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Measuring inflation expectations: Effects of wording, mode, and opportunities to revise

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The views expressed are those of the authors and are not necessarily reflective of views at the Federal Reserve Bank of New York, the Federal Reserve System, De Nederlandsche Bank, or the Eurosystem

Survey data for policy makers

- Central banks use national consumer surveys of inflation expectations to inform monetary policy
- Median inflation expectations track CPI (Bryan & Venkati, 2001)
- Consumers' inflation expectations are related to their financial decisions (Armantier et al., 2015)
- Findings vary across existing surveys, perhaps due to differences in *survey design features*



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Survey design features

1. Question wording
2. Administration mode
3. Opportunity to revise

Survey design feature 1: Question wording

- Traditionally, survey questions have been asked about *'prices in general'*:

During the next 12 months, do you think that prices in general will go up, or go down, or stay where they are now?

[if response is "up" or "down"] By about what percent do you think prices in general will go [up/down] on the average, over the next 12 months?

Survey design feature 1: Question wording

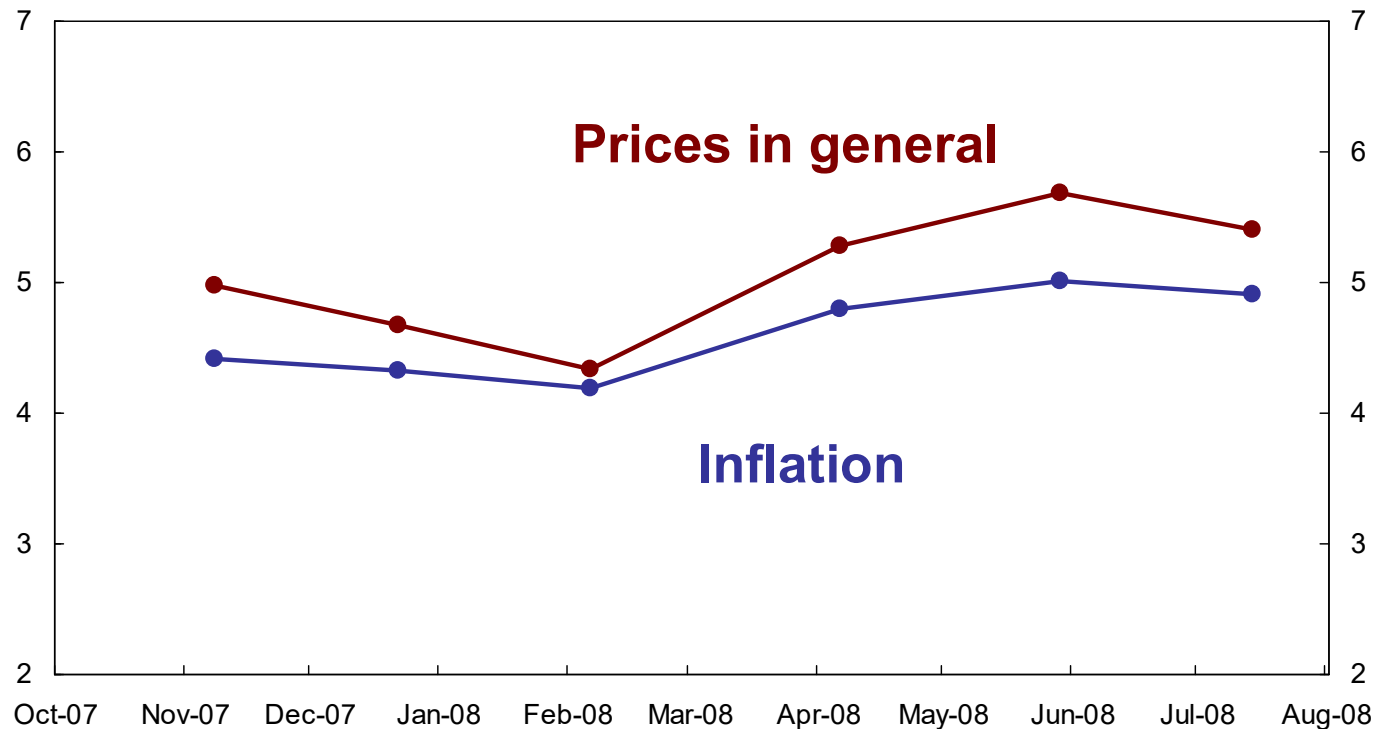
- Some participants recognize '*prices in general*' wording as being about inflation ... while others think of (extreme) prices they have experienced
 - And the latter report higher expectations
(Bruine de Bruin et al 2010, 2011)



Effect of wording on expectations

- Questions that ask for expectations of *'inflation'* instead of expectations for *'prices in general'* yield lower expectations

(Bruine de Bruin et al 2011, 2012)



Survey design feature 2: Administration mode

- Survey organizations are moving from *face-to-face* to *web* mode
- Mode differences between existing surveys are often hard to evaluate due to differences in
 - Recruited samples
 - Question design



Presence of interviewer

- The survey literature shows that interviewers can change interviewees' behavior
 - Including concerns about social norms
- For inflation expectations, could modes influence
 - Item response rates?
 - Provided responses?



Survey design feature 3: Opportunity to revise

- Michigan interview protocol asks participants to reconsider answers over 5%: *“Let me make sure I have that correct. You said that you expect prices to go up during the next 12 months by [x%]. Is that correct?”*
- Effect of offering opportunity to revise has not been studied in inflation surveys
- Could interviewer affect willingness to change?



**Even in business,
your first draft
is rarely your best.**

Results are clear.
Most GRE® test takers saw
score gains when they made
thoughtful changes.

The graphic features a dark purple background with white text and a white line-art illustration of a city skyline with several skyscrapers of varying heights and windows. The text is arranged in a clear, hierarchical layout, with the main headline in large, bold font, followed by a sub-headline and a supporting statement.

Method

- Dutch internet panel (LISS) members were invited for a study with web and/or face-to-face modes
- Participants were randomly assigned to
 - Mode: web vs. face-to-face
 - Wording: ‘prices in general’ vs. ‘inflation’
- *All* received the revision prompt (not just those reporting expectations over 5%)



Results: Variables of interest

1. Participation rate and sample composition
2. Item non-response rate and percent revisions
3. Central tendency of responses

Item non-response rate and percent revisions

	"Prices in general" wording		"Inflation" wording	
	Web (N=327)	Face to face (N=368)	Web (N=363)	Face to face (N=333)
% <i>no</i> response	.3%	.0%	.0%	5.1%**
% revising (if response given)	3.4%***	.0%	9.6%***	.6%

Note: ** $p < .001$

- 'Inflation' question is skipped more with interviewer

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- 'Inflation' question is skipped more with interviewer
- Both questions are revised less with interviewer

Item non-response rate and percent revisions (OR)

Predictor	Non- response (N=1354)	Revision, if response (N=1337)
Web mode (vs. face to face)	.05**	20.94**
Prices in general wording (vs. inflation)	.05**	.30**
No college education	.51	2.80**
Low income	3.42	.93
Female	1.03	1.46
Age	.98	1.00
Initial response over 5%	-	4.73**
R^2	.24	.25

Note: ** $p < .01$ * $p < .05$; + $p < .10$

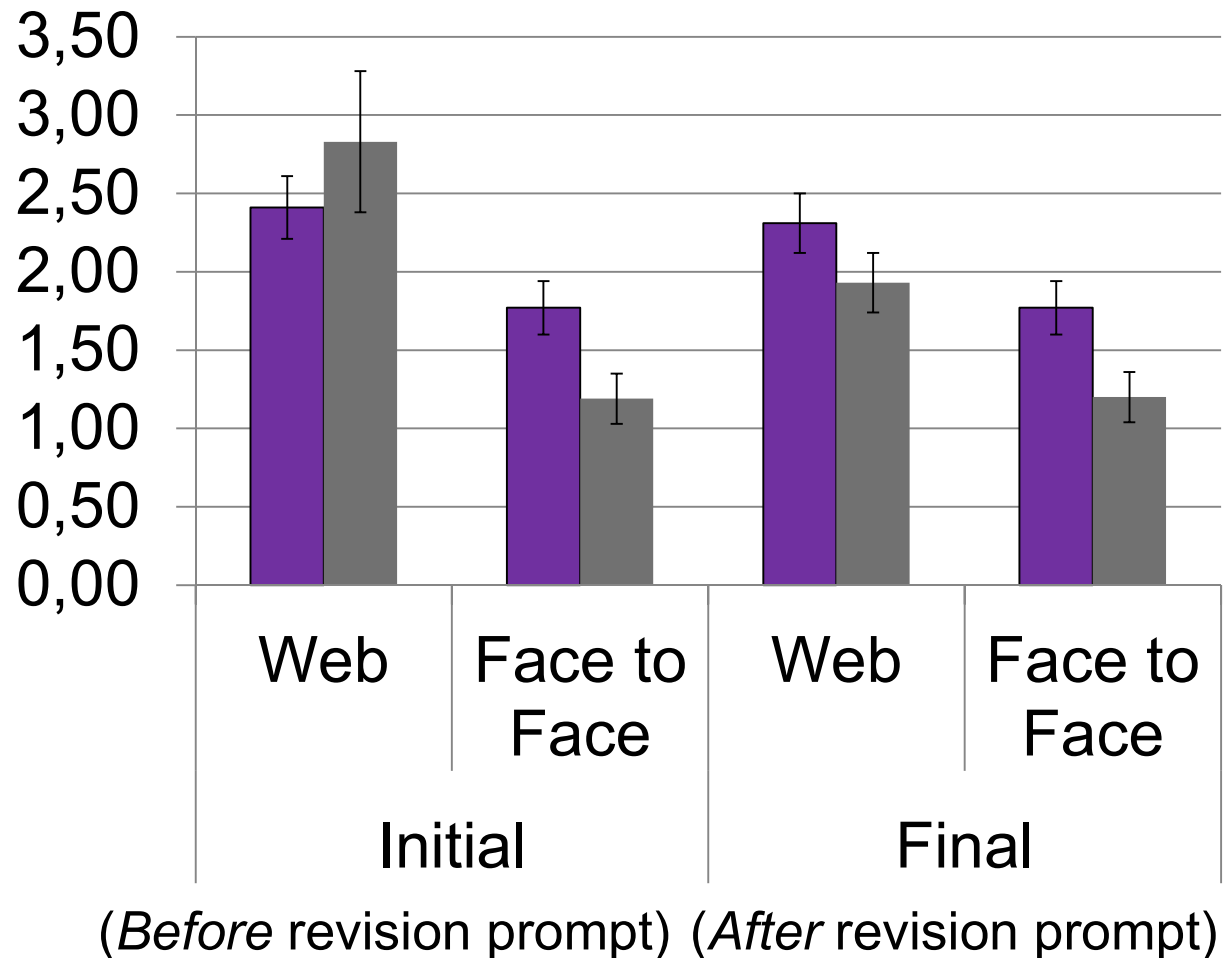
OR= Odds Ratio (logistic regression)

No significant interactions with mode or wording

Central tendency (means)

Prices in general	M=2.41	M=1.77	M=2.31	M=1.77
Inflation	M=2.82	M=1.19	M=1.92	M=1.20

- Higher responses with 'prices in general' wording and web mode
- Opportunity to revise lowers web responses especially for 'inflation'



Central tendency of expectations

Predictor	Initial (N=1333)	Final (N=1333)
Web (vs. face to face)	1.16**	.65**
Prices in general (vs. inflation)	.03	.46*
No college education	.72*	.34 ⁺
Low income	.21	.20
Female	.58 ⁺	.32
Age	.00	.00
R^2	.02	.03

*Note: Linear regression, ** $p < .01$ * $p < .05$; + $p < .10$*

No significant interactions with mode or wording

Summary of findings

1. No mode differences in participation
2. Few skipped items, except with 'inflation' question asked by interviewer
 - 'Inflation' is perceived as more difficult than 'prices in general' perhaps both by interviewee and interviewer
3. Few revised answers, except with 'inflation' question on the web
 - With an interviewer, it may be harder to admit mistake
4. Face to face (vs. web) yielded lower and less dispersed responses, but less so after revision
5. 'Inflation' wording yielded lower responses than 'prices in general' wording (as in Bruine de Bruin et al., 2012)

Limitations

- LISS panel includes active participants who are already used to web survey mode
 - But internet coverage is increasing
- Study was conducted at times of historically low inflation
 - Potentially reducing any wording and mode differences

How to design your survey?

- Good question wording
 - Is easy to understand and avoids expert jargon
 - Is interpreted in the same way by all respondents
 - Measures the intended concept
 - Does *not* tap into other concepts
- Pre-test your questions in cognitive interviews
- Consider pros and cons of formats and modes in light of research questions

Introductory Readings in Survey Design:

Converse, J. M. and Presser, S. *Survey Questions: Handcrafting the Standardized Questionnaire*. Sage University Paper series on Quantitative Applications in the Social Sciences, No. 07-063. Thousand Oaks, CA: SAGE Publications, 1986.

Dillman DA, Smyth JD, Christian LM. 2009. *Internet, mail, and mixed-mode surveys: The tailored design method*. Third Edition. Hoboken, NJ: Wiley.

Sudman, S., & Bradburn, N. *Asking questions: A practical guide to questionnaire design*. San Francisco, CA: Jossey-Bass, 1982.

Take-home messages

- Survey design features affect your findings
- There is a social science of survey design
- *Psychologists can help* 😊



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