

Inflation expectations and business cycle's position

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Introduction

The recent surge in inflation reignited **interest in the behavior of inflation expectations** and their **implications for consumer decision-making**, especially concerning the intentions to purchase durable goods.

New data source: Survey-based microdata from the Czech Republic.

How Czech households' inflation expectations relate to their **propensity to consume durables**, utilizing both qualitative and quantitative measures of inflation expectations.

The effect of inflation expectations on consumption choices may significantly vary depending on the **prevailing state of economy** (different inflation regimes - state dependency).

The role of the business cycle and monetary policy stance in moderating the relationship between inflation expectations and consumption decisions.

The **state-dependent nature of consumption intentions** concerning inflation expectations and further investigate the role of the business cycle in shaping consumer behavior.

Country comparison with international research to provide broader context of results.

Objectives

- Insights in the relation of **inflation expectations on aggregate consumption behavior**.
- Evaluate effects of various characteristics on the **propensity to consume**.
- Analyze the relation between **intentions to purchase, consumer choices and position in the business cycle**.
 - State dependency: inflation level, business cycle position, stance of the **monetary policy**.
- **Prediction** of consumer behavior.

Data source

Survey data

Unique individual data for Czech Republic from the **harmonized European Commission consumer survey program**:

- Population representative dataset.
- Monthly data frequency.

Individual level data reflecting views of respondents on:

- economic and financial situation in the Czech Republic, unemployment,
- their socio-economic info,
- quantitative and qualitative inflation perceptions and inflation expectations,
- Intentions for durables purchase and for savings.

Data preparation process

Sample size: minimum 1000 individuals.
Sample span: 08/2015–10/2024.

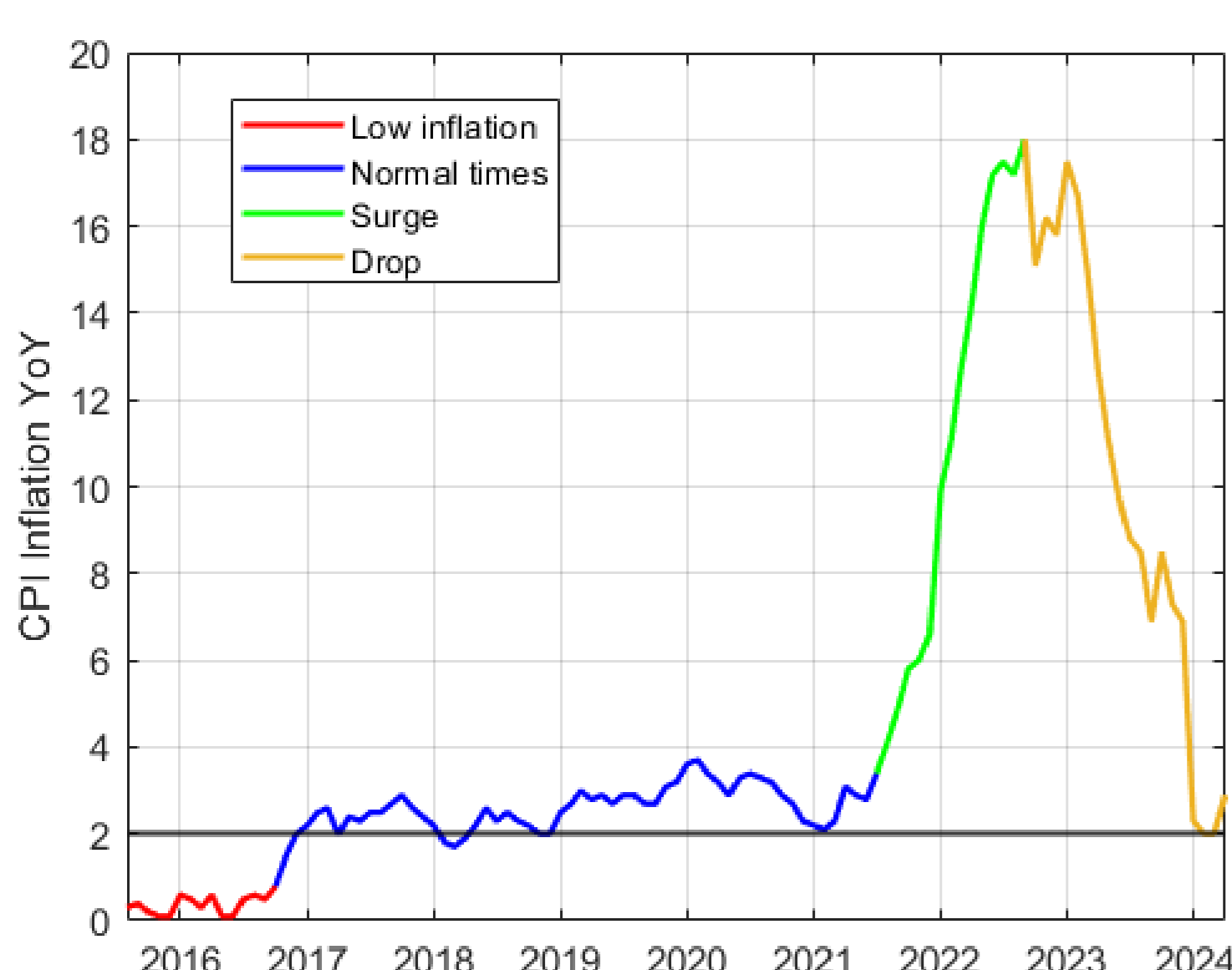
Cleaning strategy:

- removing observations with responses outside the established options,
- missing fields are completed with k nearest neighbors imputation method.

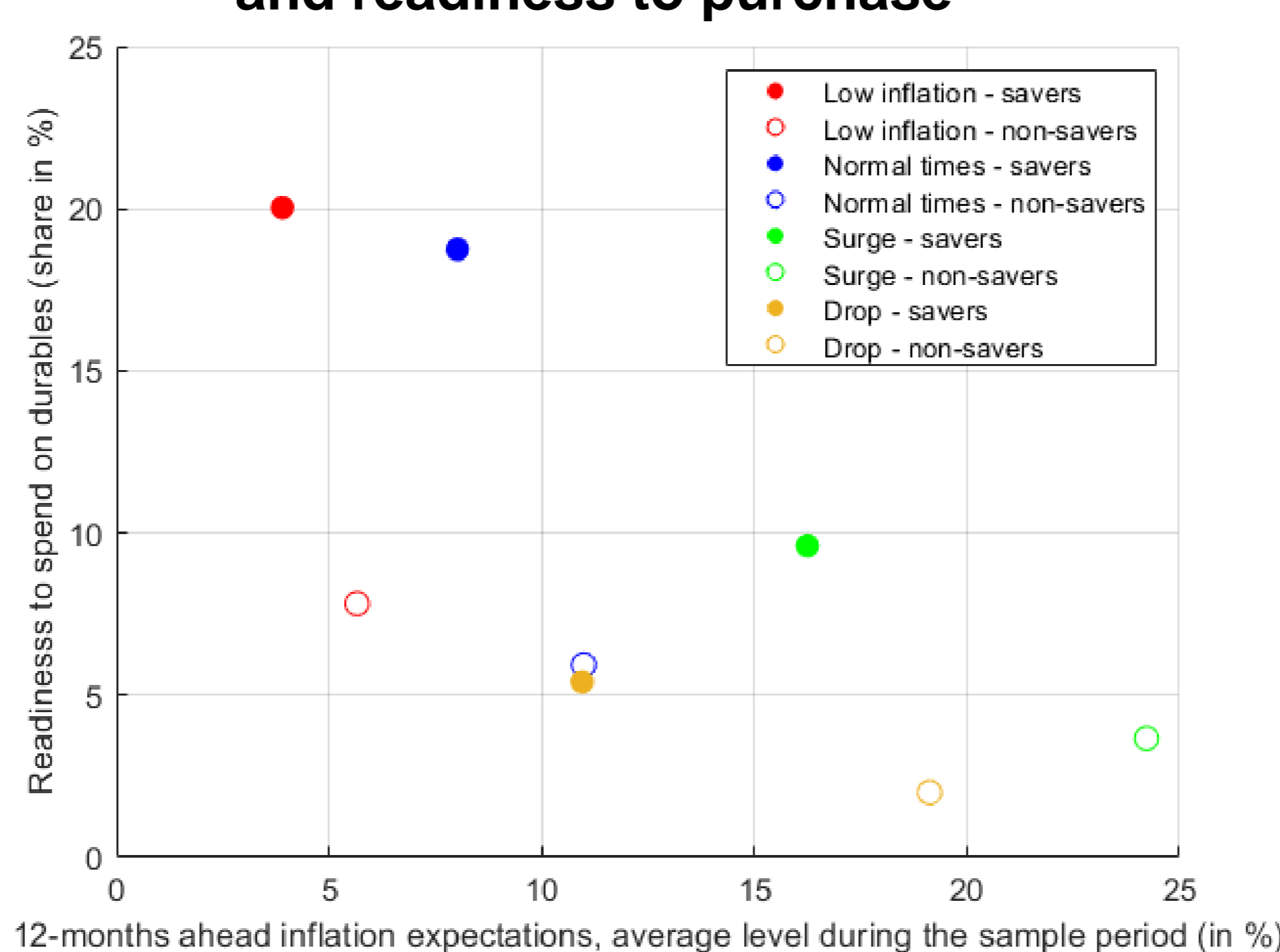
Inflation regimes definition

Periods:

- **low inflation**,
- inflation near the inflation target (**normal times**),
- **inflation surge**
- and recent period of **inflation drop**.



Inflation expectations and readiness to purchase



State dependent relation.

Savers are behind changes over the inflation periods.

Non-savers show stable behavior over inflation cycle.

Readiness to purchase:

- Question 8: Considering the general economic situation in the Czech Republic, do you think that today is a good time to make large purchases?

Savers and non-savers:

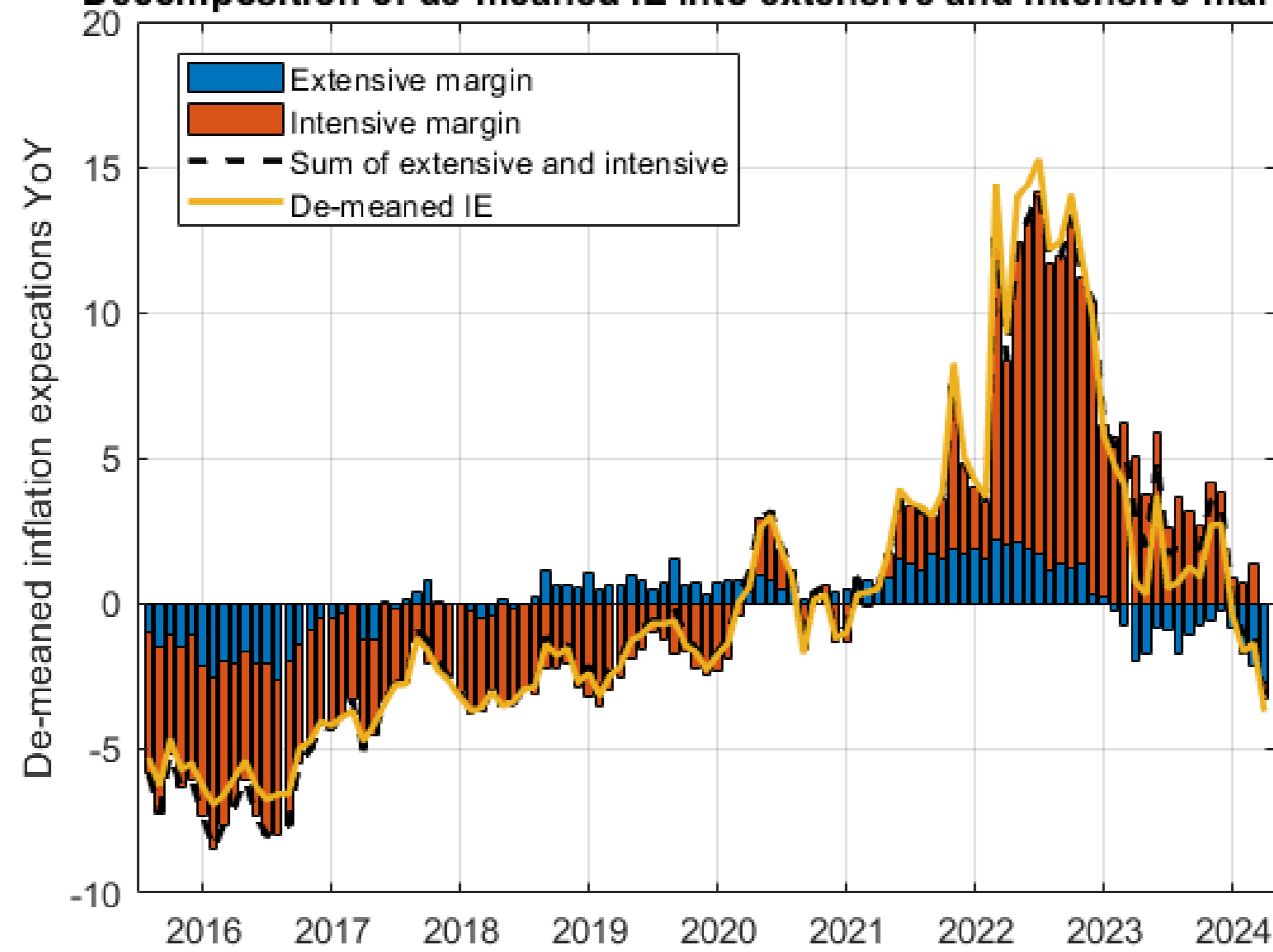
- Question 12: Which statement best describes the current financial situation of your household?

Inflation expectations decomposition

Extensive margin - the share of people expecting non-zero inflation.

Intensive margin - the level of expectations conditional on expecting non-zero inflation.

Decomposition of de-meaned IE into extensive and intensive margin



Results

Factors of propensity to purchase

Explore factors driving the propensity to purchase durables.

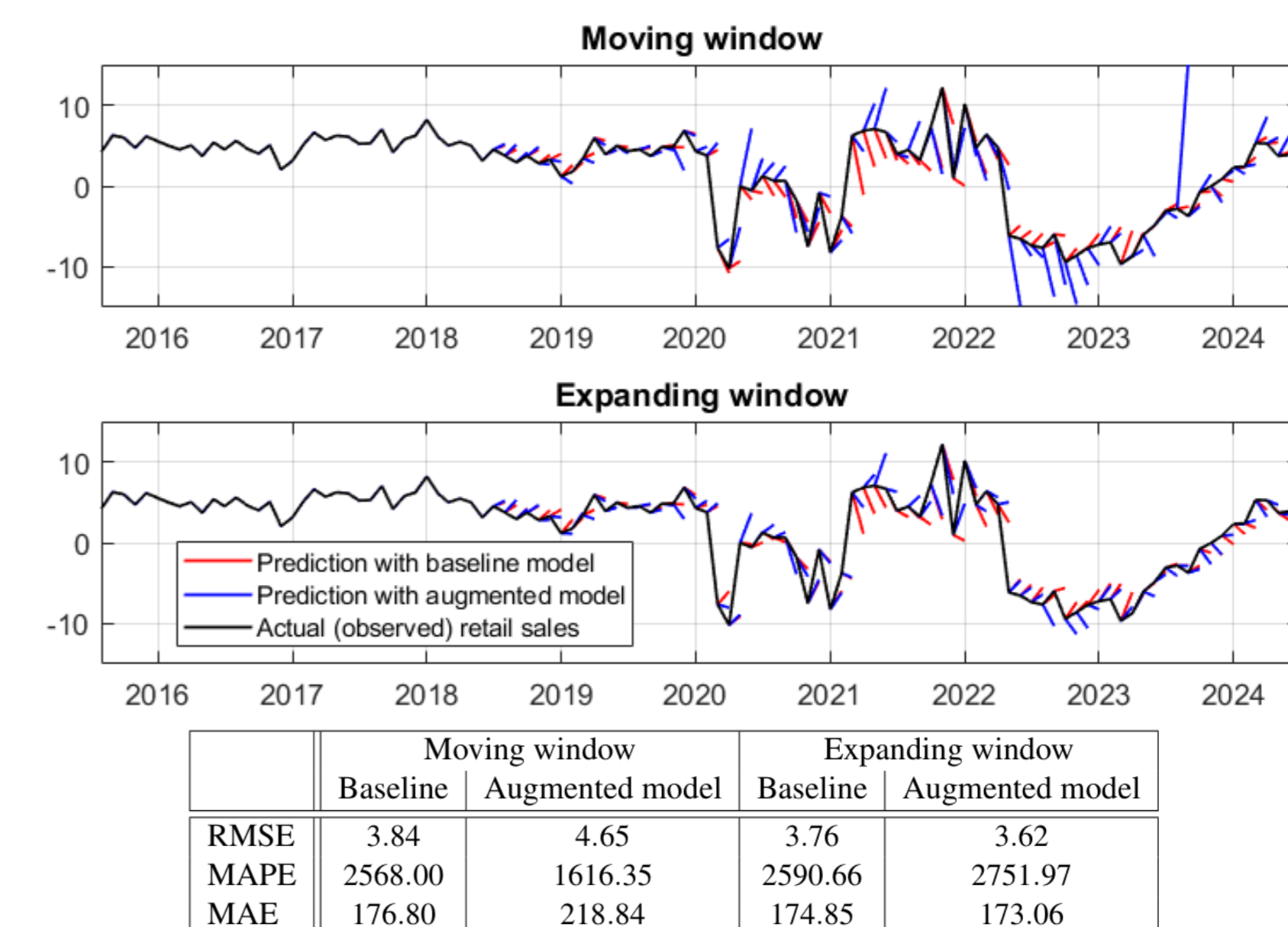
Logistic model:

- Propensity to purchase as a **binary response variable**.
- **Regressors:**
 - one measure of inflation expectations: expectations of inflation change, extensive margin, intensive margin, responses about quantitative inflation expectations.
 - **Other regressors:** set of observables from our main dataset
- **Logit model with marginal effects**.
- Robustness analysis: varying sample periods.

Predicting retail sales

Support for the nowcasting models of retail sales:

- Renders useful for predicting consumption, aggregate GDP.
- **Simple model** - regression with lagged retail sales and consumer sentiment.
- **Augmented model** – simple model extended with aggregated variables from survey.



Inflation expectations vs inflation perception variance

	Positive output gap	Negative output gap
IE	244.38	423.21
IP	198.25	508.32
Trimmed IE	48.77	67.81
Trimmed IP	63.52	95.27

	Positive output gap		Negative output gap	
	Men	Women	Men	Women
Trimmed IE	39.74	55.66	60.00	76.52
Trimmed IP	51.93	71.82	84.75	108.53

	Positive output gap		Negative output gap	
	Trimmed IE	Trimmed IP	Trimmed IE	Trimmed IP
18–29	41.63	57.64	57.83	92.79
30–49	43.74	56.82	62.18	85.65
50–64	52.37	66.84	73.47	98.84
65+	55.49	70.90	78.07	111.35

	Positive output gap		Negative output gap	
	Trimmed IE	Trimmed IP	Trimmed IE	Trimmed IP
Primary	57.37	75.34	79.65	118.65
Secondary	51.88	66.96	73.52	103.80
Further	34.41	47.04	52.56	73.56

State dependent variance:

- **Output gap** used to define BC position.
- Variance increases during times of **economic downturn**.
- Large **differences** across socio-economic groups (gender, age, education) in **understanding of sources of variance** in inflation expectations and perceptions.

Conclusions

- Consumption intentions are **state-dependent** influenced by inflation expectations.
- Our research builds on existing studies by exploring how **inflation expectations** interact with the **business cycle** and **monetary policy**.
- Findings indicate that **higher inflation expectations** tend to **increase durable goods consumption**, especially during inflationary periods.
- The way inflation expectations are formed and perceived **varies across business cycle** and differs among specific socio-economic groups.
- Policy implications emphasize the need for central banks to consider both quantitative and qualitative inflation expectations in **communication strategies** to manage consumer behavior effectively.

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