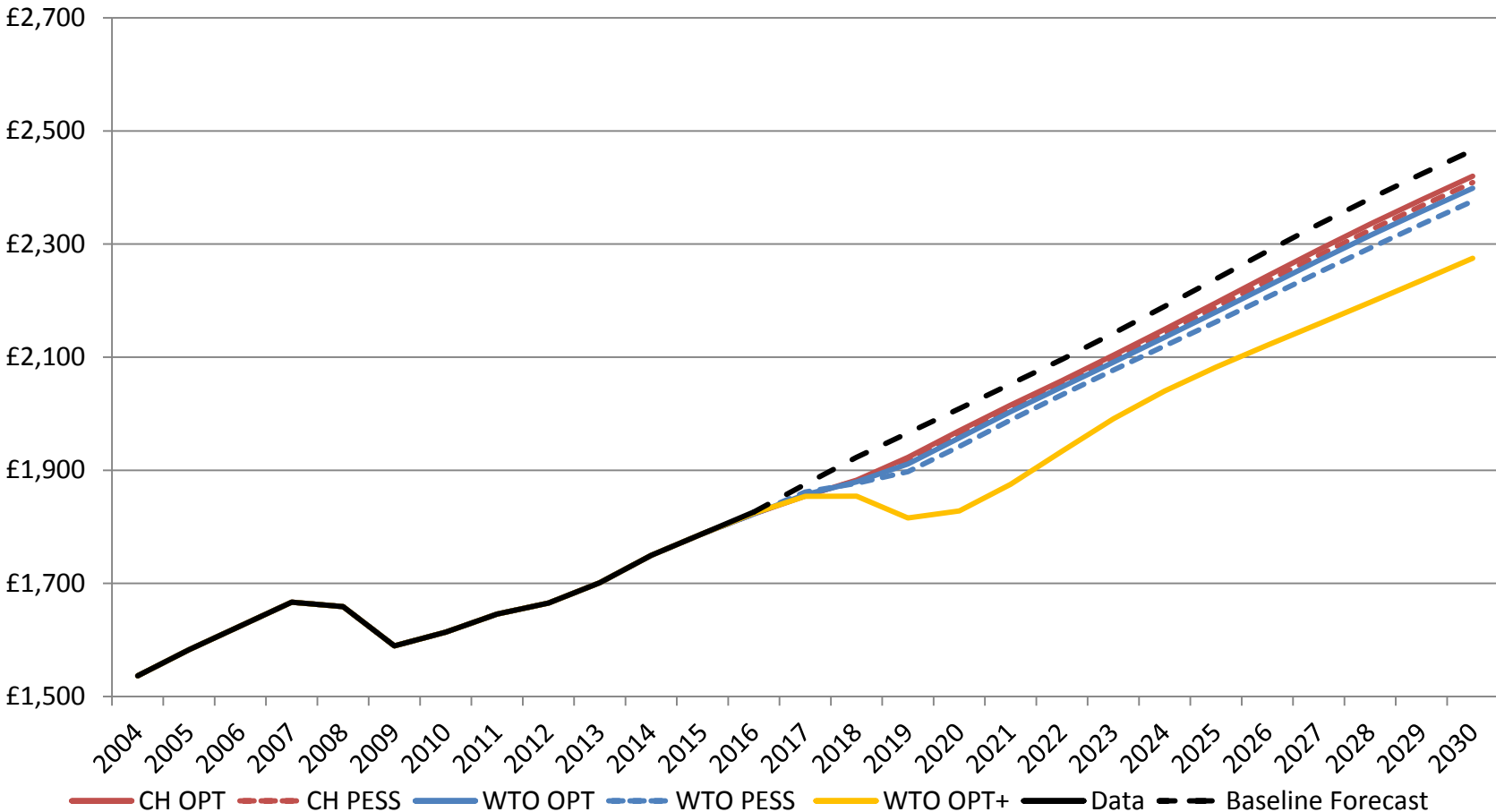
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Reduced access for the UK to EU markets

- Demand for UK exports falls
- Prices of UK exports fall
  
- Sterling depreciates
- Import prices rise
  
- Deterioration in the terms of trade
- UK poorer because no longer gaining as much from trade
  
- Consumption, GDP and real wages all fall

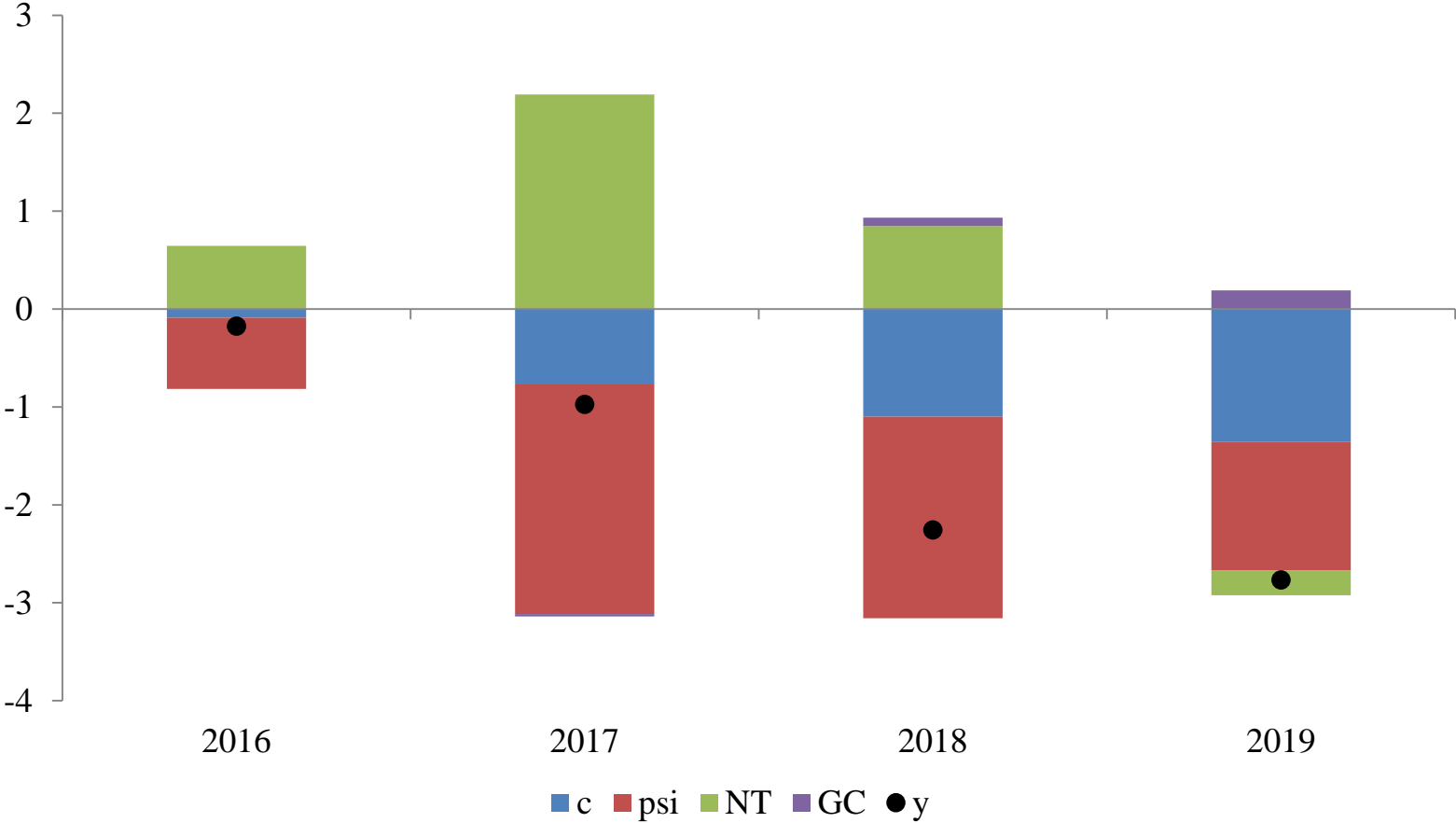


# GDP, compared to baseline forecast





# GDP Decomposed



# Risks to the long-run Brexit forecast

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- Upside Risks, might reduce losses in WTO cases
  - Deregulation, gains estimated by Open Europe at £12.8 bn annually
  - Migration, if 'optimal' migration policy were achieved
- Downside Risks, might further increase losses
  - Productivity, may be large
  - Scotland, Northern Ireland – debt?
  - Migration – skill shortages, skill mismatches



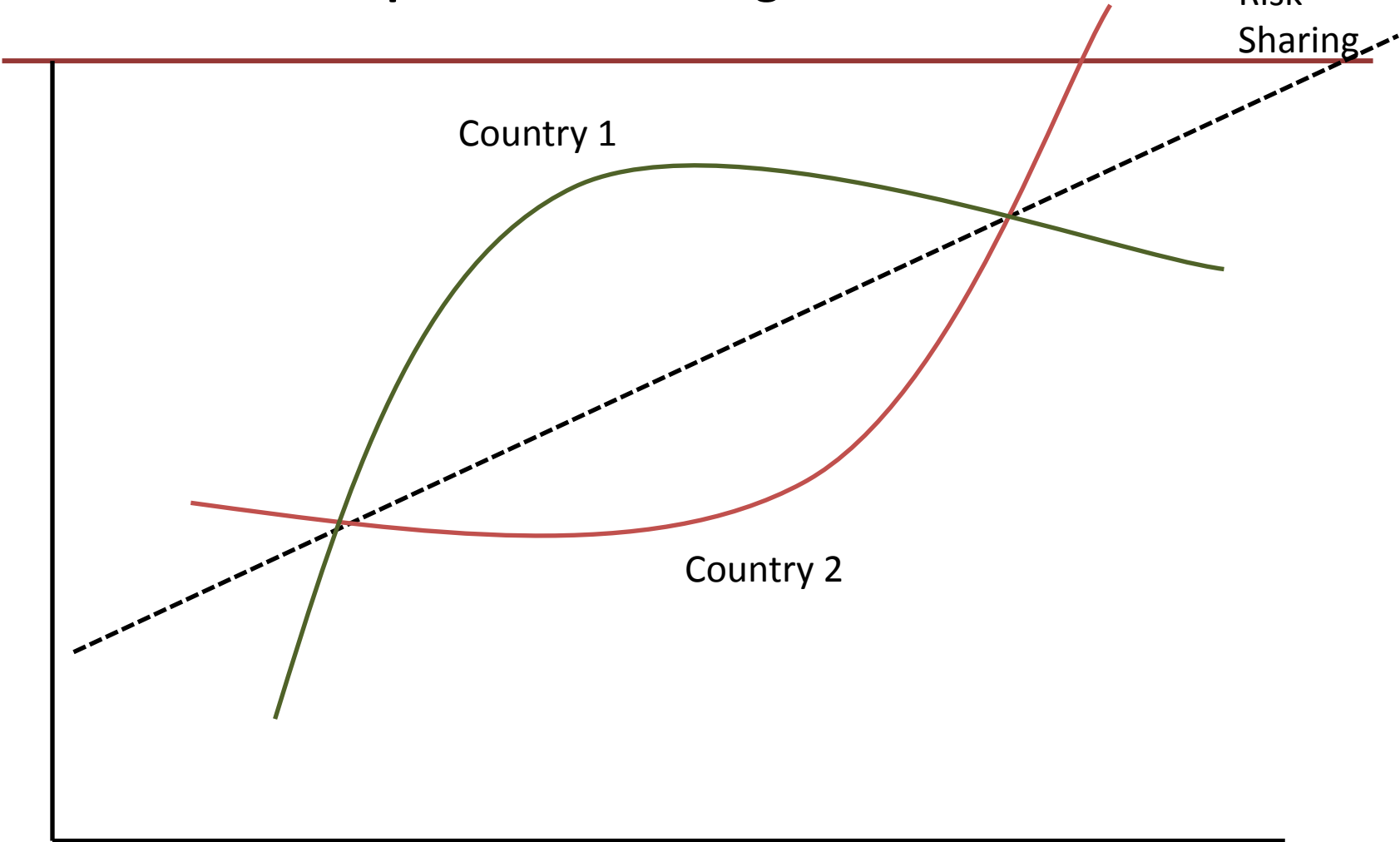
# What Really Matters Consumer Welfare

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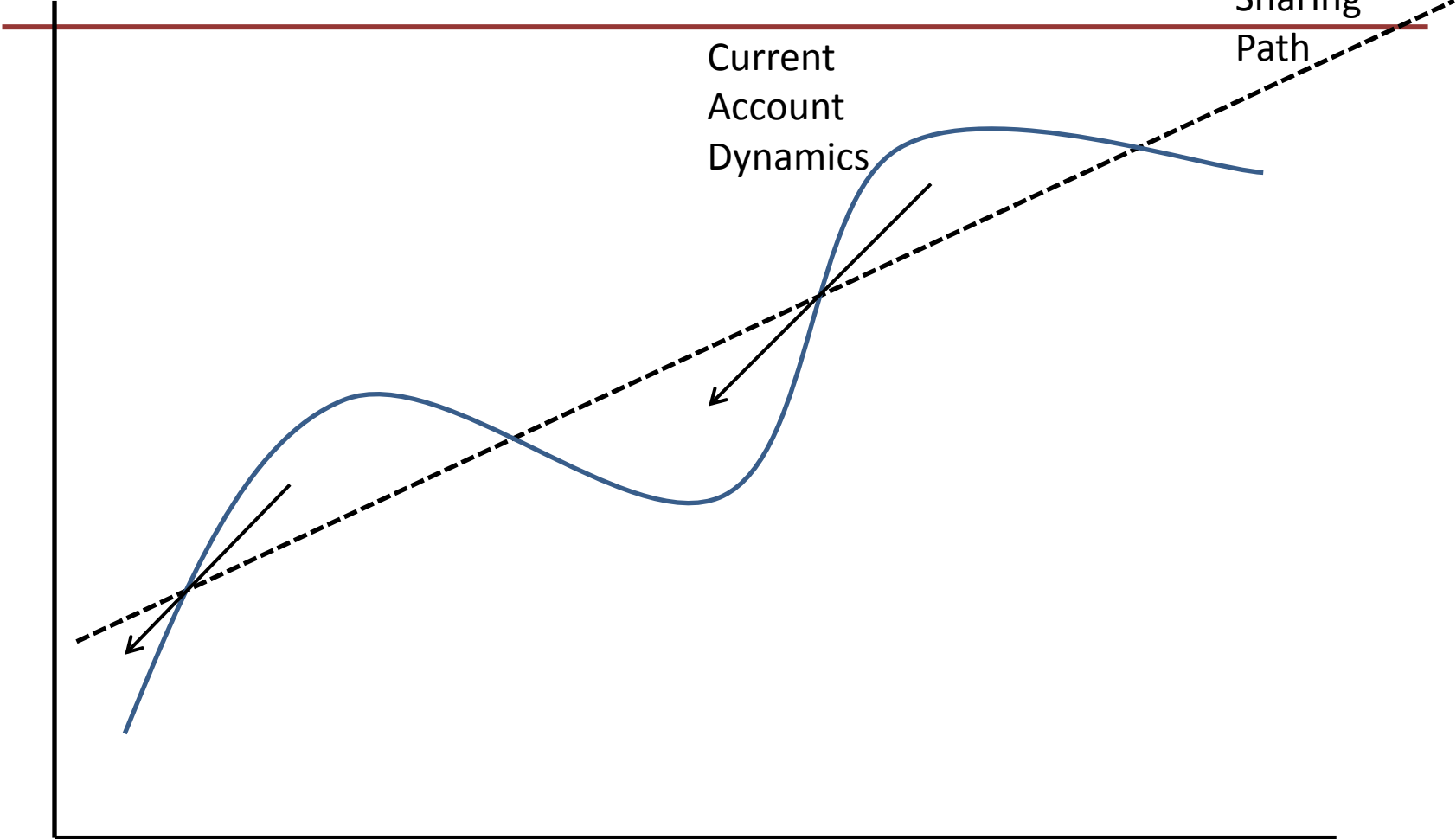
- Median Aggregate Consumption
  - Depends on permanent income
  - Distribution of income
  - Long Run impact of changes in regime
- Variance of Median Household Consumption
  - Value depends on attitude to risk
  - Policy responses
  - Distributional implications of policy
- SCOPE FOR RISK SHARING IN OR OUT OF EU



# Intratemporal Risk Sharing



# Intertemporal Risk Sharing



# Four features of UK finance

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1. Passporting and the presence of overseas firms
  - More than half largest global institutions EU HQs
2. Financial sector balance sheet = 680% GDP
  - Residency basis & ex derivatives
  - Banks account for 380%
3. Multi-currency area
  - Less than half bank sector assets in sterling
4. Foreign direct investment (related to passporting)
  - 40% is related to financial services



# Financial infrastructure post Brexit

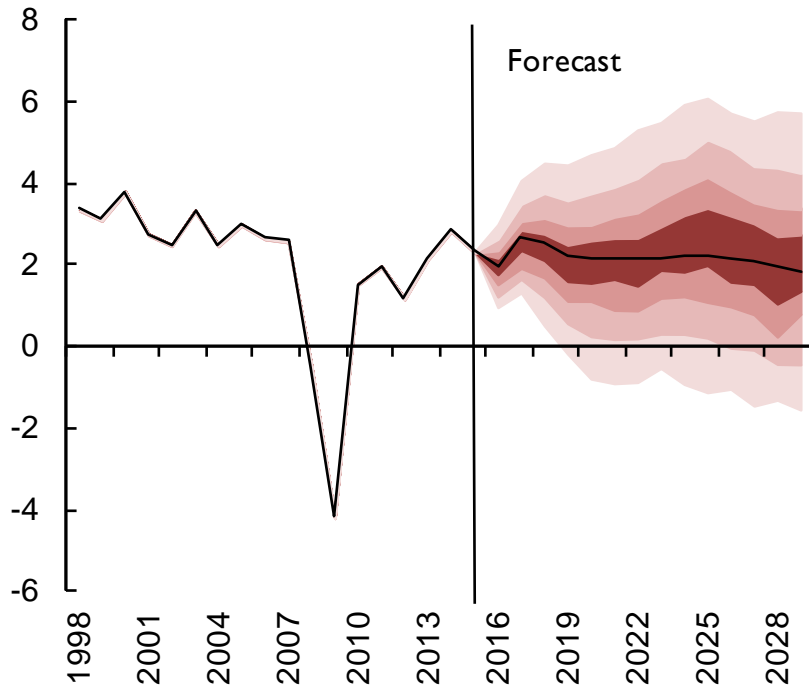
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1. UK probably treated 'equivalent' in regulation terms
  - But, a regulatory 'sword of Damocles'
2. Direct membership of TARGET2 extends to EEA
  - UK banks require an EU home country sub
  - Would non-EEA banks require EEA home country?
3. MOU between BoE and ECB for currency swaps
  - Would this be in interests or even credible?
4. No ECJ to enforce non-discrimination
  - Non-cooperative behaviour in event of cross-border failure?

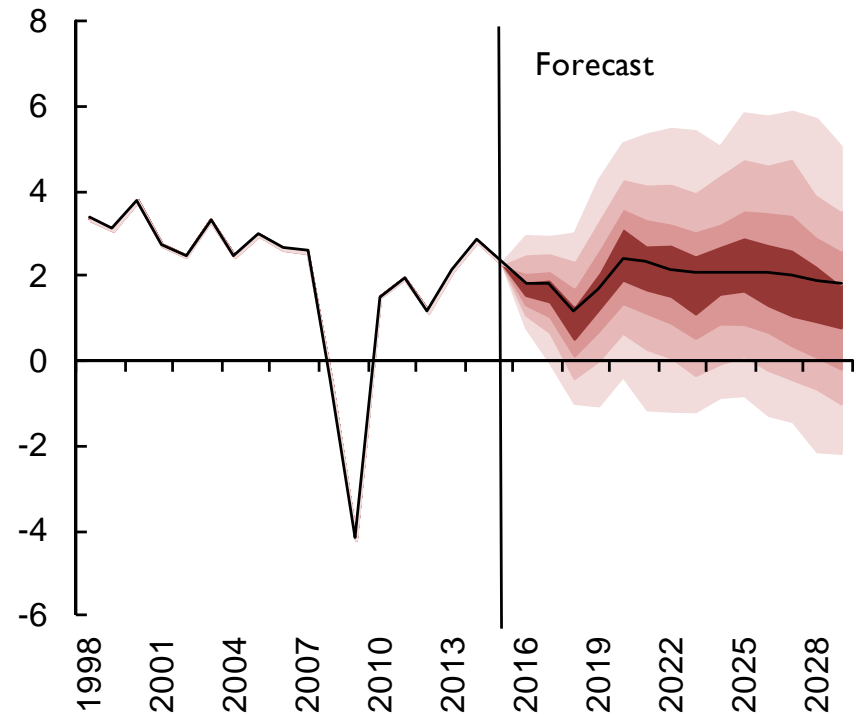


# Forecast Distributions under Leave or Remain

## Output Forecast under Remain

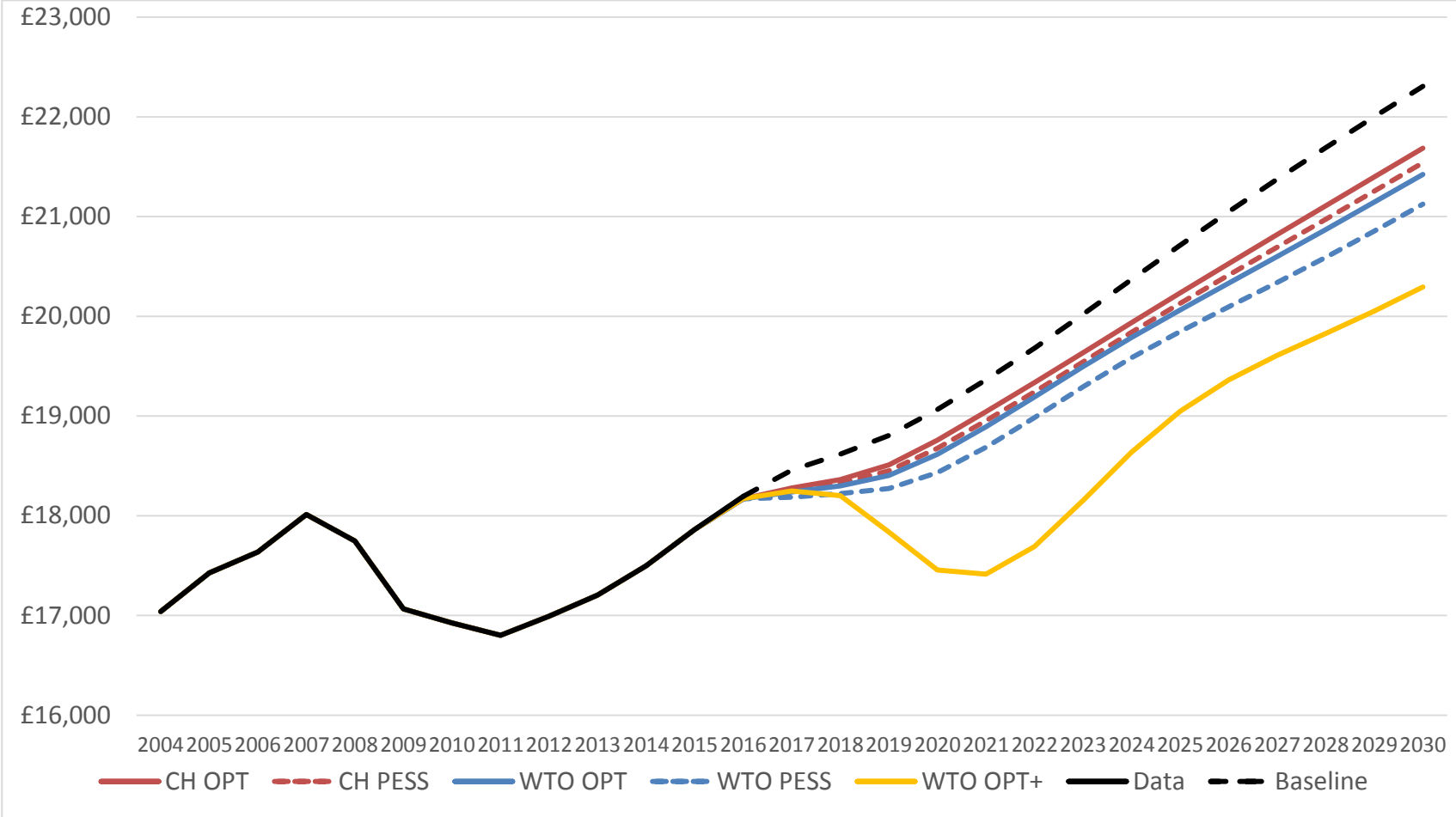


## Output Forecast under Leave





# Consumption per capita, constant prices



# Concluding Remarks

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1. Economic risks arising from Exit seem to be negative
  - Vast consensus of independent economic research find that there will be a deleterious impact on growth
2. The balance of those risks also seem to be negative
  - We can factor in more from productivity and from global shocks to get a more negative number
3. What is our appetite for risk?
  - Do we feel lucky?



# Unemployment rate, %

