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Finding the anchor: an assessment of the anchoring of inflation expectations in South Africa

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Abstract

The post-pandemic inflation surge and South Africa's recent adoption of a new 3%-point inflation target has renewed interest in the anchoring of private sector inflation expectations. Using the Bureau for Economic Research's disaggregated survey panel dataset for these private sector agents, we assess the evolution of anchoring over 25 years of inflation targeting (2000–2025) in South Africa. Rather than relying on a single metric, we adopt a holistic approach that evaluates anchoring across five characteristics, and distinguishing between indicators useful for real-time anchoring analysis and those better suited for ex-post analysis. Our results show, firstly, that distribution-based measures provide early warning signals of de-anchoring risks, whereas revision- and sensitivity-based measures are more informative ex-post to assess the effectiveness of policy decisions. Secondly, expectations evolved from being weakly anchored in the first decade of inflation targeting to becoming increasingly stable at the 6% upper bound of the 3–6% inflation target range. After the South African Reserve Bank's (SARB's) 2017 announcement, expectations shifted gradually towards the 4.5% target midpoint and became more firmly anchored there. The surge in inflation during the 2021–2023 COVID-19 pandemic caused the anchor to drift only temporarily; a reassuring development given the relative severity of the inflationary shocks during this period. Overall, these trends indicate a greater underlying stability in the formation of private sector agents' inflation expectations in South Africa since the SARB's adoption of inflation targeting.

JEL classification

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Keywords

Inflation expectations, monetary policy, anchoring, South Africa

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1. Introduction

Inflation expectations influence many of the core drivers of macroeconomic dynamics such as consumption, investment, and price- and wage-setting behaviour. Given that these same drivers are either key inputs to or affected by monetary policy decisions, inflation expectations are integral to the monetary policy decision-making process (Alcidi, Gros and Shamsfakhr 2022). Specifically, inflation expectations bear on the inherent growth-inflation trade-offs (or sacrifice ratios) faced by monetary policy and, more broadly, on the ability of inflation-targeting central banks like the South African Reserve Bank (SARB) ultimately to realise their stated price stability objectives.

Economic agents' expectations-formation process depends on the extent to which they view the monetary policy authority as credible. Inflation expectations serve as a barometer for whether agents believe the central bank can put words into action by committing to clear objectives and calibrating policy to achieve them (Cukierman 1986; Bordo and Siklos 2015). More recently, following several uncertain and shock-prone years, as Bandera et al. (2023) outline, there has been renewed focus on how inflation expectations and a credible central bank help insulate actual inflation against supply shocks. Anchored expectations, by limiting the pass-through of shocks to wage- and price-setting, can grant the central bank the space to 'see through' such shocks, limiting the need for policy responses to temporary deviations from the inflation target.

The post-COVID-19 global inflation surge brought about a 'perfect storm' of successive, sizeable supply shocks and the sudden return of public attention to inflation and monetary policy (Korenok, Munro and Chen 2026), testing central bank credibility. South Africa's headline inflation surged in 2022–23 to its highest level in nearly two decades, spurred by a sharply depreciated rand and other domestic idiosyncrasies, along with the inflationary impacts of globally pervasive demand-supply imbalances and geopolitical shocks induced by the COVID-19 pandemic.¹

¹ In addition to global shocks, inflation was also spurred by domestic idiosyncrasies such as climate-related shocks (both an excess and a dearth of rain), biosecurity challenges along food value chains, and inefficient energy supply and logistics networks which have raised the costs of doing business.

Monetary policymakers, particularly those in advanced economies, generally deemed these impulses ‘transitory’. However, inflation remained durably above target (Bernanke and Blanchard 2024) in many jurisdictions and proved seemingly less ‘transitory’ than first thought (Eggertsson and Kohn 2023). As actual inflation rose around the world, so too did inflation expectations, with Coibion and Gorodnichenko (2025) arguing that this inflation surge ended the period of rational inattention and *seemingly anchored* inflation expectations that had prevailed in the preceding decade. In real time, however, policymakers missed the break in inattentiveness and had been lulled into believing that inflation expectations were more anchored than they thought. Coibion and Gorodnichenko argue that economic agents had become increasingly attentive to inflation and monetary policy at precisely the moment when inflation was significantly above target – it appeared that monetary policymakers were struggling to rein inflation in, heightening the risk of central banks’ losing their credibility.²

The missteps we outline above underscore the two primary difficulties policymakers face when assessing expectations. Firstly, there is no agreed upon way of evaluating the concept of anchoring (see Bems et al. (2018), Apokoritis et al. (2019) and Reid and Siklos (2022)), making it difficult to determine when expectations might be considered anchored at a given point in time. As Kumar et al. (2015) discuss, there are, however, certain characteristics that, when present, shed some light on the extent of stability of underlying expectation-formation processes. The question we seek to answer is: when and to what extent can we consider inflation expectations to be anchored?

The second challenge policymakers face is assessing anchoring in real time, especially during periods of heightened uncertainty and amid successive perturbations that can rapidly alter how people form expectations. Given a set of ‘desirable’ anchoring characteristics, which ones give us the best sense of how the stability of underlying expectation formation processes may be evolving in real time?

² Rational inattention posits that economic agents are unlikely to fully consider all available information and thus choose which information sets to process when making economic choices. As such, prolonged periods of low and stable inflation, such as those that generally prevailed pre-COVID, reduce the salience of inflation as a driver of economic decisions and contribute to low and stable inflation expectations. This inattention faded as inflation surged post-COVID. See Maćkowiak, Matějka and Wiederholt (2023) for a detailed review of the literature on rational inattention.

The contributions of our working paper are threefold. Firstly, and primarily, we add to the existing literature on the anchoring of South African inflation expectations in a novel way. This literature tends to focus on single definitions for anchoring, such as where expectations are in relation to the target or testing the pass-through from short-run to long-run expectations. We argue that, in the South African context, as a small, open, emerging-market economy often exposed to supply shocks, a binary assessment of anchoring might not reveal the full picture. As we will show, for example, during certain periods in our sample, both firms' and unions' inflation expectations have, at face value, *looked* reasonably anchored, but, upon closer inspection, they displayed signs of being more consistently de-anchored and unstable. The opposite is true during other periods where expectations were not necessarily at desired levels, but nonetheless were quite stable. For the purposes of this paper, 'closer inspection' entails an assessment of anchoring that is holistic and centres on five characteristics outlined by Kumar et al. (2015): (i) that expectations should be close to target on average; (ii) that expectations should not be too dispersed across survey respondents; (iii) that respondents should be confident in their forecasts; (iv) that revisions to expectations across time should be minor; and (v) that there should be little co-movement between short- and long-run inflation expectations.

As we unpack these different characteristics, we evaluate them on their utility as 'real-time' assessments of anchoring. We make distinctions between those that can provide early warning signals of de-anchoring and those that provide ex-post information on the behaviour of expectations, which are therefore more useful as a gauge of monetary policy credibility and effectiveness over time.³

Our second contribution is that we use the rich, respondent-level data from the Bureau for Economic Research's (BER's) quarterly Inflation Expectations Survey, building on the growing body of literature that uses these data. Because the survey covers firms,

³ Surveyed inflation expectations data in South Africa have a quarterly frequency. It is thus necessary to note that our use of the term 'real-time' refers to those characteristics that provide a timeous anchoring assessment when new data are released rather than 'real-time', minute-by-minute data, as with market-based measures of inflation expectations.

analysts and union representatives, we can address policy-relevant questions more comprehensively (Crowther-Ehlers 2019).⁴

Finally, given the existing literature's tendency to spotlight the experiences of advanced economies, by focusing on South Africa, the insights we develop are likely to be relevant to emerging-market central banks more broadly. Our work on anchoring comes at a critical juncture for South African monetary policy following the November 2025 announcement by the Minister of Finance of a shift towards an explicit 3% point inflation target with a one percentage point tolerance on either side, away from a target band of 3–6% (with a preference for the 4.5% midpoint of this range) (National Treasury 2025). As we show later, the SARB was relatively successful at anchoring expectations at 6% from 2011 onwards, and there were also tentative signs of some stabilisation of expectations nearer to 4.5% before the pandemic shock. Against the backdrop of this track record, we argue that it is not inconceivable that the SARB may be able to anchor expectations at 3% in time.

The rest of our paper is structured as follows. The different characteristics of anchoring are presented in section 2, followed by a brief overview of the related literature in section 3. Section 4 presents the data while section 5 details the methodology and results. The main conclusions and policy implications are discussed in section 6.

2. Anchoring characteristics

At the simplest level, inflation expectations can be said to be anchored when they are stable at the central bank's inflation target. Whether inflation expectations are at target is binary – they are either there or they are not. Assessing the stability of inflation expectations at any particular level is less straightforward, and it is on this basis that differing views on and definitions of anchoring generally stem. For emerging market economies, such as South Africa, which are frequently subject to price shocks and face greater inflation volatility, it is desirable to assess the stability (and thus anchoring) of inflation expectations in terms of a broader spectrum of characteristics before making strong assertions.

⁴ For a detailed exposition of this dataset, see Amaral, Kruger and Reid (2024), Reid and Siklos (2022) and Reid, von Fintel and Foresto (2026).

We follow Kumar et al. (2015) and evaluate the expectations of South Africa's firms, trade union representatives and financial analysts in terms of five characteristics:

1. Expectations should be close to the target on average.
2. Expectations should not be too dispersed across survey respondents.
3. Respondents should be confident in their forecasts.
4. Revisions to expectations across time should be minor.
5. There should be little co-movement between short- and long-run inflation expectations.

From an economic conjuncture perspective, monetary policymakers need to be able to assess anchoring and the evolution of underlying inflation expectations dynamics in real time. Some of the characteristics above lend themselves to conjunctural analysis better than others. In the following subsections, we unpack the economic rationale for each characteristic, along with South Africa-specific considerations applicable to some of them and indicate which characteristics we believe may have utility as real-time anchoring signals and which provide an ex-post assessment of anchoring.

2.1 Closeness of long-term expectations to the target

If the central bank's inflation target serves as a credible focal point around which agents can base their expectations, then average long-term expectations should remain close and stable to the official inflation target even in the face of economic shocks (Apokoritis et al. 2019). This is the most common characteristic of assessing the anchoring of inflation expectations in real time as it is easy to evaluate and communicate. This simplicity can however mask underlying disagreement and heterogeneity across agents' expectations, which may persist even if mean expectations are seemingly at the central bank's target (Bems et al. 2018). As we explain in section 4.2, disagreement and heterogeneity contain relevant information about anchoring.

In the context of this characteristic, it is also worth highlighting that the extant literature shows that explicit inflation point targets have better anchoring properties than other targeting frameworks like inflation target ranges. Target range regimes, as Grosse-

Steffen (2021) argues, tend to have perceived “zones where monetary policy is less active”, and in turn weaken, or contribute to suboptimal anchoring.

South Africa adopted a flexible inflation-targeting framework in 2000, with an inflation target specified as a range of 3% to 6%. The South African experience was that, without a clearly communicated preference for where inflation should settle within the range, agents settled on an *implicit* (and suboptimal) target point within that range. Kabundi and Schaling (2013) and Kabundi, Schaling and Some (2014) estimate that the *implicit* inflation target of private agents (firms and trade unions in particular) was above the upper bound of the inflation target range during the first decade of inflation targeting. The SARB’s own view is that, until the second quarter of 2017, the 6% upper bound of the target range was its *de facto* target (Kganyago 2025). The SARB recognised that an implicit target of 6% significantly reduced policy flexibility and credibility (with inflation stable at 6%, any inflationary shocks would immediately push inflation out of the target range). Accordingly, it began communicating its explicit preference for inflation and inflation expectations to settle nearer the 4.5% target range midpoint in 2017Q3. In July 2025, the SARB revised this preferred objective lower yet, to the 3% target range lower bound. In November of the same year, National Treasury formally announced a change in South Africa’s inflation-targeting framework: the SARB would target 3%-point inflation with a tolerance of one percentage point on either side.⁵

2.2 Dispersion of expectations across agents

If inflation expectations are well anchored, then beliefs about inflation should not be too dispersed across agents. At its simplest, we can observe dispersion by calculating the second, third and fourth cross-sectional moments (variance, skewness and kurtosis) of the survey responses for a given group of agents for a given horizon characteristic.

The dispersion of respondents’ views contains important anchoring information. Dispersed views about some central tendency point (like mean or median inflation expectations) suggests that a subset of the population is more uncertain, has lower

⁵ In summary, our inflation target assumption is 6% from 2000Q3–2017Q2, 4.5% from 2017Q3–2025Q2 and 3% from 2025Q3.

trust in the central bank's ability to keep inflation stable and, ultimately, has expectations that are more weakly anchored (Amaral, Kruger and Reid 2024). As the literature on rational inattention posits, and as Reis (2021) argues, at any given time, some portion of the population is either uninformed about or inattentive to inflation. Consequently, the first cross-sectional moment (the mean) can be slow to adjust to changes in the underlying state of the economy. Also, as Buseti et al. (2017) show, under circumstances where dispersion is high, agents may tend to become more adaptive in their expectations formation, making expectations self-fulfilling and making inflation more sensitive to shocks. By looking at the entire distribution, and considering all individuals, some better informed than others, we can gain a sense of the stability of underlying expectation formation processes.

Of the five characteristics, dispersion of agents' views likely provides the best real-time insights for policymakers, as increased dispersion tends to precede sustained moves in mean or median inflation expectations, providing an early warning signal of heightened de-anchoring risks and sensitivity to shocks (Reis 2021; Amaral, Kruger and Reid 2024).

Some caveats are worth mentioning related to this characteristic. Firstly, it is purely a gauge of how stable inflation expectations are around a given point of central tendency. It is agnostic as to whether this central point is the central bank's target or in any way optimal. In other words, agents' inflation expectations can be feasibly concentrated about some point other than the central bank's inflation target, as we will see.

Secondly, while the cross-sectional distribution of expectations can indicate whether the source of instability emanates from upside (right tail of the distribution) or downside (the left tail of the distribution), it does not quantify the probability of this risk. The cross-sectional distribution may exhibit a tail at any given point in time, as it often does for South Africa, yet how much of a risk does the greater dispersion pose to the stability of the underlying expectations formation process? To address this, we follow Grosse-Steffen's (2021) method to quantify these risks, providing policymakers with a real-time, belief-based probability measure of effective risks to de-anchoring.

2.3 Confidence in long-term forecasts

When inflation expectations are well anchored, agents should hold their forecasts with confidence. Similarly to Characteristic 2, this criterion is also agnostic about the central bank's precise inflation target and instead requires that each agent is confident inflation will converge toward their perceived long-run target whatever that target may be (Kumar et al. 2015). This characteristic is similar to Characteristic 2 in that it too is an uncertainty-based assessment of anchoring, and thus an evaluation of this criterion would provide similar benefits as Characteristic 2.

However, measuring this dimension of anchoring is not strictly possible in South Africa's case. It requires that respondents assign probabilities to their forecasts – which South Africa's BER Inflation Expectations Survey does not ask them to do. Nevertheless, Binder (2017) argues that the degree of rounding in the point forecasts can be a proxy for the degree of forecast confidence. The intuition is that rounded numbers may reflect greater uncertainty, whereas more precise responses suggest greater confidence in the forecast. However, as Alcidi, Gros and Shamsfakhr (2022) argue, and Dovern and Glas (2025) show, survey respondents usually lack incentives to provide highly granular forecasts. Rounding, therefore, may not only reflect genuine uncertainty, but could also reflect low effort, lack of attention or survey design effects, potentially misstating uncertainty and producing misleading signals as to the anchoring of agents' inflation expectations.⁶

Given that, by design, we have no assigned probabilities to respondents' point forecasts in the South African case and the inherent limitations involved in assessing forecast confidence through other means, we give less attention to this characteristic in our analysis. For completeness, however, we nonetheless evaluate the extent to which rounding is prevalent in the data, drawing on work by Binder (2017) and Crowther-Ehlers (2019). Despite its limitations, this criterion offers a real-time gauge of how uncertainty, and thus the stability of expectations, may be evolving. Like

⁶ Providing respondents with information about the central bank's target may influence the value they provide, but this also depends on how informed respondents are about the central bank's target (Coibion, Gorodnichenko and Kumar 2018). It is unclear whether providing information about historical inflation would increase the share of respondents providing round numbers, particularly if the historical inflation average is a very precise value (e.g. 4.3) and not a round number.

Characteristic 2, it could also serve as an early warning signal, where it is possible to evaluate it.

2.4 Revisions to long-term forecasts

When inflation expectations are well anchored, and respondents are confident that a credible central bank will keep inflation close to its target, economic agents should not frequently revise their long-term forecasts (Kumar et al. 2015). Frequent revisions to long-term expectations could signal uncertainty about the central bank's ability to deliver on its price stability mandate over the medium term, thereby suggesting a weaker anchoring of expectations.

Infrequent forecast revisions do not always imply that expectations are well anchored but could also be taken to suggest that agents are inattentive to new and relevant information (Coibion and Gorodnichenko 2025). In such circumstances, a shock that jolts agents out of their inattention could cause expectations to drift given that they were not firmly anchored to begin with. This point is important to remember when assessing anchoring and underscores the need to assess anchoring from multiple angles.

It is worth noting that evaluating the degree of forecast revisions is regression-based and would require a longer panel dataset when accounting for time-varying estimations. As such, this characteristic provides for a better ex-post anchoring assessment across different periods and economic states.

2.5 Sensitivity of long-term expectations to changes in short term expectations

When expectations are anchored, there should be little co-movement between short and long-run expectations – short-run inflation expectations, which would be influenced by transitory price shocks, should not explain movements in long-term beliefs. If agents believe that the central bank will succeed in keeping inflation at target over the medium to long term, then they would be more likely to see through short-term inflationary fluctuations and keep long-term expectations stable at the central bank's target. This characteristic is generally the most relied upon when assessing anchoring (Buono and Formai 2016).

A closely related albeit slightly different strand of literature assesses the responsiveness of long-run inflation expectations to macroeconomic shocks ('shock anchoring' is the term used by Neri et al. (2022); for example, shocks are expected to influence short-term expectations but should not influence long-term expectations). The primary limitation lies in correctly identifying such shocks. The main workaround to this shock identification problem is to use high-frequency (daily) data often derived from financial markets to assess the impacts of shocks on equally high-frequency market inflation expectations derived from breakeven rates (see, for example, Gürkaynak, Levin and Swanson (2006); Reid (2009); and Pirozhkova, Ricco and Viegi (2024)). Such approaches necessarily preclude the use of lower frequency surveyed inflation expectations.

Given that the dataset at our disposal stems from a quarterly survey and given the inherent shock-identification challenges at this time frequency, we only evaluate whether short-run expectations correlate with long-run expectations and do not assess 'shock anchoring'. Furthermore, as Till, Rafi and Dieter (2016) argue, the relationship between short- and long-run expectations is unlikely to be constant due to changes in monetary policy regimes, the evolution of central bank credibility or the differing nature of shocks, all of which influence how agents form their expectations. Relying on static coefficients may miss important shifts in the credibility of monetary policy or in agents' behaviour. Accordingly, we estimate the relationship between short- and long-term expectations using time-varying parameter models.

In a similar fashion to Characteristic 4, assessing the correlation between short- and long-run expectations is also regression-based and thus likely to provide a better ex-post assessment of anchoring.

Table 1 sorts the five characteristics by their usefulness for real-time or ex-post policy analysis.

Table 1: Summary of whether the characteristics are useful for real-time or ex-post policy analysis

Characteristic	Real-time or ex-post
Closeness of long-term expectations to the target	Real-time
Dispersion of expectations across agents	Real-time
Confidence in long-term forecasts	Real-time
Revisions to long-term forecasts	Ex-post
Sensitivity of long-term expectations to short-term expectations	Ex-post

3. Literature review

There is vast literature on assessing the anchoring of inflation expectations globally (see Kose et al. (2019)) and for South Africa (Reid 2009; Kabundi, Schaling and Some 2014; Crowther-Ehlers 2019). The extant literature can be organised into two distinct groups: the literature evaluating anchoring in terms of a single characteristic and the literature opting for a more holistic multi-characteristic approach.

3.1 Dominant approach: sensitivity of long-term expectations

Most studies assess the anchoring of inflation expectations using a single characteristic, most often what we referred to as Characteristic 5 in section 2 – the sensitivity of long-term expectations to changes in short-term expectations, among others (Buono and Formai 2016; Till, Rafi and Dieter 2016; Moesner and Takáts 2020; Neri et al. 2022). While some studies rely on other characteristics, they nonetheless take a narrow, single-characteristic focus on anchoring. For example, Burban, de Backer and Vladu (2024) assess whether long-term average expectations are close to the inflation target, while Grosse-Steffen (2021) focuses on the distribution of long-term expectations.

The reliance on a single measure, particularly the sensitivity-based measure, is not unique to the literature focusing on advanced economies; some studies focusing on South Africa also take this narrower approach. For instance, Reid (2009) investigates the degree to which private sector inflation expectations (inferred from asset prices) are anchored in South Africa by examining their sensitivity to macroeconomic

surprises.⁷ Over the May 2002 to March 2007 sample period, inflation expectations were shown to be insensitive to macroeconomic surprises.

Even when there is a departure from the sensitivity-based assessment of anchoring in the South African context, there is still a tendency to remain narrowly focused. For instance, Amaral, Kruger and Reid (2024) look at the distribution of firms' 2-year-ahead inflation expectations as a way of providing a real-time perspective on the anchoring of inflation expectations. They find evidence of moderate de-anchoring between 2021 and 2023. Kabundi, Schaling and Some (2014) investigate whether past inflation explains a large portion of the variation in inflation expectations, finding that expectations are sensitive to historical inflation outcomes over the period 2001–2011. The authors argue that if agents place greater weight on past inflation outcomes, their expectations are less likely to be anchored. Crowther-Ehlers (2019) assesses anchoring using the term structure of inflation expectations, focusing on the sample period 2000Q2–2017Q4.⁸ The term structure of financial analysts is downward sloping towards 5.5% while those of businesses and trade unions are flatter around 6%. This indicates that financial analysts are less responsive to short-term shocks than businesses and trade unions.

While assessing anchoring through the lens of a single characteristic simplifies the policymaker's job, the choice of metric matters for identifying early warning signals or changes in the behaviour of economic agents. For example, relying on the distance of mean expectations from target, or the 'eyeball test', as Coibion and Gorodnichenko (2025) refer to it, can mislead policymakers into believing expectations are stable when, in reality, there may be considerable disagreement among respondents and no clear anchor point (Bems et al. 2018). In practice, many advanced economy policymakers who took the stability of their expectations for granted on the basis of this

⁷ Reid (2009) uses forward inflation compensation, the difference between nominal and real forward interest rates, as a proxy for private sector inflation expectations but recognises that it is an imprecise proxy for inflation expectations as it also embeds risk premia. While these risk premia are not explicitly controlled for, the argument is that their impact on high-frequency data (such as daily changes) is likely to be small.

⁸ The slope and curvature of the expectations term structure curve provide information on the expected speed of convergence of inflation expectations reaching the announced target.

narrow assessment were, in real time, surprised by the persistence of the post-pandemic inflation surge (Coibion and Gorodnichenko 2025).

3.2 Moving beyond a single characteristic

There is growing recognition that no single metric fully captures the extent of anchoring and, as such, there has been a shift towards a more holistic approach to evaluating anchoring. As mentioned in section 2, Kumar et al. (2015), in their seminal work, suggest five anchoring characteristics that all ought to be considered to achieve a more complete evaluation.

While some studies adopt all five criteria, such as Neri et al. (2022), others extend this list by incorporating the probability that long-term inflation expectations lie close to the target and the influence of short-term dynamics on long-term deflation risk (Apokoritis et al. 2019). In contrast, other studies implement only three or four of these definitions due to limitations in data availability – for example, Bems et al. (2018) and Baumann et al. (2025).

However, in the South African literature, to the best of our knowledge there is no study that examines the anchoring properties of inflation expectations in a holistic manner. The only exception is an unpublished master's thesis by Walters (2017) from Stellenbosch University. While the study assesses the state of anchoring in South Africa using the five characteristics proposed by Kumar et al. (2015), the author did not have access to disaggregated micro-level data for individual respondents across the different agent groups. Nor does the study distinguish between characteristics that are useful for real-time policy assessment and those that are more suitable for ex-post evaluation.

4. Data

To assess how anchored inflation expectations are in South Africa, we make use of the BER Inflation Expectations Survey.⁹ The survey covers four key social groups that

⁹ For more details on the BER Inflation Expectations Survey see, for example, Reid and Siklos (2021a, 2021b), Reid and Siklos (2022), Amaral, Kruger and Reid (2024) and Reid, von Fintel and Foresto (2026).

matter for inflation dynamics: households, firms, trade unions (unions) and financial analysts (analysts).¹⁰ The survey has been conducted quarterly since 2000Q3, in line with South Africa's adoption of its inflation-targeting framework, giving us a long series of data to work with.¹¹ The sampling frame for the firms is the largest of the three groups, ranging between 100 and 130 respondents per quarter in recent years. Despite the decline in sample size since the survey's early years, it remains a good representation of firms in the South African economy (Reid, von Fintel and Foresto 2026). While the analysts' sample is smaller, between 25 and 40 individuals, this group tends to be quite homogenous, which offsets the effect of the small sample size. Despite the unions having the smallest sample (10–15 respondents), there is evidence that their survey has valuable information with regard to forecasting inflation (Reid and Siklos 2025). As we are assessing anchoring cross-sectionally, we analyse the behaviour of each social group separately as opposed to the aggregate of all three groups, which is typically used in the internal SARB forecasting process (Reid and Siklos 2025).

We rely on the 2-year-ahead horizon for our analysis given its consistency with the monetary policy horizon, however we choose not to use the 5-year horizon for our main results, due to the question only being added in 2011, omitting the first decade of inflation targeting.¹² Importantly, the SARB has not always targeted headline inflation. Prior to 2009, the SARB targeted the consumer price index excluding mortgage rates (CPIX), and the BER Inflation Expectations Survey sought forecasts for CPIX inflation. From 2009, the SARB began targeting the headline consumer price index (CPI), and

¹⁰ We do not use households in our analysis as they are not directly comparable to the other groups for the following reasons: (i) consistent disaggregated data are not available for households throughout the inflation-targeting period (only in a few quarters prior to 2019Q3); (ii) the main horizon of interest in this paper (2-year-ahead) is not asked in the household survey; (iii) sampling frame and survey methodology shifted from in-person to telephonic from 2019Q3, potentially making direct comparison with previous household surveys more difficult (Smuts and Siklos 2026).

¹¹ Between 2000 and 2003, the quarterly surveys were conducted in February, May, August and October. From 2004 onward, the February and October rounds were shifted to March and November, while the timing of the remaining two surveys remained unchanged.

¹² The 5-year-ahead question was added in 2011Q2. The precise wording is: "What do you expect the average CPI inflation rate to be over the next five years?" The current-year, 1-year-ahead, and 2-year-ahead questions are phrased as: "What do you expect the average headline inflation rate to be during the year?". This implies that the 5-year-ahead does not behave as a fixed-point horizon, like the other questions in the survey, and is typically referred to as a calendar horizon.

the survey adjusted accordingly. Consequently, we use the expectations for the CPIX from 2000Q3 to 2008Q4, to be consistent with the SARB's targeted inflation measure during that period, and from 2009Q1 until the end of our sample we use expectations for the CPI. In some instances, we also use the real-time headline inflation series from Foresto et al. (2026) as an explanatory variable to match with the BER's survey schedule. This ensures we are capturing only the most recent information available to respondents when providing their forecast of inflation.

The mean or aggregate expectations of the three separate social groups is the highest level of aggregation we use. For the most part, however, and consistent with the growing trend in the literature to use microdata to answer macroeconomic questions (Israel and Tissot 2021), we exploit the richness of the BER's panel dataset and use the individual respondent-level data or microdata to assess behaviour across the distribution for each social group.

Working with the microdata allows us to divide our full sample into subsamples that enable us to study how inflation expectations behave under different economic conditions. The subsample choices also capture the shifts in the inflation target throughout our sample. We divide our full sample into five distinct periods: (i) the first decade of inflation targeting (2000Q3–2010Q4); (ii) the stable period at the de facto target (2011Q1–2017Q2); (iii) the transition towards the midpoint of the band (2017Q3–2021Q1); (iv) the pandemic inflation surge (2021Q2–2023Q4), and (5) disinflation and convergence towards the 3% target (2024Q1–2025Q4).

5. Empirical analysis

In this section, we outline the methodologies we use to evaluate the characteristics discussed in section 2 as well as present the results of these anchoring assessments, producing a set of real-time and ex-post measures of anchoring. To achieve this, we rely on a range of specifications suitable for our disaggregated inflation expectations data.

Our findings show how the stability of expectations evolved across the five distinct periods outlined in section 4, starting with the early period of inflation targeting, which was best characterised as a period of learning for the SARB and the public in the face

of frequent economic shocks that tested the credibility of the new framework (2000Q3–2010Q4). A period of relative stability then follows, with inflation and inflation expectations clustered at the de facto (6%) target (2011Q1–2017Q2). The announcement of the 4.5% preference in 2017 brought on a ‘loss’ of stability; however, we do not view this ‘instability’ negatively as it stemmed from agents actively adjusting their beliefs towards the new target, suggesting that the announcement by the SARB and track record being established was viewed as highly credible. True instability emanated from the pandemic inflationary surge with some signs of de-anchoring across agent groups. During the most recent period, we observe a return to stability and re-anchoring, particularly for our more informed social groups.

5.1 Distance of average long-term expectations from the target

Using the first characteristic provides the simplest approach to assessing whether inflation expectations are anchored. Coibion and Gorodnichenko (2025) refer to this as the ‘eyeball test’, as we are simply looking at the gap between our 2-year-ahead expectations and the inflation target for that period, which gives us a sense of how anchored expectations are in relation to the target.

Figure 1 captures the evolution of mean expectations (solid blue line) of our three groups relative to the target (dotted red line), up to the fourth quarter of 2024.¹³ From 2000 to around 2010, expectations, especially for firms and unions, were volatile and less anchored as this was a period of several large inflationary shocks (an exchange rate shock and the global financial crisis (GFC)) that forced inflation higher. The inflation target itself was also unlikely to have been properly socialised.

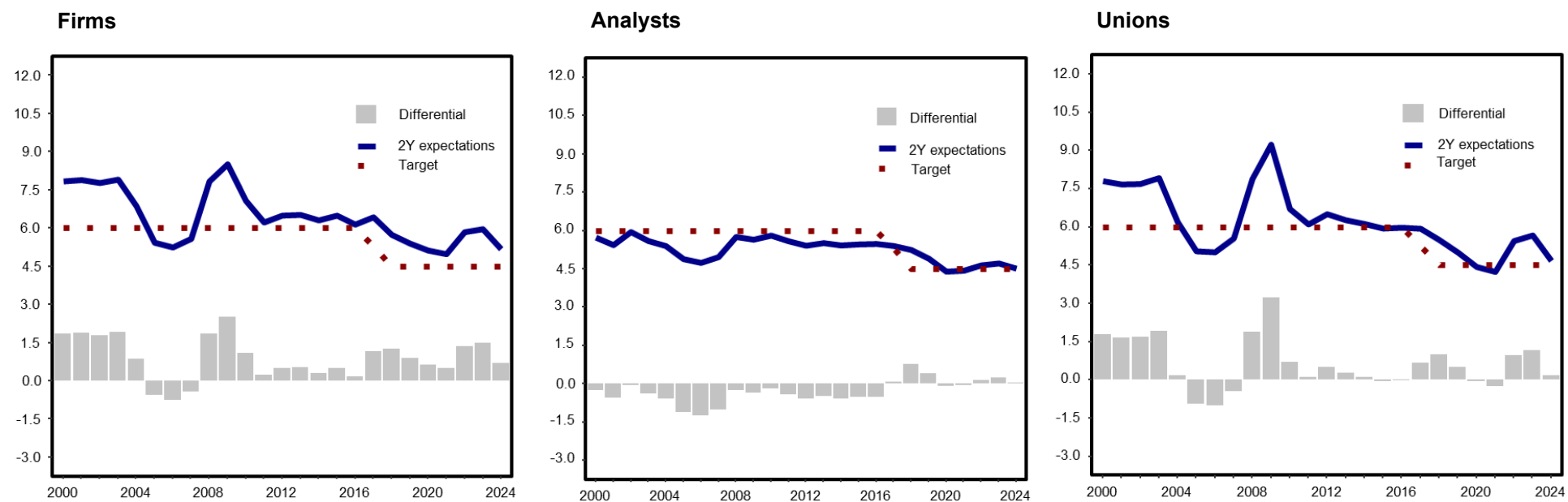
Between 2010 and 2017, however, expectations across all three groups clustered around 6%, which we interpret as the implicit focal point of the target range. In terms of this characteristic, expectations were relatively well-anchored during this period. In the third quarter of 2017, the SARB indicated that it preferred to anchor expectations at the 4.5% midpoint of the target range. Following this communication and aided by a

¹³ The annual averages are constructed using the mean inflation expectations over the four quarters in a given calendar year. To estimate the differential, we use the current 2-year-ahead forecast relative to the inflation target. This explains the larger deviations during shocks or periods of elevated uncertainty.

simultaneous moderation in actual inflation outcomes, expectations across all groups moved downward. Both analysts and unions adjusted relatively quickly and settled near the new focal point within 10 and 11 quarters respectively, while firms adjusted more gradually.

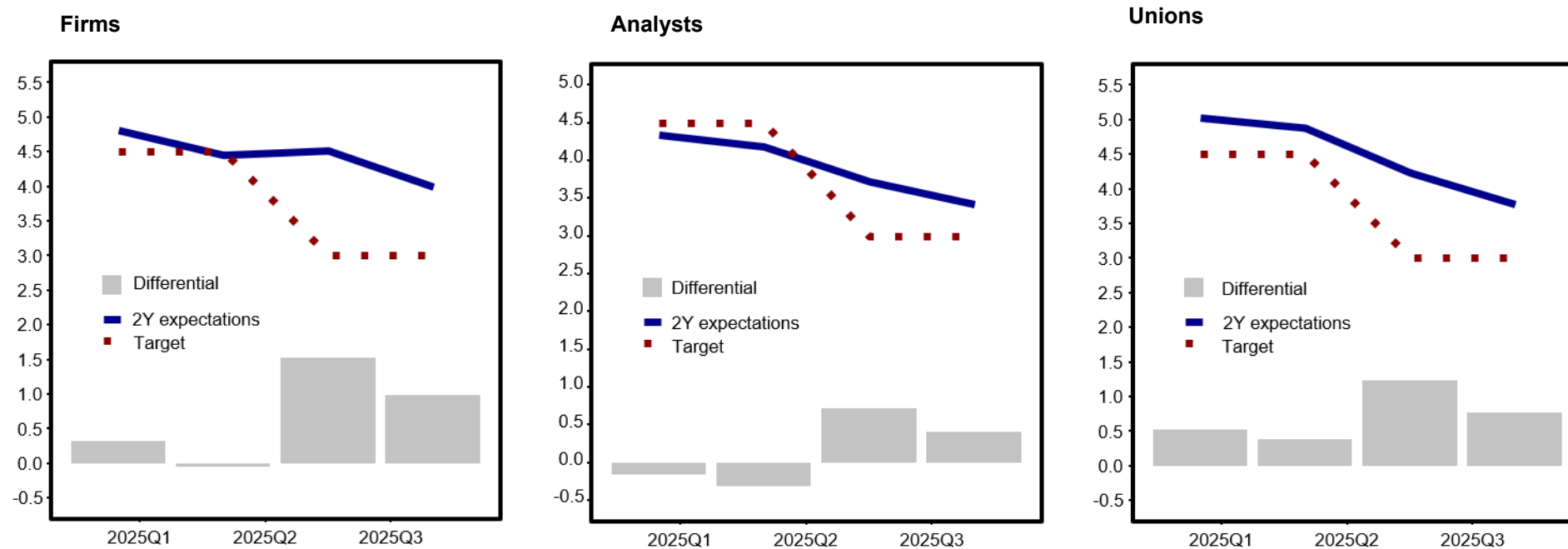
During the 2022 inflation surge, expectations for firms and unions increased sharply, reflecting the rise in actual inflation before falling as inflation peaked and began to moderate. Interestingly, over this period, mean analysts' expectations remained clustered around the target, a sign that more-informed economic agents continued to view the SARB as credible even in the face of successive and significant price shocks. Focusing on the announcement of the new 3% inflation target, we observe in Figure 2 that the expectations for all three groups have begun converging towards 3%. The speed at which expectations settle at this level will depend on the degree of agent 'forward-lookingness' and understanding of the newly announced target. There is evidence to suggest that agents (firms) are aware of the target, possibly driving the sharp drop in inflation expectations following the target announcement in the fourth quarter of 2025 (Reid, Foresto and Mosoma 2026).

Figure 1: Distance of mean 2-year-ahead inflation expectations from target



Source: Authors' own calculations based on BER data.

Figure 2: Distance of mean 2-year-ahead inflation expectations from target (2025)



Source: Authors' own calculations based on BER data.

5.2 Dispersion of expectations across agents

Averages can be misleading because they can hide disagreement across individual responses. For example, the average may be close to the target, say 3%, but if most respondents are reporting values such as 1% and 7%, this would not reflect well-anchored expectations, whereas the mean alone would mask the underlying disagreement.

The cross-sectional distributions (estimated with kernel densities) of individual responses within each group indicate whether parts of the population may not have stable expectations. What we would like to observe is a distribution that is symmetric around the specified target, with thin tails. Thin tails suggest limited risks of de-anchoring, while thick tails indicate that some of the respondents expect inflation to deviate substantially from the target.

Figure 3 plots the cross-sectional distributions of 2-year-ahead inflation expectations for firms, analysts and unions across different subperiods. Consistent with the results from the first characteristic, expectations were less anchored for much of the first decade of inflation, especially for firms and unions, before becoming relatively more tightly distributed around 6% during 2011–2016. Analysts' distributions, on the other hand, were always symmetric and became relatively less dispersed from 2011 to 2016, suggesting stronger anchoring during this period.

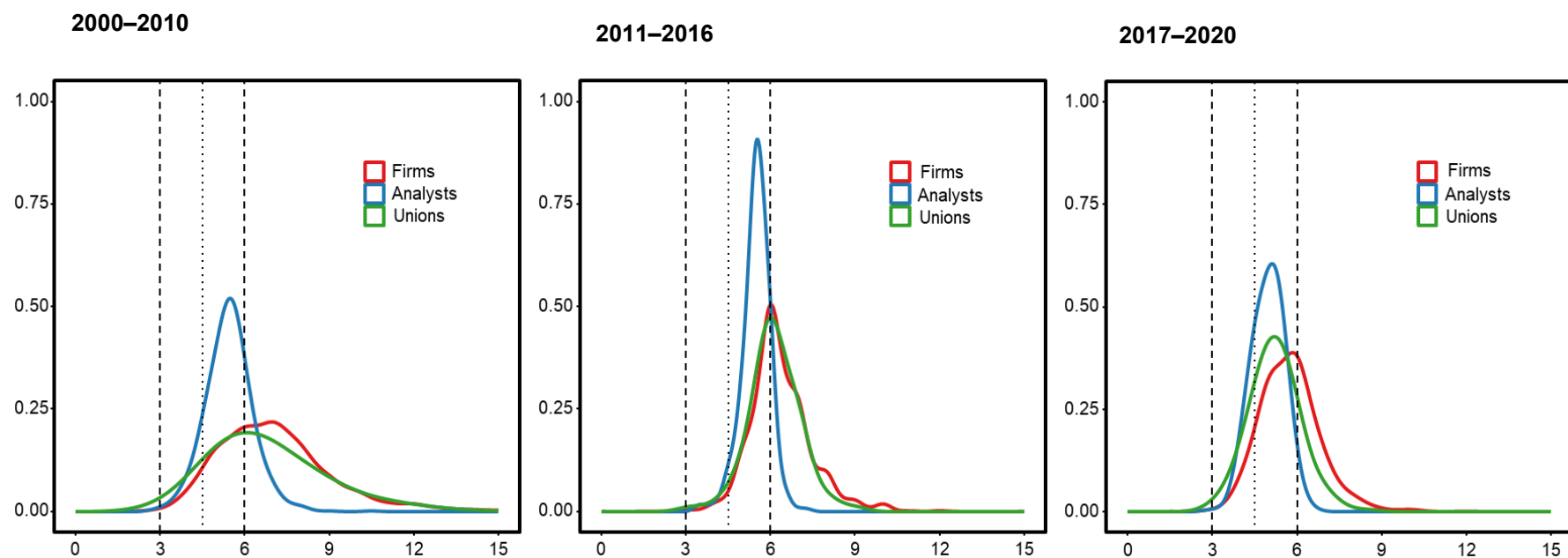
In the 2017–2020 period, the distributions shifted to the left toward 4.5%, particularly for unions and analysts, suggesting some potential adjustment stemming from the SARB's preference for the midpoint of the target range. Firms, however, remained more concentrated around 6%. That said, the thick left tail in the firms' distribution suggests that a non-negligible share of respondents was already reporting values below 6%, even if the mode had not fully shifted.

During the inflation surge of 2021–2023, analysts' expectations remained mostly clustered around 4.5% with relatively thin tails. This suggests that analysts' expectations remained reasonably well anchored despite the inflationary shock. In contrast, firms and unions displayed thick right tails and wider distributions, indicating

that a significant share of respondents revised expectations upward in response to the shock, reversing the stability gains from the years prior.

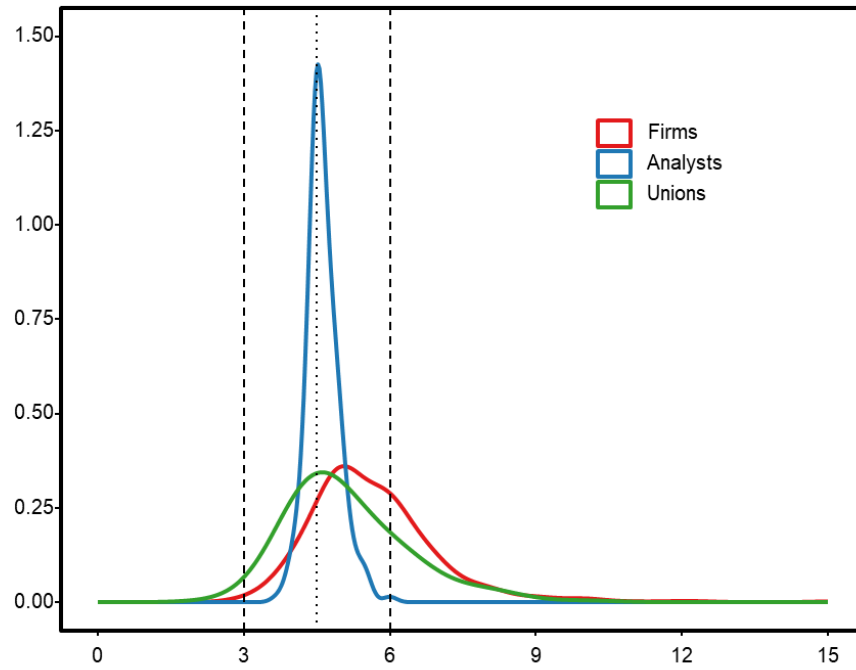
As the shocks subsided, firms and union expectations saw a return to symmetry and a leftward shift towards the midpoint. The formalisation of the 3% target, and the fact that agents were becoming aware of this development, helped reduce the upside risks from firms and unions. In 2025, the distributions started to show thicker left tails relative to earlier periods, indicating that expectations for parts of distributions were shifting downward toward the new target.

Figure 3: Dispersion of 2-year-ahead inflation expectations¹⁴

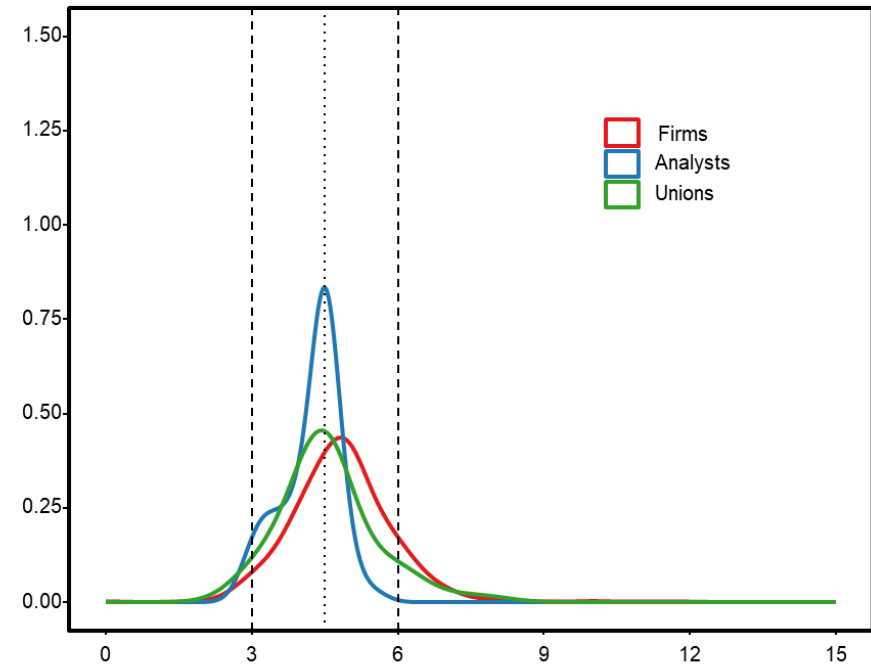


¹⁴ The dotted lines represent the previous 3–6% inflation target band with a midpoint of 4.5%.

2021–2023



2024–2025



Source: Authors' own calculations based on BER data.

5.2.1 Measuring risk in the dispersion of expectations

As discussed in section 4.2, the cross-sectional distribution allows us to identify how expectations have shifted relative to the target. However, the distribution alone does not quantify the probability or risk that such shifts would constitute a de-anchoring of inflation expectations. The anchoring risk measures derived in this section are an extension of the previous characteristic. Similar to characteristics 1 and 2, these risk measures provide policymakers with information on the degree to which inflation expectations are anchored in real time.¹⁵ Relying on the approach of Grosse-Steffen (2021), we set our inflation target at a certain level and specify a bounded region or threshold either side to represent an ‘anchored’ zone. The key intuition behind this choice is that an inflation-targeting central bank aims to minimise disagreement in expectations and have a narrower distribution (clustering) closer to its target.

Our assumption for the level of inflation targeted throughout our sample period is consistent with the SARB’s evolving preference over time, as outlined in section 2. We choose 0.5% either side of the target as our anchored zone. The choice of tolerance for the anchored zone is ad hoc and should not be interpreted as a definitive boundary. It is plausible that what constitutes an acceptable deviation from target may vary with shifts in the inflation target and structural changes in the policy regime. However, we choose to keep the tolerance level constant throughout the sample to ensure comparability of our risk measures over time as we are interested in relative changes in the risks of de-anchoring.¹⁶ Based on the specification of the anchored zone, we then identify two de-anchoring metrics, namely the risk of de-anchoring to the downside and de-anchoring to the upside. These metrics quantify the risk of inflation expectations deviating above or below the anchored zone.

$$DR_{i,j,t}^H = \int_{-\infty}^{\pi_i} dF_{\pi_{i,j,t}}^H(\pi_{i,j,t}^H) \quad (1)^{17}$$

¹⁵ The firms are more reliable for real-time analysis of a single quarter than the analysts or unions as the sample size (~120) is much greater than the other social groups, who tend to recruit between 10 and 30 respondents per quarter.

¹⁶ The results for our de-anchoring measures are robust for sufficiently narrow threshold values (e.g. 0.1%, 0.25% and 0.5%).

¹⁷ See Annex 2 for a detailed breakdown of the methodology applied in this section.

$$UR_{i,j,t}^H = \int_{\bar{\pi}_i}^{\infty} dF_{\pi_{i,j,t}}^H(\pi_{i,j,t}^H) \quad (2)$$

$$prob_{i,j,t}^H = 1 - DR_{i,j,t}^H - UR_{i,j,t}^H \quad (3)$$

Equation (1) is the risk of de-anchoring to the downside, where the upper limit ($\underline{\pi}_i$) is the lower threshold of the anchored zone. Similarly, the risk of de-anchoring to the upside (Equation (2)) is bounded by the upper threshold ($\bar{\pi}_i$) of the anchored zone and all positive values in the distribution above the upper threshold. In these two equations we focus on the 2-year-ahead horizon (represented by the H superscript) and calculate these measures cross-sectionally for each respondent (i) within each social group (j) – in the rest of this paper, we retain this notation to distinguish between individual respondents and broader social groups.

Equation (3) is the anchored zone, which, by definition, is the sum of the full distribution less our de-anchoring risk measures.

To model Equations (1) to (3), we fit a parametric distribution to the underlying inflation expectations data and estimate the risk metrics using maximum likelihood. The heterogeneity between our social groups mean we follow a tiered approach to appropriately match a parametric distribution to the underlying data. This implies that we initially try and fit a skew-t distribution, due to its flexibility and ability to capture thick right tails, making it suitable for firms and trade unions where the underlying data exhibit this characteristic. If the skew-t distribution fails to provide a reasonable fit to the data, we then resort to a skew-normal and in some instances (primarily for analysts) we rely on a normal distribution.¹⁸

¹⁸

The tiered approach we use can be expressed as follows:

(1) Fit the skew-t distribution and estimate by maximum likelihood:

$$f(\pi; \xi, \omega, \alpha, \nu) = \frac{2}{\omega} t\left(\frac{\pi - \xi}{\omega}; \nu\right) \cdot T\left(\alpha \frac{\pi - \xi}{\omega} \sqrt{\frac{\nu + 1}{\nu + \left(\frac{\pi - \xi}{\omega}\right)^2}}; \nu + 1\right).$$

(2) If this distribution does not represent the underlying data, fall back to the skew-normal distribution:

$$f(\pi; \xi, \omega, \alpha) = \frac{2}{\omega} \phi\left(\frac{\pi - \xi}{\omega}\right) \cdot \Phi\left(\alpha \frac{\pi - \xi}{\omega}\right).$$

We estimate the anchoring measures for each agent group separately. We report our results in Figure 4, where the light-green-shaded area represents our anchored zone and the light- and dark-blue regions are the risks of de-anchoring to the down- and upside respectively. We first draw attention to the early period of inflation targeting (2000–2010), to emphasise what unanchored expectations may look like. Apart from analysts, the upside de-anchoring risk was regularly substantial for both firms and unions during this period given that this was a period of learning for both the SARB and private sector agents, and where the economy experienced successive inflationary shocks (exchange rate crisis and the GFC). Expectations were relatively unanchored for two out of the three social groups.

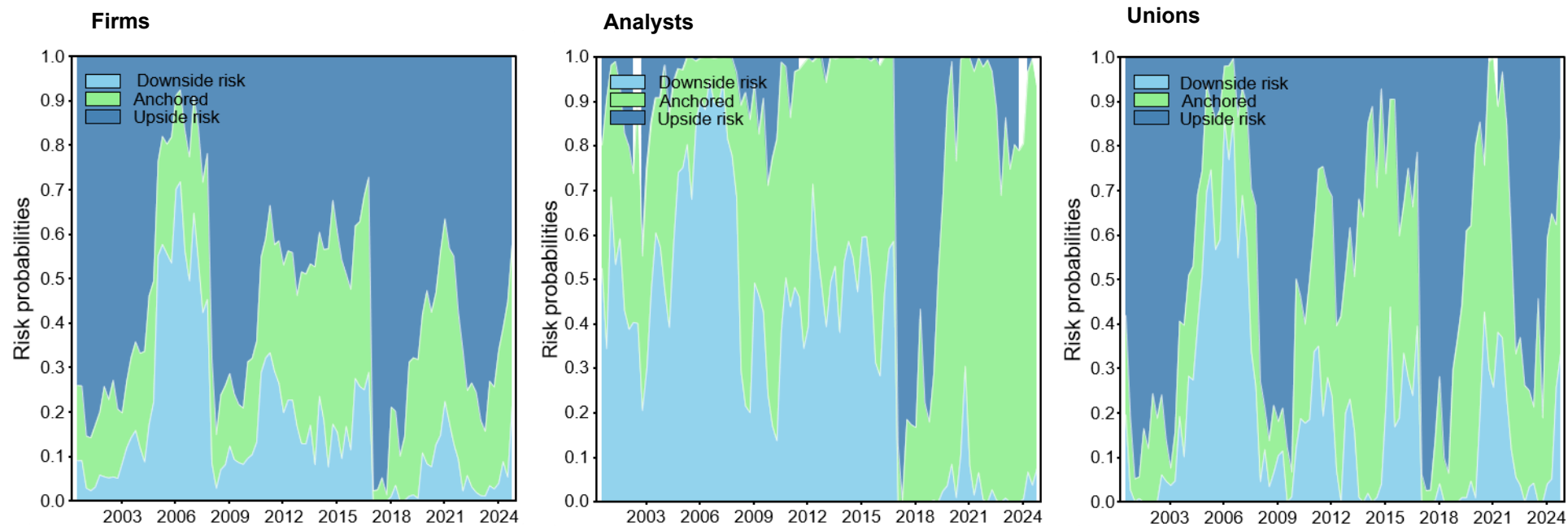
The period following the GFC (2011–2016) can be characterised as stable. For all three social groups there was a greater degree of anchoring (larger green-shaded areas) at or around the SARB's de facto target. Despite the stability of inflation expectations, there remained a non-negligible risk of de-anchoring to the upside for both firms and unions over this period. This finding is consistent with the dating of high- and low-inflation regimes and attentiveness to inflation in South Africa (Foresto, Reid and Rakgalakane 2025). While expectations were fairly stable during this period, the high level of inflation being targeted implied that firms and unions were more sensitive to any shocks that could apply upward pressure on inflation, potentially increasing the risks of their expectations having an upward bias.

After the SARB's announcement of its preference for 4.5% in 2017, there was a sharp rise in the risk to de-anchor to the upside for all three social groups. However, this temporary increase in upside risk is to be expected following a structural policy change that lowers the inflation target, creating a bigger gap between inflation expectations and the new target. It is encouraging that the upside de-anchoring risk quickly dissipated across all three social groups as they revised their beliefs towards the new target. While we do not econometrically test for it, intuitively these findings suggest that both the announcement and previous track record were seen as credible by agents in the economy when the bank began to pursue a new/lower target.

Although the post-pandemic era saw inflation shocks larger than any in two decades, and the risk of inflation expectations drifting upwards increased, expectations were

more likely to return to stability than they were after the currency crisis and GFC crisis. This behaviour is pronounced for our more informed and homogenous social groups – analysts and unions – which were potentially more aware (due to heightened attention) of the trajectory of inflation at the time and the public debate on the lowering of the inflation target (Foresto et al. 2026). The experience of the firms suggests that their transition to stability was more gradual, consistent with their behaviour in our previous results. Although we do not test for causality, it appears that the SARB's pre-pandemic track record and credibility contributed to a less severe upward bias in expectations during the post-pandemic period. Nonetheless, firms may still require a longer track record at a lower level of inflation to be established before they adjust their beliefs about future inflation outcomes.

Figure 4: Anchoring risk measures



Source: Authors' own calculations.

5.3 Confidence in the reporting of inflation expectations by agents (uncertainty index for South Africa)

Unlike our measures of dispersion, which capture disagreement between respondents, for this measure we are interested in how confident or uncertain individual respondents are in their reported beliefs. Probabilistic forecasts for each respondent would be our first choice to measure uncertainty directly, but these are not collected in the BER survey. We can infer uncertainty from how round (coarse) a respondent's point forecast is (Branch 2007; Hudomiet and Willis 2012). To reiterate the caveat in section 2.3, while this approach could measure a degree of uncertainty, it may also be influenced by other factors that could result in less precise reporting. As Dovern and Glas (2025) outline, these factors may include the attention of respondents, survey design and priming with recent inflation prints, all of which may influence whether respondents round their forecasts.

Through a special question in the Deutsche Bundesbank's survey of consumer expectations, Dovern and Glas observed that the majority of respondents (65%) rounded their forecasts of inflation because they found it simpler or the value corresponded to their true beliefs, while only 14% gave uncertainty as their reason for rounding their forecasts. While respondents in the BER surveys are primed with two average values of inflation (previous 12 months and last five years), recent empirical work on the effects of priming on survey responses reveal the effects are modest (Odendaal, Reid and Siklos 2026), potentially mitigating the effect of survey design on the precision of respondents' forecasts.

To model respondent uncertainty, we follow the approach of Binder (2017) with some modifications to account for the behavioural differences in our social groups. The intuition behind this methodology is that an individual respondent has a true belief about inflation in the future ($\pi_{i,j,t}^*$) that we do not directly observe. The respondent's true belief is rounded based on a reporting grid ($g_{i,j,t}$).¹⁹ The reporting grid (g) captures the precision or coarseness with which the respondent (i) rounds their true beliefs, with

¹⁹

The subscript g is the grid choice compatible with our estimation.

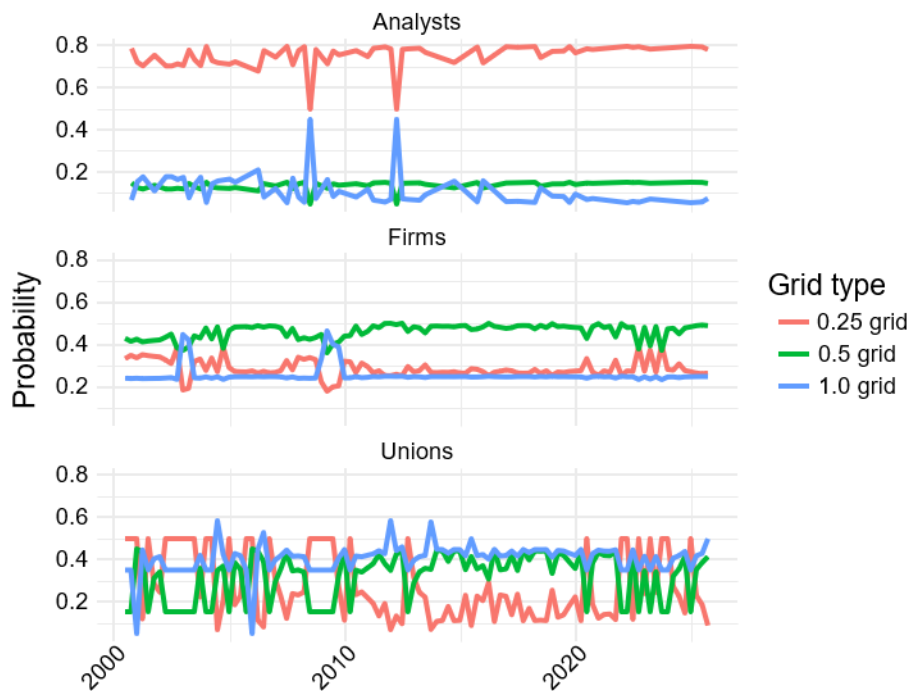
smaller grid values corresponding to more precise reporting and greater confidence in the surveyed forecast we observe.

$$\pi_{i,j,t}^e = \text{Round}\left(\pi_{i,j,t}^* / g_{i,j,t}\right) * g_{i,j,t} \quad (4)^{20}$$

Unlike Binder (2017), we do not find strong evidence of bunching in intervals of five for any of the social groups in the BER data. Rather, we observe that private sector agents in South Africa (firms, analysts and unions) round in narrower intervals (e.g. 0.25, 0.5 or 1). Based on this observation we set our reporting grid with three values, $g_{i,j,t} \in \{0.25, 0.5, 1\}$, where respondents who round to the nearest quarter-point (predominantly the analysts) are more confident in their forecasts and those who choose coarser grid values (firms and unions) display more uncertainty. As we do not observe the grids each respondent applied directly, we estimate these grid choices cross-sectionally for each social group using maximum likelihood. For each social group (j), we model their reported forecasts as a mixture of three normal densities, matching our three grid values. The weights of these densities ($\theta_{j,t}^g$) must sum to 1 and serve as the prior probability for each grid. In Figure 5, we observe that the analysts are more precise in their reporting than the other groups, consistent with our priors, relying predominantly on the finest grid available ($g_{i,j,t} = 0.25$). The firms tend to round in intervals of 0.5, suggesting they are less precise than analysts and tend to have a greater upward bias in the reported survey numbers. However, of all our social groups the unions are most volatile over the sample period and mostly rely on the coarser rounding methods.

²⁰ See Annex 3 for a detailed breakdown of the methodology applied in this section.

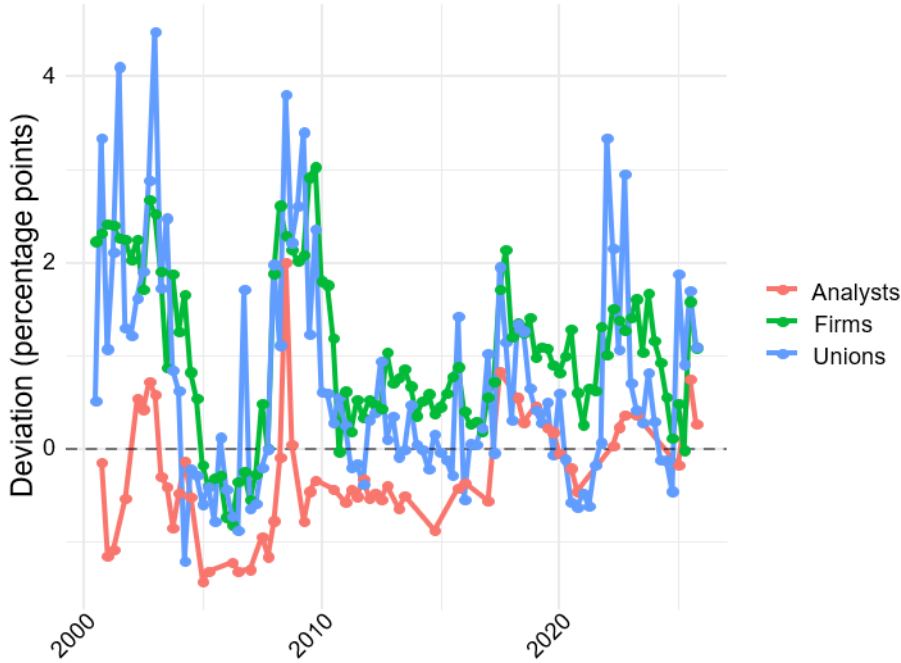
Figure 5: Grid probabilities by social group



Source: Authors' own calculations.

To avoid changes in the inflation target being interpreted as genuine shifts in respondents' (un)certainty, we centre each social group's distribution on its mean forecast, which is decomposed into the prevailing target for that period and a group-specific deviation. We observe these group-specific deviations from the target in Figure 6. Given that we centre around the mean for each social group, the deviations in Figure 6 are consistent with the differentials represented in Figures 1 and 2. Using the priors we obtain from our grid estimation, we apply Bayes' rule in Equation (5) and model the posterior probability that an individual respondent used a specific grid to round their true belief given the reported value we observe.

Figure 6: Deviation from inflation target for our social groups



Source: Authors' own calculations.

Turning to Equation (6), we see that each respondent's uncertainty index across our social groups is a posterior weighted average grid. When respondents use a coarser grid, the corresponding uncertainty index will have a larger value. We aggregate the individual uncertainty indices within each group to obtain a group-level uncertainty index. To simplify our analysis further, we compute an aggregate uncertainty index weighting each social group in our index equally (that is, $w_j = \frac{1}{3}$ for each j). We do this to prevent social groups with larger samples (firms) from dominating the behaviour of the aggregate uncertainty index. As a last step, in Equation (7) we normalise the uncertainty index between 0 and 1, where index values closer to 0 suggest agents are more confident or precise in their reported forecasts and values closer to 1 suggest greater uncertainty.

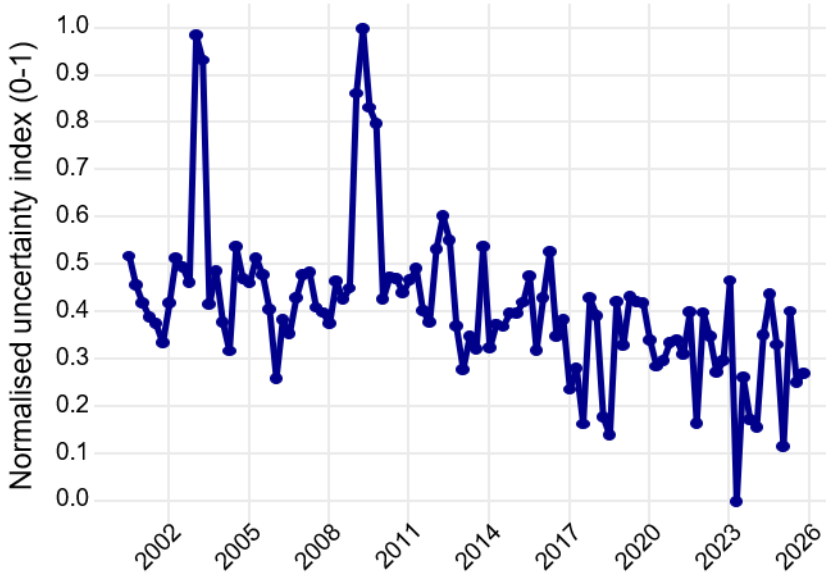
$$P(g_{i,j,t} = g | \pi_{i,j,t}^e) = \frac{\theta_{j,g,t} * \phi_g(\pi_{i,j,t}^e | \mu_{g,t}, \sigma_{g,t})}{\sum_{g \in \{0.25, 0.5, 1\}} \theta_{j,g,t} * \phi_g(\pi_{i,j,t}^e | \mu_{g,t}, \sigma_{g,t})} \quad (5)^{21}$$

²¹ We use a standard normal cumulative density function (ϕ_g) as our parametric distribution when calculating the posterior probabilities for each individual agent.

$$\zeta_{i,j,t} = \sum_{g \in \{0.25, 0.5, 1\}} g \cdot P(g_{i,j,t} = g | \pi_{i,j,t}^e) \quad (6)$$

$$U_t^{norm} = \frac{U_t - U_t^{min}}{U_t^{max} - U_t^{min}} \quad (7)$$

Figure 7: 2-year-ahead inflation expectations uncertainty index



Source: Authors' own calculations based on BER data.

Figure 7 shows the normalised uncertainty index. Focusing first on the early period in our sample (2000–2010), we find the two largest uncertainty spikes in the entire series during the exchange rate currency crisis and the GFC. Apart from these two events, the index level was broadly stable, albeit at a relatively high level (0.4–0.5) compared to later periods. This result supports conclusions based on the first two anchoring characteristics that the first decade of inflation targeting did not consistently stabilise expectations.

This characteristic contrasts with the first two in that it does not suggest strong anchoring properties when the SARB's de facto target was 6% during the mid-2010s, with the level of uncertainty not having declined. This dynamic could be explained by the inflation level being targeted at that time: as Kganyago (2025) states, a rate of that magnitude is inconsistent with macroeconomic stability, and would keep uncertainty in agents' forecasts high.

After the SARB announced its preference for 4.5% in 2017, there was a structural shift to a lower level in the uncertainty index. The downward shift suggests that private sector agents became more certain in their beliefs about future inflation outcomes. As with our previous measures, the announcement and the period thereafter suggest the policy change was viewed as credible by private sector agents.

Notably, the response during the pandemic inflation surge was more subdued than we would expect given past shocks and how the other anchoring characteristics evolved. It is possible that the SARB's credibility and track record of stabilising expectations near its target contributed to a weak response in uncertainty relative to previous shocks. However, unlike previous shocks, we know that private sector agents were highly attentive to current inflation outcomes and the conduct of monetary policy during this period, partly due to media coverage and salience of the shocks that occurred (Odendaal, Reid and Siklos 2026; Foresto et al. 2026).

5.4 Revisions to forecasts

If private sector agents are attentive to historical inflation, they will revise their inflation expectations frequently, which signals that expectations are less unanchored.

$$\pi_{i,j,t}^e = \alpha_0 + \alpha_1 \pi_{i,j,t-1}^e + \beta_1 (\pi_{i,j,t-1}^e - \pi_{t-1}^{CPI}) + \varepsilon_{i,t} \quad (8)$$

We measure how private sector agents revise their forecasts in Equation (8), with a specification based on Bracha and Tang (2025). We rely on a System Generalized Method of Moments (SGMM) to analyse our subsamples and assess the extent to which agents revised their expectations under different economic conditions. The SGMM estimation controls for any endogeneity that may be present when modelling lags of the dependent variable, ensuring that our estimates are unbiased and consistent. We model the expectations formation process of agents based on their previous forecast or prior belief, captured by α_1 , or if they are revising based on incoming information on inflation relative to their prior, represented by β_1 .

The literature shows that agents are often inattentive and update their beliefs marginally and infrequently (Mankiw and Reis 2003; Sims 2003), suggesting that

agents' expectations are persistent, thereby implying α_1 is positive, large and the main driver of current expectations. Accordingly, and conversely, we can expect the coefficient on the revisions (β_1) to be small relative to the persistence term, with a negative sign on β_1 denoting that prior expectations greater than inflation should result in agents adjusting their current expectations downward. Intuitively, if expectations are stable and well anchored, we should expect agents to make fewer revisions ($\beta_1 \approx 0$) and rely more on their priors to inform them about their future beliefs. However, in the context of a target shift, a greater value of β_1 is desirable because it reflects active learning on the part of economic agents as they internalise a new focal point for policy and update their beliefs accordingly. However, the extent to which a larger α_1 and smaller β_1 represent a strong degree of anchoring is highly dependent on agents stabilising their expectations at the target. Without complementing the coefficients of this regression with other characteristics (especially 1 or 2), the takeaway for policymakers is less clear.

The results for our social groups are captured in Figure 8. The findings suggest, across all subsamples, that inflation expectations are highly persistent as the coefficient on the prior (orange dots) settles close to 1 for all three social groups. This suggests that, on average, respondents rely heavily on their existing expectations when forming their beliefs about inflation in the future.

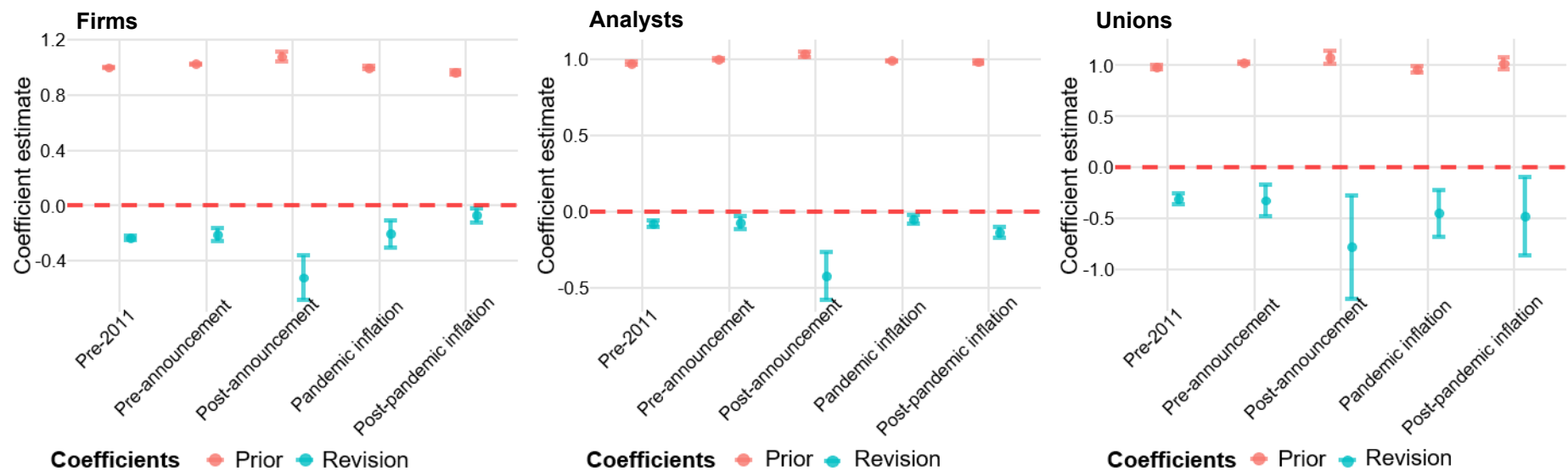
We do find evidence that respondents in all three groups update their expectations in response to incoming information (blue dots). However, the magnitude of these coefficients does not vary significantly across subsamples and is relatively stable within each social group. The clearest exception to this pattern is during the *post-announcement* subsample, following the SARB's communication of its 4.5% preference within the target band. We observe that for all three social groups there was a significant increase in the degree to which agents revised their beliefs relative to other subsamples. This suggests that during periods of transition following structural policy changes respondents appear to revise their expectations more relative to other periods.

Outside of the post-announcement transition, we interpret the extent to which agents revise their expectations with more caution. While there may be differences in the

mean response of revisions across subsamples, particularly for the unions, the overlapping confidence intervals suggest that these revisions are indistinguishable from a statistical point of view. This suggests that this measure is better suited to providing supportive evidence alongside other real-time anchoring measures as opposed to being relied upon as a standalone measure.

Consistent with our previous measures, there is a degree of heterogeneity in how each social group revises its expectations. Analysts generally make small adjustments to their beliefs, which is consistent with their expectations being more stable over time. In contrast, firms and unions display larger revisions for most of the subsamples, although the difference in their revisions during stable (pre-announcement) periods and periods characterised by economic shocks (e.g. pre-2011 and pandemic inflation) are not as clear as suggested by some of our previous measures.

Figure 8: Revisions to 2-year-ahead inflation expectations



Source: Authors' own calculations based on BER and Stats SA data.

5.5 Sensitivity of long-term inflation expectations to changes in short-term expectations

Turning to our final anchoring characteristic, we assess the sensitivity of agents' long-term inflation expectations to movements in short-term expectations. In this context, when expectations are well anchored agents should be able to 'look through' temporary short-term price movements, implying that short-term expectations may correlate with current inflation but that long-term expectations remain stable at the central bank's target (Bernanke 2007). Conversely, if agents' long-term inflation expectations co-move strongly with short-term expectations, expectations could be considered poorly anchored.

$$\pi_{i,j,t}^{e,LT} = \delta + \beta \pi_{i,j,t}^{e,ST} + \theta_{i,j} + \omega_{j,t} + \epsilon_{i,j,t} \quad (9)$$

We estimate the feedback from short- to long-term inflation expectations using Equation (9), where our parameter of interest is the contemporaneous association between expectations at these different horizons (β). Using a two-way fixed effects model, controlling for individual respondent ($\theta_{i,j}$) and time ($\omega_{j,t}$) effects for our different social groups, we can assess the feedback under different economic conditions using the subsamples. Importantly, we cannot infer causality based on this relationship as we have not controlled for all the factors that cause short-term expectations to move. Rather, we are simply looking at how strong the co-movement between short- and long-term expectations is under different economic conditions. Therefore, values of β closer to 1 reflect stronger feedback from short- to long-term inflation expectations, implying weaker anchoring. However, interpretation is dependent on the prevailing economic conditions as heightened sensitivity during a target transition may reflect active learning rather than genuine de-anchoring.

In Figure 9 it is clear that firms and unions behave similarly, exhibiting strong feedback from their short- to long-term expectations that is relatively stable over time (between 0.6 and 0.75), irrespective of the prevailing economic conditions in our subsamples. This result is somewhat surprising, particularly for the *pre-announcement* period where our earlier measures show that the behaviour of both groups was fairly stable and anchored. If viewed independently, these findings may imply that firms and unions

have been relatively unanchored, indicating the importance of assessing anchoring across multiple dimensions to identify consistent patterns in behaviour.

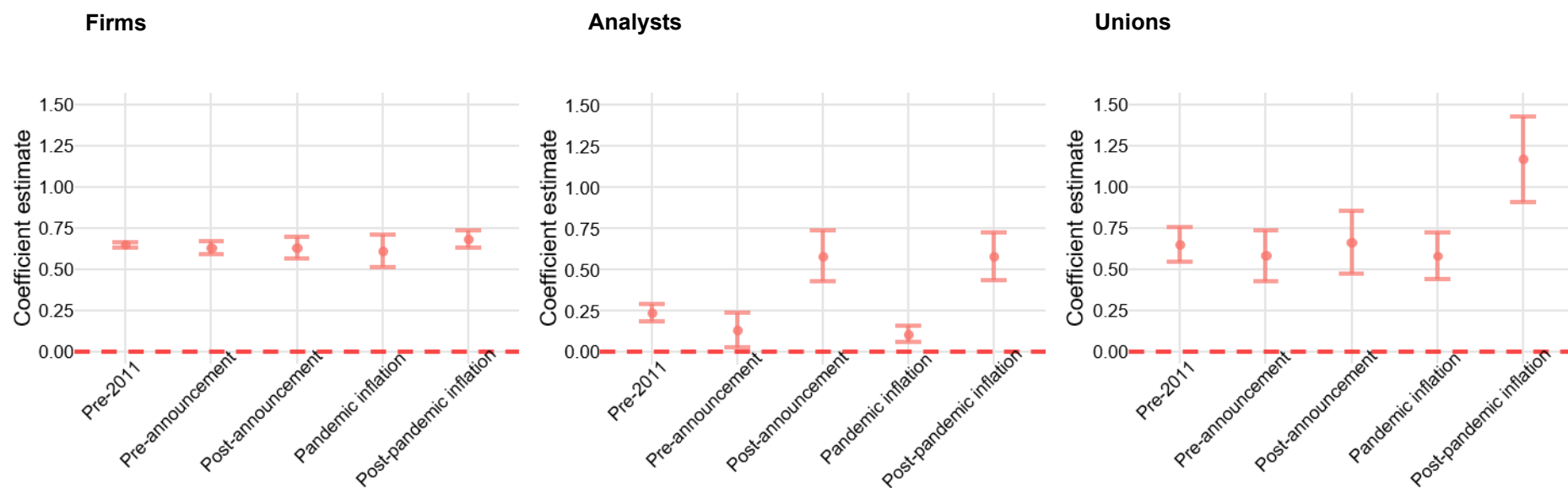
We believe the stable feedback for firms and unions in all subsamples considered could be explained by a failure to distinguish between transitory shocks (relative price movements) and more sustained (permanent) shocks that generate broader price pressures in the economy. This results in a similar pattern of movement between the short- and long-run horizon for firms and unions irrespective of the nature of the shock (transitory or more sustained).

Estimates for analysts, however, are consistent with our earlier results, exhibiting stronger feedback when the economy is transitioning to a new inflation target, like the *post-announcement* period (beta was greater than 0.5). The analysts' long-term expectations were also responsive to movements in their short-term expectations during the highly volatile first decade of inflation targeting. However, compared to the feedback during the transition towards 4.5%, the coefficient is substantially smaller (beta ~ 0.25), which suggests that analysts' long-term expectations were more responsive to a structural policy shift than to temporary inflationary shocks.

Encouragingly, the feedback for analysts during the pandemic inflation, despite being significant in a statistical sense, was very close to 0, suggesting that their longer-term inflation expectations remained relatively stable. This is supported when we compare the size of the feedback in this period to that of the *pre-2011* period.

In the most recent period, we see that analysts and unions, who tend to be more informed about monetary policy and recent historical inflation relative to firms, show signs of higher feedback from short- to long-term inflation expectations. This pattern is consistent with the behaviour displayed by analysts during the last transition (6% to 4.5%) and is consistent with our previous findings that expectations have a strong tendency to return to stability.

Figure 9: Feedback from short- to long-term inflation expectations



Source: Authors' own calculations based on BER data.

6. Bringing it all together: conclusions and policy implications

We set out to explore how policymakers can assess anchoring in the presence of shocks and shifting policy regimes. A single-characteristic approach is not sufficient, particularly in the South African context. Using a holistic, multi-characteristic assessment, we distinguish between measures that are useful at providing early-warning signals to policymakers and those that are more informative ex-post. We document a clear evolution in the expectations-formation process: (i) a volatile learning period in the early inflation-targeting years where, put very simply, expectations displayed a low degree of anchoring; (ii) a sustained period of relative stability around the de facto target of 6%; (iii) a period in 2017, after the SARB communicated a preference for the midpoint of the band, where stability was lost but welcomed to the extent that agents adjusted their expectations to the new target; (iv) a major stress test during the post-COVID inflation surge, where even though the relative stability in expectations was temporarily lost, economic agents reacted to a lesser degree than during shocks in earlier periods (e.g. the exchange rate crisis in 2001 and the GFC); and (v) a strong tendency to return to stability as inflation normalised in 2024 and 2025.

Several policy implications are worth considering. First, the formulation and communication of the policy anchor matter. The period in which expectations clustered around the top of the target band illustrates how, in the absence of an explicit focal point, agents may coordinate at a suboptimal implicit anchor. The SARB's 2017 announcement of a preference for a target of 4.5% coincided with a gradual reorientation of expectations toward a lower focal point, even though this adjustment was interrupted by the pandemic inflation shock. This suggests that credible communication, reinforced by a track record, can shift the perceived anchor over time.

Second, agent heterogeneity is of first-order importance both for diagnosing the state of their expectations and communicating policy. Analysts typically exhibit tighter distributions, lower uncertainty, smaller revision responses in stable periods, and weaker feedback from short- to longer-horizon expectations. These patterns are consistent with better (and more) information and a stronger perceived anchor. In contrast, firms and unions (although a homogenous subgroup relative to firms) display thicker tails and stronger co-movement across horizons during shocks, indicating greater vulnerability to de-anchoring risks. Monitoring only aggregate averages can

therefore understate emerging risks in specific segments of the population, and communication that is effective for analysts may not be sufficient for price-setters and representatives of wage negotiators.

Third, the distribution-based measures provide the most useful real-time early-warning signals among the characteristics we consider. Dispersion and the associated upside- and downside-risk probabilities tend to move before large changes in mean expectations and therefore offer a timely gauge of emerging instability. The uncertainty index based on rounding behaviour is best viewed as corroborating evidence: it broadly tracks the same episodes of instability identified by the distributional measures; however, given the uncertainty around the reasons respondents have for rounding, it cannot be relied upon in isolation.

Fourth, revisions and short-to-long feedback are best interpreted as state-dependent, ex-post diagnostics. During credible target transitions, a temporary increase in revisions and stronger co-movement across horizons can reflect active learning as agents incorporate new information about structural policy shifts. In this context, what would be more concerning is an absence of updating. By contrast, during large inflation shocks, persistently elevated revisions combined with thick right tails and high upside-risk probabilities would be consistent with de-anchoring that threatens second-round dynamics. The pandemic episode illustrates this nuance: expectations did become less stable, but the tendency to revert to stability in the subsequent disinflation period suggests that credibility established before the pandemic limited the degree of de-anchoring.

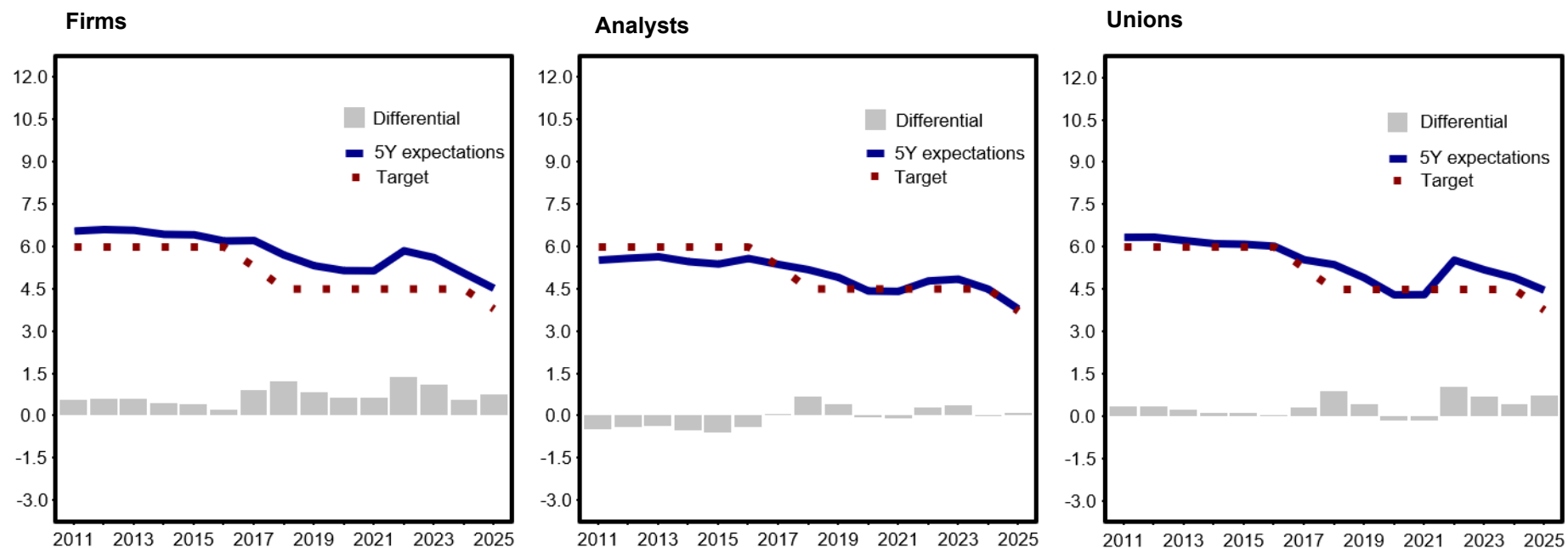
Finally, the transition to a 3% target should be evaluated through the lens of this full suite of indicators. In the near term, average expectations being above 3% is consistent with a transition process rather than, on its own, evidence of a loss of credibility. The key questions are whether distributions continue to shift left with declining upside-risk probabilities, and whether revisions and short-to-long feedback subside over time as the track record of lower inflation is established. The evidence in this paper suggests that South Africa has previously managed to anchor expectations at different times and in different conditions, especially when communication and outcomes were aligned. This track record suggests the same is achievable in the transition to 3%, but the

current episode will similarly hinge on sustained consistency between the target, communication and realised inflation outcomes, with particular attention to the slower-moving adjustment of firms and other price-setters in the economy.

Annexures

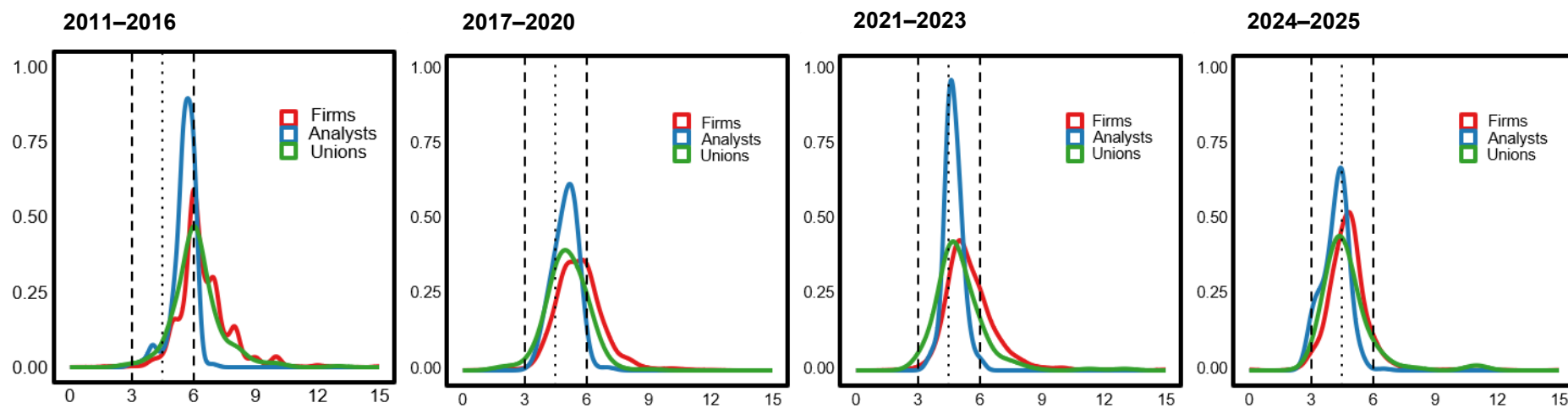
Annex 1: Results for 5-year-ahead inflation expectations

Figure A1: Distance of mean 5-year-ahead inflation expectations from target



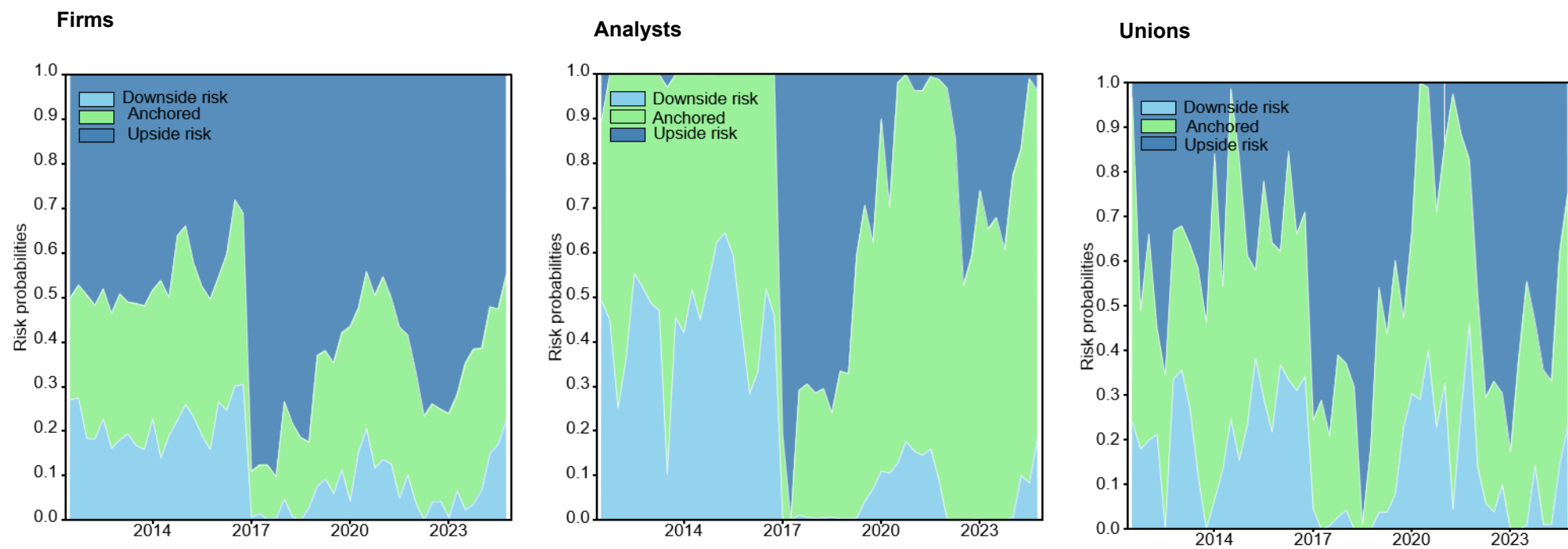
Source: Authors' own calculations based on BER data.

Figure A2: Dispersion of 5-year-ahead inflation expectations



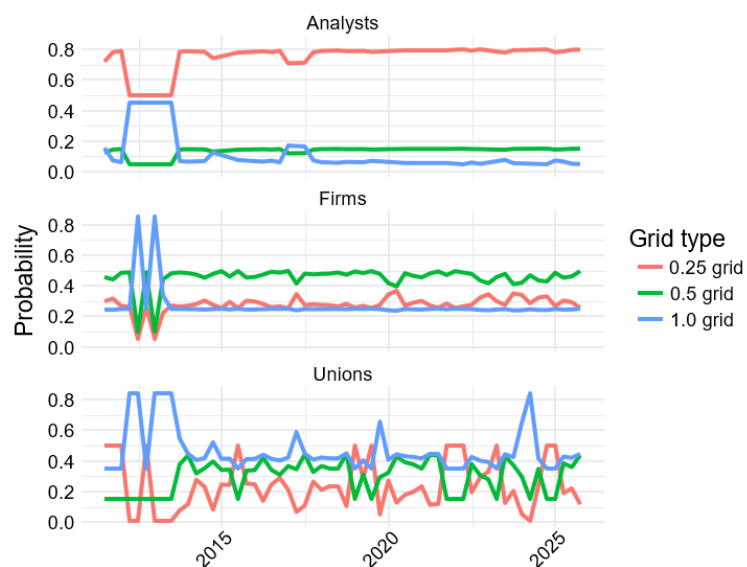
Source: Authors' own calculations based on BER data.

Figure A3: Anchoring risk measures (5-year-ahead)



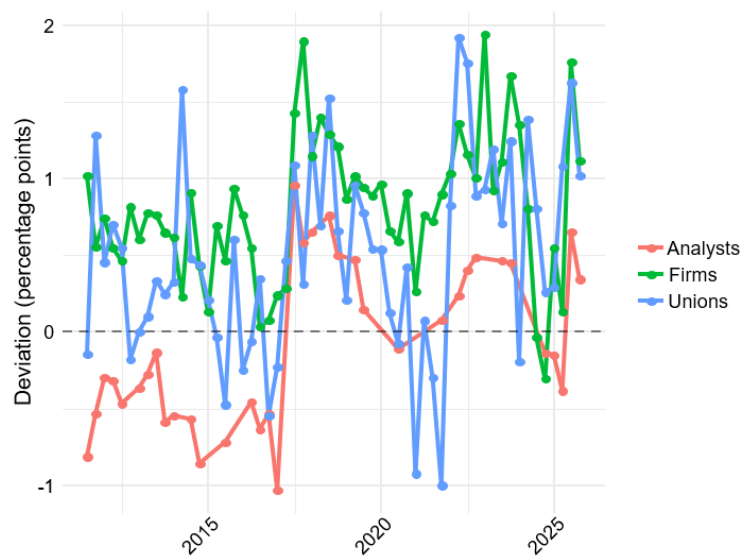
Source: Authors' own calculations based on BER data.

Figure A4: Grid probabilities by social group (5-year-ahead)



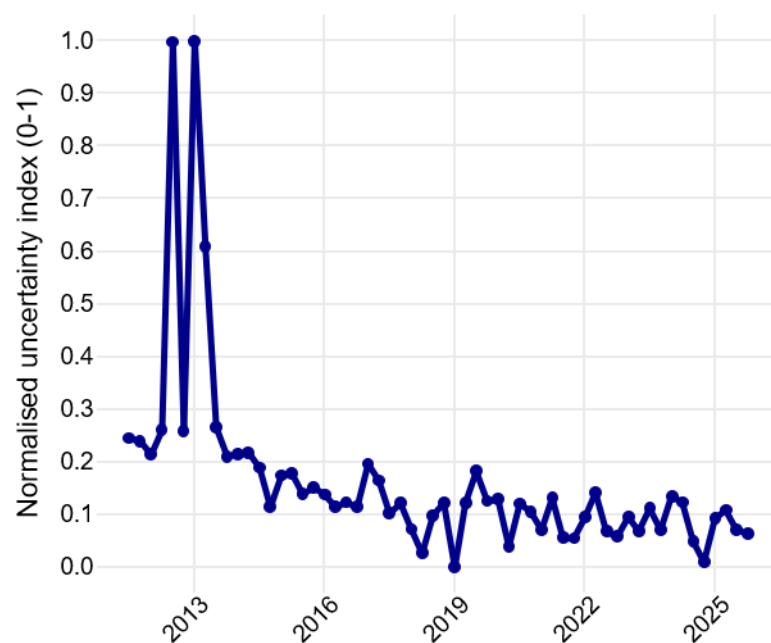
Source: Authors' own calculations based on BER data.

Figure A5: Deviation from inflation target for social groups (5-year-ahead)



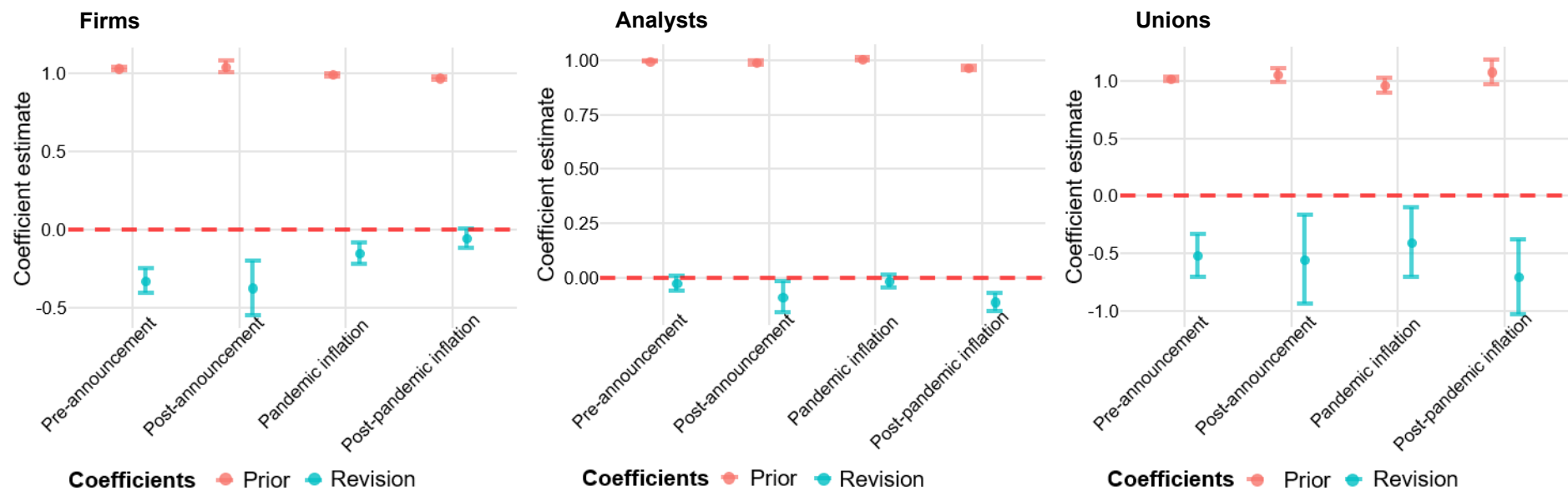
Source: Authors' own calculations based on BER data.

Figure A6: 5-year-ahead inflation expectations uncertainty index



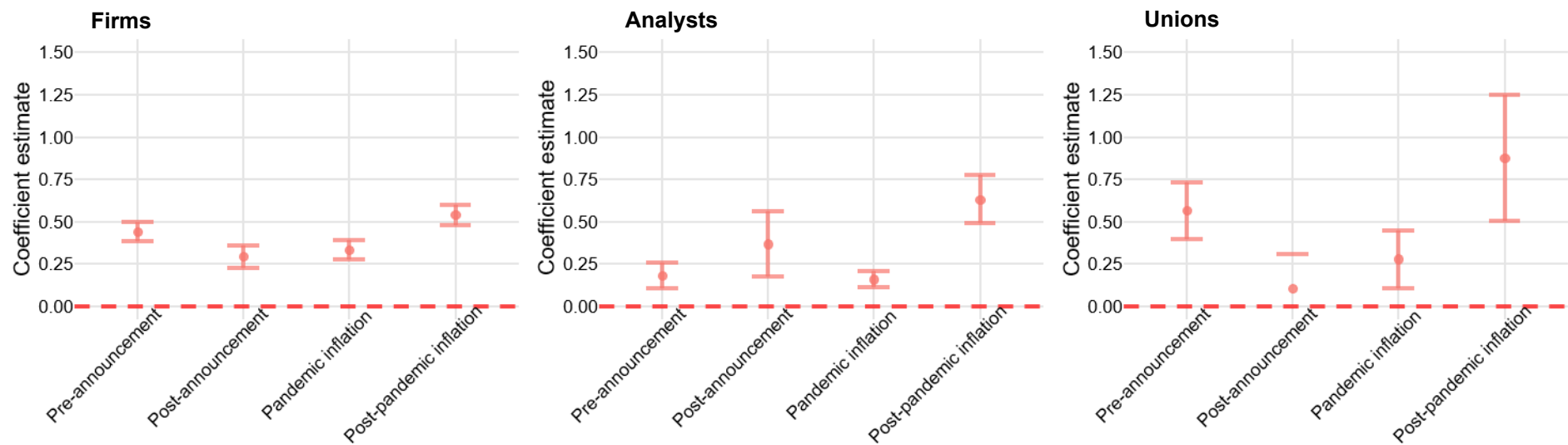
Source: Authors' own calculations based on BER data.

Figure A7: Revisions to 5-year-ahead inflation expectations



Source: Authors' own calculations based on BER data.

Figure A8: Feedback from short- to long-term inflation expectations (5-year-ahead)



Source: Authors' own calculations based on BER data.

Annex 2: Grosse-Steffen (2021) de-anchoring risk metrics

Using disaggregated survey-based measures of inflation expectations gives us a distribution at each point in time based on the data's frequency. This distribution is represented by Equation (A.2.1), where $\pi_{i,j,t}^e$ are the expectations of respondent i in social group j :

$$\pi_{i,j,t}^e = \{\pi_{1,j,t}^e, \pi_{2,j,t}^e, \dots, \pi_{N,j,t}^e\} \quad (A.2.1)$$

As a next step, the explicit inflation target and the acceptable tolerance or width around the target is set by the researcher. The threshold around the target determines the 'anchored zone' or bounded region around the central bank's target, where expectations are considered stable.

$$\pi^* = \text{central bank's target} \quad (A.2.2)$$

$$\pi_L^e = \pi^* - \omega(\text{lower threshold}) \quad (A.2.3)$$

$$\pi_H^e = \pi^* + \omega(\text{upper threshold}) \quad (A.2.4)$$

The choice of threshold around the target are ad hoc. However, for narrower choices ($\omega = 0.25, 0.5, 1$) the results remain robust (Grosse-Steffen 2021). In our analysis we rely on a threshold of 0.5 on either side of the central bank's target.

Before computing the risk measures, an appropriate parametric distribution that provides a suitable fit to the underlying data must be identified. We follow a tiered approach, fitting a highly flexible distribution (*Skewed-t*) that captures the asymmetry and thicker tails in the data.

$$f(\pi_{i,j,t}^e; \xi, \omega, \alpha, \nu) = \frac{2}{\omega} t\left(\frac{\pi_{i,j,t}^e - \xi}{\omega}; \nu\right) \cdot T\left(\alpha \frac{\pi_{i,j,t}^e - \xi}{\omega} \sqrt{\frac{\nu + 1}{\nu + \left(\frac{\pi_{i,j,t}^e - \xi}{\omega}\right)^2}}; \nu + 1\right) \quad (A.2.5)$$

Where this flexible distribution does not fit the data, we fall back to a *skew-normal*.

$$f(\pi_{i,j,t}^e; \xi, \omega, \alpha) = \frac{2}{\omega} \phi\left(\frac{\pi_{i,j,t}^e - \xi}{\omega}\right) \cdot \Phi\left(\alpha \frac{\pi_{i,j,t}^e - \xi}{\omega}\right) \quad (A.2.6)$$

Lastly, should the prior two parametric distributions fail to provide a reasonable fit we rely on a *normal* distribution, which is the most symmetrical of our choices.

$$f(\pi_{i,j,t}^e; \mu, \sigma) = \frac{1}{\sigma \sqrt{2\pi}} \exp\left(-\frac{(\pi_{i,j,t}^e - \mu)^2}{2\sigma^2}\right) \quad (A.2.7)$$

Our choice of the tiered approach is motivated by the heterogeneity between and within our social groups. For example, analysts tend to be homogenous and centred around the central bank's target while firms display greater levels of disagreement.

We estimate the parametric distributions using maximum likelihood:

$$\theta_{j,t} = \underset{\theta \in \Theta_k}{\operatorname{argmax}} \sum_{i=1}^{N_{j,t}} \log f_k(\pi_{i,j,t}^e; \theta) \quad (A.2.8)$$

where $f_k(\cdot; \theta) \in \{skew - t, skew - normal, normal\}$.

The fitted parameters from our likelihood function are used to calculate the cumulative distribution function (CDF) based on any of our fitted parametric densities.

$$F(\pi_{i,j,t}^e; \hat{\theta}_{j,t}) = \int_{-\infty}^{\pi_{i,j,t}^e} f_k(\pi_{i,j,t}^e; \hat{\theta}_{j,t}) d\pi^e \quad (A.2.9)$$

These CDFs map one-to-one onto our anchoring risk measures (downside, upside and anchored zone) in Equations (A.2.10) to (A.2.12).

$$Downside\ risk = F(\pi_L^e; \hat{\theta}_{j,t}) \quad (A.2.10)$$

$$Upside\ risk = 1 - F(\pi_H^e; \hat{\theta}_{j,t}) \quad (A.2.11)$$

$$Anchored\ zone = F(\pi_H^e; \hat{\theta}_{j,t}) - F(\pi_L^e; \hat{\theta}_{j,t}) \quad (A.2.12)$$

Annex 3: Inflation expectations uncertainty index (Binder 2017)

Using the disaggregated survey data described in section 4, we infer respondent-level uncertainty based on how coarsely respondents round their forecasts. For a respondent (i) in social group $j \in \{\text{analyst, firm, union}\}$ in quarter t , we observe a value for expectations at each horizon ($\pi_{i,t}^e$). By assumption, each respondent has an unobserved (latent) true belief about inflation in the future:

$$\tilde{y}_{i,t} \sim N(\mu_{j,t}, \sigma_{j,t}^2) \quad (\text{A.3.1})$$

where $\mu_{j,t}$ and $\sigma_{j,t}^2$ capture both the mean and dispersion within social group j . Unlike Binder (2017), we do not observe bunching in intervals of 5 percentage points as is the case in the Michigan Survey of Consumers. Rather, we find that respondents in our social groups round their beliefs in a systematic way, where the most precise respondents round to the nearest 0.25, followed by 0.5, while less precise respondents round to 1. This gives us a reporting grid $g_i \in \{0.25, 0.5, 1.0\}$, which respondent i uses to round their true beliefs:

$$\pi_{i,t}^e = \text{round}\left(\frac{\tilde{y}_{it}}{g_i}\right) \times g_i \quad (\text{A.3.2})$$

The grid choice used by respondent i is the signal of uncertainty in the model: coarser grids imply less precision in the reported survey value. As we have explicit central bank inflation targets that shift over time (6% to 4.5%, and lastly 3%), we separate genuine de-anchoring or heightened uncertainty from respondents adjusting to a change in the target. We do this by centring each social group around their mean inflation expectations which we decompose into the prevailing target and a group-specific deviation (equation A.3.3).

$$\mu_{j,t} = \pi_t^* + \delta_{j,t} \quad (\text{A.3.3})$$

where $\delta_{j,t} = 0$ indicates perfect anchoring to the prevailing target, while $\delta_{j,t} \leq 0$ denotes an upward or downward bias. This approach avoids confounding a regime change (shifting policy target) with genuine uncertainty about future inflation outcomes. The choice of reporting grid used is a probabilistic outcome, specific to social group j , and the weights applied to each grid vary over time:

$$P(g_i = g|j, t) = \pi_{g,j,t}^e \quad (\text{A.3.4})$$

Therefore, the reporting grid is also subject to the constraint that the weights on each grid sum to 1 (A.3.5).

$$\pi_{0.25,j,t}^e + \pi_{0.5,j,t}^e + \pi_{1.0,j,t}^e = 1 \quad (\text{A.3.5})$$

As a rounded response could be consistent with all three grids, we use a normal probability mass function in equation (A.3.6) for grid g , bounding the inferred true belief within the rounding window $[\pi^e - g/2, \pi^e + g/2]$.

$$\phi_g(\pi^e|\mu, \sigma) = \Phi\left(\frac{\pi^e + g/2 - \mu}{\sigma}\right) - \Phi\left(\frac{\pi^e - g/2 - \mu}{\sigma}\right) \quad (\text{A.3.6})$$

Equation (A.3.7) shows that the probability of an observed survey value is a mixture of the set of compatible grids.

$$P(\pi_{i,t}^e|\theta_{j,t}) = \sum_{g \in G(\pi_{i,t}^e)} \pi_{g,j,t}^e \phi_g(\pi_{i,t}^e|\mu_{j,t}, \sigma_{j,t}) \quad (\text{A.3.7})$$

In Equation (A.3.8), we estimate the parameter theta ($\theta_{j,t}$) for each of our social groups separately using maximum likelihood. This gives us the prior probability. Based on this prior, we apply a Bayesian updating rule to recover the posterior probability that a respondent i used grid g to round their true beliefs (Equation (A.3.9)).

$$\theta_{j,t} = \underset{\theta}{\operatorname{argmax}} \sum_{i=1}^{n_{j,t}} \log[P(\pi_{i,t}^e|\theta_{j,t})] \quad (\text{A.3.8})$$

where we maximise the likelihood of $\theta_{j,t}$ using L-BFGS-B, subject to the constraints that the variance is positive ($\sigma_{j,t}$) and the grid probabilities sum to 1 ($\pi_{g,j,t}^e \in [0,1]$).

$$P(g_i = g | \pi_{i,t}^e, \theta_{j,t}) = \frac{\pi_{g,j,t}^e \phi_g(\pi_{i,t}^e | \mu_{j,t}, \sigma_{j,t})}{\sum_{g' \in G(\pi_{i,t}^e)} \pi_{g',j,t}^e \phi_{g'}(\pi_{i,t}^e | \mu_{j,t}, \sigma_{j,t})} \quad (A.3.9)$$

Using the posterior probabilities estimated in Equation (A.3.9), we compute an individual-level uncertainty measure in Equation (A.3.10), where we condition the expected grid on the reported survey value.

$$\zeta_{i,t} = \sum_{g \in \{0.25, 0.5, 1.0\}} g \cdot P(g_i = g | \pi_{i,t}^e, \theta_{j,t}) \quad (A.3.10)$$

As we are interested in uncertainty at a social group level, we aggregate across respondents within a social group as specified in Equation (A.3.11). The index for each social group is the average expected grid size across all respondents in a group at that point in time. Interpreting the index, lower values correspond to more precise reporting grids and lower uncertainty, while larger values indicate coarser rounding and a higher inferred uncertainty.

$$U_{j,t} = \frac{1}{n_{j,t}} \sum_{i \in j} \zeta_{i,t} \quad (A.3.11)$$

We aggregate the social-group-level indices into a single uncertainty index. In our baseline, we weight each social group equally as the BER does in reporting its aggregate inflation expectations. However, the choice of weighting scheme is at the researcher's discretion and groups considered more informative or economically meaningful for monetary policy purposes can be upweighted. Equation (A.3.12) is then an economy-wide measure of uncertainty in surveyed inflation expectations.

$$U_t^{weighted} = \frac{\sum_j w_j n_{j,t} U_{j,t}}{\sum_j w_j n_{j,t}} \quad (A.3.12)$$

For comparability over time and across different inflation expectations horizons, the index is normalised to lie between 0 and 1 in Equation (A.3.13), where values closer to 0 indicate lower uncertainty and more precise reporting, while values closer to 1 indicate greater uncertainty and coarser reporting.

$$U_t^{normalised} = \frac{U_t - \min_t U_t}{\max_t U_t - \min_t U_t} \quad (A.3.13)$$

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