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Heterogeneity in the Formation of Inflation Expectations: Evidence from Micro Data

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Heterogeneity in the Formation of Inflation Expectations: Evidence from Micro Data*

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Abstract

Using micro-level data from the Canadian Survey of Consumer Expectations and a heterogeneous expectations model, we characterize the heterogeneity in inflation expectation formation among households across inflation regimes and demographic groups. We show that the recent inflation surge not only increased the level and dispersion of inflation expectations, but also altered expectation formation itself, with marked demographic heterogeneity and more widespread trend-chasing behavior than before the pandemic. Furthermore, only when inflation is high are these trend-chasing behaviors associated with higher expectations for a wide range of economic variables in the short and the long run, concerns about monetary policy, and restrained household spending along weak real wage expectations. Our micro-based insights show how an inflation surge broadly 'scars' forecasting behaviors, which poses a challenge for completing the 'last mile' of disinflation.

Keywords: *inflation expectations; state-dependency; heterogeneity; household survey*
JEL Classification: *E70; E31; D84*

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1 Introduction

Amid the recent inflation surge, central banks (CBs) have been concerned that inflation expectations could remain above the target [Powell, 2023]. In addition, these expectations have become more dispersed, and there is evidence that such heightened heterogeneity disrupts the transmission of monetary policy and amplifies the effects of supply shocks (see, e.g., Falck et al. 2021; Bullard et al. 2026). This paper draws on micro-level household survey data to examine the dynamics of expectation formation across different inflation environments and demographic groups.

Using data from the Canadian Survey of Consumers' Expectations (CSCE) over 2014Q4 to 2024Q2, we estimate a time-varying heterogeneous expectations model in which households follow possibly distinct autoregressive forecasting rules. Since agents switch between these rules based on their recent relative forecast accuracy, the composition of aggregate expectations can vary over time. We find strong evidence of differences in the composition of inflation expectations across inflation environments. During the sample period of low and stable inflation (2014Q4–2021Q1), aggregate inflation expectations tend to be target-reverting,[1] and we cannot identify any significant heterogeneity or dynamics in the expectation formation process across survey respondents. The prevalence of mean-reverting expectations preserves medium-run anchoring, which helps stabilize inflation in face of transitory shocks.

By contrast, during the post-pandemic inflation surge (2021Q2–2024Q2), households' inflation expectation formation processes become significantly heterogeneous, with trend-chasing behaviors becoming dominant. Trend-chasing forecasting further steers expec-

[1] In the paper, we use the terms target-reverting or mean-reverting interchangeably where the absolute value of the autoregressive coefficient is lower than one since we estimate forecasts of the inflation gap with respect to its target. Similarly, we use trend-chasing, trend-extrapolating, and trend-following interchangeably to describe diverging autoregressive forecasting models, i.e. with an autoregressive coefficient above one.

tations away from the target, accentuates the persistence of the shocks on inflation, and complicates the CB's stabilization task. Hence, not only do the mean expectations increase with inflation but so does disagreement between agents about the future stance of inflation, reflected in our framework by the use of distinct forecasting models. This heterogeneity contributes to increasing the persistence in aggregate inflation expectations, which translates into a heightened risk of unanchoring of inflation expectations.

We then use the richness of micro-level CSCE data to provide new evidence about heterogeneity in the formation of inflation expectations across socio-economic and demographic characteristics. We find that respondents with lower levels of education, females, and renters are more prone to adopting trend-chasing behaviors than other categories of respondents. Moreover, the association between demographics and forecasting behavior is strengthened in the inflation surge. Respondents reporting a low level of credibility about the inflation target or concerns about the level of inflation and respondents attributing a high importance to low and stable inflation are also more likely to have trend-chasing forecasts during the post-pandemic inflation surge. These differences contribute to our understanding of expectations heterogeneity and inform the design of targeted CB communication strategies.

Next, we provide new evidence linking trend-chasing inflation expectations to other economic and financial expectations available in the CSCE, at different horizons. During the post-pandemic inflation surge, trend-chasing short-run inflation expectations strongly correlate with higher medium- to long-run inflation forecasts as well as higher forecasts of interest rates, spending growth, taxes, and house price growth, across all horizons. A weaker but significant link exists with higher wage expectations. Importantly, the association between short-run inflation trend-chasing forecasting behaviors and other forecasts (or consumer intentions) only materializes during the inflation

surge. In particular, the association with higher five-year inflation forecasts reinforces the concern of unanchored expectations.

Finally, we document novel associations between inflation forecasting behaviors and spending intentions that stand out during the inflation surge. We find that only along this event are trend-chasing consumers more likely than those who hold mean-reverting inflation expectations to restrain their spending and increase their saving, in particular by postponing major purchases and chasing cheaper shopping deals or seeking additional income opportunities. These behaviors do not align with the standard consumer optimization framework embedded in the majority of macroeconomic frameworks. These findings could pose a substantial challenge to policy design and entail sizeable aggregate demand effects during an inflation surge.

Taken together, our findings speak to both a state-dependent risk of household expectations unanchoring and state-dependent costs of expectations heterogeneity. Within the context of our framework, these dynamics emerge along the inflation surge due to four mutually self-reinforcing developments: i) the rapid emergence of heterogeneity in forecasting behaviors that produces significant trend-chasing expectations; ii) persistently higher inflation expectations among these trend-chasers, which hinders the disinflation; iii) a strengthened association between short- and long-term inflation expectations among these trend-chasers, which jeopardizes expectations anchoring; and iv) elevated disagreement about inflation that extends to other economic variables, potentially contributing to heterogeneous economic behaviors that prolong the effects of shocks. In other words, an inflation surge 'scars' expectation formation processes widely and complicates the last mile of disinflation. Accounting for the effects of these scars in macroeconomic models could improve the design of monetary policy and help assess the persistence of inflationary shocks and the risks to expectations anchoring.

The rest of the paper is organized as follows. After the literature review, Section 2 describes the data, Section 3 presents the heterogeneous expectations model, Section 4 discusses expectations heterogeneity in our data, Section 5 examines how this heterogeneity relates to other expectations and behaviors, and Section 6 concludes.

Related Literature Our work relates to the theoretical and empirical literature on heterogeneous expectations. The literature on heterogeneous inflation expectations starts with Mankiw et al. [2004]; see D'Acunto et al. [2023] for a survey. Meeks and Monti [2023] highlight the quantitative relevance of expectations heterogeneity for inflation dynamics. Reis [2023] and Fofana et al. [2024] provide an overview of the time variation in inflation forecasts dispersion. Our approach emphasizes distinct forecasting models, rather than cross-sectional dispersion of forecasts. Forecasting lab experiments also support heterogeneity in expectations and switching behaviors between simple heuristics to form a variety of beliefs [Anufriev and Hommes, 2012]. Our heterogeneous expectations model is an heuristics-switching model, as introduced in the seminal application of replicator dynamics in Brock and Hommes [1997], which has sparked a lengthy literature on both the theoretical and empirical fronts; see Hommes [2021] for a review.

Our work also touches upon the state-dependent anchoring of inflation expectations. Higher sensitivity of these expectations to current inflation suggests unanchoring of expectations [Gürkaynak et al., 2007; Williams, 2022; Gáti, 2023]. In our framework, the sensitivity of expectations to inflation increases with trend-chasing behaviors.

Most closely related, Bolt et al. [2019]; Cornea-Madeira et al. [2019]; Cornea-Madeira and Madeira [2022] and Kostyshyna et al. [2026] show that house price and inflation times series are consistent with expectations models with time-varying heterogeneity. We extend this line of research to the micro level by analyzing these switching behaviors

in household survey data and for distinct demographic groups. We further relate these to other beliefs, CB credibility, and consumer intentions, and emphasize heterogeneity in expectation formation processes in the recent inflation surge.

Other closely related models of heterogeneous expectations include Branch and McGough [2010]; Branch and Evans [2011]; Massaro [2013]; Gasteiger [2014], and Hommes and Lustenhouwer [2019]. Ozden [2025] has brought these models to the data using Bayesian techniques. Other approaches include a two-type model of pessimistic and optimistic agents [Andrade et al., 2019], Ricardian and non-Ricardian agents [Branch and Gasteiger, 2019], social learning expectations [Arifovic et al., 2013, 2025], and mixtures of adaptive learning, k-level reasoning, and replicator dynamics [Evans et al., 2025].

2 The Canadian Survey of Consumer Expectations (CSCE)

We use a comprehensive dataset of household expectations from the Canadian Survey of Consumer Expectations (CSCE). The Bank of Canada introduced this quarterly survey in 2014, similarly to the Survey of Consumer Expectations used by the Federal Reserve Bank of New York [Gosselin and Khan, 2015; Armantier et al., 2017].

The CSCE is an online representative survey of 2,000 respondents aged 18 and over, with an equal number of respondents rotating in and out of the sample in each quarter. The survey collects views of Canadian consumers about inflation, interest rates, and house price growth at different horizons, labor market prospects, household income, tax and spending outlooks, and demographics. Our data span the period 2014Q4–2024Q2. Table App.1 summarizes the representativeness of the survey with respect to the Canadian population. Below, we use both the provided sampling weights based on age, region, and gender, and Huber weights for deal with outliers (see, e.g., Coibion et al. 2022).

The CSCE uses the following question to elicit one-year-ahead inflation expectations:

Part 1. ***Over the next 12 months***, *do you think that there will be inflation or deflation? (Note: deflation is the opposite of inflation.) Please choose one.*

–Inflation *–Deflation (the opposite of inflation)*

Part 2 is then presented separately based on the respondent's answer in the first part:

Part 2. *What do you expect the rate of [inflation/deflation] to be* ***over the next 12 months?*** *Please give your best guess. Please enter a number greater than 0 or equal to 0.*

Over the next 12 months *, I expect the rate of [inflation/deflation] to be .... percent.*

Figure 1 reports the cross-sectional distribution of these one-year-ahead inflation expectations along with inflation in Canada. Until 2020, consumers' inflation expectations track inflation with the well-documented upward bias.[2] The cross-sectional heterogeneity also remains fairly constant. At the onset of the pandemic, inflation declines while inflation expectations remain relatively stable. However, as inflation starts surging in 2021Q2, reaching an 8% peak in early 2022, expectations follow this upward trend. During this period, rising inflation expectations are also characterized by higher disagreement among households regarding future inflation, as shown by the interquartile range (IQR) which doubles.[3] As inflation starts moderating, so do expectations but as of 2024Q2, they remain more elevated and particularly more dispersed than before 2020. Demographic heterogeneity in the CSCE inflation expectations, summarized in Table App.2, is similar to patterns documented in other institutional surveys.[4]

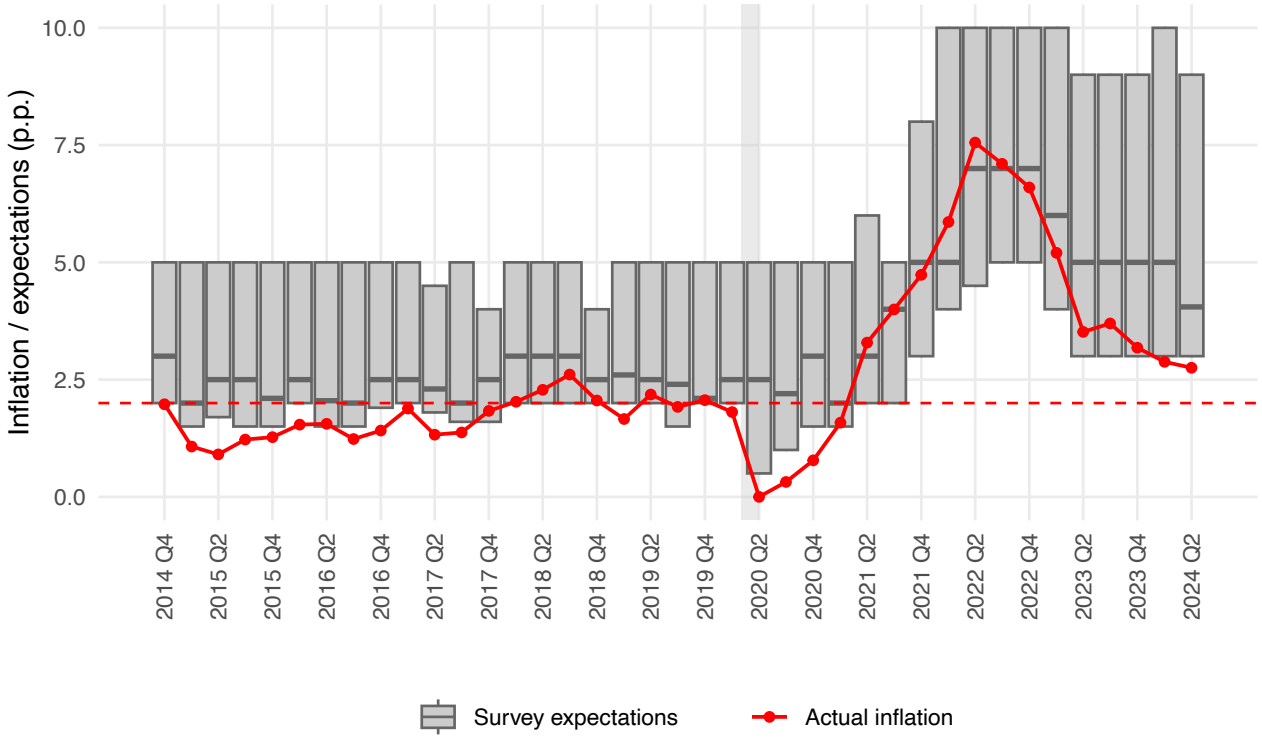
We also use expectations for interest rates, wage growth, household spending and in-

[2]See, for example, Weber et al. [2022]; D'Acunto et al. [2023], or Ehrmann et al. [2017] for Canada. In the empirical analysis, expectations are demeaned.

[3]Higher disagreement in inflation expectations during high-inflation periods is discussed in, e.g., Reis [2021, 2023].

[4]See, *inter alia*, Bryan and Venkantu [2001]; Bruin de Bruin et al. [2010]; Madeira and Zafar [2015]; Das et al. [2020]; Andre et al. [2022]; D'Acunto et al. [2023].

Figure 1: Canada inflation and Canadian households' inflation expectations



Notes: The horizontal dashed red line is the 2% inflation target adopted by the Bank of Canada in 1991. Actual inflation is computed as the year-over-year growth rate of the Statistics Canada's CPI All-Item time series (Cansim Table 18-10-0004-01) as used in the estimations. The interquartile range of the one-year-ahead inflation expectations is represented by the gray boxes. The shaded vertical bar marks the recession over the sample as defined by the C.D. Howe Institute.

come, and house price growth; see the survey questions in Appendix A.1. Demographic differences in these have been less documented than in inflation expectations. In our data, they broadly align with those found in inflation expectations but with some differentiated patterns, in particular for house price growth (Table App.3, Table App.4, and Table App.5). Our evidence adds to these empirical regularities.

3 Expectation formation with time-varying heterogeneity

3.1 The model

We now develop a model of heterogeneous expectations with a discrete set of J agent-types, indexed by j. All agent-types use a parsimonious AR(1) model to forecast inflation (see, *inter alia*, Hommes et al. 2023):

$$E^*_{j,t}\pi_{t+1} = \phi_j \pi_{t-1}, \tag{1}$$

where π is inflation in deviation from its target, and each type j uses a distinct autoregressive parameter $\phi_j \in \mathbb{R}$. This is the only difference across the J agent-types. We do not impose any constraint on the values of the autoregressive parameters ϕ_j. The AR(1) representation is general enough to nest a wide range of heuristics without restricting behavior to a predefined taxonomy. The mean-reverting case $\phi \in (-1, 1)$ indicates that agents have anchored expectations, i.e. they expect inflation to converge back to its target over time after shocks, which helps monetary policy – smaller ϕ values indicate faster convergence. With $\phi > 1$, agents believe that previous inflation gaps – either positive or negative ones – are cumulative and that inflation will diverge away from the target, which complicates the CB's task.[5]

Note that heterogeneity in expectations only matters when inflation deviates from its target since all forecasting models predict inflation to remain on target when $\pi_{t-1} = 0$. In the rest of the paper, we consider $J = 2$ types of forecasting models, which allows for a parsimonious formulation of heterogeneity rich enough to encompass distinct (and even opposite) effects of expectations on inflation.[6] Homogeneous expectations are also

[5]The case $\phi_j < -1$ would imply divergence along exploding oscillations, which is not supported by empirical evidence.

[6]Adding more types does not improve identification since the additional agent-types become redun-

not ruled out since we may have $\phi_1 = \phi_2$.

The relative proportion of the two forecasting types varies over the business cycle. In each quarter t, let $\boldsymbol{n_{1,t}}$ and $\boldsymbol{n_{2,t}} \equiv (1 - \boldsymbol{n_{1,t}})$ be the fractions of each type. The aggregate inflation expectation is the weighted average of the two:[7]

$$E_t^* \pi_{t+1} = \boldsymbol{n_{1,t}} \phi_1 \pi_{t-1} + \boldsymbol{n_{2,t}} \phi_2 \pi_{t-1}. \tag{2}$$

Agents endogenously switch between types according to the recent relative forecasting accuracy of each model using a replicator dynamics:

$$U_{j,t} = -\frac{FE_t^j}{FE_t^1 + FE_t^2}, \tag{3}$$

$$FE_t^j = \sum_{k=0}^{K-1} \left| E_{j,t-k-2}^* \pi_{t-k-1} - \pi_{t-k-1} \right|, \tag{4}$$

$$\boldsymbol{n_{j,t}} = \frac{\exp\left(\beta U_{j,t}\right)}{\exp(\beta U_{1,t}) + \exp(\beta U_{2,t})}. \tag{5}$$

Variable $U_{j,t}$ is the forecasting accuracy of agent-type $j = 1, 2$, which depends on the absolute forecast errors denoted by FE^j in Eq. (4), i.e. the errors that would have resulted had the agent used type-j model to forecast inflation over the last K periods. Looking only at the recent past allows for structural breaks in inflation or agents' limited memory, which is well-documented [Anufriev and Hommes, 2012; Malmendier and Nagel, 2016]. The replicator dynamics (5) describes how the type with relatively lower forecast errors gains market shares at the expense of the other. Parameter $\beta > 0$ proxies for the degree of rationality or inertia of the agents, where a higher β means higher levels of

dant, while the conclusions from the parsimonious $J = 2$ case carry over; see Table App.6.

[7]The star-superscript is the general expectation operator, which needs not correspond to rational, or model-consistent, expectations.

attention to forecast accuracy and a quicker switch to the better of the two rules.[8]

The aggregate autoregressive coefficient $\rho_t \equiv \phi_1 \boldsymbol{n_{1,t}} + \phi_2(1 - \boldsymbol{n_{1,t}}) \in [\phi_1, \phi_2]$ gauges overall expectation anchoring, where increasing (absolute) values signal a loosening of expectations anchoring. Our expectation formation mechanism does not depend on a particular underlying inflation model. However, expectations dynamics has important implications for inflation, as illustrated by a New Keynesian Philips curve $\pi_t = \gamma E_t^* \pi_{t+1} + \kappa y_t + \xi_t$, where $\gamma \in (0, 1)$ is the discount factor, y_t the output gap, and some disturbances ξ_t. Replacing the aggregate inflation expectation $E_t^* \pi_{t+1}$ by Eq. (2) results in a backward-looking process where inflation in t depends on inflation in $t-1$.[9] Under such a process, inflation is expectationally stable when $|\rho_t| < \frac{1}{\gamma} \equiv \bar{\rho}$, which is just above one. Even if $|\rho_t| < |\bar{\rho}|$, the closer it is to this threshold, the more likely escape dynamics can drive inflation away from the target [Branch and Evans, 2011].

We now bring the expectations model summarized by Eqs. (1)-(5) to the data.

3.2 Estimation strategy with the survey data

We write any short-run (demeaned) inflation forecast of respondent i in quarter t as $\pi_{i,t}^e \equiv \phi_j \pi_{t-1} + v_{i,t},\ j = \{1, 2\}$, where the noise term $v_{i,t}$ reflects idiosyncratic components, perhaps misperception or inattention to past inflation, or confusion in reporting. Following Branch [2004], we assume $v_{i,t} \overset{iid}{\sim} \mathrm{N}(0, \sigma_v^2)$.

The expectations model (1)-(5) involves five parameters. We jointly estimate four of them using the CSCE sample and the time series of realized Canadian inflation (ϕ_1, ϕ_2,

[8] The literature refers to this parameter as the intensity of choice, with the polar case of $\beta = \infty$ the "neoclassical limit" where $n_{1,t} = 0$ or 1 and all agents switch to the better type in every period. If $\beta = 0$, $n_{j,t} = 1/2$, $j = 1, 2$, $\forall t$, the distribution of types is always uniform and independent from their relative performances, which could be interpreted as an absence of rationality or attention.

[9] Various micro-foundations have been developed in the literature to allow for such a formulation; see, among many, Branch and McGough [2009]; Andrade et al. [2019]; Arifovic et al. [2025].

β, σ^v, $\in \mathbb{R}^4$), and calibrate $K = 4$ quarters in Eq. (4) since a year of experience matches the maximum length of the survey tenure of the CSCE respondents.[10]

Appendix D provides the detail of the maximum likelihood estimation. Intuitively, when a forecast $\pi^e_{i,t}$ is close to the type-j implied forecast $\phi_j \pi_{t-1}$, the probability of this forecast being of type j increases. The sample contains $N = 64,399$ forecasts, and we match every forecast to its most likely type.

4 Estimation results

4.1 Dynamics of heterogeneity in inflation expectations

Panel (a) of Table 1 provides the estimated values over the whole sample. The data are consistent with the behavioral interpretation underlying the heterogeneous expectations model with the co-existence of two types of forecasting models. The significantly positive estimate of β aligns with the switching behavior, the estimate of ϕ_1 is significantly different from zero and lower than 1, which indicates the presence of mean-reversion in some of the forecasts. By contrast, the estimate of ϕ_2 is around 1.45, significantly larger than one, which is compatible with trend-chasing forecasting behaviors in the data.

Figure 2 reports the time series of the corresponding share of these trend-chasing forecasters, along with inflation and the target. Up until 2018, the inflation gap is slightly negative and the share of trend-chasing forecasts is around a quarter of the respondents. In 2018 and 2019, the inflation gap is close to zero, so that expectations under two belief-types are too similar to be identifiable, and the shares display somewhat large fluctu-

[10] This value is also in line with the literature (e.g., Cornea-Madeira et al. 2019; Kostyshyna et al. 2026). For convenience, we estimate ϕ_1 and Δ_ϕ, where $\phi_1 + \Delta_\phi \equiv \phi_2$ and set $\Delta_\phi \geq 0$. This inequality is non-restrictive since it is only an ordering normalization used to resolve the permutation (label–switching) indeterminacy of the two types in finite–mixture models.

Table 1: Maximum likelihood estimations of the behavioral model

	$\hat{\beta}$ (s.e.)	$\hat{\sigma_v}$ (s.e.)	$\hat{\phi_1}$ (s.e.)	$\hat{\Delta_\phi}$ (s.e.)	implied-$\hat{\phi_2}$ (s.e.)	N	Log-Lik. value
Panel (a):							
Full sample (2014Q4-2024Q2)	11.75 (3.59)	14.1 (0.04)	0.87 (0.02)	0.58 (0.02)	1.45 (0.03)	64,399	-261825.3
Panel (b):							
Pre-HIFE (2014Q4 - 2021Q1)	1.87 (−)	13.23 (0.05)	-1.31 (0.16)	0.001 (0.00)	-1.31 (0.16)	38,415	-121537.1
HIFE (2021Q2 - 2024Q2)	38.79 (13.53)	14.97 (0.06)	1.17 (0.02)	0.36 (0.01)	1.53 (0.02)	25,984	-148702.4

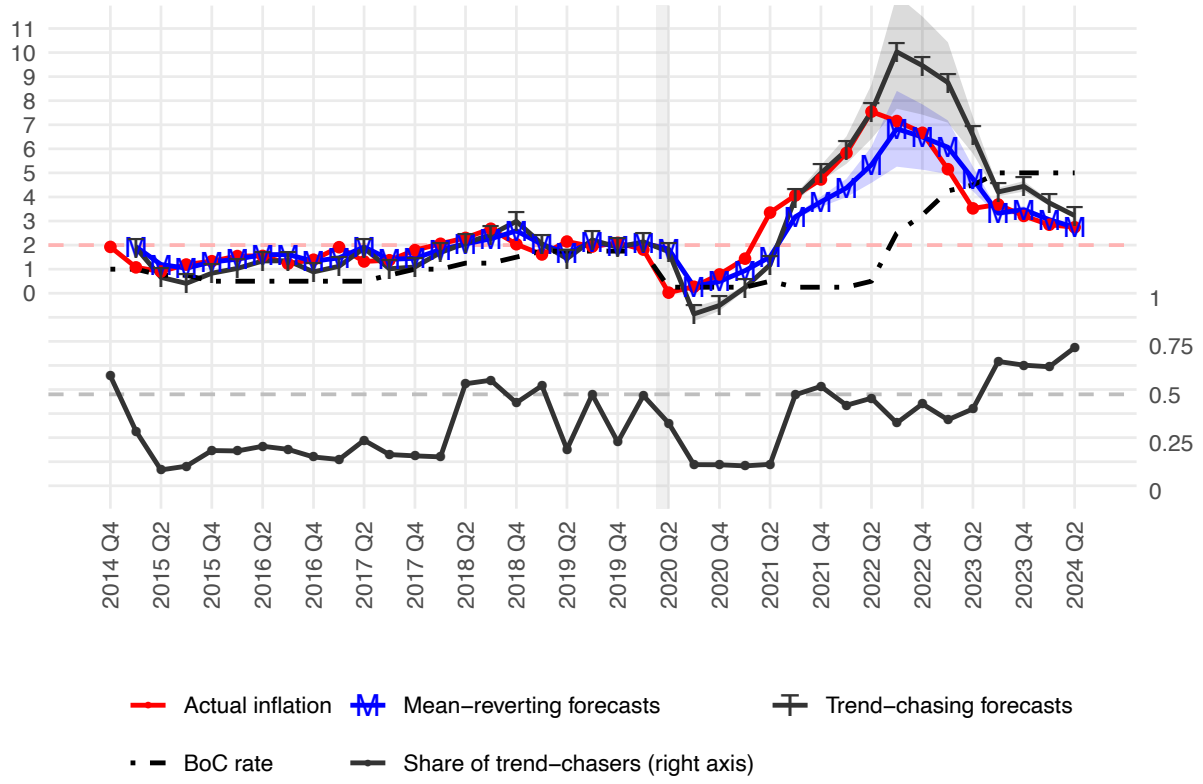
Notes: HAC standard errors in brackets. The variance of ϕ_2 depends on the covariance of ϕ_1 and Δ_ϕ. (-) indicates that the standard error is either very large or undefined (the observed-information matrix is nearly singular in that parameter-direction, the log-likelihood profile shows no local curvature, indicating weak identification). Estimates of $\hat{\sigma_v}$ and $\hat{\phi_1}$ are unaffected (covariances $< 10^{-4}$).

ations around 50%. At the onset of the pandemic, inflation falls sharply below target, and so does the share of trend-chasers – to around 15%. This implies that the vast majority of consumers do not expect further disinflation, or even deflation (as evidenced in Figure 1), which probably reflects downward nominal rigidities.

The picture changes drastically during the inflation surge. After inflation overshoots the target in 2021Q2, the share of trend-chasing inflation expectations–which then extrapolate above-target inflation– sharply increases. Trend-chasing behaviors start losing momentum in early 2022, when inflation reaches its peak but before it starts moderating and the Bank of Canada starts hiking its policy rate (in 2022Q2, see Figure 2). This pattern is consistent with the plateauing of expectations in these quarters (Figure 1) and could signal the anticipation of monetary policy tightening. Mean-reverting expectations then become more prevalent in 2023Q1, which is encouraging for expectations anchoring even though they remained elevated throughout the disinflation.

After 2023Q2, trend-chasing expectations gain momentum again and their share reaches

Figure 2: CSCE expectations dynamics, inflation and monetary policy



Notes: Computations based on the whole sample estimates reported in Table 1. In the top panel (left-hand side scale, in p.p.), the dashed red line represents the 2% inflation target, the red line inflation, the dashed-dotted black line the Bank of Canada overnight target rate, and the shaded areas the 95% confidence intervals of the mean-reverting and trend-chasing forecasts. In the bottom panel (right-hand side scale), the dashed gray line is the 50% reference line.

above 75% by 2024Q2, our last observation. This renewed shift toward extrapolative forecasting closely mirrors the slowdown in disinflation, which echoes "the last mile" discussion in Erceg et al. [2024]: amid an inflation surge, the Phillips curve steepens, making the complete return to target (i.e., "the last mile") especially costly, which can then sustain extrapolative forecasts despite smaller inflation gaps than at the peak.

4.2 Heterogeneity in low- versus high-inflation environments

Panel (b) of Table 1 reports the estimates separately for the low-inflation period 2014Q4-2021Q1 ("pre-HIFE" for pre-High-InFlation-Environment), and the inflation surge (HIFE,

from 2022Q1 until the end of the sample). We can see evidence of a regime shift. In the first part of the sample, the model does not detect any significant heterogeneity in forecasting behaviors and the common autoregressive parameter is around $\phi \approx -1.3$ with a relatively large standard error. Together with negative but stable inflation gaps, this estimate translates fairly constant and above-target inflation forecasts, in line with the usual upward bias in inflation expectations when inflation is below target.

Heterogeneity in forecasting behaviors emerges during the post-pandemic inflation surge with two trend-chasing models: one with a relatively weaker $\phi_1 \approx 1.17$ (significantly greater than one), and one with a relatively stronger $\phi_2 \approx 1.53$ coefficient, significantly greater than the estimate of ϕ_1. Hence, the post-pandemic inflation surge has been accompanied by the emergence of heterogeneity in inflation forecasting behaviors, and a change in these behaviors from stabilizing to diverging models. Rolling-window estimates reported in Figure App.1 confirms these changes.

Our findings highlight a potential mechanism behind the increase in disagreement over the recent inflation surge. Within the context of our model, once inflation starts increasing above target, agents change their forecasting behaviors and adopt distinct models, which leads to more heterogeneous forecasts than when inflation was close to the target. Such an heterogeneity in forecasting behaviors does not arise when inflation is below target likely because deviations from target were relatively small during this period. Moreover, this heterogeneity in forecasting models emerges quickly (within three quarters) but persists along the disinflation, which contributes to amplify the costs of bringing inflation back to target. This pattern is consistent with evidence cited above that dispersion in inflation expectations is costly in itself because it disrupts the transmission of monetary policy and amplifies the effects of supply shocks.

4.3 Heterogeneity in inflation expectations across demographics

Table 2 provides the model estimates across key demographic groups known for their association with inflation expectations [D'Acunto et al., 2023]. All β estimates are positive, which provides further empirical validation of the behavioral model at a granular level. The estimates per demographic group provide new evidence on the heterogeneity in inflation forecasting models among households.

Younger respondents (18–24) show virtually no heterogeneity in expectation formation (Δ_ϕ is non-significant), and display the strongest trend- extrapolation among all demographic groups (the estimate of ϕ_2 is above 2). By contrast, senior respondents, while also characterized by homogeneity in their forecasting behaviors, exhibit mean-reversion ($\phi_1 \simeq \phi_2 \simeq 0.8$) and have the most anchored expectations across age groups. Heterogeneity among middle-aged respondents is described by two extrapolating forecasting rules.

Similar to the younger people, low-educated respondents, as well as renters, are also characterized by a single trend-chasing forecasting rule. However, we detect clear evidence of heterogeneity among those with higher education levels, with the co-existence of mean-reverting and trend-chasing behaviors, that are weaker with higher educational levels. Gender, income, employment status, and housing tenure differences further highlight diversity in expectation formation processes. Among women and employed people, our estimations show the co-existence of two extrapolative models, but with a fairly limited heterogeneity ($\Delta_\phi \simeq 0.22$). Male respondents, on the other hand, display a striking heterogeneity ($\Delta_\phi \simeq 1.15$), with a fast mean-reverting type ($\phi_1 \simeq 0.46$) and fairly strong trend-extrapolating beliefs ($\phi_2 \simeq 1.61$). A similar heterogeneity appears along income levels – where higher incomes are associated with faster mean-reversion – and outright home owners.

Table 2: Maximum likelihood estimations of the behavioral model by demographics

	$\hat{\beta}$ (s.e.)	$\hat{\sigma_v}$ (s.e.)	$\hat{\phi_1}$ (s.e.)	$\hat{\Delta}_\phi$ (s.e.)	implied-$\hat{\phi}_2$ (s.e.)	N	LL Value
Young (18-24)	3.58	23.68	2.16	0.001	2.16	3,100	-14209.58
	(−)	(0.30)	(0.19)	(0.00)	(0.19)		
Middle (25-54)	3.65	15.4	1.22	0.31	1.53	37,376	-155246.3
	(1.61)	(0.06)	(0.02)	(0.02)	(0.02)		
Senior (55+)	3.97	9.53	0.81	0.001	0.81	23,923	-87878.91
	(−)	(0.04)	(0.05)	(0.08)	(0.08)		
High school/lower	3.87	18.7	1.62	0.001	1.62	11,017	-47894.14
	(−)	(0.13)	(0.08)	(0.00)	(0.08)		
College	14.62	13.76	0.89	0.52	1.41	23,821	-96256.02
	(7.59)	(0.06)	(0.02)	(0.02)	(0.02)		
University/higher	6.01	12.16	0.88	0.45	1.33	28,207	-110506.67
	(3.84)	(0.05)	(0.02)	(0.09)	(0.09)		
Female	3.97	15.4	1.26	0.22	1.48	31,174	-129488.44
	(3.20)	(0.06)	(0.05)	(0.09)	(0.09)		
Male	0.62	12.7	0.46	1.15	1.61	32,090	-127201.64
	(0.31)	(0.05)	(0.07)	(0.12)	(0.12)		
Below 40K	151.6	13.26	0.98	0.53	1.51	29,976	-120065.03
	(73.26)	(0.05)	(0.00)	(0.00)	(0.00)		
40K to 100K	12	11.96	0.80	0.51	1.31	20,370	-79456.44
	(-)	(0.06)	(0.04)	(0.08)	(0.08)		
Over 100K	15.01	18.27	0.51	0.93	1.45	13,578	-58714.12
	(6.52)	(0.11)	(0.02)	(0.02)	(0.02)		
Renter	7.99	17.68	1.61	0.001	1.61	20,089	-86206.03
	(−)	(0.09)	(0.06)	(0.00)	(0.06)		
Owner with mortgage	37.36	13.81	1.03	0.50	1.53	21,980	-88897.38
	(54.02)	(0.07)	(0.05)	(0.03)	(0.06)		
Owner w/o mortgage	0.92	10.16	0.52	0.74	1.26	22,311	-83448.6
	(0.55)	(0.05)	(0.08)	(0.13)	(0.13)		
Employed	15.01	14.46	1.11	0.47	1.58	38,458	-157313.22
	(3.83)	(0.05)	(0.04)	(0.07)	(0.07)		
Unemployed	3.28	17.56	0.88	19.52	20.40	3,384	-14699.85
	(0.16)	(0.23)	(0.06)	(0.98)	(0.98)		
Not in labor force	225.59	12.3	0.84	0.41	1.25	22,074	-86735.51
	(94.53)	(0.06)	(0.00)	(0.02)	(0.02)		

Notes: See Table 1. Among unemployed people, the estimate of ϕ_2 is really large but suffers from small sample issues.

Distinct noise estimates σ_v across demographics further speak to heterogeneity in expectation formation processes. Households with lower levels of education, renters, and younger respondents tend to have higher noise in their forecasts, which may reflect lower numeracy and financial literacy and, therefore, confusion. Noisier forecasts among the youngest respondents could reflect a shorter inflation experience to draw from and a more pronounced recency bias compared with older respondents. Interestingly, we see a U-shaped relationship with income levels, with the lowest and the highest groups having significantly noisier forecasts. This pattern may reflect differences in the sensitivity of their consumption baskets to aggregate shocks and distinct inflation perception. Our findings are consistent with and expand the related literature on the demographic determinants of inflation forecasts. Our model further provides a behavioral interpretation of these distinct forecasting behaviors.

Figure App.2 reports the dynamics of the autoregressive coefficients ρ_t for each demographic group separately, which aligns with the above discussion. While before 2020 many groups cluster below the stability threshold, starting in 2021, the autoregressive coefficients rise well above it for many groups and remain elevated through the inflation surge. The most anchored profiles are the seniors and the outright home owners, while younger respondents, those with low education attainments, and renters display autoregressive coefficients persistently above the stability threshold.

Interestingly, the recent inflation surge also reshapes the relative magnitude of the autoregressive coefficients across groups. Across the three income groups, the large spread prevailing before 2020 closes and the three series converge above the stability threshold by the end of our sample. We see a similar convergence along home ownership status and gender, while the other groups remain as differentiated as prior the inflation surge.

Regressions of the likelihood of being a trend-chaser reported in Table 3 add to this anal-

ysis. Being a male and high education are robustly associated with less trend-chasing behaviors no matter the inflation environment (Cols. I to III), but controlling for financial stress, numeracy, and "inflation literacy" considerably weakens these associations (Col. IV), and even eliminates them when inflation is low (Col. V). The strong associations with high financial stress and low numeracy skills perhaps reflect pessimism.

Interestingly, the recent inflation spike strengthens the socio-demographic differences in forecasting behavior (Col. VI). Significantly more trend-following behaviors among females, low- or high-income groups (compared to middle-income group), married people, employed respondents, and renters persist despite controlling for numeracy and financial stress. This pattern among females may reflect a stronger exposure to food prices during grocery shopping compared to male respondents [D'Acunto et al., 2023]. The patterns among high-income, employed, and married respondents may also reflect an association between larger household sizes – and, hence, larger nominal spending – and trend-chasing behaviors. The higher prevalence of trend-chasing behaviors among renters and lowest earners may reflect a higher vulnerability to price increases due to tighter budget constraints. A self-declared good knowledge of inflation is also associated with trend-chasing, probably translating an increased attention to it.

Taken together, our results show that the post-COVID-19 inflationary environment increased extrapolative behavior broadly, but unevenly across demographic groups. By applying the heterogeneous expectations model to the CSCE data, we identify the inflation environments and demographic groups for which expectations are most likely to become unanchored, particularly younger and less-educated respondents during inflation surges. These findings carry important implications for monetary policy communication and point to the need for targeted actions during the "last-mile" phase of the disinflation, when trend-chasing behavior may persist most strongly.

Table 3: Marginal effects of probit models of trend-chasing behaviors

Dependent variable: a dummy = 1 if respondent i in quarter t is a trend-follower, 0 if mean-reverter						
	Full sample	Before HIFE	HIFE	Full sample	Before HIFE	HIFE
	I	II	III	IV	V	VI
Age: 25-54	−0.057*	−0.000	−0.128***	−0.037	0.020	−0.109**
	(0.033)	(0.047)	(0.049)	(0.034)	(0.048)	(0.050)
Age: 55+	−0.136***	−0.126**	−0.140***	−0.083**	−0.070	−0.086
	(0.035)	(0.049)	(0.052)	(0.036)	(0.051)	(0.053)
Educ: College	−0.089***	−0.063**	−0.112***	−0.074***	−0.040	−0.102***
	(0.019)	(0.026)	(0.027)	(0.019)	(0.027)	(0.028)
Educ: Uni/Higher	−0.116***	−0.092***	−0.139***	−0.084***	−0.047*	−0.118***
	(0.019)	(0.027)	(0.028)	(0.020)	(0.028)	(0.029)
Male	−0.109***	−0.065***	−0.171***	−0.095***	−0.035*	−0.171***
	(0.013)	(0.017)	(0.019)	(0.013)	(0.018)	(0.020)
Income: 40K to 100K	−0.044***	−0.010	−0.088***	−0.018	0.004	−0.046*
	(0.016)	(0.021)	(0.023)	(0.016)	(0.021)	(0.024)
Income: >100K	0.046**	0.014	0.090***	0.017	0.003	0.044
	(0.018)	(0.025)	(0.027)	(0.019)	(0.025)	(0.028)
Married	0.022	−0.039*	0.100***	0.019	−0.035*	0.089***
	(0.015)	(0.020)	(0.021)	(0.015)	(0.021)	(0.022)
Unemployed	0.036	0.056	−0.012	−0.008	0.030	−0.060
	(0.031)	(0.041)	(0.049)	(0.032)	(0.042)	(0.050)
Out of the LF	−0.025	0.012	−0.082***	−0.023	0.007	−0.072***
	(0.017)	(0.022)	(0.025)	(0.017)	(0.023)	(0.026)
Owner with mortgage	−0.054***	0.002	−0.122***	−0.055***	0.010	−0.131***
	(0.018)	(0.024)	(0.026)	(0.018)	(0.024)	(0.027)
Owner w/o mortgage	−0.079***	−0.031	−0.136***	−0.058***	−0.020	−0.096***
	(0.018)	(0.024)	(0.026)	(0.018)	(0.025)	(0.027)
Responsible for household financial decisions				−0.039	−0.068	−0.005
				(0.035)	(0.045)	(0.055)
Debt default probability				0.180***	0.090**	0.288***
				(0.028)	(0.040)	(0.041)
Financially worse off				0.129***	0.002	0.264***
				(0.014)	(0.020)	(0.020)
Know inflation well				0.042**	−0.056**	0.172***
				(0.018)	(0.023)	(0.027)
Easy to express inflation as a number				−0.053***	−0.037*	−0.083***
				(0.016)	(0.021)	(0.024)
Numeracy score				−0.035***	−0.036***	−0.034***
				(0.005)	(0.007)	(0.007)
Constant	0.586***	0.434***	−0.531***	0.604***	0.580***	−0.689***
	(0.058)	(0.071)	(0.077)	(0.071)	(0.086)	(0.100)
Observations	56,923	33,848	23,075	55,371	33,044	22,327
Log Likelihood	−35,258.8	−19,529.0	−15,673.0	−34,163.5	−19,010.5	−14,990.1

Notes: The reference groups are age 18–24, "high school or lower" education, female, income level $\leq 40k$/year, not married, employed, and renter. All estimations include dummies for Canadian regions, survey-quarter, and survey tenure effects, and use survey sampling weights. Variables about financial decisions, debt default, and knowledge of inflation are based on the survey questions included in Appendix A.1. Numeracy score is the number of correct answers to five questions about numerical skills. Standard errors are reported in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.

5 Inflation forecasts, other beliefs and behaviors

5.1 Trend-chasing behaviors and views about monetary policy

We now exploit special questions included in selected CSCE survey quarters about respondents' views on the importance of low and stable inflation, as well as their beliefs about how frequently the Bank achieved its inflation target in the past and will do so in the future, which we use as proxies for CB credibility. We also use a post-pandemic question about respondents' concerns about inflation relative to the past; see the survey questions in Appendix A.1 and the estimation results – similar to above – in Table 4.

Here again, separating the pre- and post-inflation surge periods becomes particularly insightful. While respondents who view low and stable inflation as important are less likely to be trend-chasers when inflation is low (Col. II), they become considerably more likely to be so during the inflation surge (Col. III). The association between a lack of credibility of the inflation target and trend-chasing forecasting has also become particularly strong in the recent period (Cols. IV and VII). In other words, respondents with a higher level of trust in the CB form their inflation expectations consistently by forming mean-reversing expectations. This correlation only materializes during the high-inflation period (see Cols. V and VIII vs. VI and IX). A similar pattern emerges when considering the association between growing concerns about inflation and forecasting behaviors: when inflation is low (Col. X), these concerns are linked to mean-reverting beliefs but become associated with trend-chasing behavior amid the inflation surge.

Overall, our results underline the importance of trust in the CB and the credibility of its target in taming the risk of expectations unanchoring amid an inflation surge. In addition, they support the use of mean-reverting expectations as a proxy for CB credibility in theoretical models [Kostyshyna et al., 2024; Ozden, 2025].

Table 4: Marginal effects of probit models of trend-following behavior and monetary policy perception

Dependent variable: trend-following, i.e. a dummy = 1 if respondent i in quarter t is a trend-follower, 0 if mean-reverter												
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Importance of low inflation	0.11	-0.26^{*}	0.38^{***}									
	(0.12)	(0.15)	(0.15)									
BOC achieved target in the past				-0.13^{**}	0.03	-0.23^{***}						
				(0.05)	(0.08)	(0.07)						
BOC can achieve target in the future							-0.11^{***}	0.07	-0.16^{***}			
							(0.03)	(0.07)	(0.04)			
Concerned about inflation										0.28^{***}	-0.21^{**}	0.27^{***}
										(0.03)	(0.09)	(0.04)
Constant	-0.30	0.43	-0.08	-0.18	0.22	0.29	-0.11	0.21	0.45^{***}	0.21^{*}	0.30	0.24^{*}
	(0.24)	(0.33)	(0.31)	(0.22)	(0.31)	(0.29)	(0.13)	(0.31)	(0.13)	(0.12)	(0.31)	(0.14)
Quarters	2019Q4, 2021Q4	2019Q4	2021Q4	2019Q4, 2021Q4	2019Q4	2021Q4	2019Q4, 2021Q4-22Q4	2019Q4	2021Q4-22Q4	2019Q4, 2021Q4-22Q4	2019Q4	2021Q4-22Q4
Observations	3,713	1,845	1,868	3,713	1,845	1,868	9,246	1,845	7,401	9,287	1,844	7,443
Log-likelihood	-2388.57	-1019.36	-1287.57	-2384.77	-1021.27	-1283.15	-6435.74	-1020.89	-5398.34	-6544.02	-1014.36	-5339.02

Notes: All estimations include controls for demographic characteristics (age, gender, income, marital status, education, labor force status, home ownership status), fixed effects for Canadian regions, survey-quarter, and survey tenure. Sampling weights and Huber weights are used in all regressions. Variables about the importance of low inflation, the ability of the Bank of Canada to achieve its target, and concern about inflation are based on the questions that are included in some quarters of the survey listed in the line "Quarters." These questions are included in Appendix A.1. HAC standard errors are reported in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.

5.2 Trend-chasing behaviors and other macroeconomic expectations

Turning to the association between trend-chasing behaviors in short-run inflation and other economic and financial expectations elicited in the CSCE, we estimate:

$$z^e_{i,t} = c + \alpha_0 \text{Trend-follower}_{i,t} + \alpha_1 \text{HIFE}_t + \alpha_2 \text{Trend-follower}_{i,t} \times \text{HIFE}_t + \alpha_4 \mathbf{X}_{i,t} + \epsilon_{i,t}, \quad (6)$$

where the dependent variable $z^e_{i,t}$ is the expectation in quarter t from respondent i concerning either one-, two-, or five-year-ahead inflation; interest rate over the next one, two, and five years; local house price growth over the next one and five years; nominal wage growth or growth in household spending, income, and tax over the next year. The indicator $\text{Trend-follower}_{i,t}$ equals one if respondent i's one-year-ahead inflation expectation in t is classified as trend-chasing and zero if mean-reverting (using Panel a of Table 1). The indicator HIFE_t equals one over 2021Q2–2024Q2, and the vector $\mathbf{X}_{i,t}$ gathers all demographic characteristics,[11] survey quarter, and tenure fixed effects to account for learning through survey participation [Kim and Binder, 2023].

The results are reported in Table 5. In a nutshell, when inflation is low and stable, forecasting behaviors regarding short-run inflation do not significantly matter for other expectations. However, during the recent inflation surge, trend-chasing inflation expectations become strikingly associated with higher expectations for all other variables at all horizons.

[11] These are age, gender, region, income, marital status, education, labor force status, and home ownership status.

Table 5: Estimates of the link between trend-chasing in inflation expectations and other key economic expectations

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
VARIABLES		Inflation			Interest rate		Spending	Wage	Income	Tax	House prices	
HORIZON	one-year	two-year	five-year	one-year	two-year	five-year	one-year	one-year	one-year	one-year	one-year	five-year
Trend-following	-0.187***	0.0442**	0.173***	0.105**	0.0788**	0.166***	-0.133***	0.224***	0.202***	0.174***	-0.500***	-0.346***
	(0.0224)	(0.0220)	(0.0299)	(0.0423)	(0.0379)	(0.0314)	(0.0321)	(0.0201)	(0.0232)	(0.0266)	(0.0567)	(0.0909)
HIFE	1.021***	0.111***	-1.019***	0.0804**	0.217***	-0.0359	-0.201***	0.953***	0.441***	-0.360***	-0.164***	-0.814***
	(0.0192)	(0.0207)	(0.0327)	(0.0383)	(0.0342)	(0.0275)	(0.0293)	(0.0253)	(0.0254)	(0.0278)	(0.0533)	(0.0785)
Trend-following * HIFE	4.096***	3.203***	2.217***	1.429***	0.251***	0.396***	1.127***	0.763***	0.968***	1.023***	3.095***	2.561***
	(0.0375)	(0.0392)	(0.0619)	(0.0650)	(0.0581)	(0.0467)	(0.0493)	(0.0419)	(0.0451)	(0.0506)	(0.0870)	(0.130)
Constant	0.937***	1.345***	2.513***	4.313***	2.312***	3.834***	2.714***	3.606***	4.431***	5.339***	5.366***	4.759***
	(0.0545)	(0.0615)	(0.0913)	(0.102)	(0.0950)	(0.0847)	(0.0786)	(0.0635)	(0.0734)	(0.0837)	(0.136)	(0.217)
Observations	51,589	50,123	37,587	52,124	27,918	49,202	51,719	40,934	40,532	40,187	47,947	43,505
R-squared	0.449	0.249	0.079	0.041	0.030	0.049	0.041	0.130	0.078	0.040	0.066	0.059

Notes: Estimation results of Eq. (6). All estimations include controls for demographic characteristics (age, gender, income, marital status, education, labor force status, home ownership status), Canadian region fixed effects, survey-quarter fixed effects, and survey tenure. In each regression, we use the sampling weights and the Huber weights. HAC standard errors are reported in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.

In times of stable and low inflation, trend-followers tend to have *lower* short-term inflation forecasts than mean-reverting forecasters since they extrapolate below-target inflation (Cols. I and II). In the long run, both forecaster types expect similar levels of inflation (Col. III). By contrast, during the post-pandemic inflation surge, the average trend-chasing short-run inflation forecast is close to 4 p.p. higher than the average mean-reverting one (Col. I). While both types of forecasters expect inflation to moderate in the medium to long run, the gap between the two types persists at 3.2 p.p. for two-year-ahead and 2.4 p.p. for five-year-ahead inflation.

Trend extrapolation in short-run inflation expectations during the inflation surge feeding into longer-term expectations is the most concerning finding for expectations anchoring. Inflation expectations are often viewed as anchored when *long-term* inflation expectations are insensitive to current shocks that affect contemporaneous inflation and short-term inflation forecasts [Williams, 2022]. Our model-based approach combined with micro-data highlights three self-reinforcing developments that strengthen the risk of expectations unanchoring during an inflation surge: i) an increase in trend-chasing expectations amid a heightened heterogeneity among forecasting behaviors; ii) higher inflation expectations of these trend-chasing forecasters; and iii) a strengthening of the pass-through from short- to long-term inflation expectations among these trend-chasers.

Forming trend-chasing short-term inflation expectations is also linked to higher interest rate forecasts at all horizons. While during the low-inflation period the differences between the two forecaster types are negligible (see Cols. IV to VI in Table 5), inflation trend-chasers recently expect one-year, two-year, and five-year-ahead interest rates higher than the mean-reverting forecasters. In other words, trend-chasers expect a tighter monetary policy for the foreseeable future. However, the pass-through between their inflation and interest rate forecasts is incomplete since they expect a less-than-one-

to-one adjustment of interest rates to inflation.

A similar pattern holds for all other forecasts. In the high-inflation environment, trend-chasing inflation forecasters expect higher growth in their nominal spending, wages, household income, and tax bill (all by about 1 p.p.) compared to the mean-reverting forecasters (see Cols. VII to X in Table 5). Trend-followers also have about more than 2 p.p. higher expectations of house price growth than mean-reverters, which persists over five years. By contrast, during the low-inflation period, no sizable difference is found between all these expectations for the two forecaster types.

We conclude that our insights on heterogeneity in short-run inflation forecasting behaviors extend to the medium to long run inflation expectations and to other economic and financial forecasts that may have received less attention than inflation expectations in the literature. Hence, our findings point to another channel through which heterogeneity in inflation forecasts may impair monetary policy transmission and amplify inflationary pressures: periods of elevated heterogeneity in inflation forecasts are also characterized by more disagreement between households about many other economic and financial variables, including the interest rate path. This heterogeneity in views could result in distinct economic behaviors that need not align with standard monetary policy models, and may contribute to the increased persistence of shocks on the economy.

5.3 Trend-chasing behaviors and consumer spending

Finally, a fundamental question in studies of expectations is how they affect consumer's decisions. We then estimate the relationship between trend-chasing short-run inflation expectations and consumer spending intentions as elicited in the CSCE. Respondents are asked whether they intend to undertake any of the following seven actions in light

of their inflation expectations, with multiple choices possible: (1) bring forward major purchases, (2) cut back spending and save more, (3) look to increase income in other ways, (4) postpone major purchases, (5) push for increased pay with their current employer, (6) shop around more for better value goods and services, (7) take no action (see Appendix A.2 for the question). We estimate the following probit models:

$$\mathbb{1}_{i,t}^{A} = c + \gamma_0 \text{Trend-follower}_{i,t} + \gamma_1 \text{HIFE}_t + \gamma_2 \text{Trend-follower}_{i,t} \times \text{HIFE}_t + \gamma_4 \mathbf{X}_{i,t} + u_{i,t}, \quad (7)$$

where the dependent variable $\mathbb{1}_{i,t}^{A}$ equals one if respondent i in quarter t reports the intention of undertaking action A, which is one of the seven actions listed above, and zero otherwise. The rest of the variables are defined as in Eq. (6). The estimated marginal effects are presented in Table 6.

Similarly to our results on other macroeconomic beliefs, during the low-inflation period, trend-chasing behavior in inflation forecasting does not significantly influence consumers' plans. However, in the inflation surge, all respondents become more likely to declare that they intend to cut spending and save more (Col. II), postpone major purchases (Col. IV), and push for a pay raise (Col. V), and less likely to undertake no action (Col. VII), but trend-followers are *even more likely* to plan any of these actions than mean-reverters. Both types also declare they are more likely to bring forward major purchases (Col. I), but the magnitude of the marginal effect is smaller than the one associated with postponing such purchases. Trend-followers are also more likely than mean-reverting forecasters to shop around for better prices (Col. VI) and to look to increase their income in other ways (Col. III).

Table 6: Marginal effects from estimated probit models of consumer spending intentions

Dependent variable: a dummy equal to one if the respondent reports the intention to undertake the following action, and zero otherwise							
ACTION	Bring forward major purchases	Cut spending / save more	Seek income opportunities	Postpone major purchases	Push for pay raise	Look for cheaper shopping	Do nothing
	I	II	III	IV	V	VI	VII
Trend-following	0.006**	0.002	0.005**	0.009**	-0.008**	-0.009**	-0.003
	(0.004)	(0.007)	(0.006)	(0.006)	(0.005)	(0.007)	(0.006)
HIFE	0.075***	0.078***	0.053*	0.188***	0.027**	0.042*	-0.098***
	(0.018)	(0.024)	(0.022)	(0.024)	(0.019)	(0.023)	(0.018)
Trend-following * HIFE	0.004	0.072***	0.034***	0.069***	0.050***	0.040***	-0.080***
	(0.007)	(0.012)	(0.011)	(0.011)	(0.010)	(0.012)	(0.009)
Observations	32931	32931	32931	32931	32931	32931	32931
Log Likelihood	-8595.322	-20045.840	-16480.493	-15521.654	-13449.183	-19210.234	-15817.541

Notes: Estimation results of Eq. (7). All columns include controls for demographics (age, gender, income, marital status, education, labor force status, home ownership status), Canadian region fixed effects, survey-quarter fixed effects, and survey tenure. In each regression, we use the sampling weights and the HAC standard errors are reported in parentheses. ***, **, and * represent statistical significance at the 1%, 5%, and 10% levels, respectively.

Our findings are at odds with the theoretical prediction of the Euler equation, which suggests that higher inflation expectations should overall *increase* consumption. Instead, we observe that trend-chasing consumers tend to reduce spending when inflation is above target, which indicates that the income effect dominates the substitution effect in our data. This deviation from the workhorse model has implications for modeling, prediction, and policy. The comparatively large negative impact of trend-chasing inflation forecasting on spending could have a stabilizing impact on inflation through lower demand, but would also worsen the stabilization trade-off of the CB in face of cost-push shocks. This is another possible channel behind the empirical result that higher disagreement in short-run inflation forecasts amplifies the impact of these shocks.

The negative effect of higher inflation expectations on spending plans may be attributed to consumers associating inflation with negative developments in the economy [Andre et al., 2022; Stantcheva, 2024]. Importantly, this effect is consistent with the particularly weak pass-through between inflation expectations and CSCE respondents' nominal wage expectations (see also Jain et al. 2024). In other words, trend-chasing consumers anticipate declining real wages, leading them to restrict spending and, to a lesser extent, seek higher nominal income.

These results bear policy implications since they reiterate the role of the expectations channel in consumer decisions. It also emphasizes real wage expectations to understand consumers' reactions to inflationary shocks, and the potentially sizable aggregate demand effects of heightened forecast heterogeneity.

6 Conclusion

We characterize the heterogeneity in inflation expectation formation among Canadian households over time, contrasting the low- and high-inflation periods, and across demographic groups, through the lens of a heterogeneous expectations model. Our findings highlight how the recent inflation surge has altered expectation formation and its interplay with consumer behaviors. Not only do the mean and the cross-sectional dispersion of households' inflation expectations increase in the wake of an inflation surge, but people also change the way they form their expectations and the heterogeneity in inflation forecasting behaviors becomes more pronounced. Over the recent inflation surge, relatively more trend-chasing inflation expectations reverberate into all other economic expectations and consumer spending plans along particularly pessimistic real wage expectations. This behavior could translate into sizable aggregate demand effects since trend-chasers are more likely to report restricting their spending than mean-reverters.

Our study has important implications for the nature of inflation expectations, macroeconomic modeling, and monetary policy. First, the positive pass-through from unstable trend-chasing prediction models of short-run to long-run inflation poses a substantial state-dependent risk to the anchoring of inflation expectations, exacerbating the persistence of inflationary shocks and entrenching above-target inflation. On the policy front, this paper highlights the added-value of bringing a parsimonious behavioral model to the micro-data. Our framework can be deployed in near real time, matching the frequency of expectation data collection. Within the context of the Canadian economy, our results may call for higher-for-longer interest rates to durably bring inflation back to the target and ensure the anchoring of inflation expectations, which would entail output costs and heightened financial vulnerabilities.

Second, our findings emphasize the potentially sizable impact of household expectation formation mechanisms on aggregate demand and the transmission of monetary policy. Our results also provide a rationale for the empirical finding that more heterogeneous forecasts may impair the transmission of monetary policy and amplify supply shocks. Importantly, consumers need not behave consistently with optimization models based on rational expectations, which calls for further behavioral research beyond inflation expectation formation to inform model-based policy design. Interestingly, in our data, consumer plans are consistent with their real wage expectations. The possible implications of this behavior for aggregate demand suggest an urge to move beyond the (already extensive) research on inflation expectations to emphasize instead the dynamics of real wage expectations as a whole.

The distinct expectation formation processes that we document concern beliefs about a broad spectrum of economic variables as well as consumer decisions. Differences in trend-chasing behaviors across age groups could be explained by cohort-specific experiences since the recent surge in inflation has no precedent in the lifetime of younger cohorts. Differences across other dimensions, such as education achievements, sex, and house ownership status may relate to distinct group-level economic experiences and exposure to economic information (as surveyed, for example, in Malmendier 2021). Subjective memories of past economic circumstances can also be carried out distinctively into expectations [Bordalo et al., 2025; Salle et al., 2026]. Policy-makers could benefit from this detailed picture of the heterogeneity in expectation formation to design targeted and differentiated communication policy to mitigate the risk of expectations unanchoring during large inflationary shocks. Additionally, the framework used in this paper could be applied to model heterogeneous, group-specific expectation formation processes in general-equilibrium models. In general, our work calls for further research

to understand the sources of these heterogeneous behaviors, which is essential to help predict beliefs, choices, and the effects of policies.

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