

The role of media for consumers' inflation expectation formation

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- How are inflation expectations updated: instantly, learning, sticky information?
- Are there differences in the "rationality" of different groups of economic agents: financial markets, households?
- Is there a peculiar role of the media's ways of presenting news (emphasis, tone), possibly depending on individual characteristics of the readers (sex, education, age, income)?
- The authors provide some evidence for Germany 1998-2006 (rich news dataset!)

- The reference framework
- A few questions/comments on the main results
- Suggestions for a first draft

The reference framework

- Carroll (QJE, 2003)

$$M_t [\pi_{t,t+4}] = \lambda N_t [\pi_{t,t+4}] + (1 - \lambda) M_{t-1} [\pi_{t,t+4}]$$

- $M_t [\pi_{t,t+4}]$: Mean measured expectations
- $N_t [\pi_{t,t+4}]$: (rational) Newspaper forecast
- λ : fraction of the population which reads (absorbs the information) from the newspapers
- Implication: with more news on inflation people are better informed and their forecast is more rational

Measurement: volume

- Carroll (2003) uses the University of Michigan' survey of households. Households are asked whether they think prices will go up, stay the same or fall over the next year. Since 1978, those who say "go up" (the vast majority) are then asked "By about what percent do you expect prices to go up, on the average, during the next 12 months?". \implies Quantitative data.

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- Carroll finds strong results in favour of the "volume" effect of news. [Figure.]

FIGURE I
Inflation Versus News Stories

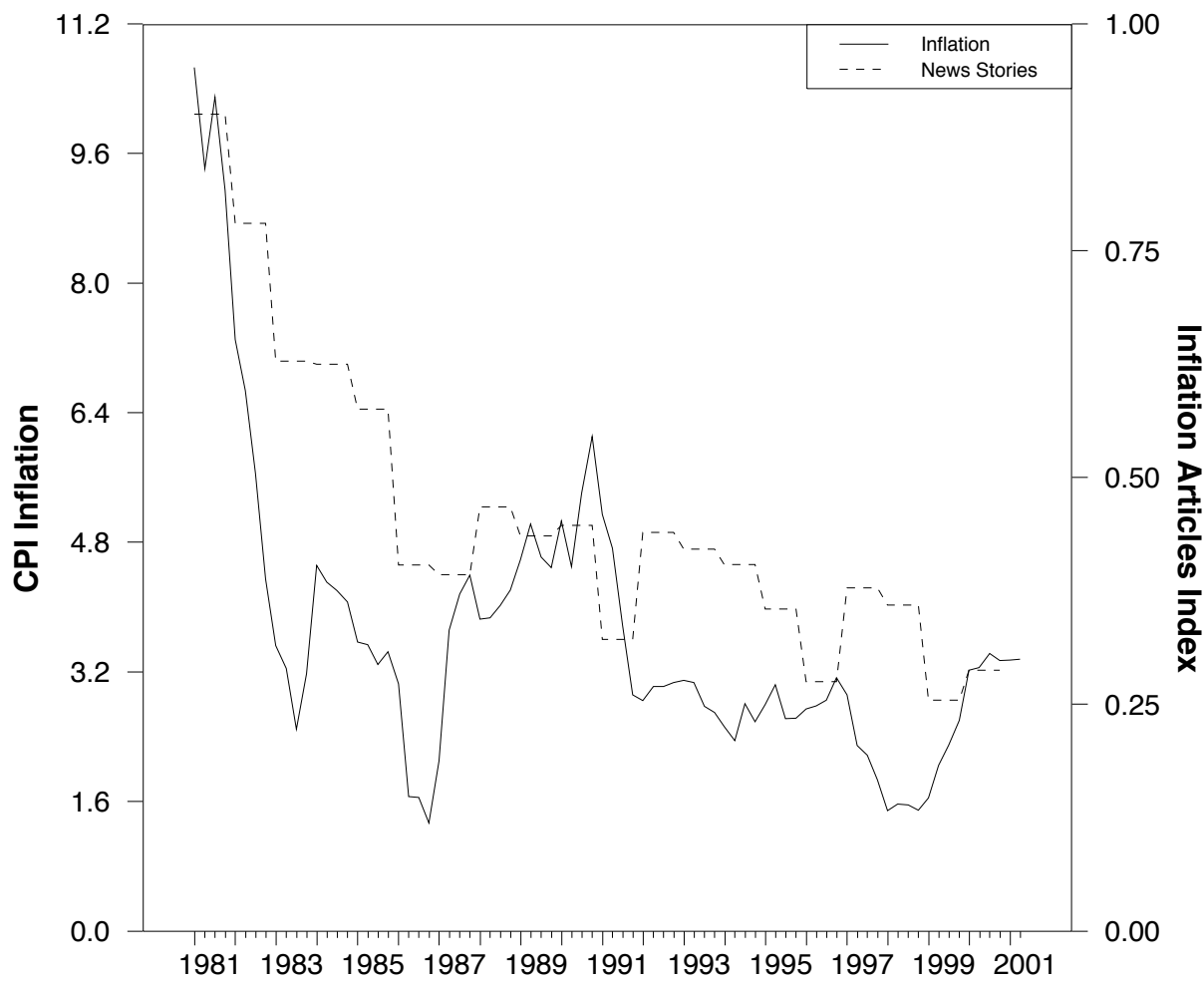
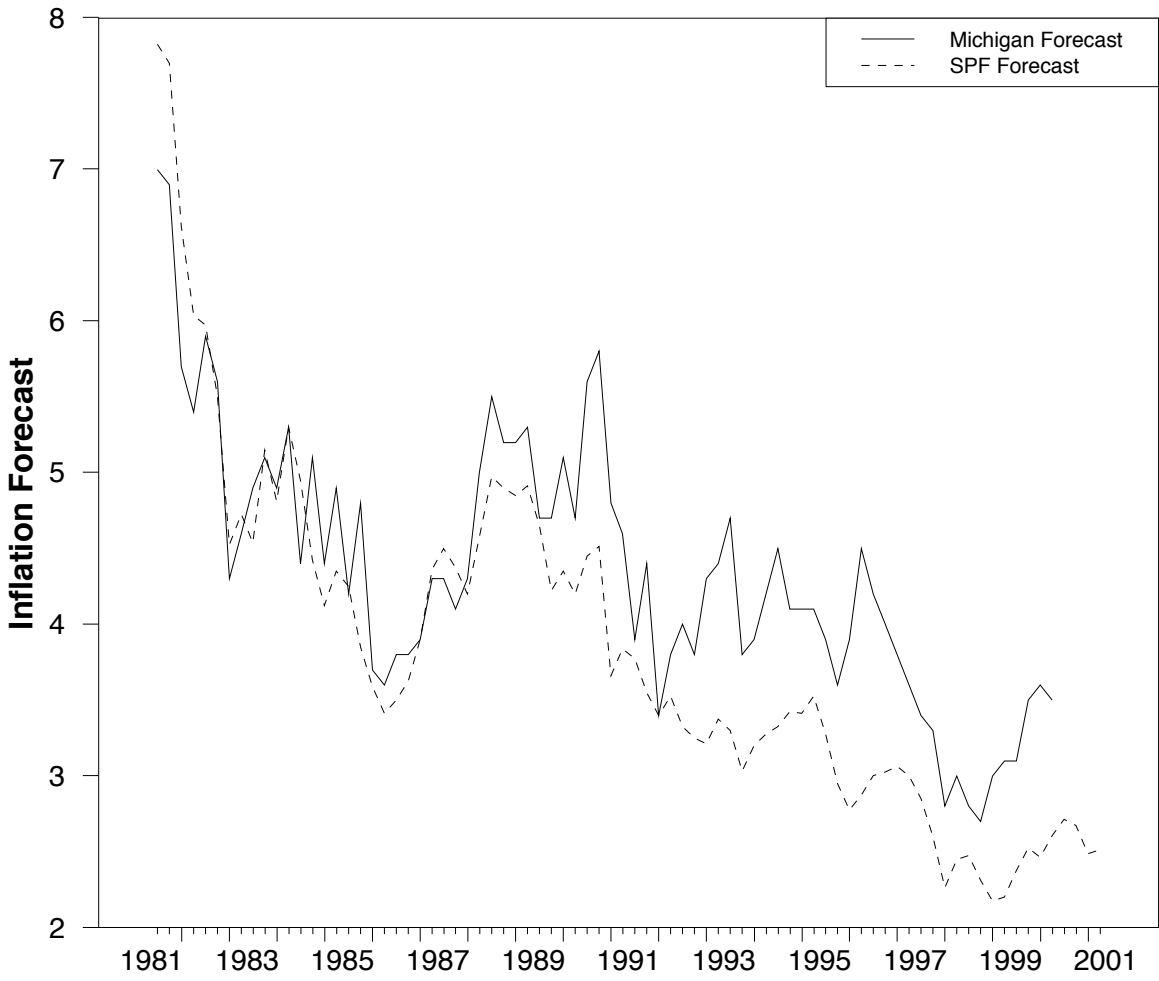


FIGURE II
Michigan Versus SPF Forecasts



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- Carroll finds strong results in favour of the "volume" effect of news. [Figure.]
- Intuition: high inflation, high news coverage, near-rational expectations; low(er) inflation, low coverage, slower absorption of information

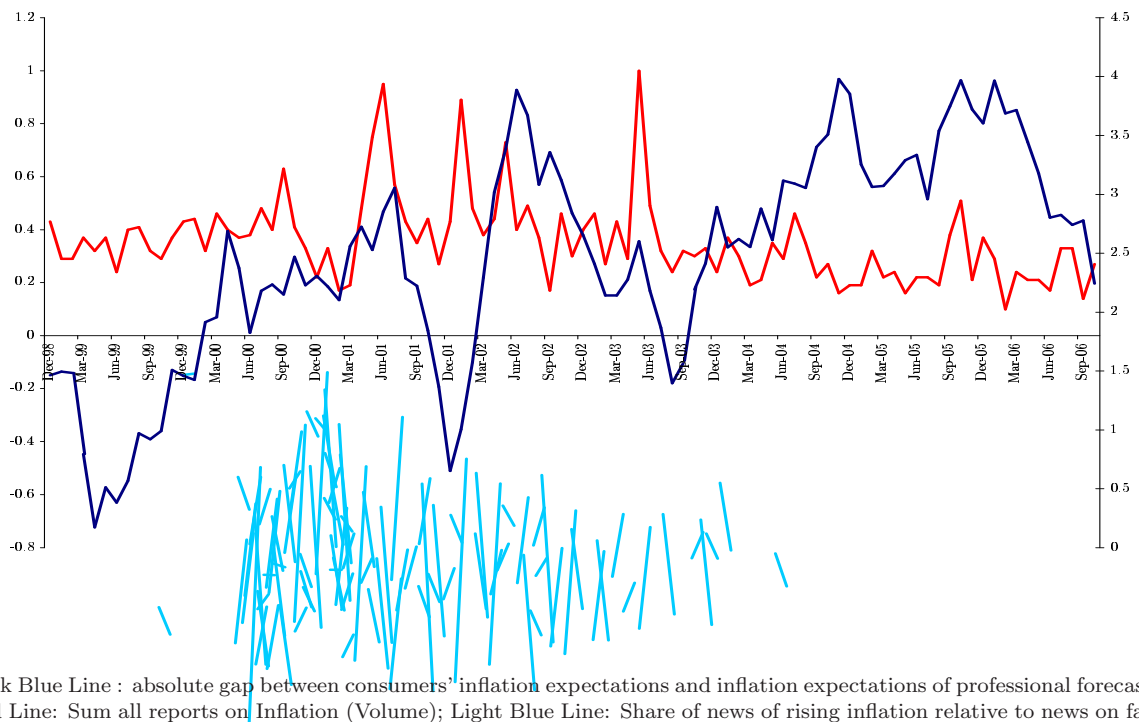
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- Possible role of smaller sample, smaller quantitative changes in inflation. [Figure]

Figure 1: Media Coverage and Inflation Expectations Gap



Dark Blue Line : absolute gap between consumers' inflation expectations and inflation expectations of professional forecasters;
 Red Line: Sum all reports on Inflation (Volume); Light Blue Line: Share of news of rising inflation relative to news on falling inflation (Tone).

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- Possible role of smaller sample, smaller quantitative changes in inflation. [Figure]
- But: EU/German consumer surveys are not quantitative. A persistent discrepancy could be recorded where there is none [ECB]. Why not trying first to quantify the survey? E.g. probability approach (Carlson and Parkin, 1975), or regression approach (Pesaran, 1987)

Chart 1 Measured HICP inflation and inflation perceptions in the euro area

(annual percentage changes)

HICP inflation



(percentage balances; seasonally adjusted)

Inflation perceptions



Sources: Eurostat and European Commission Consumer Survey.
Note: Estimates for the HICP over the period 1991-95 are not fully comparable with HICP data from 1996 onwards.

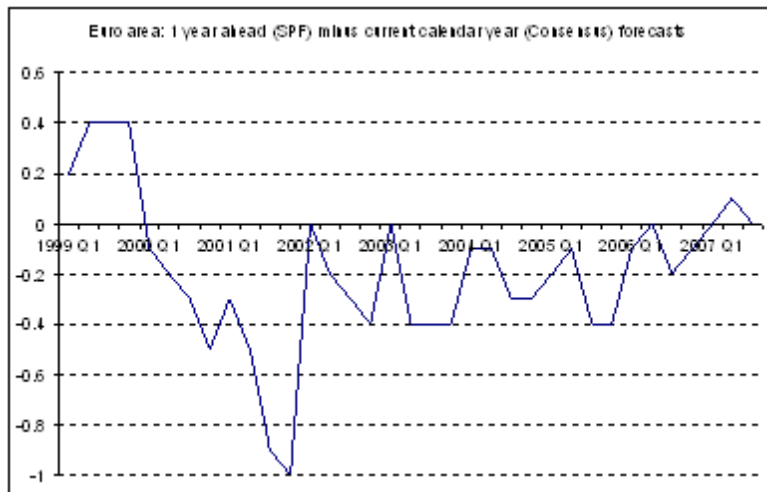
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- ... and consumers are asked about "upcoming 12 months" while professionals are asked about the "contemporary and upcoming year" (which one is used?)

Euro area example



Measurement: tone

- Main measure: difference between reports saying inflation is rising and those saying that it is falling (in percentage of all news reports). Neutral reports ignored. [How does this work?]
- This is a novelty wrt Carroll. But reference theory less clear. Should an increase in "tone" (more reports that inflation is rising) lead to faster updating of consumers' expectations compared to a fall in "tone" (more reports that inflation is falling)?
- Main message in these terms is that "tone" works as a control variable. It makes the effect of "volume" significantly negative, as in Carroll. Why?

A slightly different idea

- If households learn about general price developments through the media, any bias in reporting will be reflected in expectations.
Italy in year 2000: "inflation through the roof!". [Bild.]

INFLATIONS-ALARM

Der Staat ist der schlimmste Preistreiber

So viel Steuern und Abgaben zahlt eine Durchschnitts-Familie (4 Pers.)

BRUTTOEINKOMMEN	3000 Euro
Lohnsteuer	270,16 Euro
Kirchensteuer	4,59 Euro
SOZIALABGABEN	651 Euro
Krankenkasse	264 Euro
Rente	298,50 Euro
Pflege	25,50 Euro
Arbeitslosenversicherung	63 Euro
= verfügbares Einkommen:	2074,25 Euro
WARMMIETE (90 QM)	650 Euro
davon Grundsteuer	18,90 Euro
davon Energiesteuer/MwSt. für Gas	32,37 Euro
STROM	70 Euro
davon Energiesteuer/MwSt.	28 Euro
AUTO	189,15 Euro
Benzin	136,40 Euro
davon Energiesteuer/MwSt.	87,18 Euro
Kfz-Steuer	9 Euro
Kfz-Versicherung	45,75 Euro
davon Versicherungssteuer	6,99 Euro
LEBENSMITTEL	400 Euro
davon 7% MwSt.	26,20 Euro
GENUSSMITTEL	49,32 Euro
Zigaretten	16 Euro
davon Tabaksteuer/MwSt.	12 Euro
Sekt	4,99 Euro
davon Schaumweinsteuer/MwSt.	1,82 Euro
Bier	11,99 Euro
davon Biersteuer/MwSt.	2,85 Euro
Alcopop	6,36 Euro
davon Alcopopsteuer/MwSt.	3,56 Euro
Kaffee	9,98 Euro
davon Kaffeesteuer/MwSt.	3,77 Euro
VERSICHERUNGEN	65 Euro
Privathaftpflicht	5,80 Euro
davon 19% Versicherungssteuer	93 Cent
Hausrat	19,20 Euro
davon 18% Versicherungssteuer	2,93 Euro
Unfallversicherung	40 Euro
davon 19% Versicherungssteuer	6,39 Euro
VERSCHIEDENES (u. a.)	162 Euro
Telefonieren	100 Euro
davon MwSt.	15,97 Euro
Textilien	50 Euro
davon MwSt.	7,98 Euro
Lotto	12 Euro
davon 16,66% Lotteriesteuer	1,71 Euro

GESAMT-SUMME STEUERN UND SOZIALABGABEN:
1194,10 EURO IM MONAT!

Quelle: STEUERKANZLEI ROSENBAUM, VERBÄNDE

Fortsetzung von Seite 1

Von STEFAN ERNST, CHRISTIN MARTENS und JAN W. SCHÄFER

Hamburg - Das Leben in Deutschland wird immer teurer! Seit Monaten beschleunigt sich der Preisanstieg sogar - die Bundesbank warnt vor der stärksten Teuerung seit 1994! (BILD berichtet.)

Was Millionen Deutsche nicht wissen: Der Staat selbst ist der größte Preistreiber! Über immer höhere Steuern und Abgaben zieht er den Bürgern das Geld aus der Tasche.

► **Beispiel Mehrwertsteuer:** Zu Jahresbeginn schraubte die Regierung den Satz von 16 % auf 19 %. Extraausgaben für die Verbraucher allein in diesem Jahr: rund 24 Milliarden Euro.

► **Beispiel Öko-steuer:** Pro Liter Spirit kassiert der Staat 15,3 Cent (fließt, größtenteils in die Rentenkasse). Macht bei einer 50-Liter-Tankfüllung 7,65 Euro.

► **Beispiel Sozialabgaben:** Die Beiträge für Krankenkasse und Pflegeversicherung steigen trotz Reform weiter.

BILD hat am Beispiel einer Durchschnitts-Familie nachgerechnet, wie schlimm der Staat durch Steuern und Abgaben abkassiert.

Eine durchschnittliche vierköpfige Familie zahlt pro Monat 1194 Euro an Steuern und Abgaben.

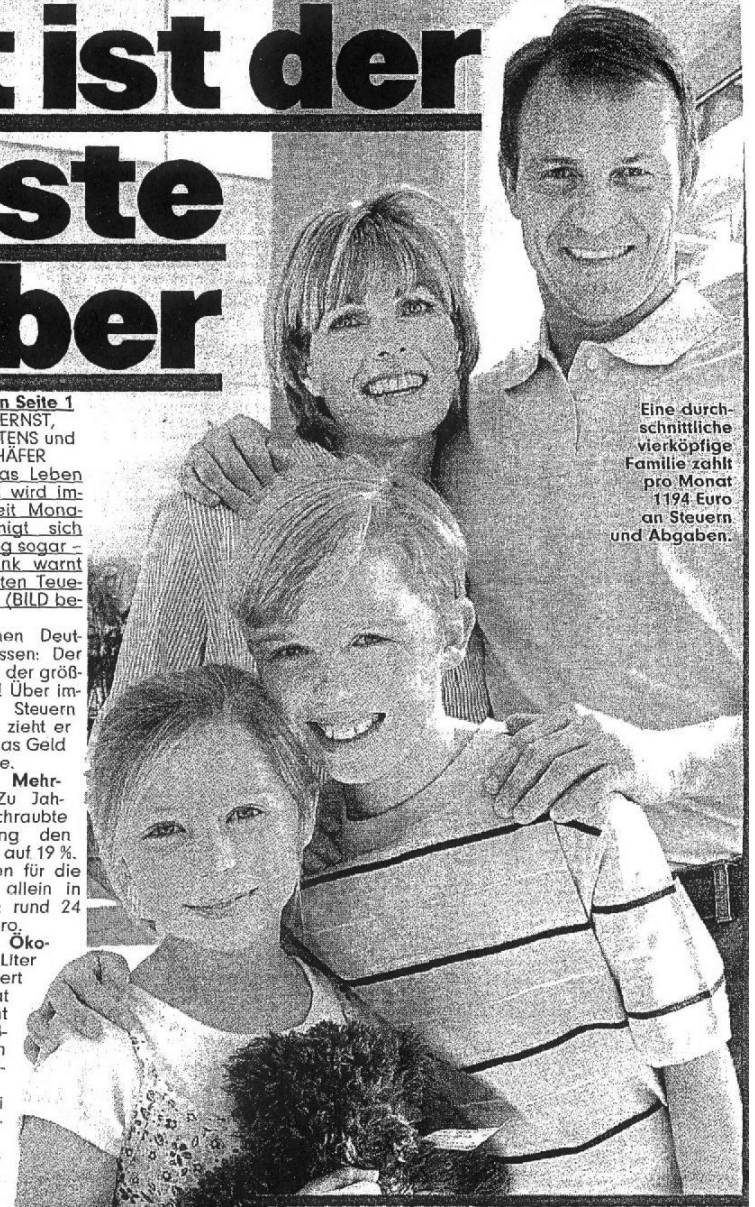


Foto: JUICE IMAGES/F1, ONLINE

Bild (Deutsch)

GROSSE TABELLE

So brutal wird alles teurer

Die Preise ziehen auf breiter Front an! Die Inflation droht auf den höchsten Stand seit 13 Jahren zu steigen (BILD berichtete)! Die

große BILD-Tabelle zeigt heute, wie Waren und Produkte brutal teurer wurden! Wie auch der Staat die Preise hochtreibt - Seite 11.

Produkt	Preisanstieg seit:	Produkt	Preisanstieg seit:		
	Euro- Einführung 2007		Euro- Einführung 2007		
Leichtes Heizöl	+ 88,7 %	+ 20,5 %	Helegebäck	+ 13,1 %	+ 3,4 %
Zigaretten	+ 50,0 %	+ 0,0 %	Zwiebeln	+ 13,0 %	+ 8,3 %
Rechtsschutzversicherung	+ 48,4 %	+ 0,6 %	Eheringe	+ 12,9 %	+ 2,2 %
Diesel	+ 46,9 %	+ 9,3 %	Neuer Auspuff	+ 12,9 %	+ 2,3 %
Benzin	+ 40,2 %	+ 11,2 %	Eintritt		
Gas	+ 40,2 %	+ 5,2 %	Hallenbad	+ 12,7 %	+ 2,5 %
Strom	+ 37,8 %	+ 3,4 %	Damenschuh-		
Mandeln (süd)	+ 35,5 %	+ 4,6 %	Absätze	+ 12,6 %	+ 1,2 %
Zentralheizungs	+ 35,1 %	- 0,1 %	Rindfleisch	+ 12,3 %	+ 2,0 %
Eintritt			Hotel:		
Fußballspiel	+ 33,6 %	+ 2,5 %	Übernachtung	+ 11,9 %	+ 4,4 %
Kfz-Steuer	+ 31,6 %	+ 2,8 %	Pfeffer	+ 11,7 %	+ 3,8 %
Butter	+ 29,9 %	+ 43,4 %	Auto waschen	+ 11,5 %	+ 1,2 %
Linien	+ 29,9 %	+ 2,0 %	Spelsequark	+ 11,2 %	+ 26,6 %
Flugtickets	+ 28,1 %	+ 12,5 %	Blockflöte	+ 11,1 %	+ 1,9 %
Bahnticket			Sauerkraut	+ 10,9 %	+ 6,1 %
(Nahverkehr)	+ 27,1 %	+ 0,0 %	Steinkohle-		
Kranken-			briketts	+ 10,6 %	+ 0,5 %
versicherung	+ 26,9 %	+ 0,3 %	Vollmilch	+ 10,6 %	+ 13,2 %
Fernwärme	+ 26,7 %	- 1,0 %	Haarschneiden		
Äpfelsinen	+ 25,9 %	+ 26,8 %	(Herren)	+ 10,5 %	+ 2,0 %
Kiwi	+ 24,5 %	+ 18,0 %	Zeltschriften	+ 10,5 %	+ 1,4 %
Tageszeitung	+ 24,4 %	+ 2,0 %	Wellensittich	+ 10,4 %	+ 1,6 %
Makrele	+ 24,1 %	+ 2,3 %	Reifverschluss	+ 10,3 %	+ 1,7 %
Weißkohl	+ 23,5 %	+ 5,6 %	Hausier-		
Wohnungs-			Arzneien	+ 10,3 %	+ 0,8 %
Reparatur	+ 22,4 %	+ 6,4 %	Reparatur		
Orangensaft	+ 22,2 %	+ 9,6 %	TV-Gerät	+ 10,2 %	+ 1,9 %
Bahnticket			Weizenmehl	+ 10,2 %	+ 3,4 %
(Fernverkehr)	+ 21,5 %	+ 0,0 %	Brötchen	+ 10,1 %	+ 2,8 %
Rasierklinge	+ 21,5 %	+ 3,6 %	CD-ROM	+ 10,1 %	+ 2,5 %
Zigarren	+ 21,3 %	+ 0,0 %	Damen-BH	+ 9,4 %	+ 2,5 %
Eintritt			Bier (Kneipe)	+ 9,3 %	+ 1,8 %
Freizeitpark	+ 21,2 %	+ 5,5 %	Schnaps		
Kabeltau	+ 20,4 %	+ 0,0 %	(Kneipe)	+ 9,3 %	+ 2,3 %
Tafel			Zwieback	+ 9,3 %	+ 1,3 %
Schokolade	+ 19,9 %	+ 1,0 %	Diat-Saft	+ 9,1 %	+ 5,0 %
Schoko-			Salzstangen	+ 8,9 %	+ 3,1 %
Brötchen	+ 19,3 %	+ 1,6 %	Gartenschere	+ 8,3 %	+ 2,3 %
Honig	+ 19,1 %	+ 2,1 %	Comfakes	+ 8,2 %	+ 1,6 %
Übernachtung			Musikunterricht	+ 8,1 %	+ 0,2 %
Jugendherberge	+ 18,9 %	+ 3,5 %	Weißwein	+ 7,7 %	+ 1,2 %
Motorenöl	+ 18,8 %	+ 2,6 %	Bier		
Busreisen	+ 16,8 %	+ 6,0 %	(Supermarkt)	+ 7,6 %	+ 0,3 %
Rinderleber	+ 16,1 %	+ 2,7 %	Miete (Neubau)	+ 7,6 %	+ 0,7 %
Camping-			Herren-		
anhänger	+ 15,9 %	+ 4,5 %	Sonnenbrille	+ 7,4 %	+ 2,1 %
TV-Kabelgebühr	+ 15,8 %	+ 2,6 %	Miete (Altbau)	+ 7,0 %	+ 0,5 %
Pommes (TK)	+ 15,5 %	+ 6,5 %	Lebkuchen	+ 6,7 %	+ 0,0 %
Spelsesalz	+ 15,2 %	+ 1,6 %	Multivitamin	+ 6,6 %	+ 3,7 %
Kalbsschnitzel	+ 15,1 %	+ 1,4 %	Kräuterlikör	+ 6,5 %	+ 0,7 %
Erbsen (Dose)	+ 14,6 %	+ 2,7 %	Taschenrechner	+ 6,5 %	+ 2,2 %
Opernkarte	+ 14,6 %	+ 3,3 %	Korn/Kornbrand	+ 6,4 %	+ 2,7 %
Parkhaus-			Herren-Slip	+ 6,4 %	+ 2,0 %
Gebühr	+ 14,3 %	+ 3,0 %	Körnerbrot	+ 6,4 %	+ 2,5 %
Auto-Inspektion	+ 14,1 %	+ 1,0 %	Dauerwelle	+ 6,3 %	+ 0,7 %
Bezahl-TV	+ 14,1 %	+ 0,0 %	Camping-		
Küchenmesser	+ 14,1 %	+ 1,8 %	gebühren	+ 5,9 %	+ 5,3 %
Friedhofs-			Weißbrot	+ 5,7 %	+ 2,3 %
gebühren	+ 13,6 %	+ 0,3 %	Reis	+ 5,5 %	+ 5,9 %
Stoßdämpfer			Spargel (Dose)	+ 5,1 %	+ 7,5 %
erneuem	+ 13,3 %	+ 2,3 %	Haferflocken	+ 4,8 %	+ 3,3 %
			Kinokarte	+ 3,8 %	+ 0,6 %

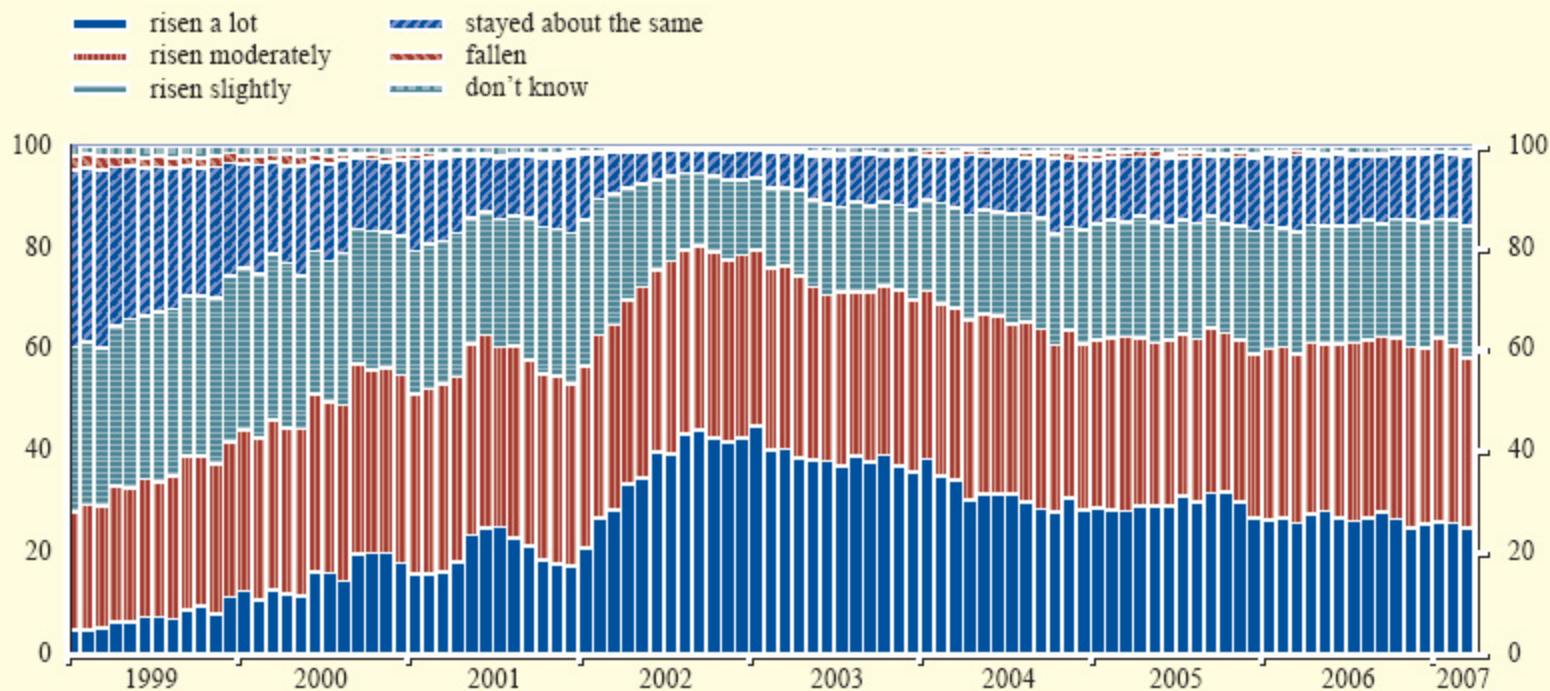
Quelle: STATISTISCHES BUNDESAMT

A slightly different idea

- If households learn about general price developments through the media, any bias in reporting will be reflected in expectations. Italy in year 2000: "inflation through the roof!". [Bild.]
- Other potential signs of biased reaction of new events are abundant around the "cash changeover" (1st January 2002): mismatch between actual and perceived inflation. [ECB] Ehrmann (2006) finds a stronger mismatch for goods with low price in countries with more complex conversion rates.

Perceptions of price changes over the last 12 months in the euro area – evolution of response categories

(percentages; not seasonally adjusted)



Source: European Commission Consumer Survey.

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- Similar ideas in Berger et al. (2007). They find that more favourable reporting of ECB decisions in the media leads to more trust in the ECB and better anchored inflation expectations.

Measurement: tone

- Coefficient on tone is positive. Authors interpret it as evidence of irrationality: exaggeration in news tone leads to exaggerated inflation fears for consumers.
- But the dependent variable is the *absolute* gap in expectations. The exaggerated tone could in principle be associated with excessively *low* consumers expectations.
- "Tone" is very erratic. Lagged independent variables are used to control for endogeneity. Would the use of contemporaneous tone change the sign of the estimated coefficient?

Conclusion

- This paper studies an intriguing topic, but at the moment it has two souls
- The first aims to replicate Carroll's results on German data. If this is the objective, it would be nice to base the analysis on a quantified measure of consumer surveys.
- The second objective of the paper is to describe general determinants of heterogeneity in consumers' expectations. In this case, it may be more informative to focus on a different dependent variable. Survey of professionals could be a control variable, together with other (actual inflation? cyclical conditions? ...).