

# *The Pricing Behavior of Firms in the Euro Area: New Survey Evidence*

by

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*Inflation Persistence in the Euro Area*  
*Inflation Persistence Network Conference*  
*European Central Bank, Frankfurt, December 10-11, 2004*

# *A Part of the Euro-System-IPN Project*



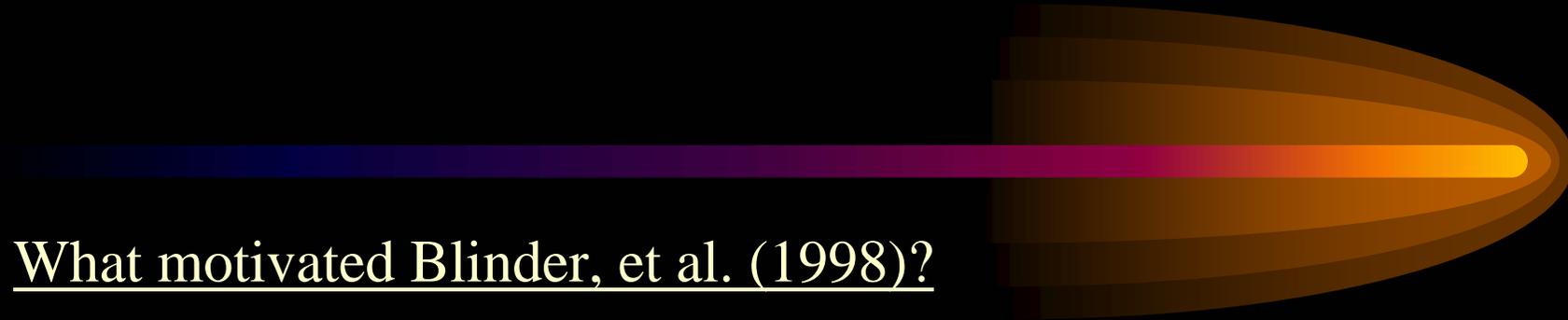
- ❖ Survey of Firms' Pricing Behavior

- ❖ Nine National Central Banks:

Austria, Belgium, France, (Germany,) Italy, (Luxembourg,)  
the Netherlands, Portugal, and (Spain)

- ❖ 2003-2004

# *Why Survey?*



What motivated Blinder, et al. (1998)?

- ❖ Too much theory, too little evidence
- ❖ Not much is known about price setting
- ❖ Price managers must know what they are doing and why
- ❖ Why not ask them? They should be able to tell us!

# *Advantages of a Survey*



- ❖ Underlying rationale for observed price behavior
- ❖ What goes on in a price setter's mind
- ❖ Structured questionnaire, replicable across firms and countries
- ❖ Large sample size, broad cross-section of establishments

## *Advantages of a Survey (Cont.)*



- ❖ Theoretical viewpoint of the researcher:  
“...fit neatly into economists’ theoretical boxes” (Blinder, et al, 1998)
- ❖ Hypothesis-testing approach
- ❖ Quantifiable results for use in statistical/econometric analysis
- ❖ Useful in assessing the empirical relevance of price rigidity theories

# *Disadvantages of a Survey*



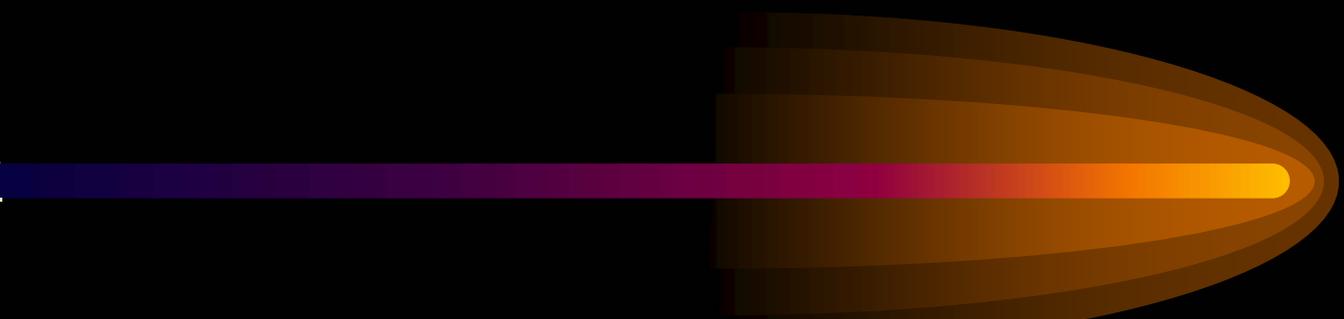
- ❖ Can people describe their thought processes?
- ❖ Are people always truthful?
- ❖ Are they thoughtful? (Watch TV or drink beer while filling the form?)
- ❖ What if they misunderstand the question? (An example)
- ❖ Difficulty in presenting economists ideas in layman's language

## *Disadvantages of a Survey (Cont.)*

- ❖ What if they refuse to participate? (Loupias and Ricart, 2004)  
France: response rate declines with the size of firms
- ❖ What if they refuse answering some questions?  
France: Firms in the automobile industry refused to answer questions concerning their costs (Loupias and Ricart, 2004, Table 3.3)  
Face-to-face interviews could prevent many of these
- ❖ “Demand Effect:” provide answers that we would like to hear
- ❖ Categorization of thought process into boxes might lead to biases  
Example: “You know what? I didn’t really think about it”
- ❖ Viewpoint of the researcher rather than that of the price setter

# *Are These Shortcomings Critical?*

## Not Necessarily



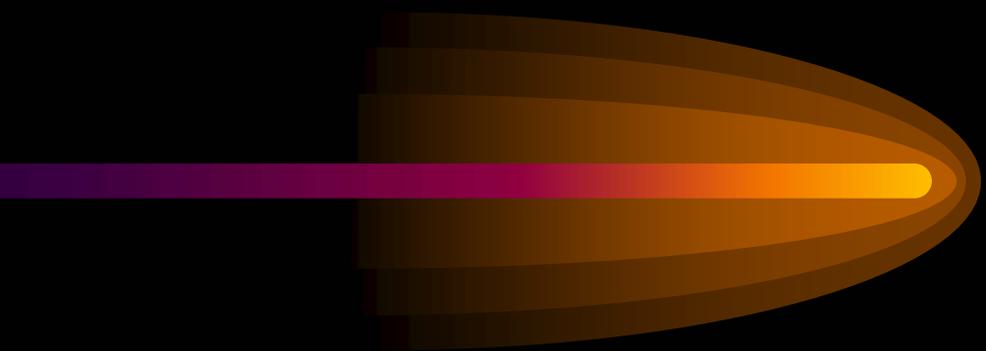
- This criticism applies to Blinder, et al. (1998) and Hall, et al. (2000)
- Some of the problems can be avoided

### For example:

- Translating economists language into managerial language  
Few questions were dropped (Loupias and Ricart, 2004, p. 21)
  - Asking managers less-sensitive questions
- Other problems may not be as severe

## *Are These Shortcomings Critical? (Cont.)*

But perhaps, most importantly



- The current sample: 10,000+ firms in total, and that's amazing
- The type of data collected through surveys would be hard to collect by other means in large scale
- These data can fruitfully supplement more traditional data such as the CPI or PPI data
- For example: hard to discriminate between many theories of price rigidity based on their prediction (...they all predict that prices are rigid...). Survey methods can, therefore, help in assessing the empirical relevance of these theories.

## *Bottom Line*



- ❖ Do I think this is a valuable project? Absolutely!
- ❖ Do I think we learn something from it? Yes, a lot!
- ❖ The projects address many important issues.
- ❖ They report numerous important and interesting findings:
  - Some findings confirm existing knowledge
  - Few findings raise new questions

# Questionnaire Design



- ❖ The questionnaires: some variation across countries
- ❖ For example: country-specific questions
- ❖ Belgium: focus more on medium and large firms  
The Netherlands: focus more on smaller firms
- ❖ But in most respects, the questionnaires are identical:
  - ⇒ The results can be compared across countries
  - ⇒ Measures of significance and robustness

# Questionnaire Structure

## Four Main Sections/Issues (Covered by All Studies):

- ❖ Product and market characteristics:  
Nature of product, clients, market structure, competition, etc.
- ❖ Price setting rules and processes:  
Markup, time or/and state dependent pricing, frequency of price review and price change, etc.
- ❖ Price rigidity theories (“beauty contest”):  
Rank the validity of various price rigidity theories
- ❖ Asymmetric price adjustment:  
Price response to (i) cost shock vs demand shocks, to (ii) positive shock vs negative shock, and to (iii) large shock vs small shock

# *Questionnaire Structure (Cont.)*



## Two Additional Sections/Issues (Covered by Some Studies):

- ❖ Cross-Country Price Discrimination:  
Pricing to market in the EU.
- ❖ Price Rigidity in Chains of Production:  
Markup, time or/and state dependent pricing, frequency of price review and price change, etc.

# General Findings



- ❖ Variation across the countries surveyed
- ❖ Variation by type of establishments:  
Manufacturing, trade, services, etc.
- ❖ Variation by size of establishments:  
1-man firms, 50-mens firm, 200+ man firms, etc.
- ❖ Most of the findings reported are in line with the findings reported by Blinder, et al. (1998) and Hall, et al. (2000)

# *Brief Summary of the Findings*

## ❖ Price Setting

- Monopolistic competition (B-to-B, 75%)
  - Mark-up pricing, constant or variable, 40% – 72%
  - As competition increases, mark-up pricing is less popular
  - Competitors' prices appear quite relevant, 30%
  - Price discrimination is quite common, 65% – 92%
- (Counter to the idea of socialism!)
- Pricing to market, 50% EU – 70% Non-EU

# *Brief Summary of the Findings (Cont. 1)*

## ❖ Price Adjustment

- Time and state dependent pricing, 53%
- Time dependent pricing, 37%
- Consider mainly past information, 32%, mostly small firms
- Consider past and future developments, 55%, mostly large firms
- Firms review prices 3 times or less, 57%
- Price review frequency increases with competition
- Prices change once a year or less, 66%
- Price changes are less frequent than price reviews

# *Brief Summary of the Findings (Cont. 2)*

## ❖ Reasons for Price Rigidity

### ➤ Most common reasons:

- (1) implicit contracts, (2) explicit contracts
- (3) cost-based pricing, (4) coordination failure

### ➤ Next in popularity:

- (5) temporary shocks, (6) judging price by quality
- (7) non-price adjustment

### ➤ Least common reasons:

- (8) menu costs, (9) costly information
- (10) psychological price points

# *Brief Summary of the Findings (Cont. 3)*

## ❖ Asymmetric Price Adjustment

### ➤ Cost shocks:

Prices are more rigid downward than upward

### ➤ Demand shocks:

Price are more rigid upward than downward

# Comments on the Findings

- ❖ Most firms change prices once a year or less  
⇒ Prices in the sampled sectors appear quite rigid  
This is in contrast to the findings reported for retail prices (For example, Bils and Klenow (2004), or studies that use higher frequency price data, such as Dominick's data).
- ❖ Psychological price points ranked last  
But we should not look for price points in B-to-B settings.  
It is most likely to be present in retail settings.  
For example: 70% of retail prices
- ❖ Menu cost theory is not popular among CEOs  
But B-to-B setting is a wrong place to look for menu cost.  
I expect it to be more important at multi-product retailers.

## *Comments on the Findings (Cont. 1)*

❖ Implicit Contract: Ranked No. 1

❖ Explicit Contracts: Ranked No. 2

Given that 75% of the surveyed firms sell to other businesses, perhaps this should not be surprising. We would expect many of them have written contracts.

Also, in B-to-B settings, firms tend to have long-term relationship (even if they have no written contracts). For example, they have regular suppliers.

These are forms of nominal rigidity.

Is explicit contract a cause of price rigidity or more of a symptom?

## *Comments on the Findings (Cont. 2)*

- ❖ Cost Shocks: Prices are more rigid downwards than upwards
- ❖ Demand Shocks: Prices are more rigid upwards than downwards

These findings appear consistent with Kahneman, et al. (1986): Consumers consider cost-based price increases more fair than demand-based; See also Rotemberg (2002, 2003)

What I find surprising is that these phenomena appear to hold in the B-to-B setting as well.

Perhaps the importance of long-term relationship plays a role here.

## *Comments on the Findings (Cont. 3)*

### ❖ Costly Information Theory: Ranked only 9<sup>th</sup>

How should we interpret this?

1. Costly information may be forming a barrier to price review rather than to price change.
2. Why don't the firms review their prices more often?  
What is the barrier to more frequent price reviews?
3. "Costly information" is too simplistic in comparison to what goes on in many actual price setting situations. Also, there are "thinking costs" and "decision costs."

## *Comments on the Findings (Cont. 4)*

### ❖ Many of the firms surveyed produce more than one product

Asking them to focus on a single product, even if it is their main product, likely led to a far more simplistic world view than it actually is.

1. Price-setting can be incredibly complex in a multi-product setting.
2. Further, the relationship is not necessarily linear.

## *Comments on the Findings (Cont. 5)*

❖ In most cases, the survey form was filled by the CEO or the CFO

My experience in the field tells me that these senior people are not really in the position of knowing all the resources their organization spends on price-setting decisions. Depending on the size of the firm, often many layers of the organization are engaged in pricing decisions. Therefore,

1. Pricing decisions are far more complex than the survey indicates
2. Price-setting decisions are far more costly also
3. Politics of pricing: many pricing decisions are political decisions  
Price change decisions are often socially negotiated.

# *Conclusion*



- Unique research project
- Important contribution
- Adds great deal to our knowledge on firms' price-setting practice
- What took American economists 30 years to learn, Europeans have learned in 3-4 years by centralizing and concentrated effort

# *Future Work: Where Do We Go?*

## ➤ Long-term relationships and implicit contracts

1. These suggest the importance of customer considerations in price-setting decisions (Blinder, et al., 1998).
2. Future work should explore in depth these customer issues.
3. Survey methods can be fruitfully used for this purpose, perhaps to gain insight on the issue from the point of view of both, the sellers as well as the buyers.

## *Future Work: Where Do We Go? (Cont.)*



- Asymmetric price adjustment to cost/demand shocks
  1. A recent study has documented a presence of asymmetric price adjustment “in the small.”
  2. It would be interesting to see whether such an asymmetry “in the small” holds in other EU countries as well. (Steve Cecchetti has shown that it holds in couple of countries.)