



Carnegie Mellon

Discussion of Cavallo et al.'s *Inflation expectations, learning, and supermarket prices*

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Strengths

1. Insights from economics and psychology
2. Survey-based randomized experiment
3. Study of supermarket prizes

Comments

1. Question wording
2. Presented numbers
3. Distinguishing actual vs. spurious learning

“Prices in general” wording

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

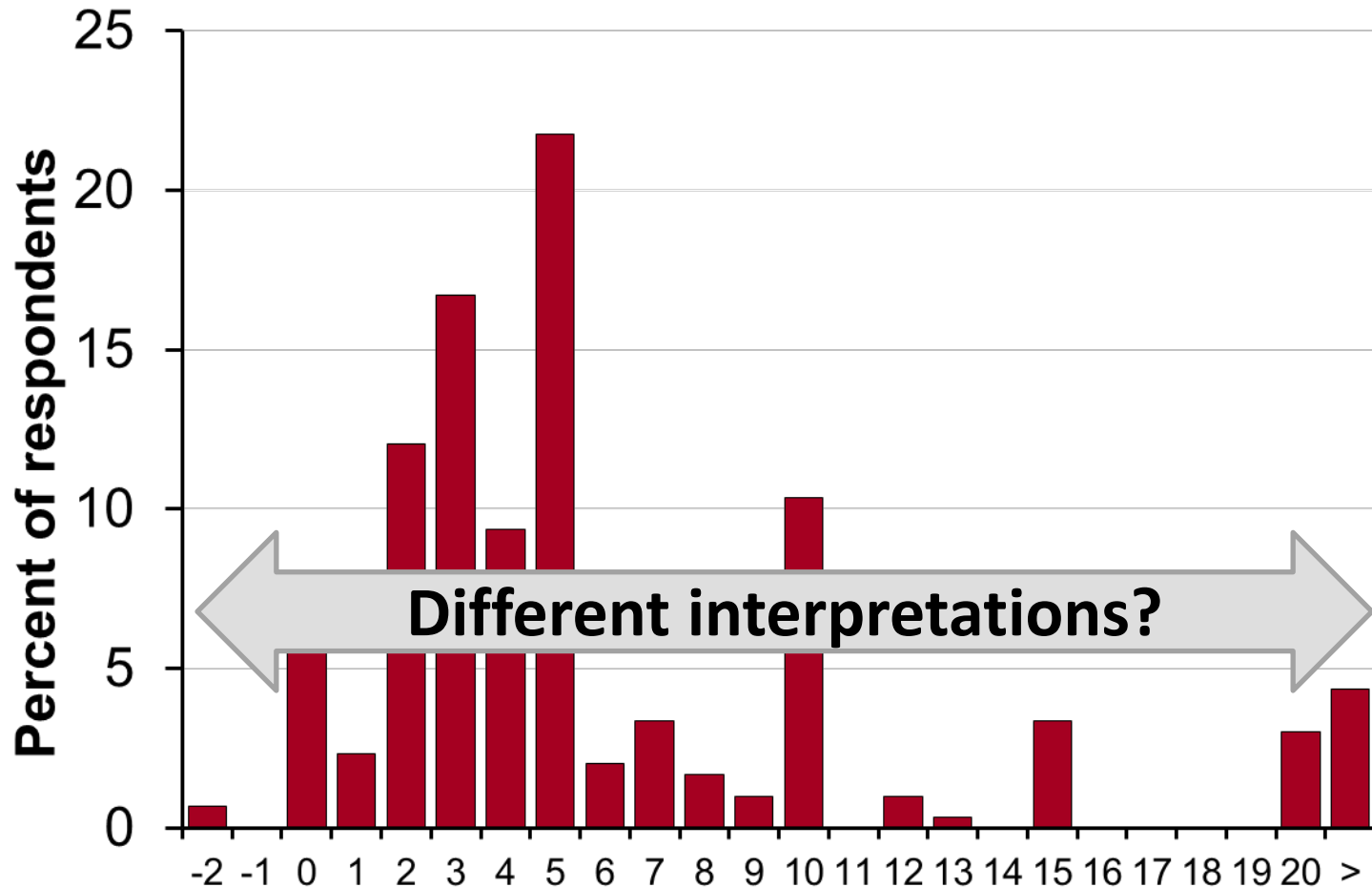
[follow up if response is “up” or “down”]

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

Taken from: Michigan Survey

Adapted for: Cavallo et al.

“Prices in general” responses



Year-ahead expectations for 'prices in general' on American Life Panel in 2007 (Bruine de Bruin et al., 2010)

“Prices in general” interpretations

- Some participants recognize ‘*prices in general*’ wording as being about inflation ... while others think of prices they have experienced
- Those who think of personal price experiences tend to remember extremes and report higher expectations

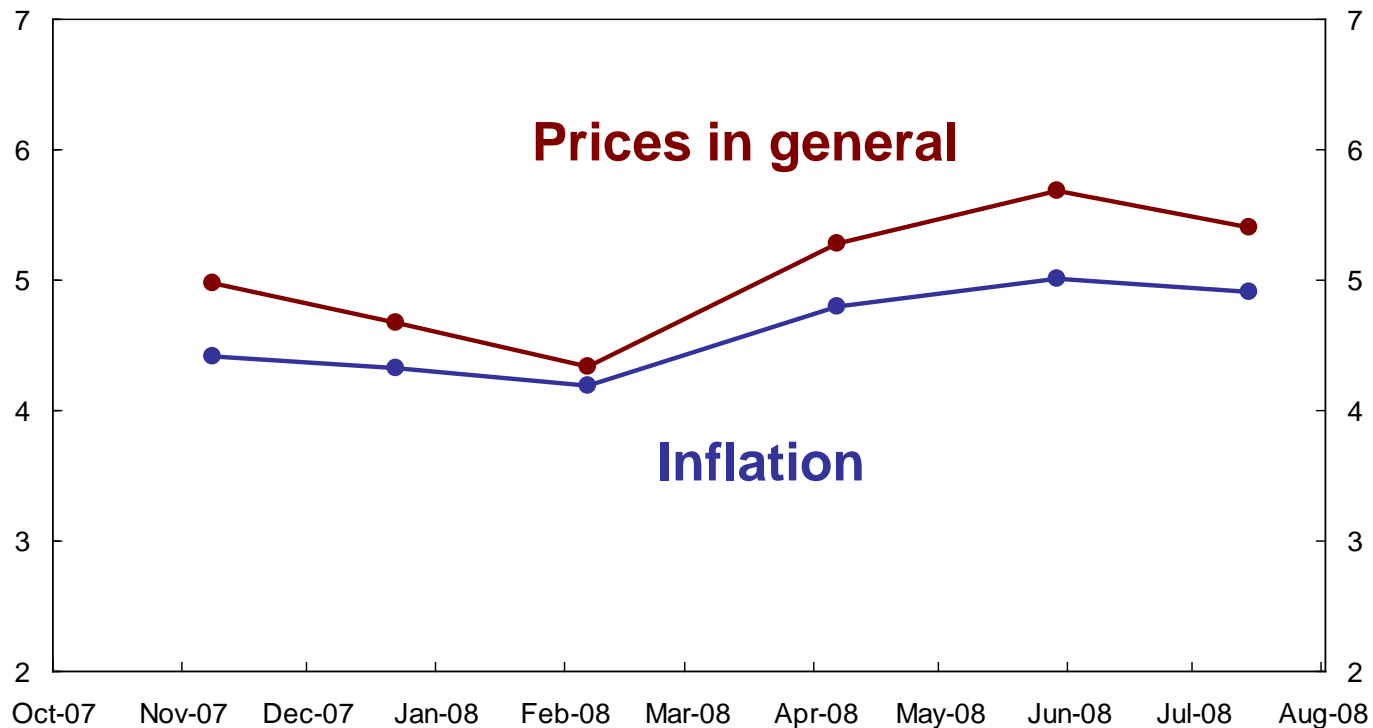


(Bruine de Bruin et al 2010, 2011)

Effect of wording on expectations

- Questions that ask for expectations of '*inflation*' instead of expectations for '*prices in general*' yield lower (and less dispersed) expectations

(Bruine de Bruin et al 2011, 2012)





Effect of wording on Cavallo et al.'s findings?

How would findings have been affected if...
...participants had been asked about
expectations for 'inflation' rather than
expectations for 'prices in general'?

Comments

1. Question wording

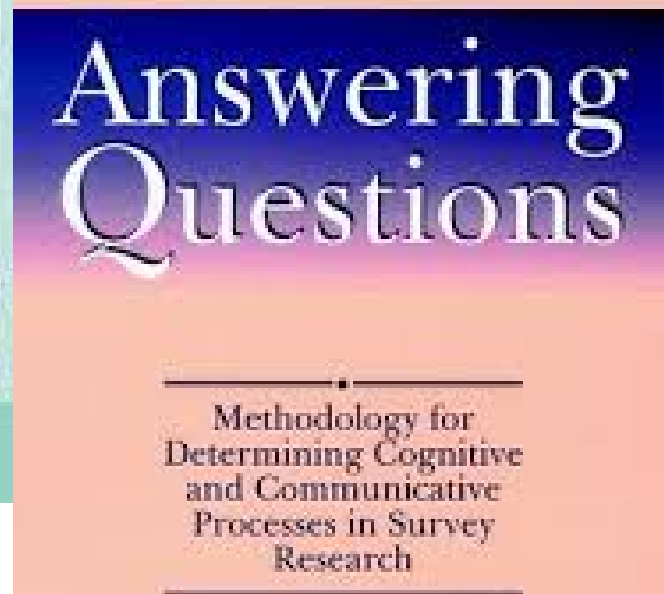
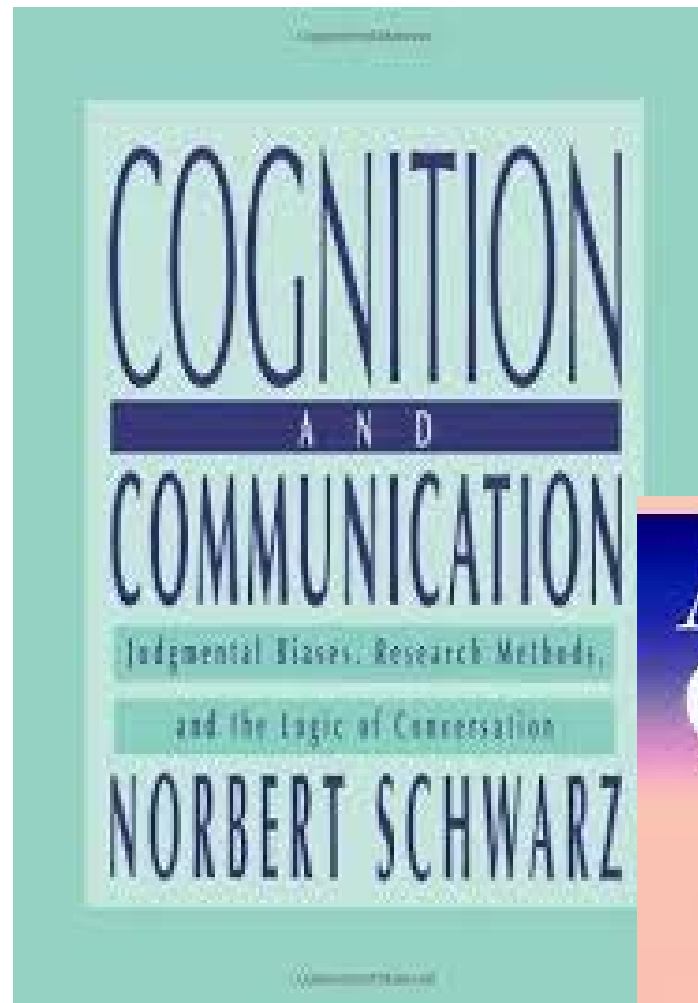
2. Presented numbers

3. Distinguishing actual vs. spurious learning

Psychology of survey design



Norbert Schwarz

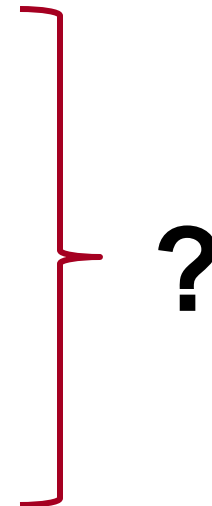


Treatment: Statistics (1.5%)

We will now ask you a couple of questions about how you expect prices in the U.S. to evolve in the next 12 months.

Before answering, please look at the table below. The table shows indicators used by different government agencies to measure the annual inflation rate - that is, how much prices have changed on average over the last 12 months, from August 1 2012 to August 1 2013:

Official Statistic	Average Annual Change in Prices
Consumer Price Index ¹	2.0%
Personal Consumption Expenditures Price Index ²	1.1%
Gross Domestic Product Deflator ³	1.5%
Average of the three statistics:	1.5%



Sources: 1 Bureau of Labor Statistics, 2 and 3: Bureau of Economic Analysis.

Treatment: Prices (3%)

We will now ask you a couple of questions about how you expect prices in the U.S. to evolve in the next 12 months.

Before answering, please look at the table below. The table shows the price of each listed product on August 1st, 2012 and on August 1st, 2013 (that is, one year later). These prices were taken from the same branch of a large supermarket chain. The six products that appear in this table were randomly selected from a database containing hundreds of products.

Product	Price on August 1, 2012	Price on August 1, 2013	Price change in %
Infant Formula (Similac with Iron)	\$7 ²⁹	\$7 ⁵⁹	4.1%
Bread (Anzio & Sons Sub Rolls)	\$3 ⁵⁹	\$3 ⁵⁹	0.0%
Noodles (No Yolks)	\$2 ⁷⁹	\$2 ⁷⁹	0.0%
Soda (Sprite Lemon Lime Zero)	\$1 ⁸⁹	\$1 ⁹⁹	5.3%
Cereal (Kelloggs Special K)	\$5 ⁴⁹	\$5 ⁴⁹	0.0%
Body Wash (Nivea For Men)	\$3 ⁴⁹	\$3 ⁷⁹	8.6%
Average change:			3.0%



?

Both treatments: statistics (1.5%) *and* prices (3%)

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Treatment:

Hypothetical price changes (%?)

In this survey we ask you questions about how "prices in general" evolve over time. The following question is meant to assess how comfortable you are with the way these questions are phrased.

Please consider the following prices of a hypothetical product at two different moments.

Price on January 1st 2012:	\$9.99
Price on January 1st 2013:	\$10.99

What is the approximate price change of this product over this period? Please do not use a calculator, pen, or pencil to calculate the exact figure. We want your best guess from eye-balling these prices.

- About 1%
- About 5%
- About 10%
- About 100%



Effect of treatment confound on Cavallo et al.'s findings?

How would findings have been affected if...
...participants had received the same set of
numbers for inflation statistics, supermarket
prices, and hypothetical prices?

Comments

1. Question wording
2. Presented numbers
3. Distinguishing actual vs. spurious learning

Psychology of learning

- Taking a practice test with corrective feedback is one of the most effective ways to improve learning *that lasts over time* (Kang et al., 2007)
- In the present paper:
 - Giving perception of past inflation is like taking a test
 - Being given information about supermarket prices (or inflation stats) is like being given corrective feedback
 - *This process could lead to spurious learning that affects responses given to the same researchers in the future*





How to distinguish between actual vs spurious learning

- Provide financial incentives for reporting accurate inflation expectations (Armantier et al., 2015)
- Have follow-up study conducted by different researchers (Schwarz et al.)

Comments

1. Question wording
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