Institute
and Faculty
of Actuaries

IFoA GIRO Conference

Managing Inflation Uncertainly

Erin Bargate, Cian Creedon (Supreme Wizard), Shane Lenney, Marcus Schofield & Richard Stock

Agenda

2025 Survey Results

- Trends
- Class Specifics
- Insights

Macroeconomic Considerations

- Reacting to changing geopolitical situation
- Responding to tariffs

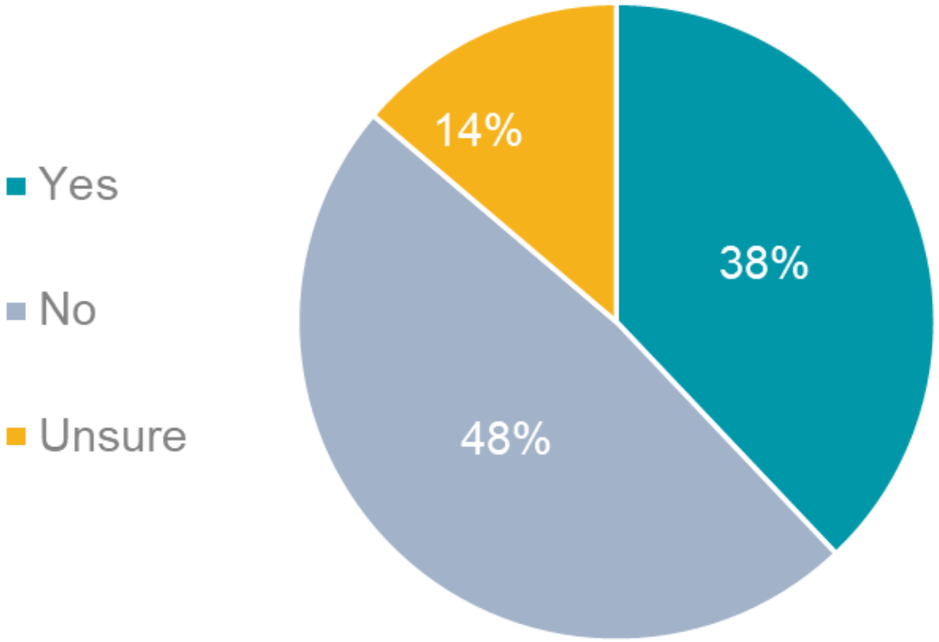
Claims Inflation Working Party

To comprehensively explore and produce pragmatic guidance on the challenges posed by claims inflation, across all areas of actuarial involvement in general insurance and to collate and share surveyed views on future inflation estimates and uncertainty.

2025 Survey Results

Participation

Did you complete last year's (2024) Claims Inflation Working Party survey?



Year	Responses
2022	145
2023	99
2024	78
2025	86*

Participation - similar to previous years

- About half new

Participants mainly:

- Lloyd's & London Market
- Broad split across main areas of work
  - Slight bias towards pricing
- And a spread of product lines
  - Bias towards London Market

Detail in appendix

Response rate holding:

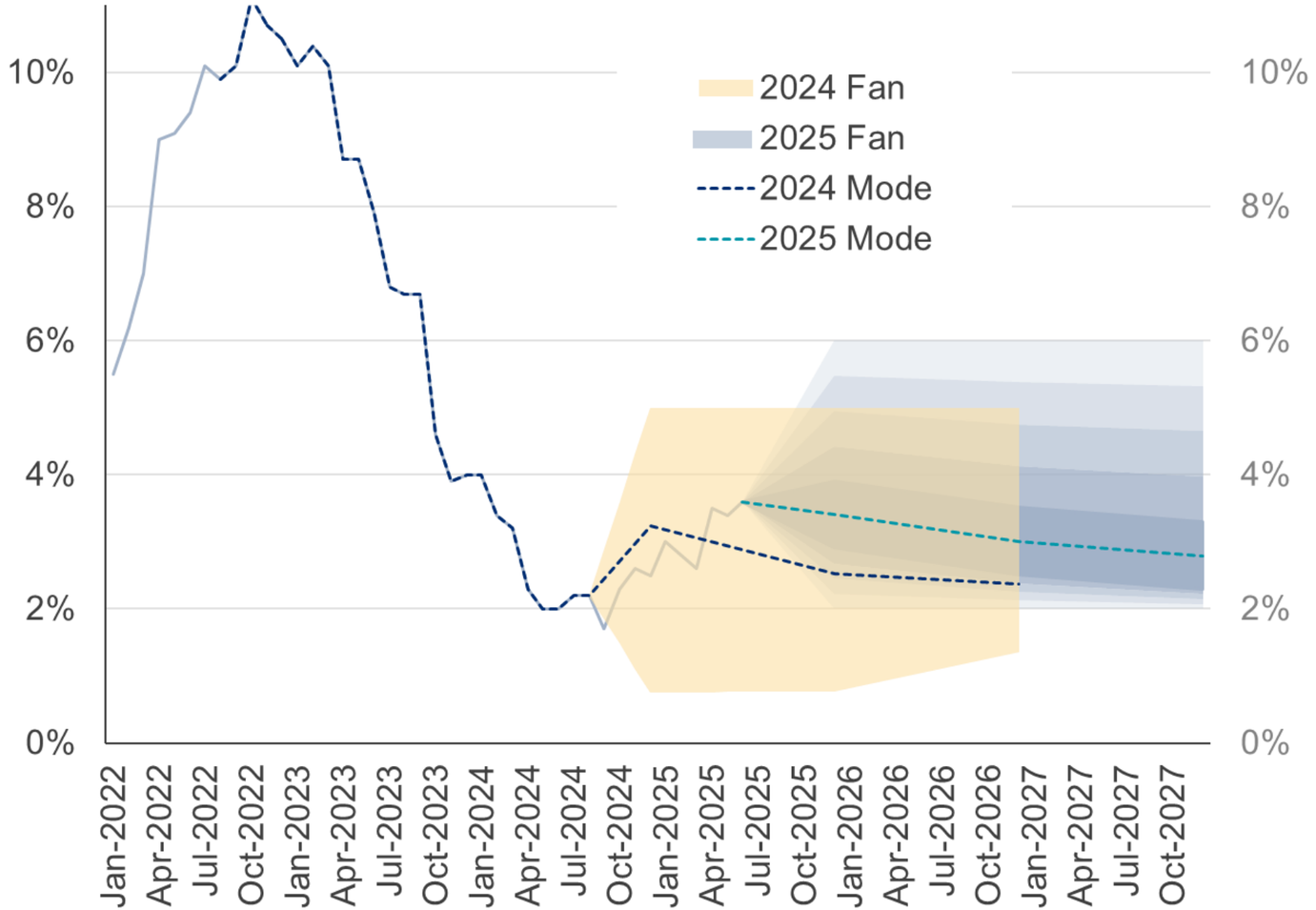
- But we'd appreciate more

* Some responses were on behalf of entire companies rather than each individual actuary.

Also, one response removed as results appeared spurious … <0% expected inflation in all cases

Outturn over last year vs 2024 & 2025 survey views

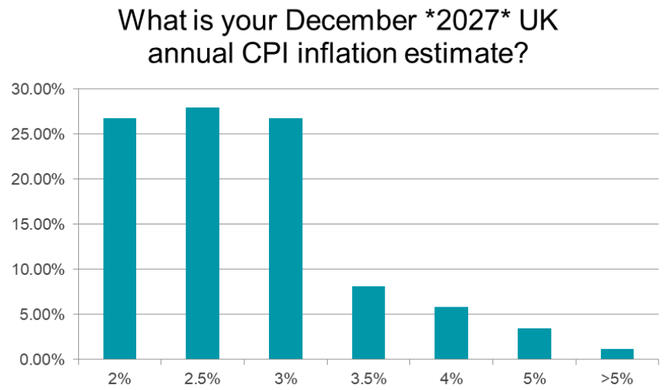
What are your UK annual CPI inflation estimates for Dec 2025-27?



Note: Fan does not represent specific percentiles. Intended to highlight range of responses for year-on-year comparison

Source: Office of National Statistics

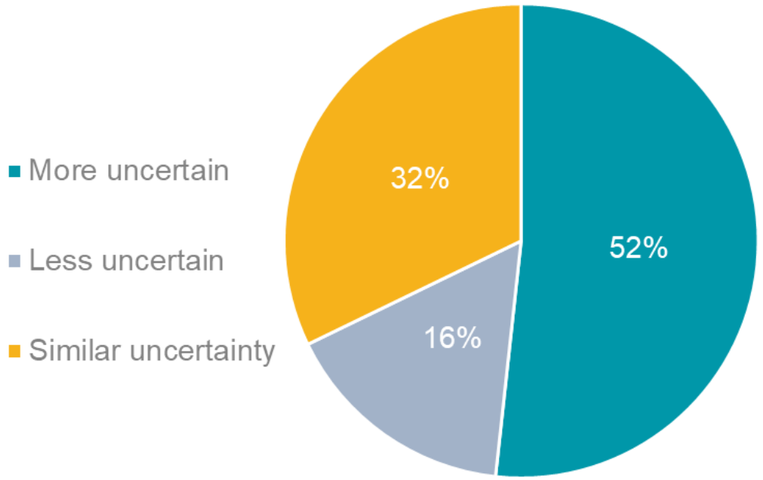
- Last year's mode quite accurate predicting uptick in inflation over remainder of 2024
- Range of views similar
  - albeit higher … in line with current CPI level
- Unclear at this stage how long inflation will continue rising
  - Or how far …
  - Competing drivers – e.g. Recession risk vs wage demands
- Bias of estimates toward higher future inflation
  - reflecting higher current level



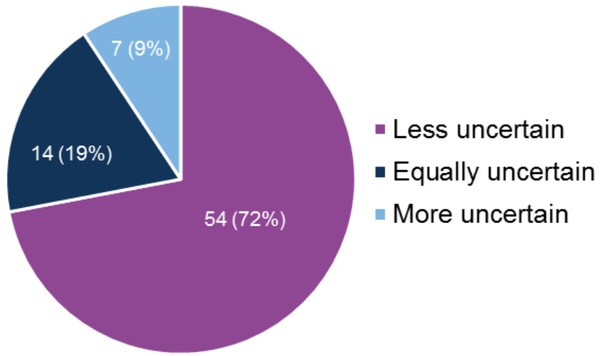
Inflation Uncertainty

How uncertain do you consider global inflation to be vs this time last year?

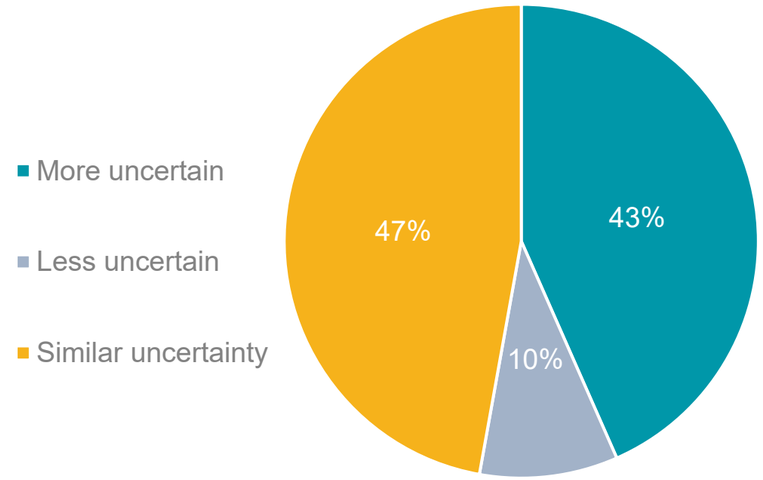
Short-term (next 2 years) vs 2024



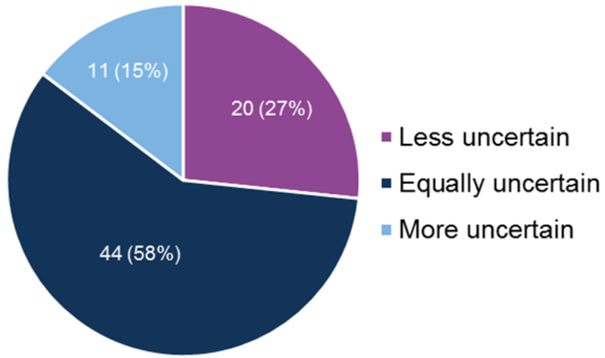
Short Term Uncertainty vs 2023



Long-term (next 10 years) vs 2024



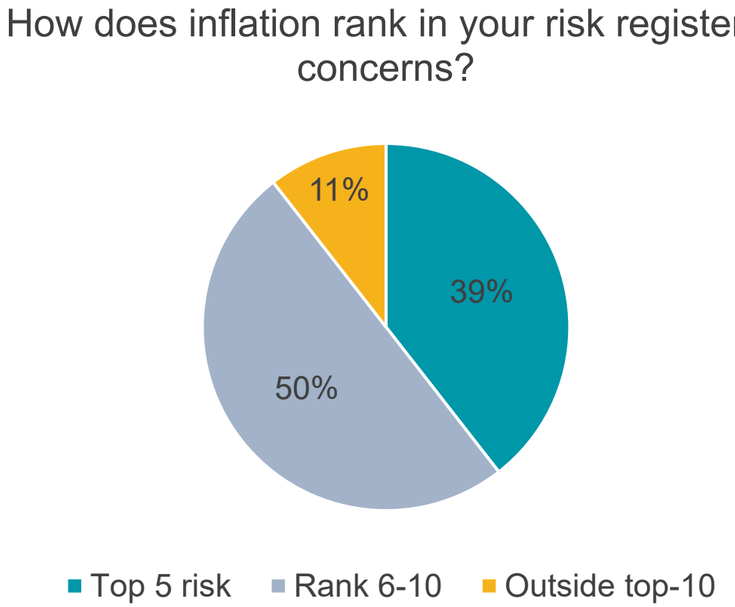
Long Term Uncertainty vs 2023

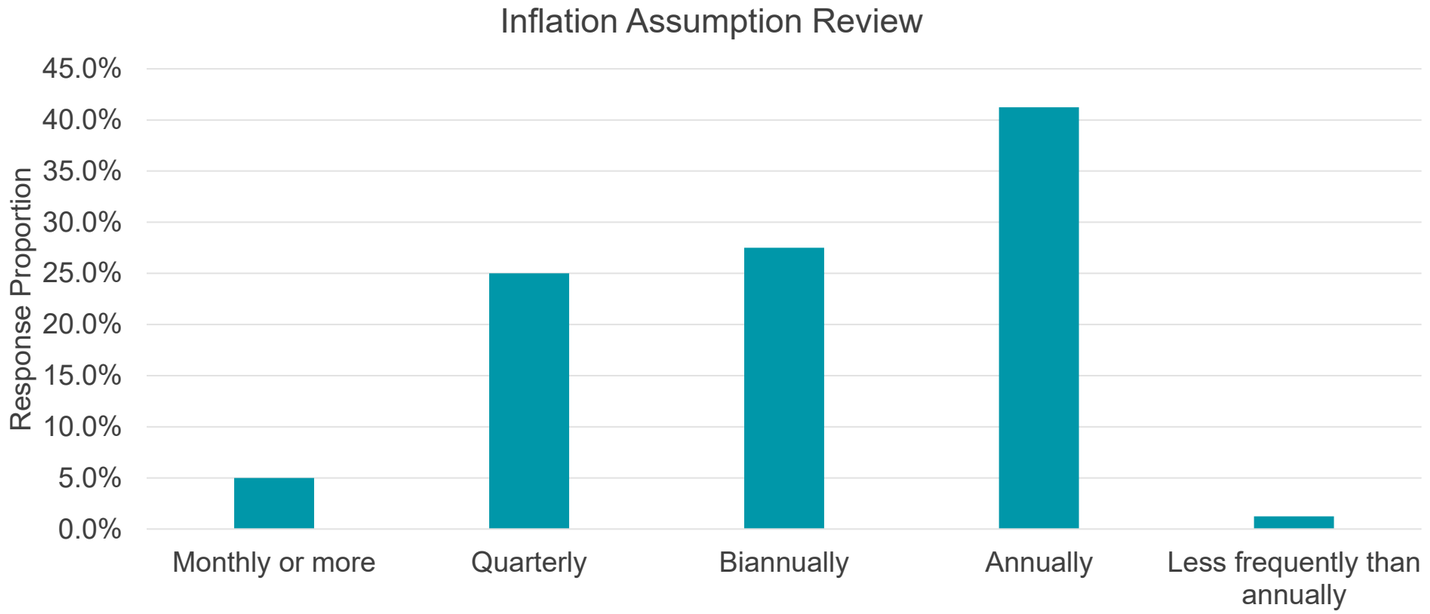


- Short-term:
  - Balance has shifted significantly to more uncertain
- Long-term
  - Balance has similarly shifted to more uncertain
- Consistent with modest recent uptick in inflation
- Does this reflect a real resumption in concern about higher future inflation?
- If so, is this concern shared by senior management?

Risk ranking and assumption review

Level of inflation concern vs. parameter review frequency

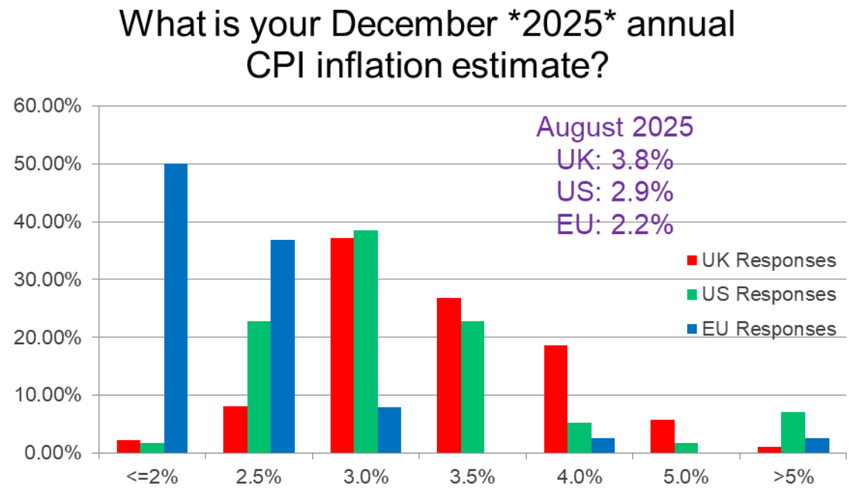


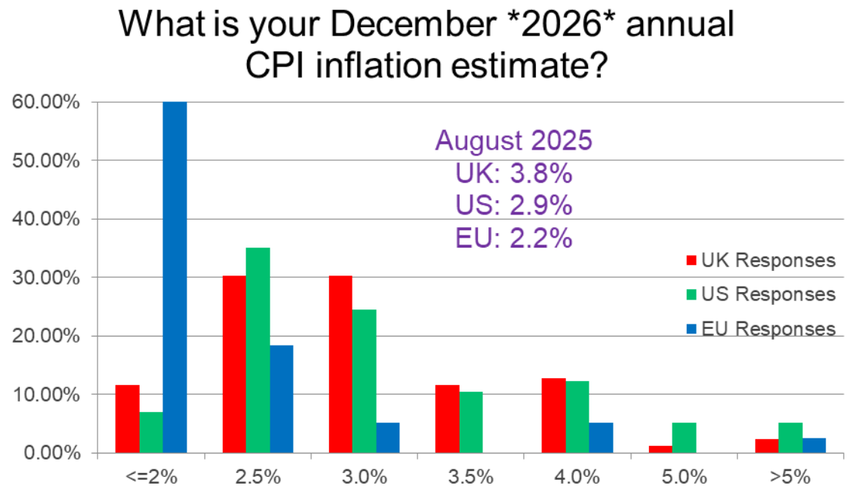


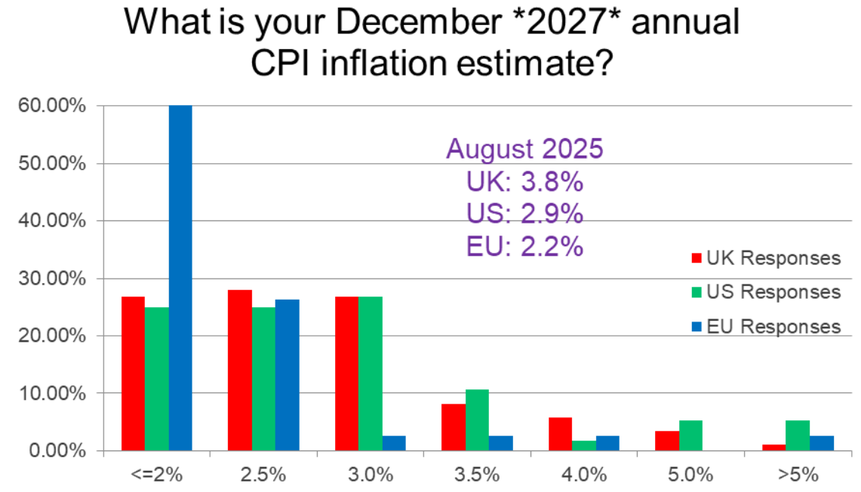
- c.90% rank inflation as top-10 concern vs c.42% review inflation assumptions annually or less often … Is this reasonable / consistent?
  - However, “review” may be interpreted in different ways
- Ranking undoubtedly lower than three years ago when inflation previously high / rising
  - But still considered high by many relative to other risks
- How should we interpret this given general view of increased uncertainty on previous slide?
  - Perhaps other risks currently heightened vs previous years? Survey bias?

Inflation Estimates vs US & EU 2025-27

What are your annual CPI inflation estimates for Dec 2025-27, for UK, US and EU?





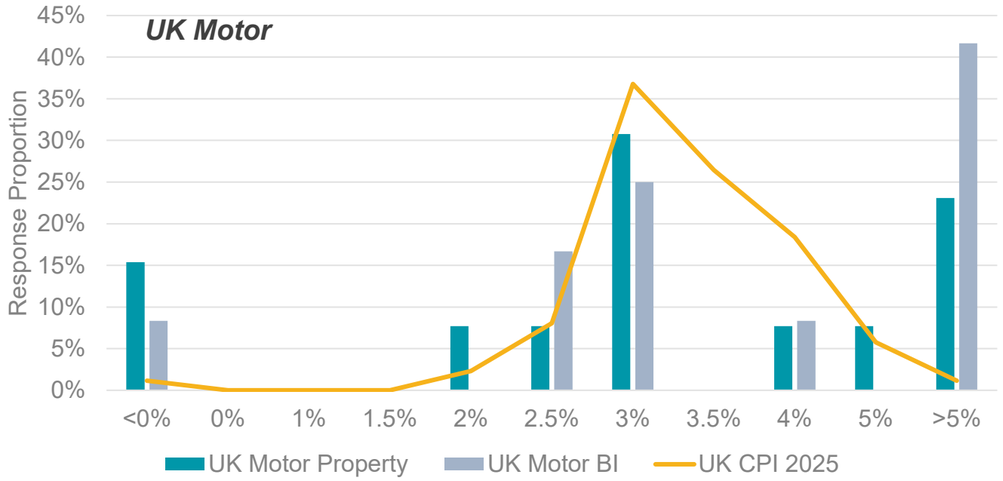


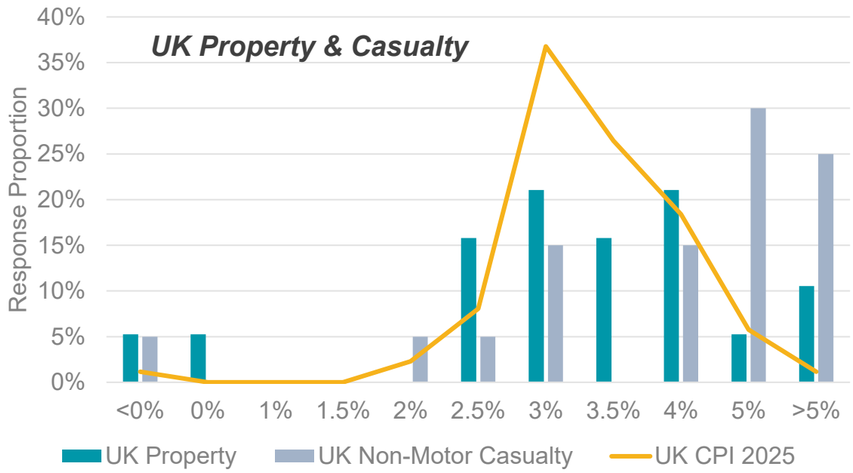
- Range of estimates for Dec 2025 distinctly different for each economic block
- As we progress to future years, estimates for UK and US converge
  - But EU remains distinctly different
- What's driving this pattern of estimates?
  - Current inflation is quite different between all three blocs
  - Do survey participants consider UK and US to experience similar inflation pressures, but different in the EU?
  - Does it reflect lack of sufficient insight (or desire) of participants to differentiate between the UK and US?
- Current and expected future inflation is consistently lower in the EU
  - Does this reflect a belief that the EU is better at controlling and managing inflation?

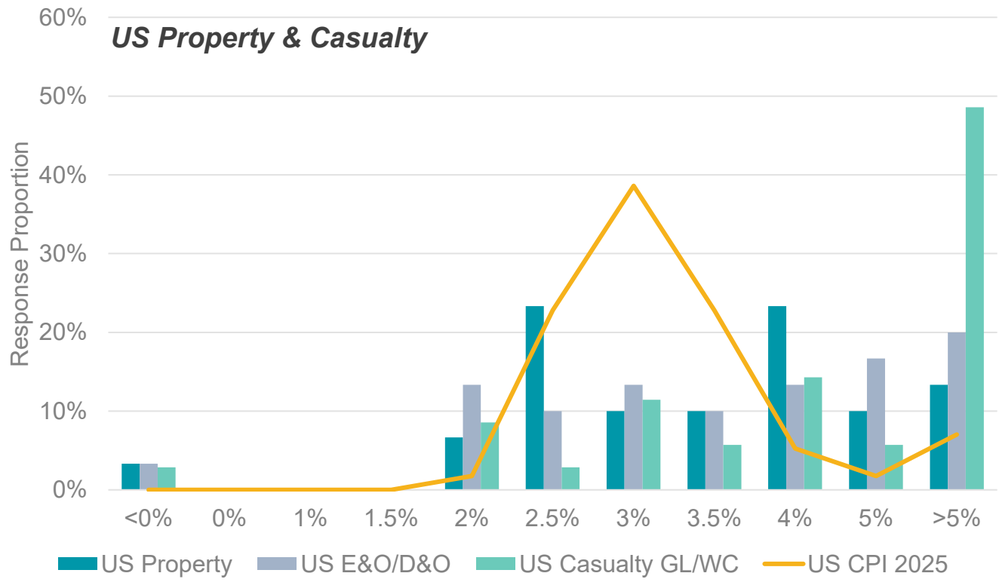
86 responses for UK (mandatory); 60 each for US & EU.
Sources: UK – Office of National Statistics; US – Bureau of Labour Statistics; EU – European Central Bank

Class specific estimates

Inflation Expectations by LoB for December 2025







Historical modal response by LoB	2022	2023	2024	2025
UK Motor Property	10-15%	6-8%	4-6%	3%
UK Motor BI	6-8%	6-8%	4-6%	>5%
UK Household / Commercial Property	8-10%	6-8%	2-4%	3%
UK Non-Motor Casualty	6-8%	6-8%	4-6%	5%
US Property	8-10%	4-6%	2-4%	2.5%
US E&O/D&O	8-10%	4-6%	4-6%	>5%
US Casualty GL/WC	6-8%	4-6%	4-6%	>5%

Key

>10%	>8%	>6%	>4%	<4%

Observations:

- Motor estimates quite volatile, though strong correlation with CPI
- UK Property inflation thought to be in excess of CPI … but lower for US Property
- Strong support for US Casualty inflation >5%
- Modal UK BI inflation estimates remained broadly flat vs 2024, vs Motor 1st Party, which continues to fall
- US property inflation seems down slightly vs 2024, though Casualty broadly flat.

Social inflation component

Social inflation component of total LoB inflation – December 2025

Modal response - social vs. total inflation	Total Inflation	Response Count	Social Inflation	Response Count	Implied Economic
UK Motor Property	3%	13	0%	11	3%
UK Motor BI	>5%	12	>3%	12	-
UK Property	3%	19	0%	14	3%
UK Non-Motor Casualty	5%	20	1%	17	4%
US Property	2.5%	30	0%	21	3%
US E&O/D&O	>5%	30	>3%	26	-
US Casualty GL/WC	>5%	35	>3%	31	-

Observations:

- Implied economic inflation is 3% for property classes and 4% for UK non-motor casualty.
- Although modal view of Property social inflation (UK & US) is zero, majority view is for >0% (approx. 0.5% - 1%)
- Clear consensus for large levels of social inflation in both US Casualty classes, with GL/WC particularly extreme

Social inflation component

Social inflation component of total LoB inflation – December 2025

www.slido.com

8852792

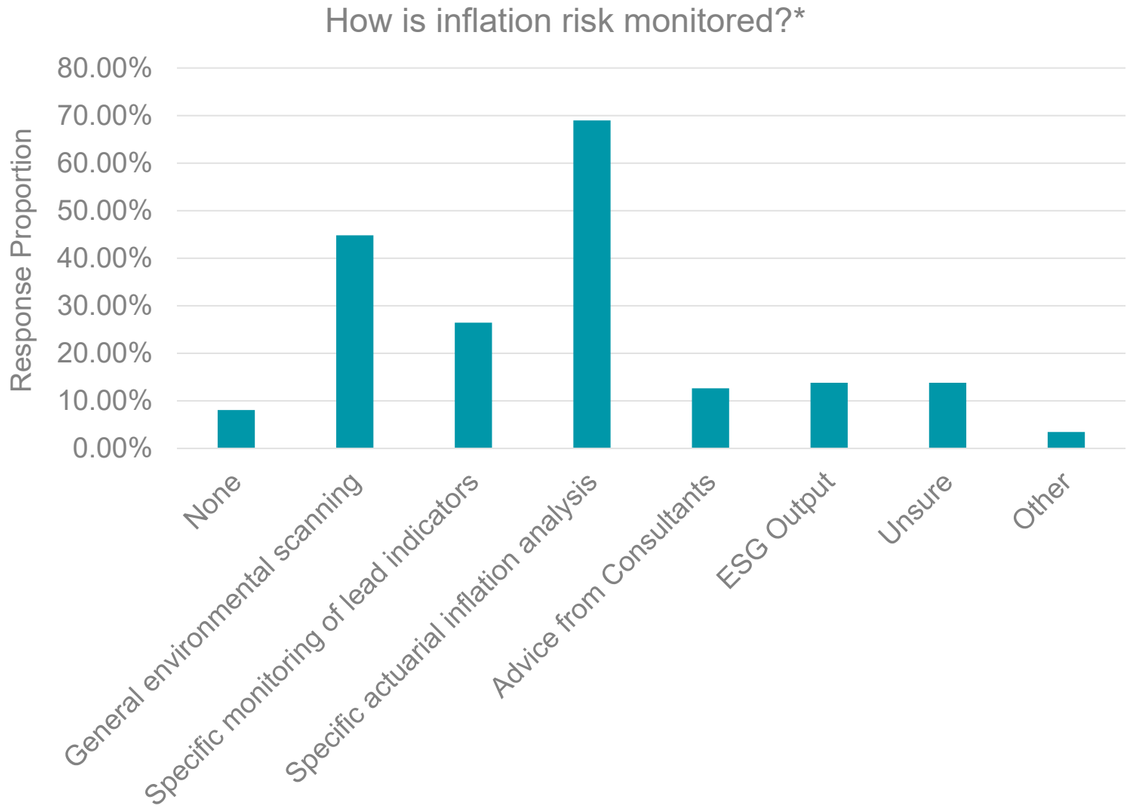
Modal response - social vs. total inflation	Total Inflation	Response Count	Social Inflation	Response Count	Implied Economic
UK Motor Property	3%	13	0%	11	3%
UK Motor BI	>5%	12	>3%	12	-
UK Property	3%	19	0%	14	3%
UK Non-Motor Casualty	5%	20	1%	17	4%
US Property	2.5%	30	0%	21	3%
US E&O/D&O	>5%	30	>3%	26	-
US Casualty GL/WC	>5%	35	>3%	31	-

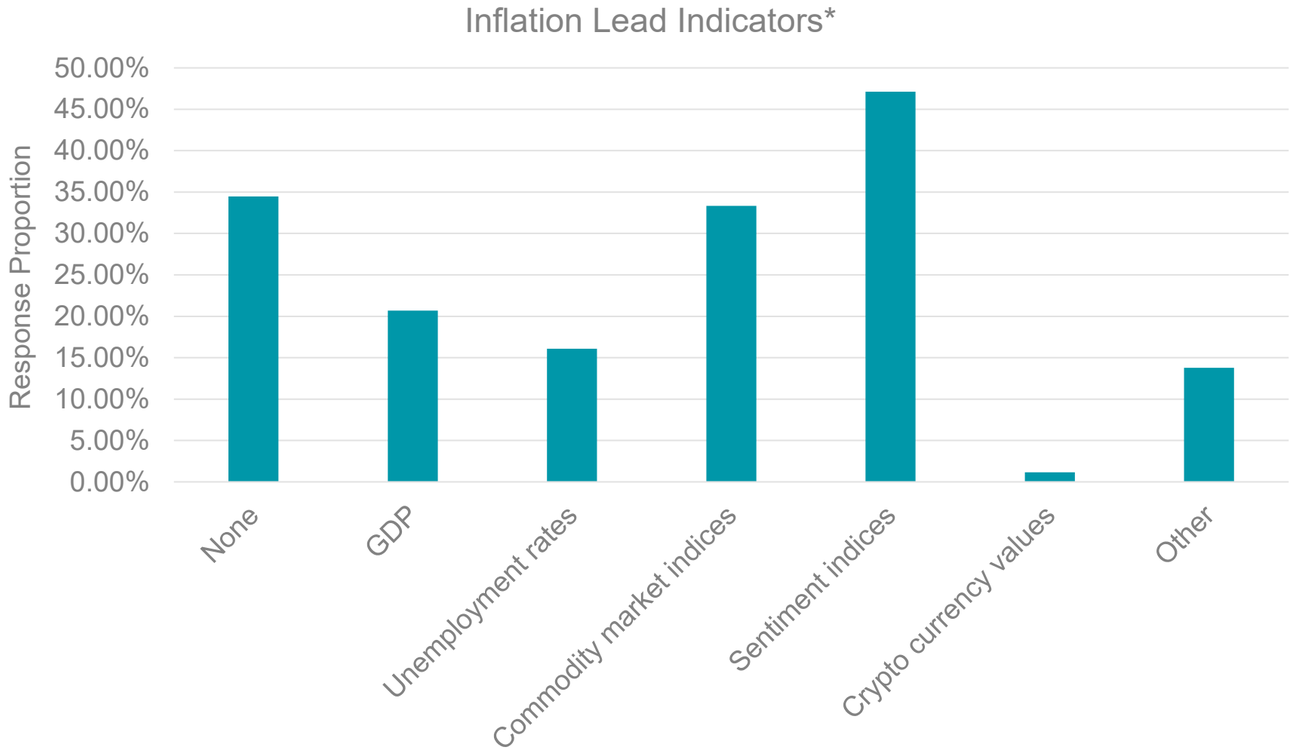
Observations:

- Implied economic inflation is 3% for property classes and 4% for UK non-motor casualty.
- Although modal view of Property social inflation (UK & US) is zero, majority view is for >0% (approx. 0.5% - 1%)
- Clear consensus for large levels of social inflation in both US Casualty classes, with GL/WC particularly extreme

Inflation monitoring and lead indicators

How is risk of inflation spike monitored? What lead indicators do you consider?



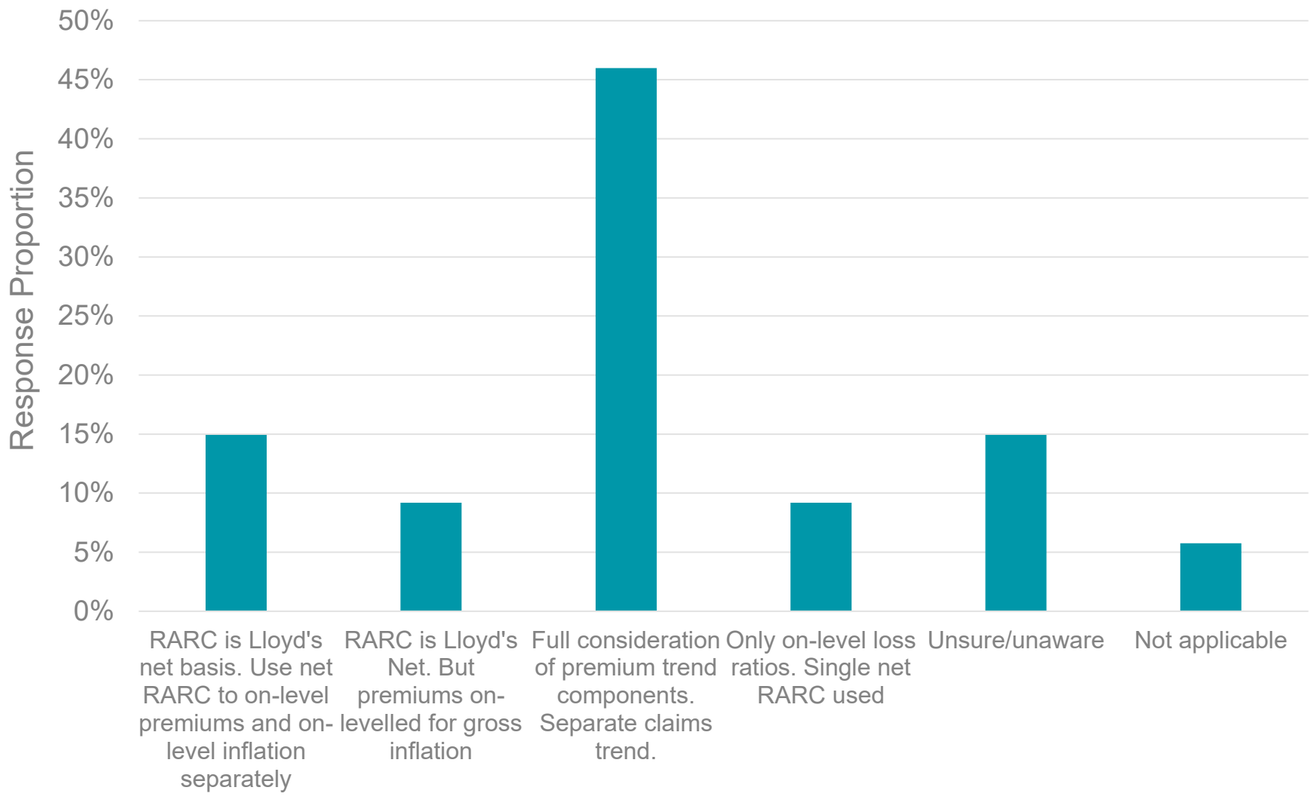


**Multiple responses permitted*

- For over two-thirds of respondents, inflation is the purview of actuarial teams within an organisation, with general view on economic environment coming second
- Sentiment indices are a surprisingly popular lead indicator of inflation, with commodity indices also favoured
- Circa a third of respondents do not consider specific lead indicators for claim inflation spikes

Approaches to trending

How do you incorporate allowance for claims inflation, rate change and exposure trends when performing on-levelling?



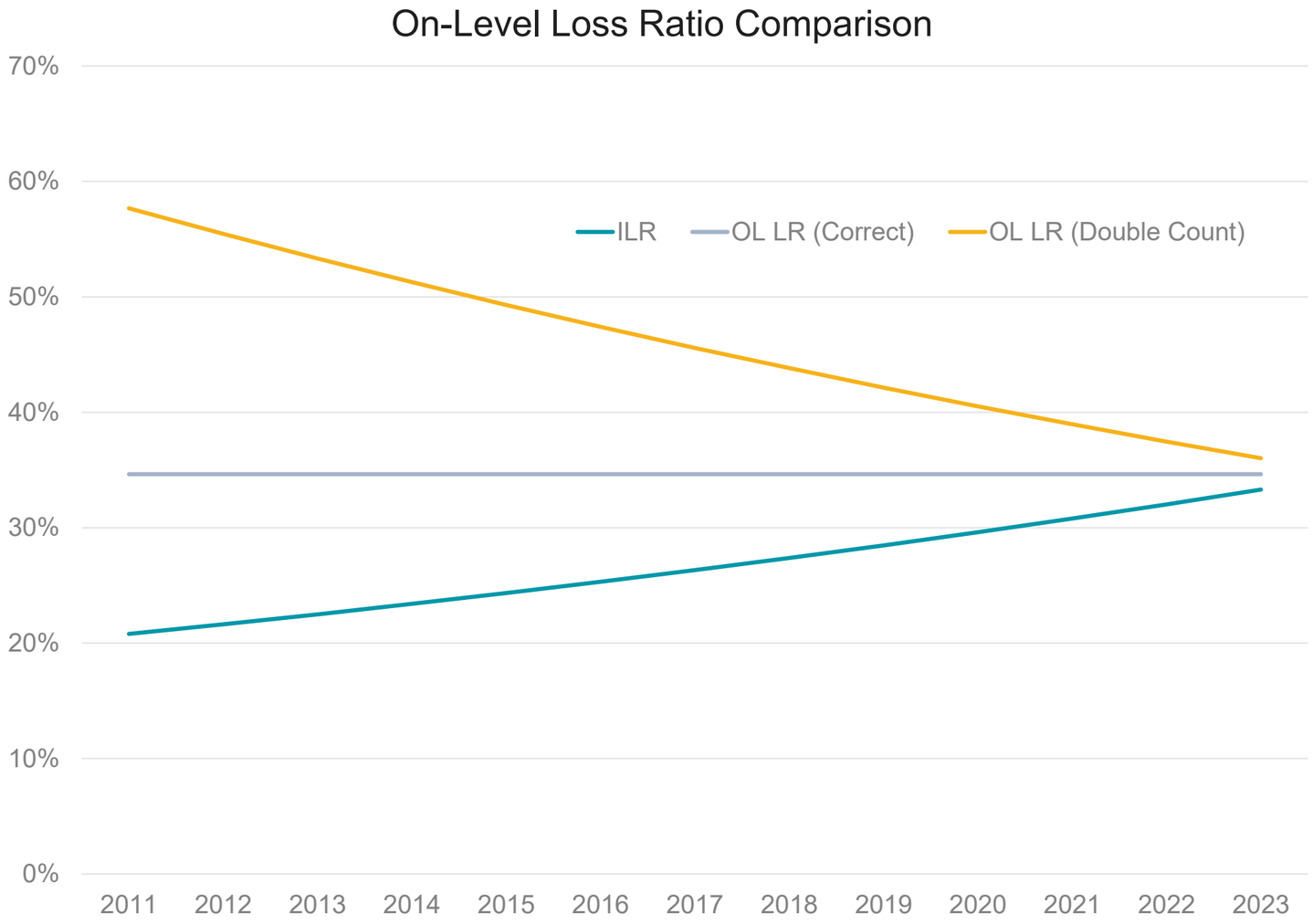
- Reassuring response rate for “correct” approaches, though 15% applying incorrectly (first response)!

Why does it matter? (Overleaf)

- Consider very simplified example: PI insurance for solicitors, rated on # solicitors per insured firm
- Exposure flat over all years, as is rate per solicitor
- Hence gross rate change = 0%
- Claims increase in-line with assumed 4% p.a. inflation, for (net) RARC of -3.85%, ceteris paribus
- Goal is to estimate loss ratio for coming year (2024)
- Analyst who applies net RARC in addition to claims inflation will explicitly double-count

Simple on-levelling example

Effect of conflating gross and net rate change



Observations

- Incurred/ultimate loss ratio (LR) trending upward year-on-year, as claims increase with no corresponding increase in premium
- "Correct" approach to on-levelling results in flat historical LR and obvious pick for 2024 LR estimate
- However, conflating gross and net LR actually shows confusing, declining LR trend in on-levelled result
  - i.e. if we on-level premiums with net rate change and on-level claims with inflation, we're essentially double-counting inflation … which gives false impression of LRs trending downwards

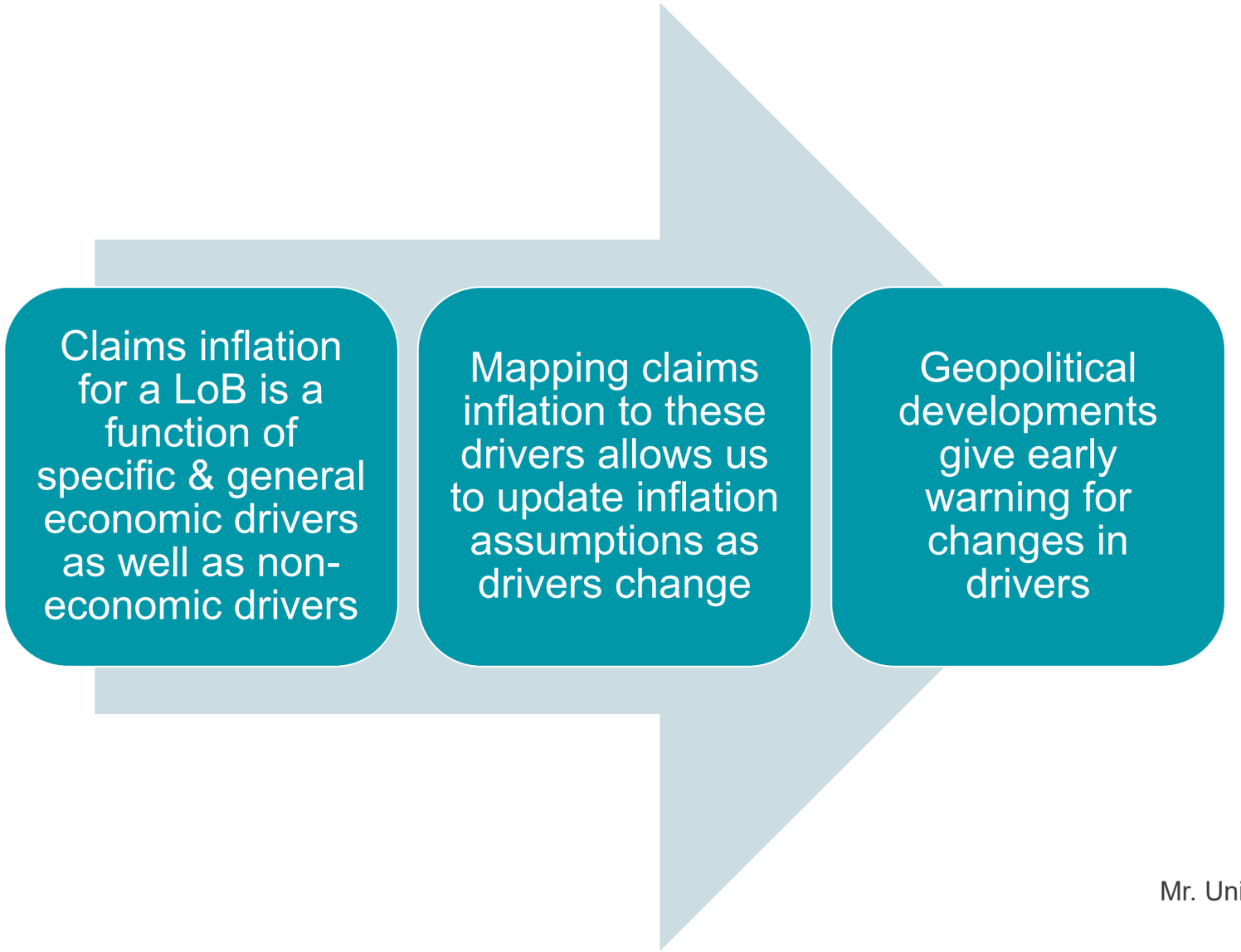
Takeaway

- When making use of a rate change figure, crucial to understand how derived
  - Gross or net? If net, what inflation rate assumed?
  - What else feeds into RC, etc?

Geopolitical Considerations for Inflation

Laying the foundations

Claim costs a function of general economic environment



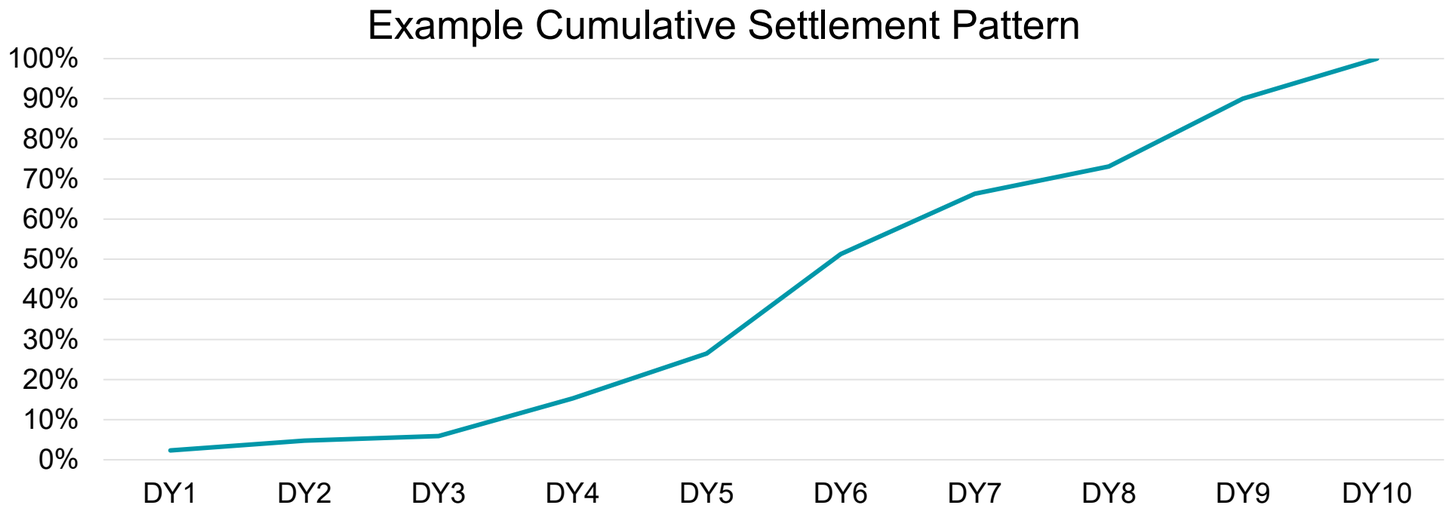
Comments

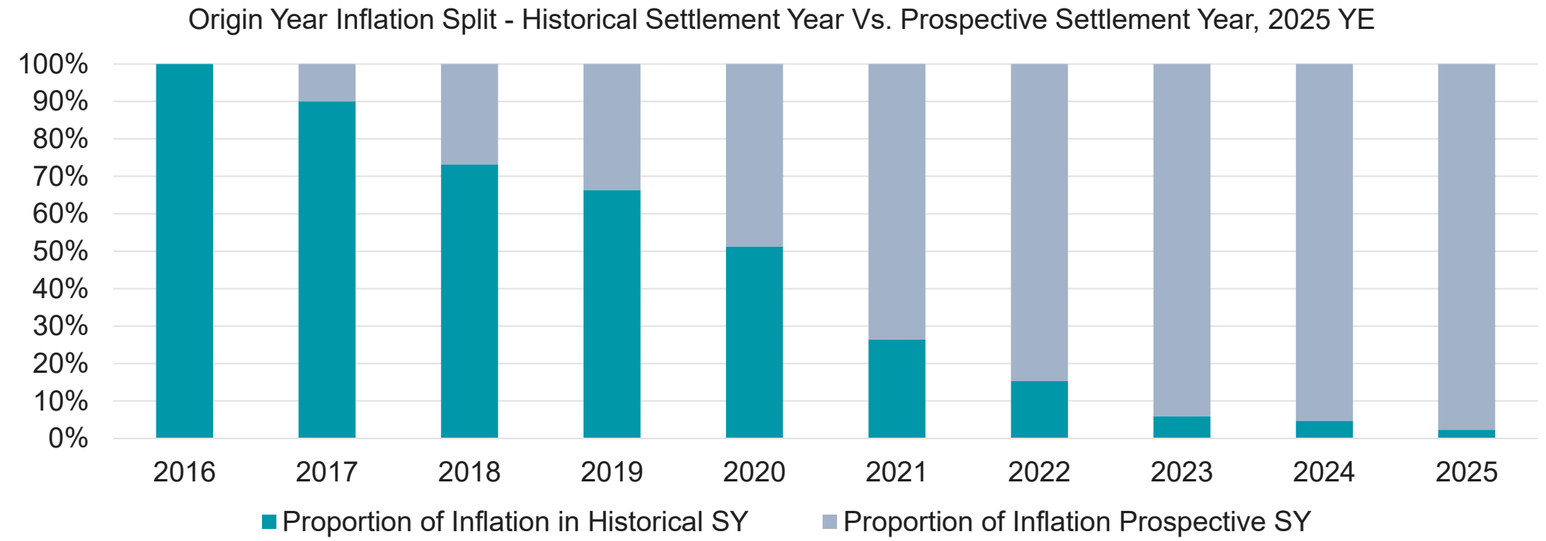
- For some LoB, influences of claim costs can easily be traced to an independent index – e.g. Motor AD and used car prices
- For others, trickier and influences may be non-economic
- As these underlying influences change, inflation assumptions should change to match
- Changes in the wider world may be a precursor to a change in an underlying influence: e.g. car import tariff => increase in used car prices => increase in Motor AD inflation
- Given indices often published at a lag, there is a need to proactively forecast

But should apply caution, as estimated impact of environmental changes may not bear out in data

A reminder on temporal blending

The insidiously long tendrils of inflation





Trite but true

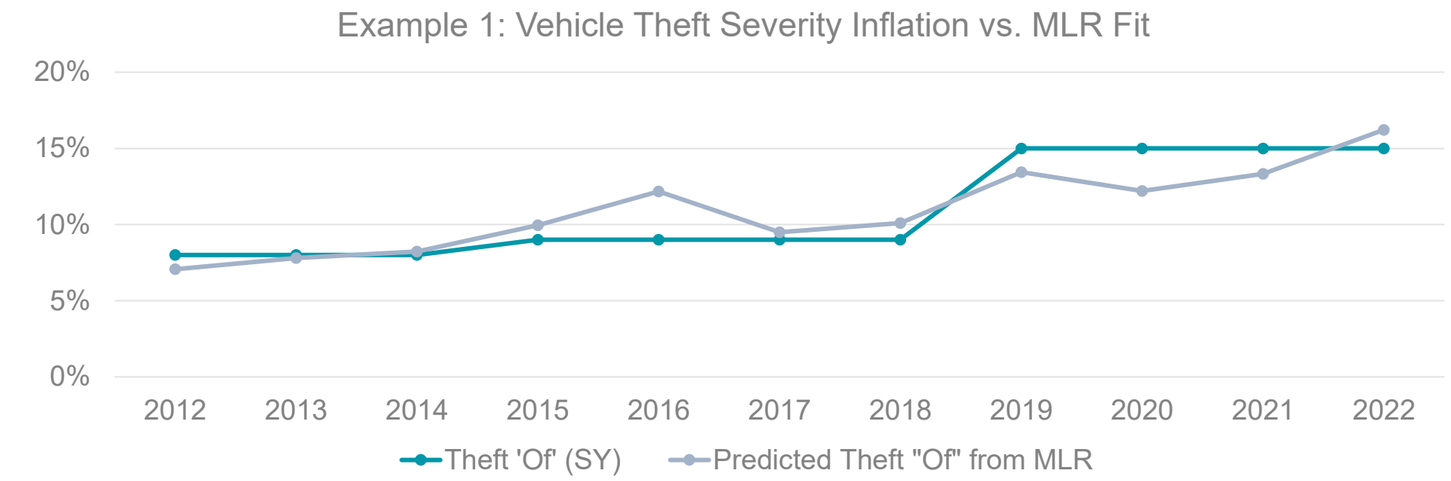
- Inflation for a given origin year (UWY or AY) is a blend of inflation across calendar years of settlement
- Depending on speed of settlement / finalisation*, inflation in a given UWY may take several years to “lock down”
  - E.g. Cargo inflation for 2024 UWY still “cares” somewhat about 2025 tariffs; US GL 2020 inflation may care a lot!

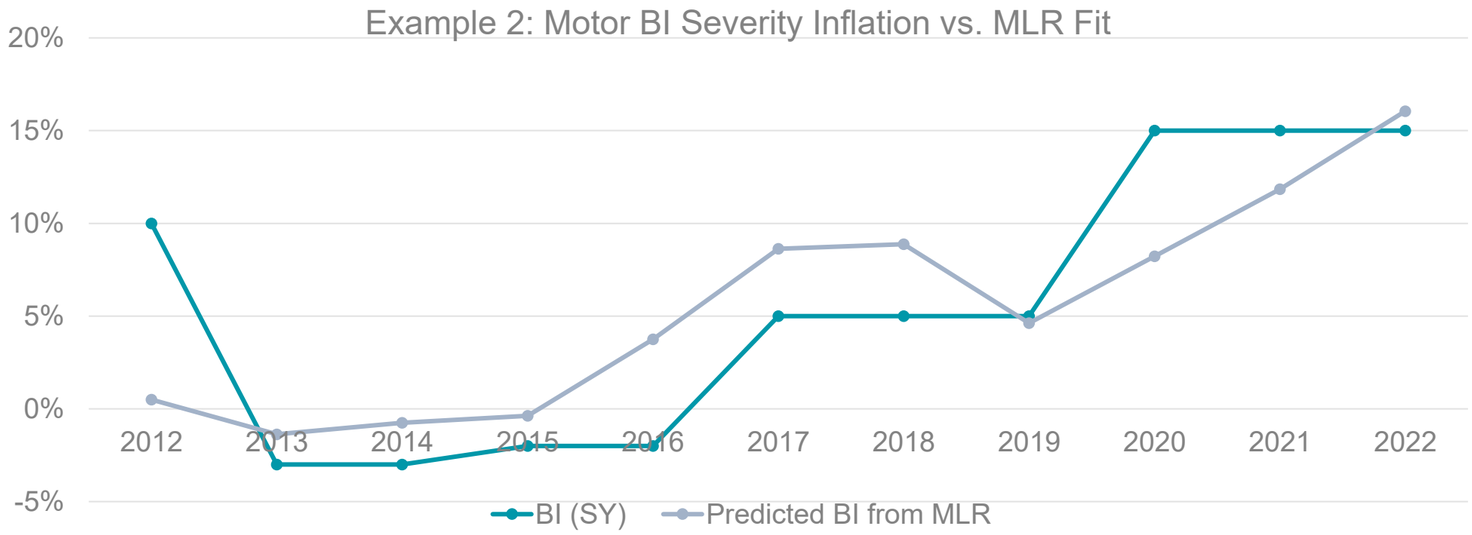
2024 GIRO talk – updating BF priors to reflect this is crucial for accurate reserving!

**Can approximate with a payment pattern but a claim is often locked down long before its fully paid, so payment pattern proxy possibly penal. True in London Market and especially true in RI.*

Side point: Modelling the drivers

Not a straightforward proposition





Comments

- Convoluted process: first need to estimate inflation in actual claims data and map from origin to calendar year
- ***Then*** need to select economic indices as drivers and fit model (via multi-linear regression or similar)
  - Examples on left show two fits from data (kindly provided) by ABI
- Vehicle theft a solid fit explained by earnings, metal production and tobacco (!)… but could likely just use used car prices
- Bodily injury a much coarser fit on more variables: recreation, earnings, petrochemicals and textiles. Not enough variables explored/fit? Or non-economic/non-measured (measurable even) effects at play

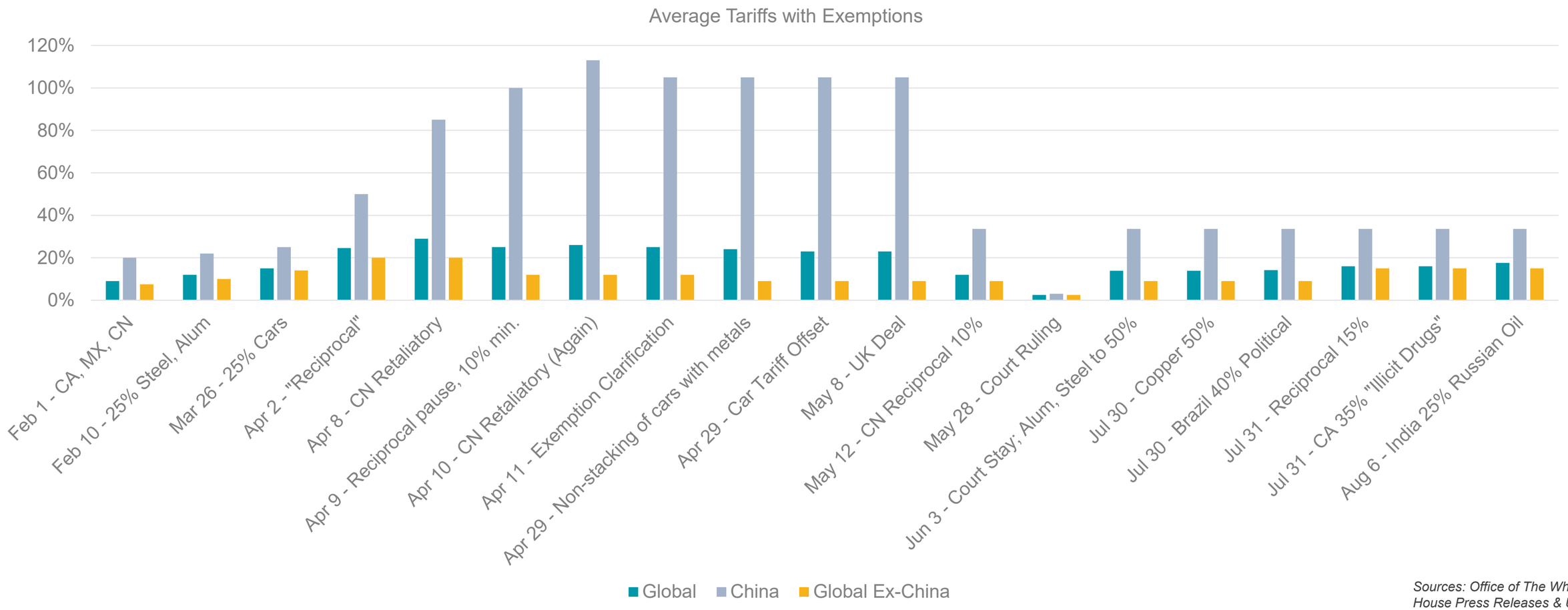
Not a "complete" analysis (intended as illustrative), but highlights uses and challenges. Can hone in on what drivers will most impact loss costs.

Real-world context

Case study: Recent US tariffs

Step 1 – Pronouncement deluge

Running just to stand still



Sources: Office of The White House Press Releases & US Census Bureau

Steel, alum & copper specific; Auto specific; Stack & offset clarification; "Reciprocal" (with Exemptions) based on trade surplus; UK trade deal; China fentanyl; Brazil Bolsonaro; India-Russian oil; and who the devil knows what next? Apparently NK were threatened with tariffs for lack of a Nobel Peace Prize nomination!

Step 2 – Tariffs by broad sector and in aggregate

Similar method to calculate weighted average tariff by country

Check sector specific

- E.g. 25% on cars less part offsets; metal specifics

Trickier, as goods containing steel, aluminium now (19.08) subject to tariff based on composition proportion!

Check country specifics

- "Reciprocal" on all goods, but varying by country; 30% China; CA and MX specifics*; Brazil political; India for Russian oil; exemptions for goods US can't produce if trade deal in place; etc.

May be unlawful and pending Supreme Court appeal in November

Exemptions for goods which can't be made in US (bananas) if also country-specific trade deal

Calculate import weighted blend by country and aggregate to sector

- Tariff rate for each country higher of sector/country specific. Blend by 2024 import proportion by country.

Aggregate over all sectors (commodity codes) to determine overall tariff impact on goods

**Varies by USMCA compliance and by commodity*

Steps 3 and 4 – Goods and Labour Inflation

How to determine revised economic inflation from aggregated tariffs

*Inflationary Effect = Tariff Change * Gross Import Ratio * Onshoring Factor * "Passthru" Factor*

*Price-wage spiral likely to ensue. Labour inflation dependent on view of goods' inflation. E.g. 3.5% goods' inflation ~ 2.2% labour**

Approximate 65/35 weighting to goods and labour.

Source: US Bureau of Economic Analysis

Key Assumptions

- Onshoring is difficult to gauge and will take time to enact. Levels will be close to zero initially
- "Passthru" refers to proportion of tariff borne by supplier/by purchaser
- Extreme case is supplier maintains constant profit margin – 100% tariff passed through to purchaser
- Constant $ profit less severe
- Pass through highest for sectors with lowest margins – e.g. retail

Tariff impact on inflation will vary by sector/LoB

*See appendix for greater depth

Step 5 – Insurance loss costs effect

Example: US Auto Physical Damage

Example - APD Loss Cost Impact	
No Reshoring, Const. Profit Margin	7.3%
No Reshoring, Const. $ Margin	5.4%
Partial Reshoring, Const. Profit Margin	4.6%
Partial Reshoring, Const. $ Profit	3.4%

Global Assumptions	
Total Labour Impact	2.2%
Total Goods Impact	9.2%
Proportion Labour	55.0%
Proportion Goods	45.0%

How to use these figures

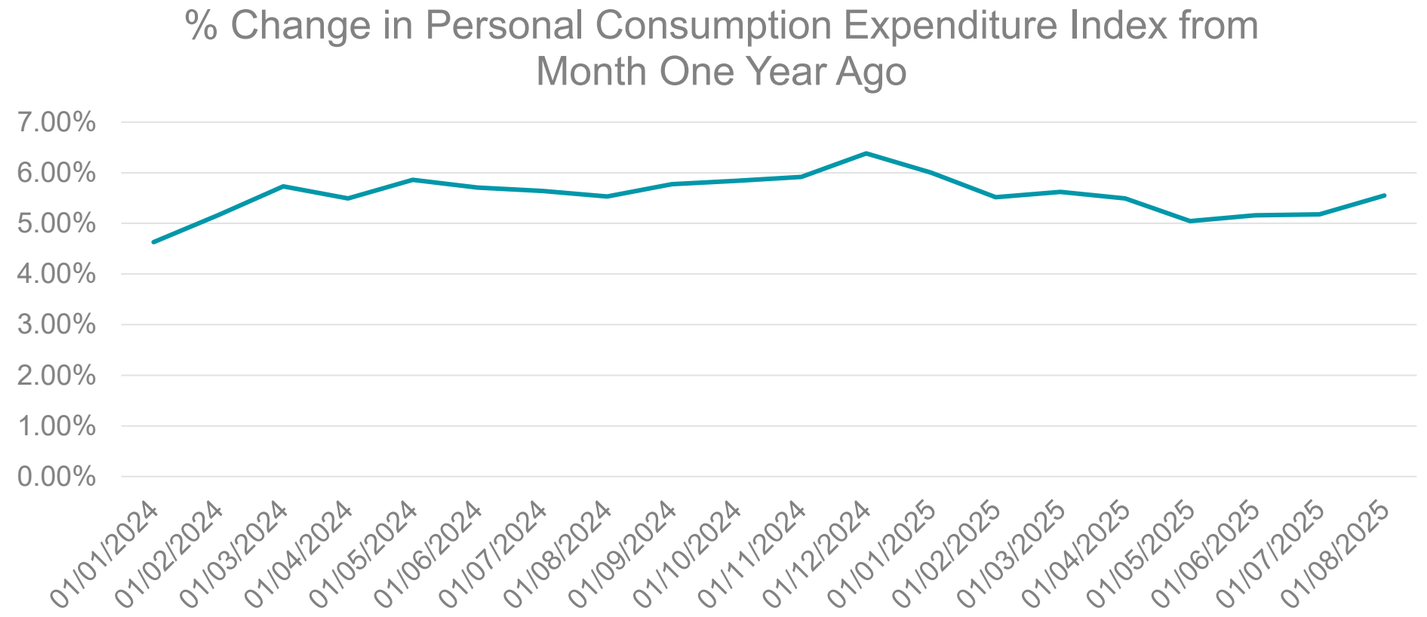
- Start with pre-tariff view of inflation & trend to coverage period
- Scale trended figures by (1+Tariff Effect %), left
- In essence, additive load to 2025 inflation

Notes

- Pass-through levels may change over time and wage impact (though geared to Y1) will take time to fully emerge
- As such, loss cost impact may be spread over multiple calendar years
- Necessary to apply similar, distinct approaches at broad-LoB level – e.g. Property, Auto Liab, GL & E&O/FI/D&O… though APD most heavily impacted through explicit auto tariffs
- Considerable range of impact, depending on levels of “passthru” and any reshoring

Cautionary notes

Framework for *early estimation* of inflationary impacts



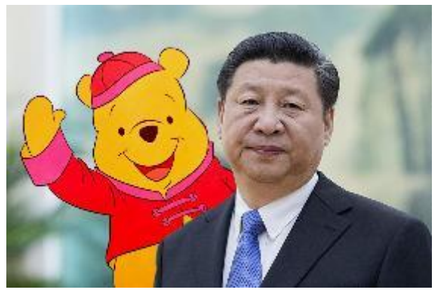
Source: Bureau of Labour Statistics

Firstly

- US inflation only now showing modest uptick (as-at 30.08.25), with CPI showing similar picture
- Pass-thru to be fairly light? Or are we Cassandra and things just haven't "kicked in" yet?
- Either way, *historical* inflation parameters ought to ultimately reflect data, not estimates

Secondly

- Certain jurisdictions retaliated with import/export bans
- These are (mathematically) equivalent to infinite tariffs …
- But do not have infinite impact on loss costs! Through substitution or deals being reached



April 2025: China threatens rare earth metal export ban

Some Canadian provinces ban sale of inferior liquor in state off-licenses

To conclude

Awareness, transparency, communication and refinement

Understanding	• LoB drivers of loss cost and impact tail (development)
Forecast framework	• Transparent estimation of future inflation
Consensus	• Any forecast needs stakeholder buy-in
Update with data	• Forecasts are a placeholder for what happens, not an anchor

In a nutshell: we need to have a view as to what drives claim costs; appreciate multi-year impacts; build sensible approaches to account for real-world shifts; and not be wedded to our guesses!

Closing Q&A

To Infinity and Beyond!

2025 GIRO Theme

Now

- Inflation remaining “sticky” in UK & elsewhere
- Survey shows heightened concern around inflation & inflation uncertainty vs. 2024

Next

- WP to draft mini paper on on-levelling best practices / examples
- Open to suggestions for 2026 focus!

Beyond

- Recent geopolitical developments have potential to create tremendous inflation volatility
- A cynical eye suggests there is every chance this will not only continue but may worsen

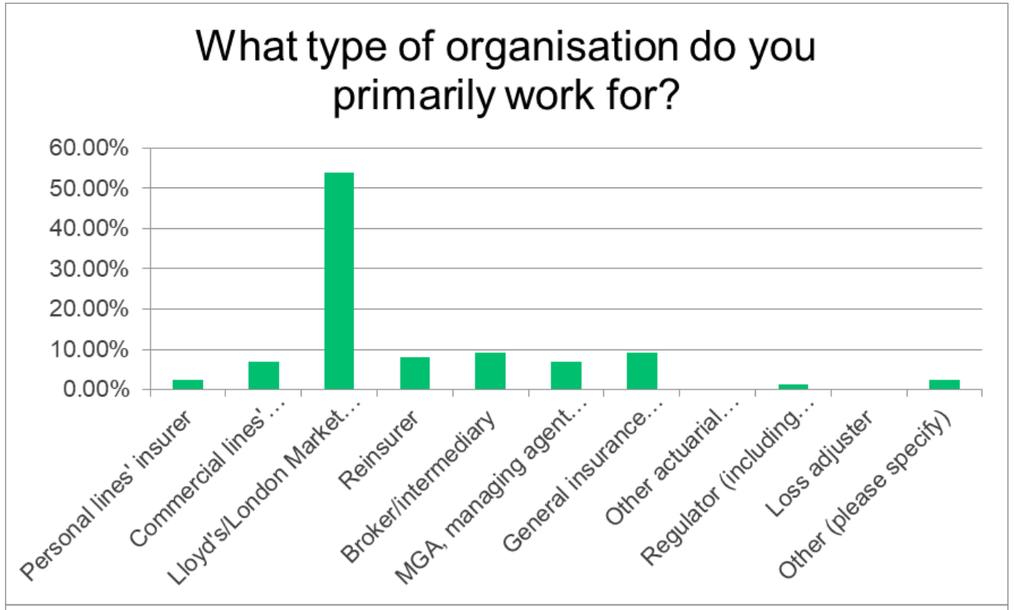
Acknowledgements

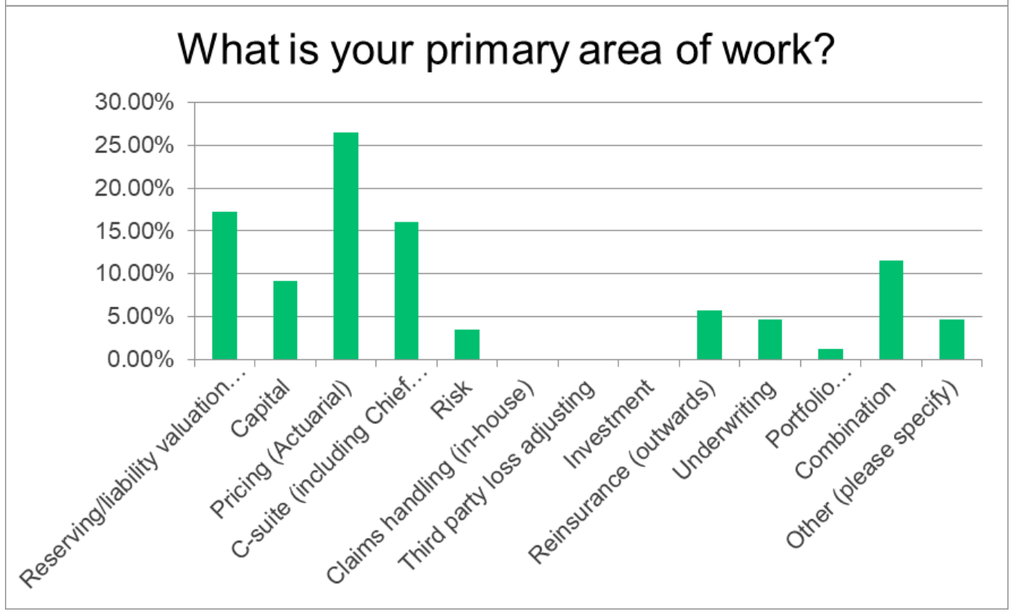
In addition, we would like to thank:

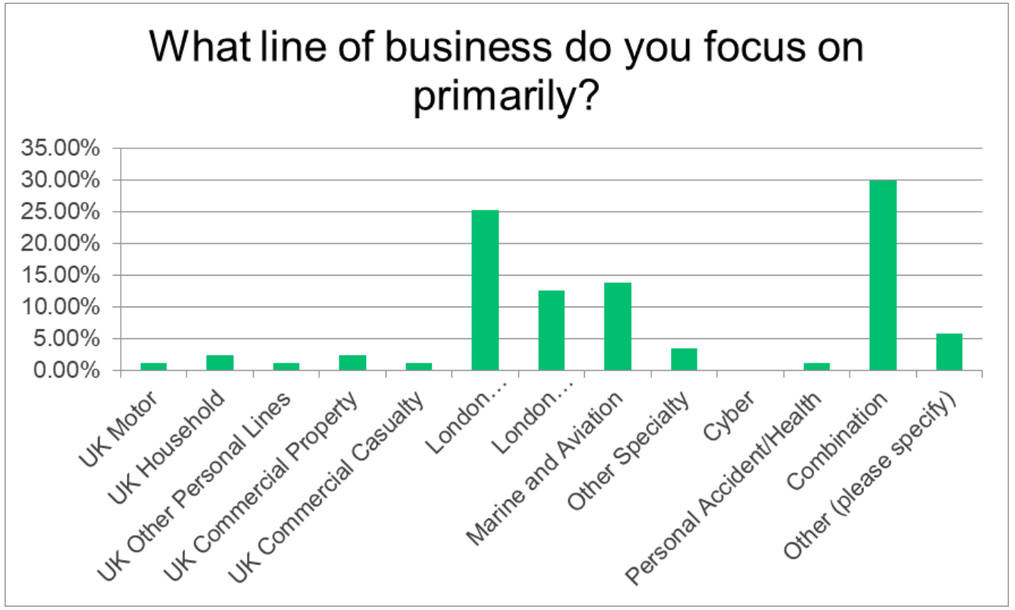
- Association of British Insurers (ABI) for provision of UK Motor claim statistics
- Mairi Russell, Waleed Soliman, Anandi Shah and wider research and GILL teams at IFoA
- Tom Roth, John Aquino & Phillip Kall of Aon US for tariff analysis

Appendix – Additional Survey Results

Participation Detail



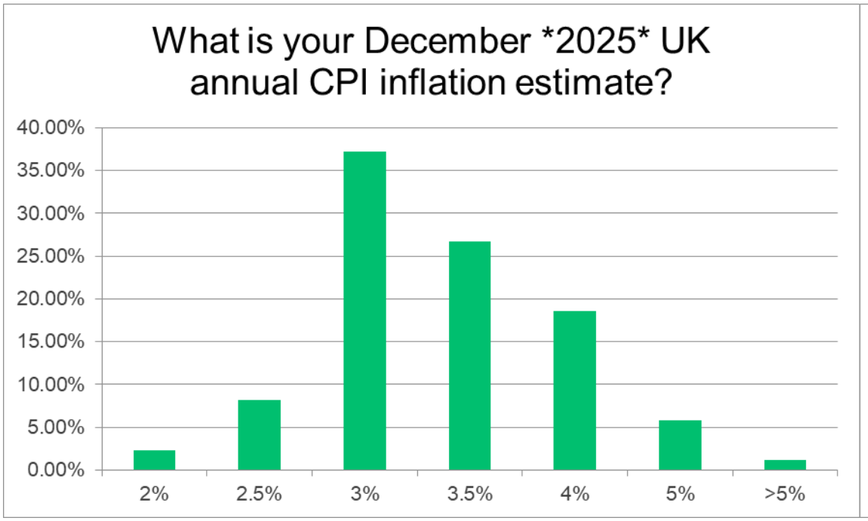


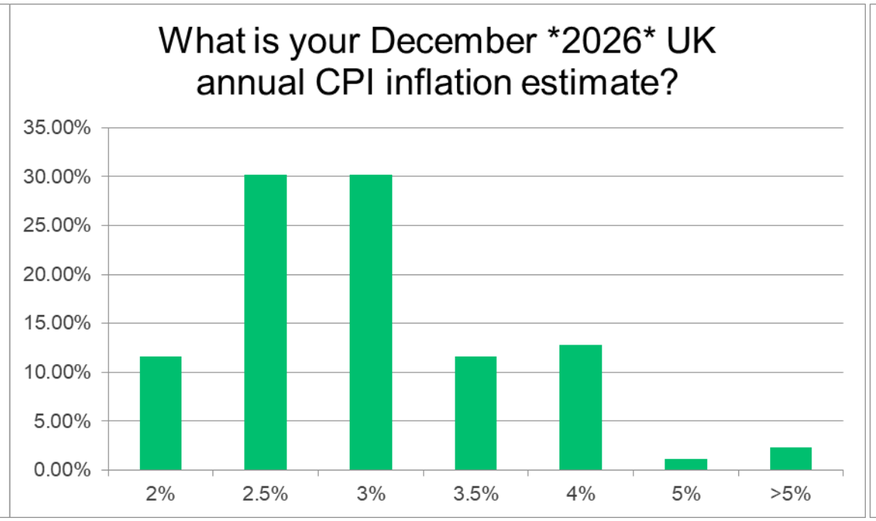


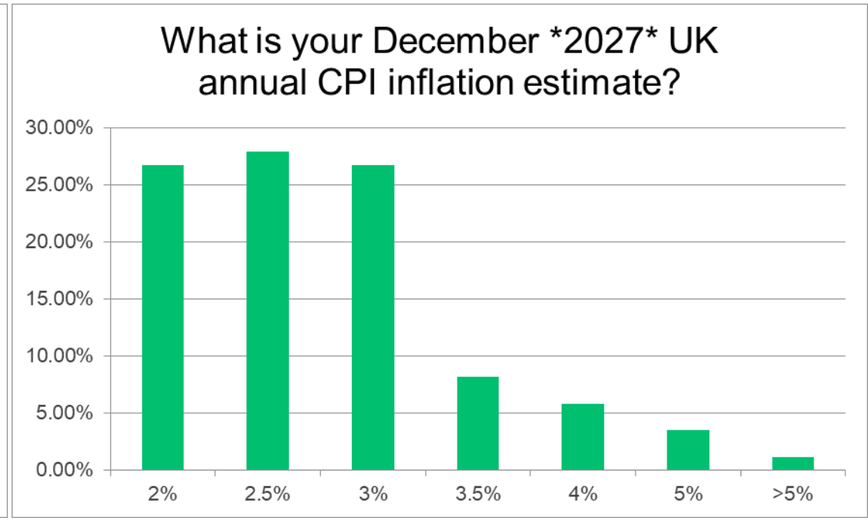
If you work across multiple lines, please select the line of business on which you spend most time. Those working in reinsurance should select the line they feel is most relevant.

Please select the answer that reflects where you spend the majority of your time, or select 'Combination'

Estimates of future CPI: detail



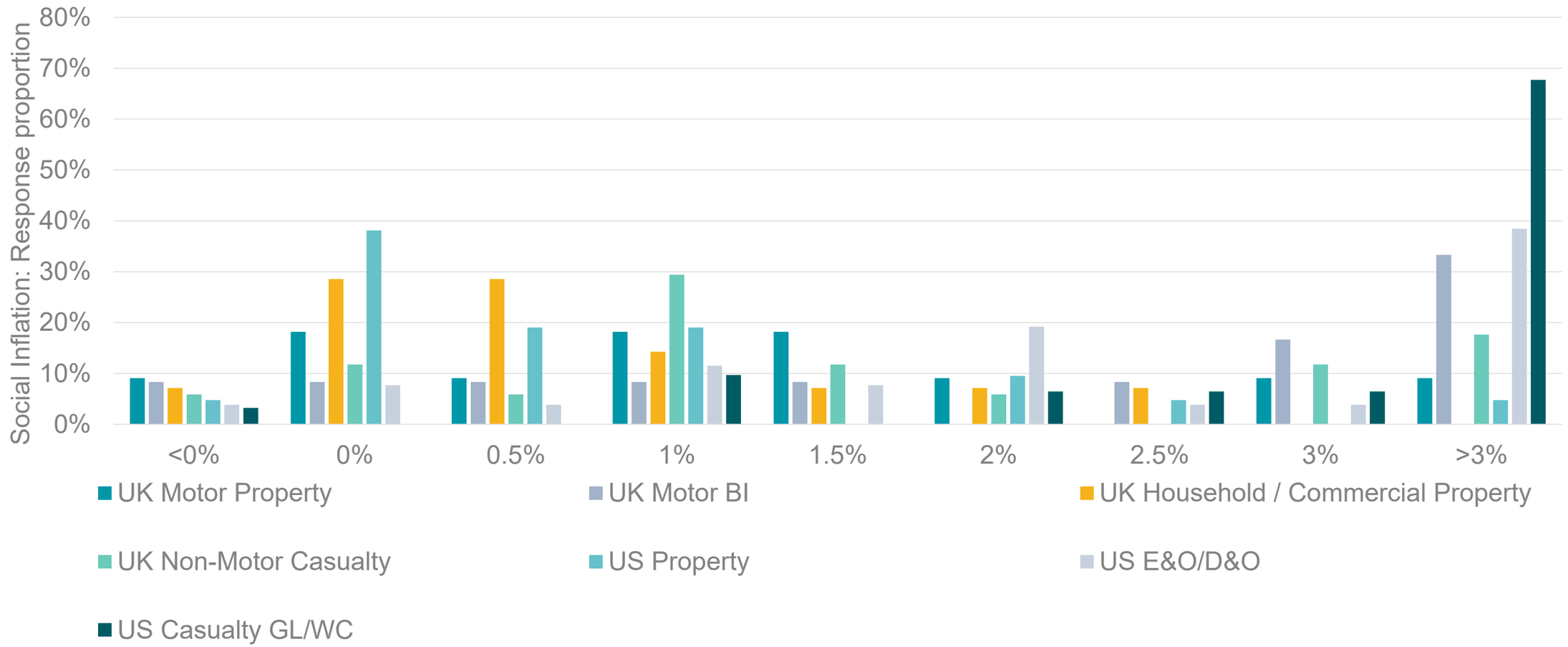




- Clear shift in expectations through time towards BoE target of lower CPI inflation going forward

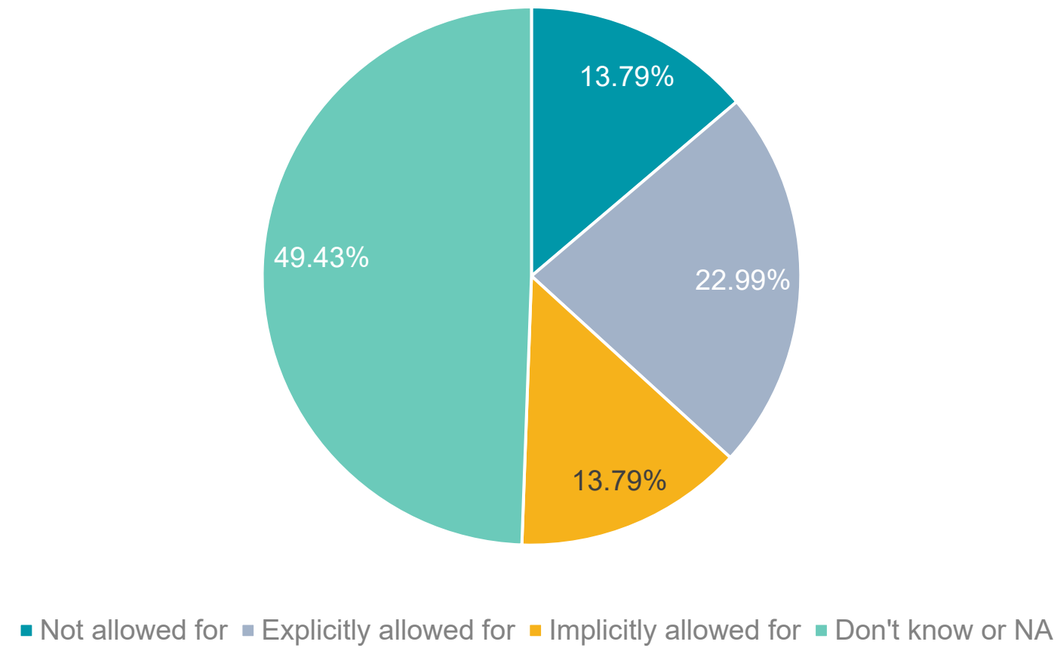
Social Inflation Component of Economic Inflation

Full Responses



Approaches to gearing

When calculating rate change for excess or reinsurance layers, how do you allow for the gearing effect of inflation on the threshold?



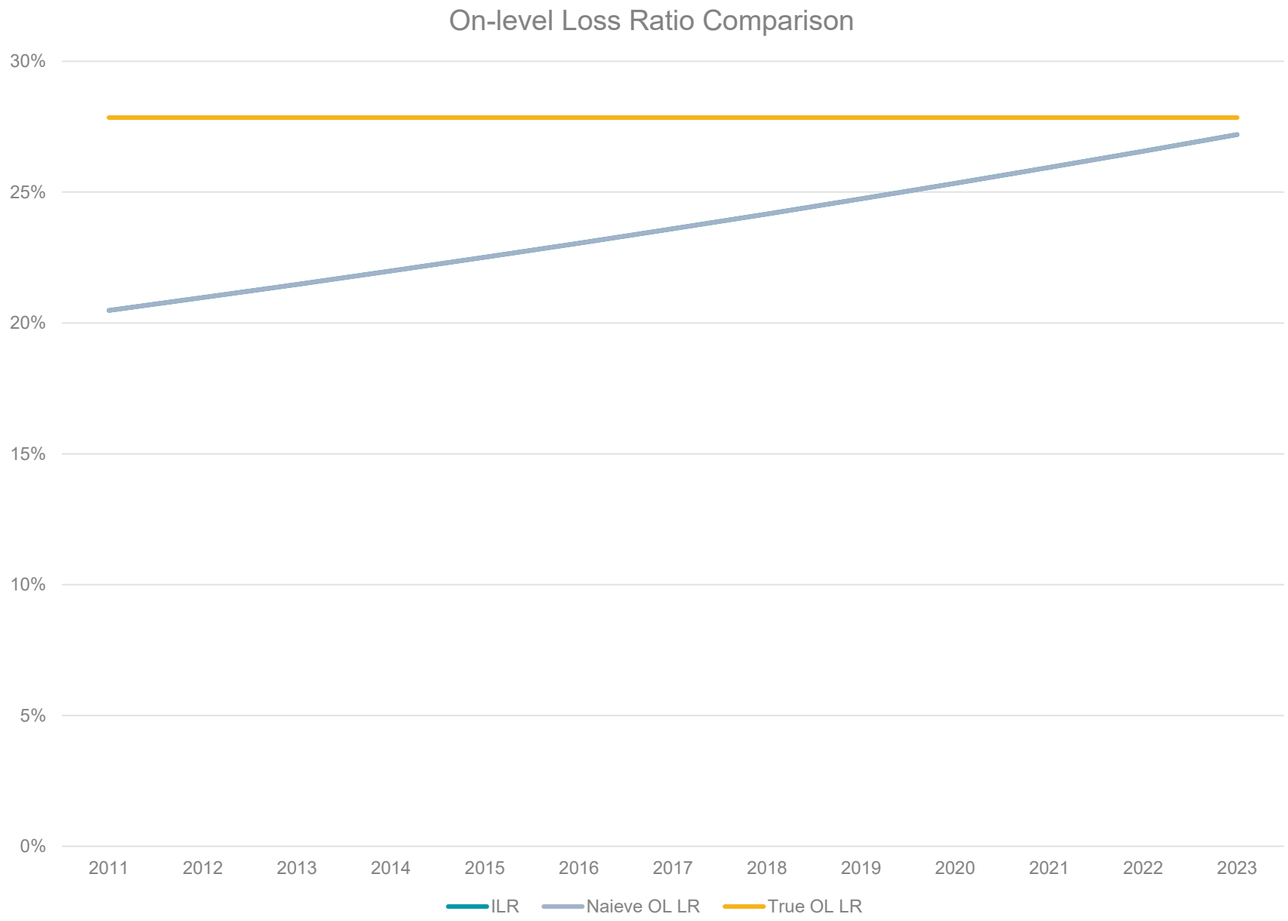
- For over half of respondents, inflation gearing is of concern/interest
- Equally, predominantly a concern in reserving as RI pricing/UW risk will take an approach of “model gross and apply RI”

Why does it matter? (Overleaf)

- Again, consider simple example (call it Property Risk) reserving class, rated on gross TSI, but with rate change calculated on base of trapped exposure (to RI layer)
- Unchanged average limits/attachments across portfolio may mean minimal change to trapped exposure, despite growth in underlying exposure due to inflation
- Failing to account for “gearing” effect of inflation of claims into RI layer and only on-levelling claims for gross inflation will lead to a distorted view of loss ratio… despite gross rate change (change in premium per unit trapped exposure) being correct
- Gearing effect challenging, admittedly. Can be approximated using simple Pareto approach

Simple on-levelling example - RI

Effect of not allowing for inflation gearing



Observations

- Incurred/ultimate loss ratio trending upward year-on-year, as claims increase with no corresponding increase in premium.
- Matches the “naive” on-levelled loss ratio, where analyst has “under-egged” inflation to layer.
- Again, correct on-levelling removes all trend.

Takeaway

- In practice, this is a somewhat contrived example, as static limit/attachment over 10 years is unrealistic!
- However, highlights the difficulty in setting a forecast or initial expected loss ratio in a reinsurance class, where claims inflation to the class is tricky to gauge.
- Practitioners ought to consider a variety of approaches to take this gearing effect into account; notwithstanding the volatile nature of the underlying business and potentially sparse data.
- Reviews might include comparing approximate geared (e.g. via Pareto simplification) gross inflation vs. trends in average claim severity and checks on incurred/ultimate performance (as per left) to spot trends, etc.

Appendix – Additional Detail on Tariff to Inflation Model

Step 3 – Translate tariff to goods inflation

Pass-through and re-shoring assumptions

$$Inflationary\ Effect = \Delta Tariff * Gross\ Import\ Ratio * Onshoring\ Factor * PassThru\ Factor$$

Example - Aggregate Impact (All Goods, As-at August 2025)		
Item	**Value**	**Note**
Consumption (1)	6.4	2024, USD Trillions
Imports (2)	1.6	2024, USD Trillions
Import Ratio (3)	25.0%	(2)/(1)
Original Tariff (4)	2.5%	Pre-Trump baseline average
New Tariff (5)	20.2%	From previous slide calculation
Tariff Impact (6)	17.7%	(5)-(4)
Wtd. Tariff Change (7)	4.4%	(3)*(6)
Gross Margin (8)	22.8%	For Assumed "Passthru" Factor
Onshoring Factor (9)	0.0%	Assumption
Inflationary Effect (10)	**3.4%**	**(7)*(1-9)*(1-8)**

Sources: US Census Bureau; Bureau of Economic Analysis

In this example, tariffs lead to additional 3.4% (additive) inflation in goods

Step 3 continued – Importance of "passthru" assumption

Fed: Tariff costs will ultimately be paid by someone in supply chain; be they manufacturer, exporter, importer, retailer or consumer

Simple example with 10% tariff				
	Pre-tariff	No pass-through	Const. profit	Const. margin
Units	10	10	10	10
Import Cost ($)	60	66	66	66
Sale Price ($)	100	100	106	110
Profit ($)	40	34	40	44
Profit Margin (%)	40%	34%	38%	40%

Notes

- Example on previous slide assumed constant Dollar profits
- Goods sold at little to no margin will effectively have 100% pass-through. This may be an extreme scenario elsewhere, though
- Initial Goldman estimates based on constant Dollar profit approach – equivalent to 70% pass-through rate on average over all goods
- August: Goldman estimate American business absorbing 60% of impacts (40% pass-through)
- Inflationary effect will be dampened by any onshoring/reshoring. Trickier to gauge at this stage

Walmart

"Given the magnitude of tariffs, we aren't able to absorb all of the pressure, given the reality of narrow retail margins"

THE HOME DEPOT

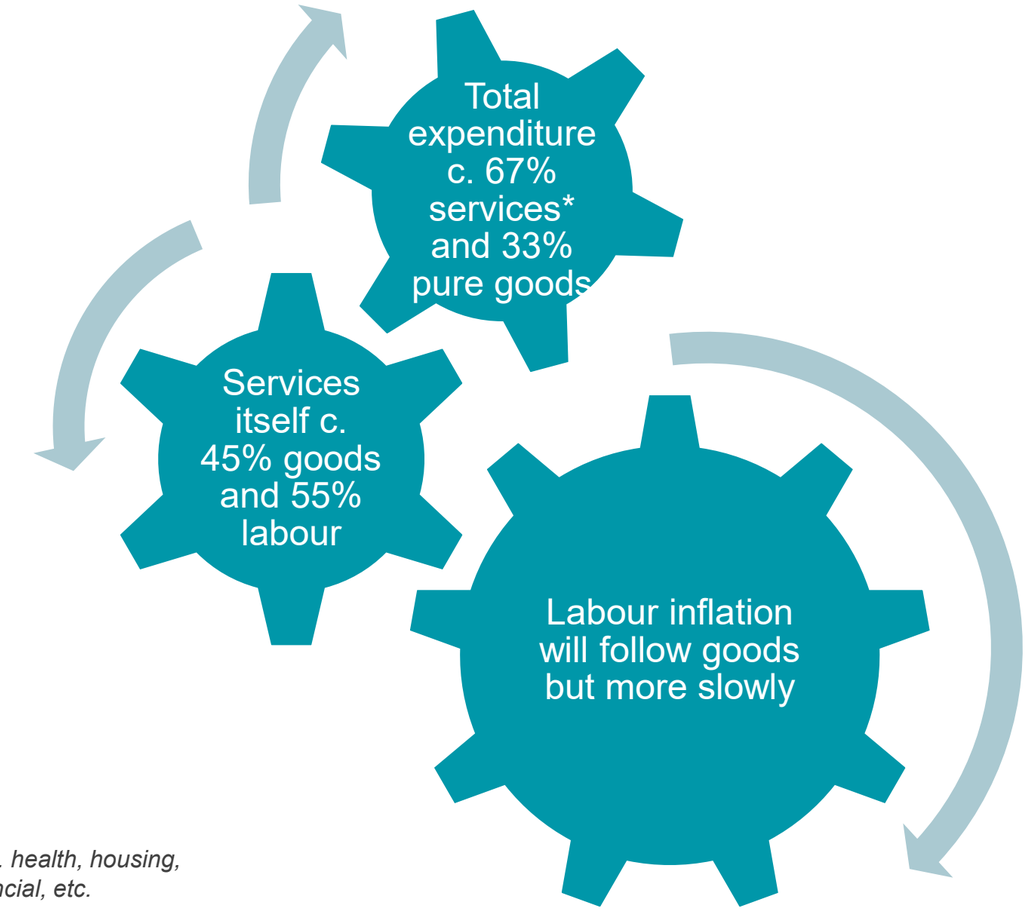
"We intend to generally maintain our pricing levels across our portfolio"

adidas

"Higher tariffs will eventually cause higher costs for all our products for the US market"

Step 4 – From goods to services to wage inflation

Wages will rise to compensate for increases in goods prices



*E.g. health, housing, financial, etc.

Example - Aggregate Tariff Inflation Impact		
Item	**Value**	**Note**
Goods Inflation Impact (1)	3.4%	From previous calculation
Goods Share of Service Cost (2)	45.0%	
Wage Inflation Impact (3)	2.3%	Wage-price spiral convergence estimate
Labour Share of Service Cost (4)	55.0%	
Total Service Impact of Tariff (5)	2.8%	(1)*(2)+(3)*(4)
Service Gross Margin (6)	40.6%	Passthru Factor
Service Inflation Impact (7)	**1.7%**	**(5)*(1-(6))**
Goods Share Total Expenditure (8)	33.0%	
Service Share Total Expenditure (9)	67.0%	
Final Inflationary Effect (10)	**2.2%**	**(1)*(8)+(7)*(9)**

Sources: US Census Bureau; Bureau of Economic Analysis

Ultimate impact of tariffs is a 2.2% loading to overall inflation

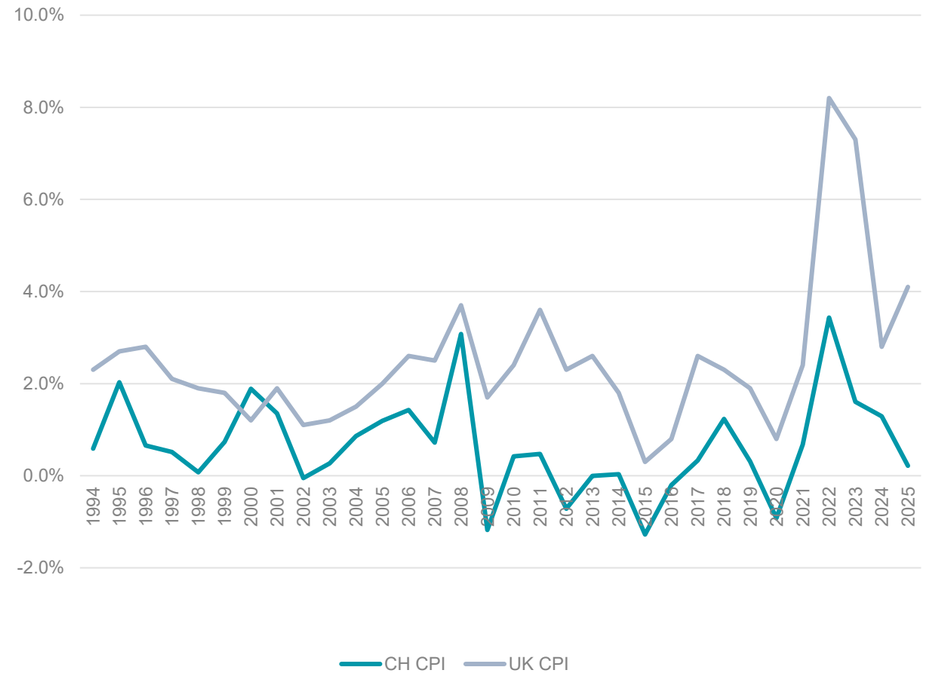
Appendix – Swiss Tariffs

And a final reminder

It is not the existence of a tariff that impacts inflation … but a major change

For instance, CH is a member of the EFTA, but has long-established import tariffs (and import restrictions) on many commodities, particularly meat (15-25%)

Perhaps unsurprisingly, CH has long topped the BigMac index; trailing her EU neighbours by over a third!



Despite, or perhaps a result of a (reasonably open) policy of economic protectionism, the Helvetii enjoy comparatively low and stable levels of inflation.

Sources: Landesindex der Konsumentenpreise; Office of National Statistics