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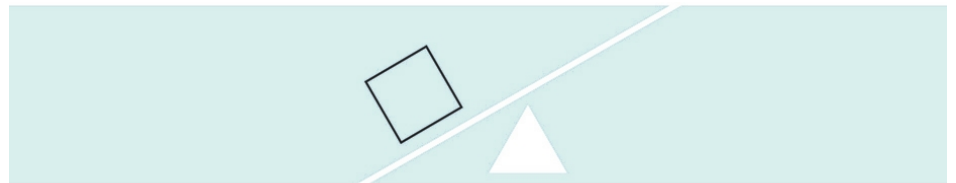
# Psychological Price Barriers in Conjoint Analysis

Stefan Binner | Leonhard Kehl

In(ter)dependent Researchers:  
Working Towards Symbiosis  
Barcelona May 28th, 2008



marketing research + strategy



KEHL PRICING RESEARCH & CONSULTING

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## Typical Trade-Off in Conjoint Design:

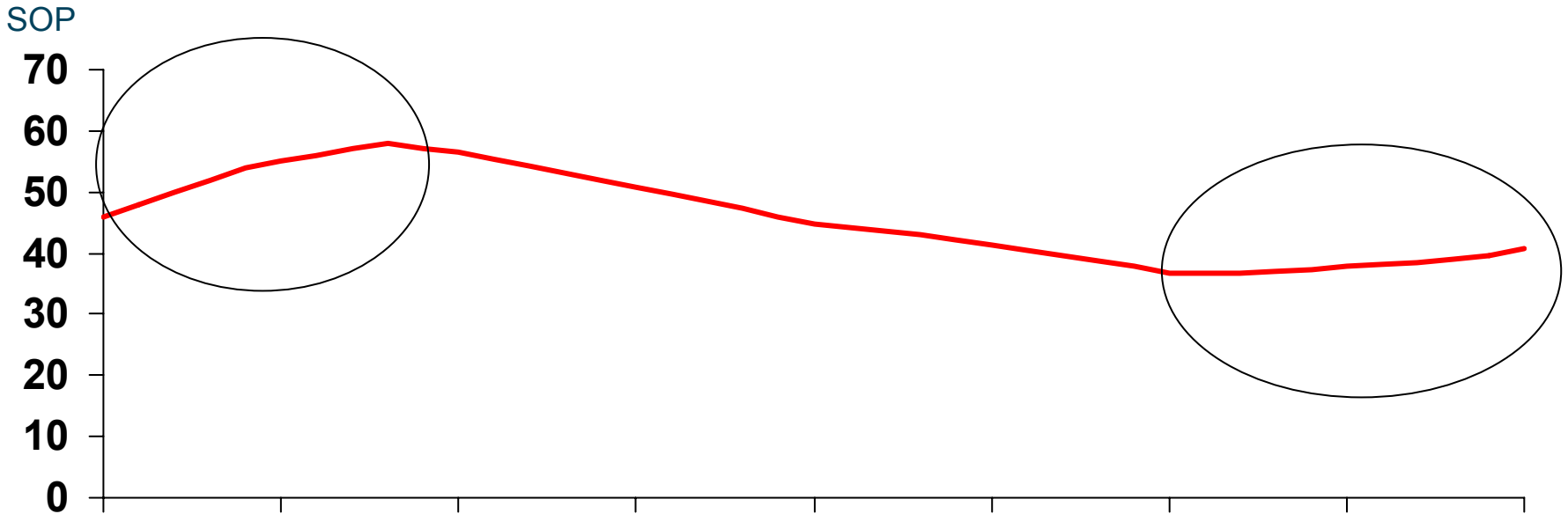
- In view to actionability many of price points and large price intervals are desired by marketers



- In view to reliability and significance researchers and statisticians try to minimize number of price points

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# LESSON LEARNED



- During the 90's "Negative Price Elasticity" usually caused by too many price points in relationship to sample size was often explained as "distrust of clients in cheap products".

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# CURRENT SOLUTION

Today designs with minimum number of price points are supported through :

- ✓ **relative pricing**  
(e.g. individual price level input)
- ✓ **conditional pricing**  
(e.g. for different brands / channels)
- ✓ **alternative specific designs**  
(e.g. different price range for different product categories)

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## UNDERLYING HYPOTHESIS

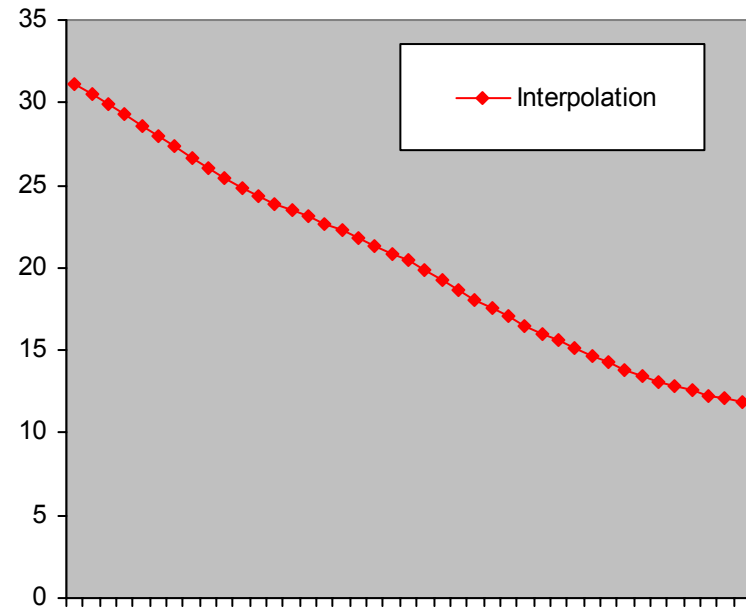
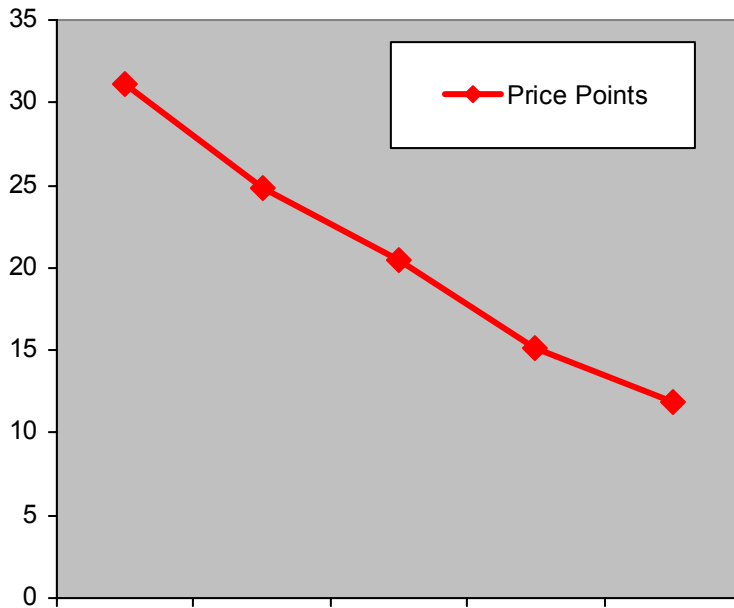
*“Given a certain sample size the use of interpolation between valid price estimations is more accurate than a larger number of price points”*

- Despite the price utility between two price points will be treated linear, LOGIT or RFC logic can lead to non-linear share or preference functions
- This effect is stronger with increased product similarities or higher number of “fence sitters”

# IS IT TRUE?

Observations from Recent Studies

Study 1  
Simulation Method:  
Share of Preference

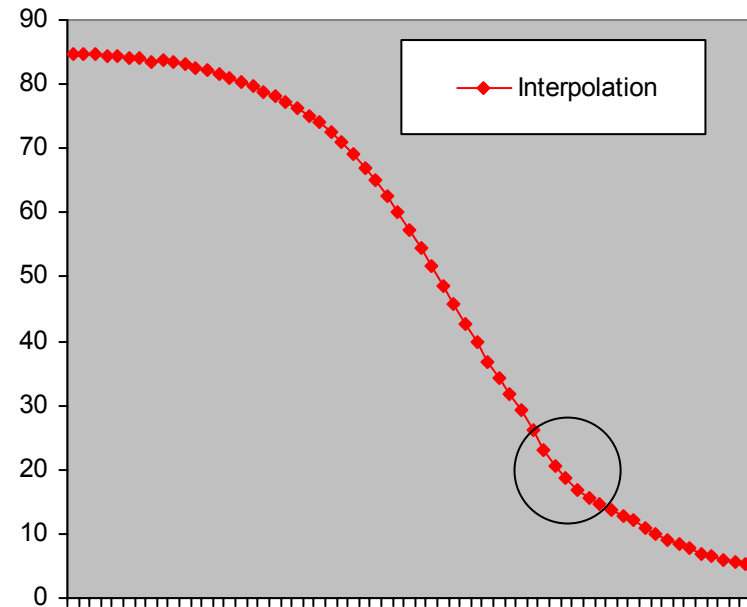
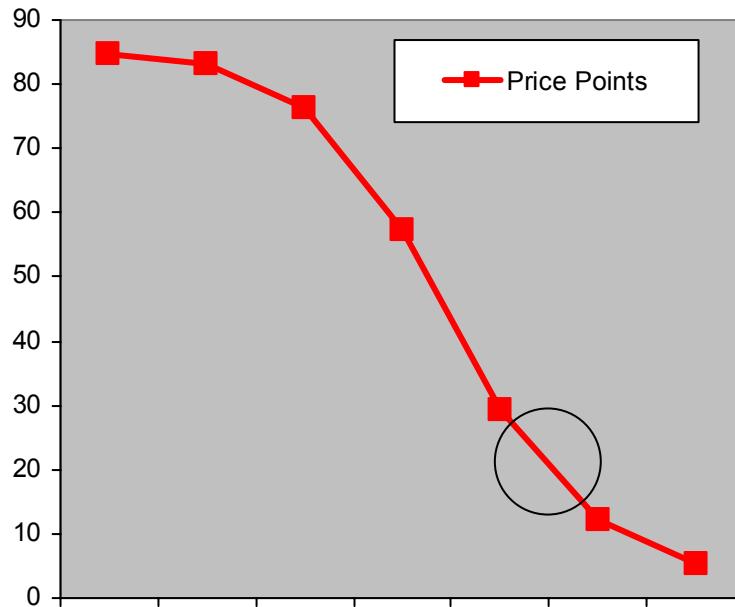


➤ Quite linear shape of interpolation

# IS IT TRUE?

Observations from Recent Studies

Study 2  
Simulation Method:  
RFC



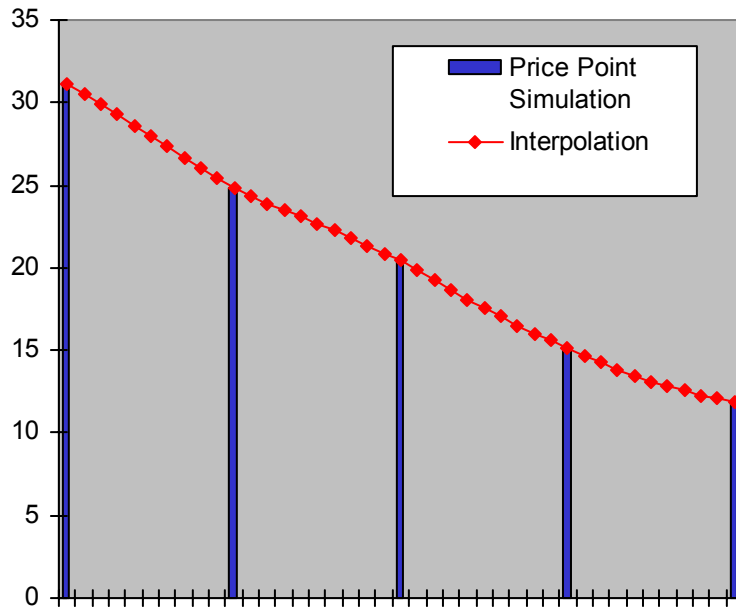
- Interpolation here is more “sigmoidal”
- Interpolation proves change in slope between two price points!

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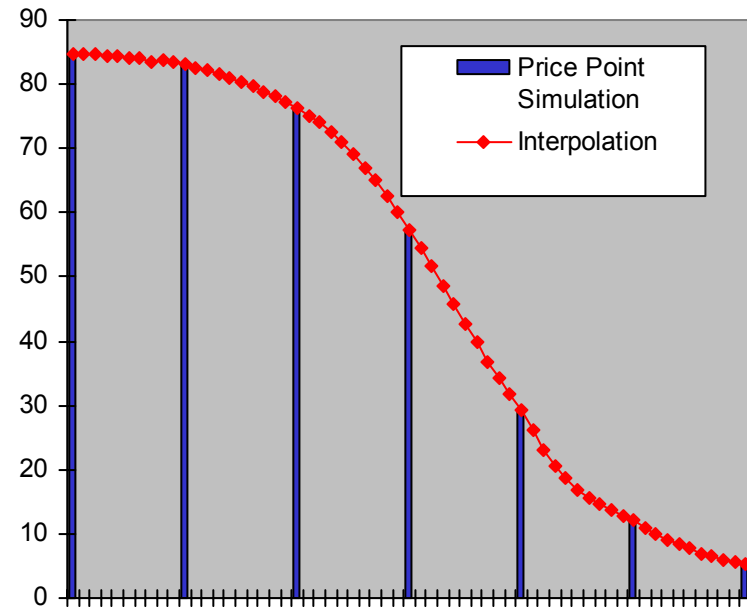
# IS IT TRUE?

## Observations from Recent Studies

Simulation Method: Share of Preference



Simulation Method: Randomized First Choice

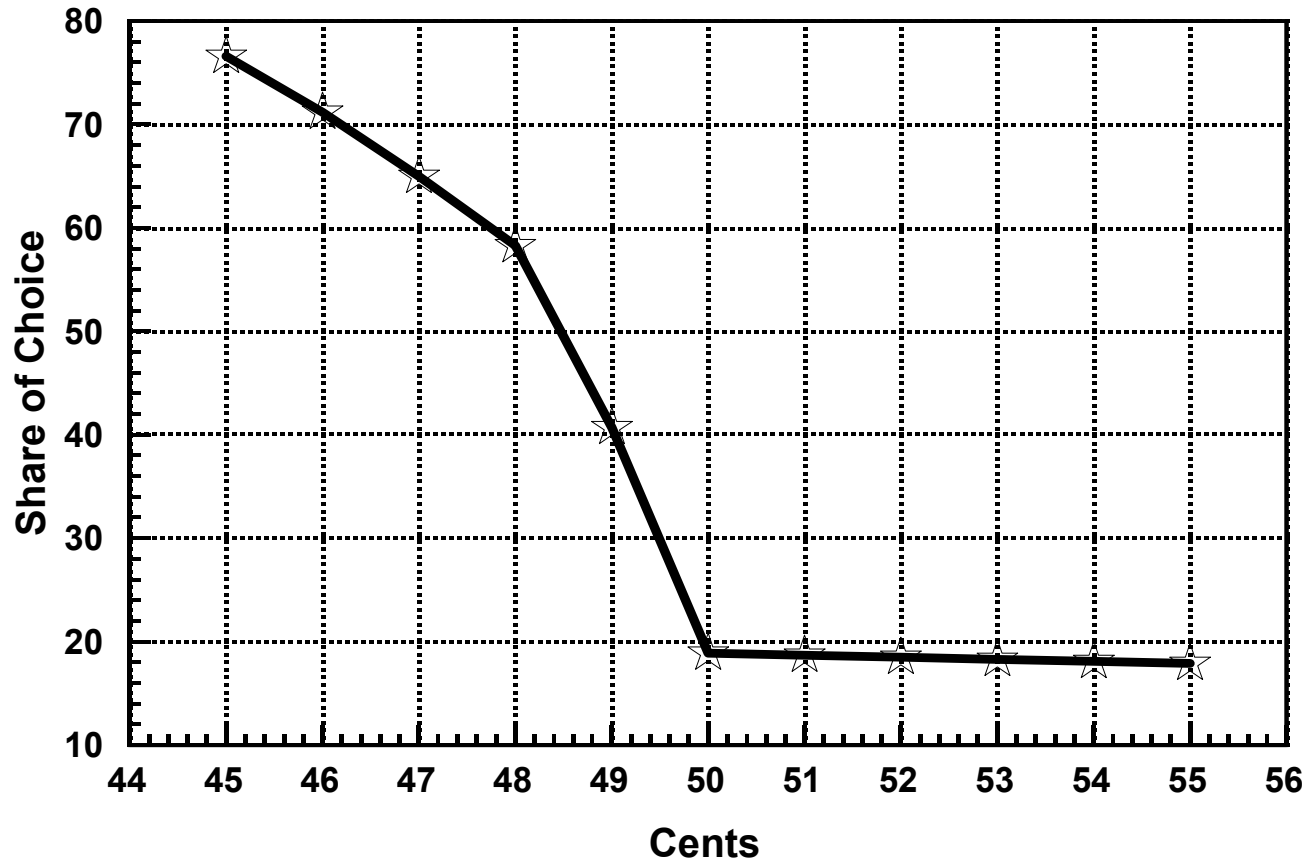


- Due to Logit logic it should work with both SOP and RFC models
- However, there is more “non linearity” between price points with the RFC example



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# PSYCHOLOGICAL PRICE BARRIERS



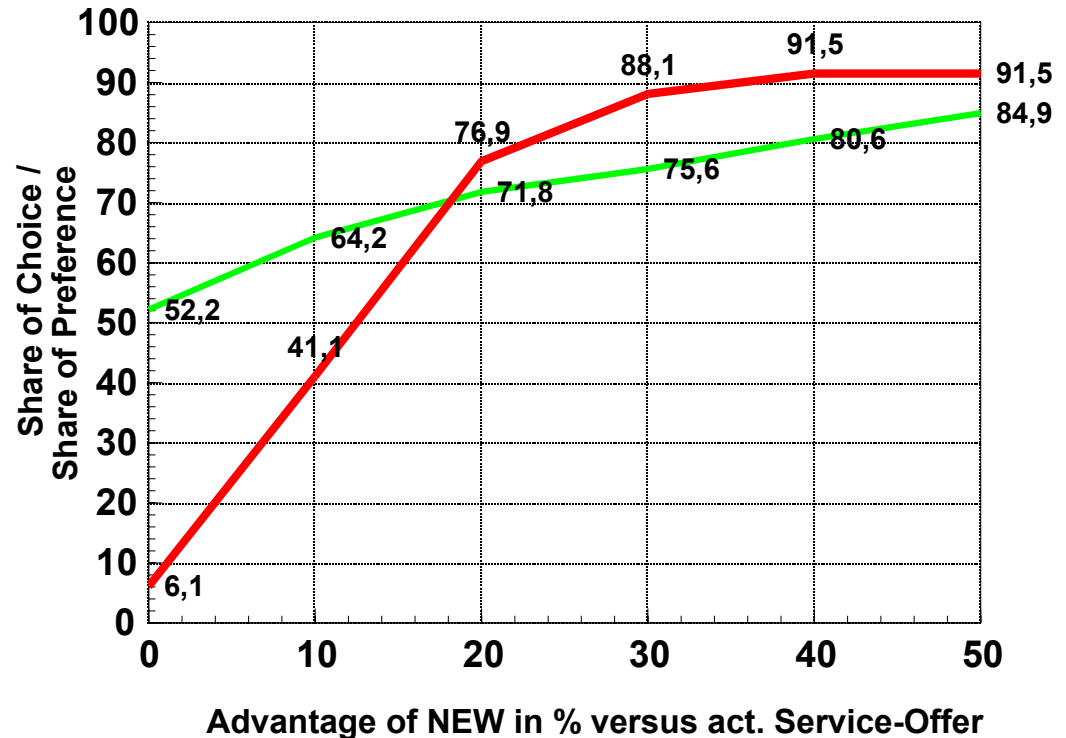
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# PSYCHOLOGICAL PRICE BARRIERS

➤ How do we treat such price thresholds and psychological price barriers?

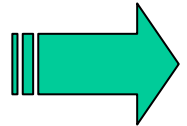
➤ Example:

ACA  
VS  
real choice



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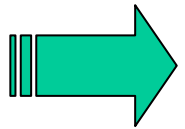
# PSYCHOLOGICAL PRICE BARRIERS



Is there a x.99 Problem with CJ / Interpolation?

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# PSYCHOLOGICAL PRICE BARRIERS



Is there a x.99 Problem with CJ / Interpolation?

- ✓ Price points below and above the threshold price are measured
- ✓ The threshold price itself is used as price point
- ✓ Simulations are very accurate about these price barriers

**So What?**

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## SOMETIMES NOT?

- How can we simulate very small price increases passing through such threshold? (e.g. x.99 to y.09)
- Are we sure that we can understand what really happens while using interpolation?
- Can we use Conjoint Analysis at all with such small price intervals? (e.g. x.89 - x.99 - y.09 - y.19)
- Would that make sense to the respondent? Could we do actionable market simulation with such small price intervals? (lack of discrimination)
  
- **Should we use Conjoint Analysis at all?**

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## CASE STUDY:

- ➔ Segment FMCG in Western Europe
- ➔ N=500 CAPI (computer assisted personal interviews)
- ➔ Price Conjoint with two attributes (package and price)
- ➔ 4 point price scale (conditional pricing)
- ➔ 12 choice tasks + 2 holdouts
- ➔ 10 attribute levels (6 brands and 4 prices)

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## CASE STUDY DESIGN

- ✘ Objective: to support planned price increase of branded product in private label competition
- ✘ Indicated price increase from x.99 to y.09 or higher
- ✘ Study goal: simulate profit contribution for client and distribution channel with high accuracy

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## CASE STUDY DESIGN

- ❖ Simulation accuracy allowed only 4 price points
- ❖ Market complexity required wider interval in order to mimic the market complexity (even with conditional pricing)
- ❖ Strong psychological price barrier at x.99 expected
- **Need for Innovative Research Design**



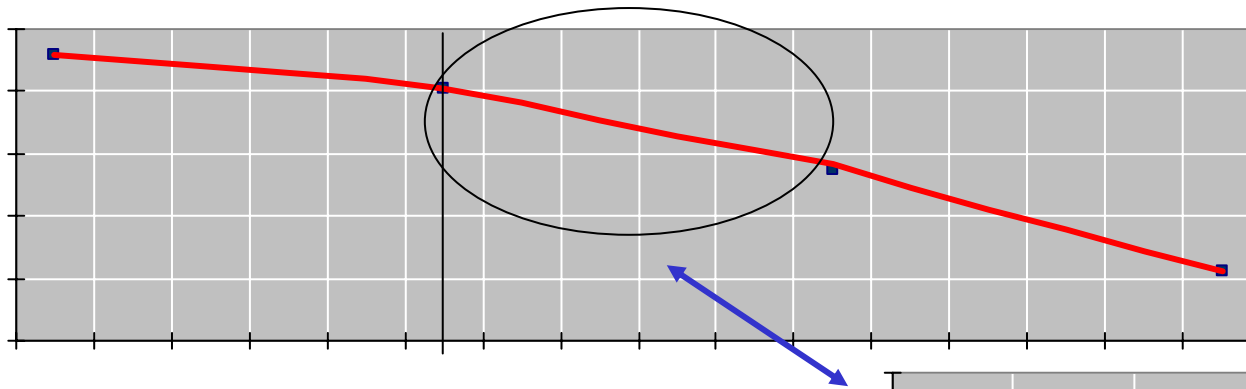
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# FTDA = Fixed Trading Down Approach

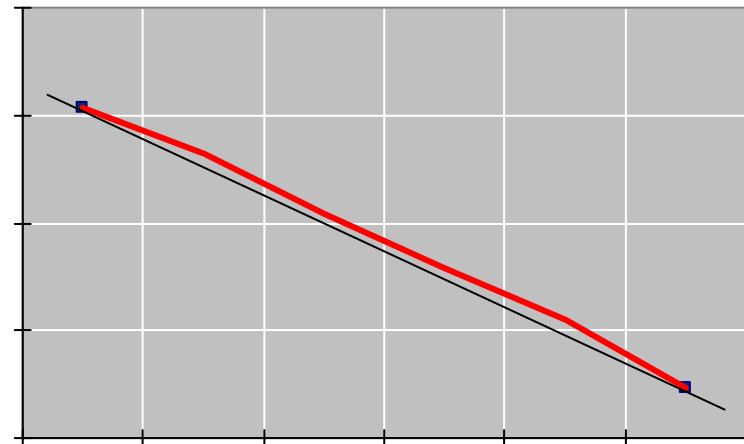
- Second measurement of price elasticity
- Trade-off questions between the low cost generic product (private label) and the client's branded product
- Trade off started at the highest price of the branded product. This price was reduced in small steps until the respondent selected this product or the end of the price range was reached.
- Very small steps used around threshold price

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## Usual CJ simulation with interpolation showed quite linear result after threshold price



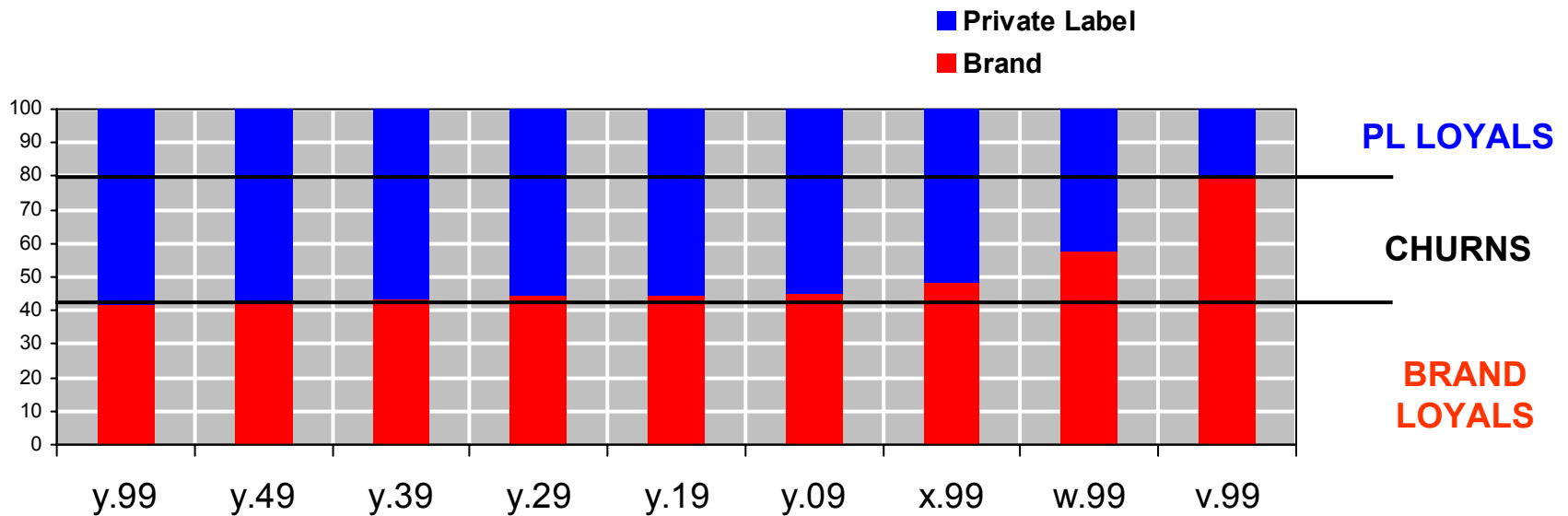
Simulation shows almost linear SOP function



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# FTDA (fixed trading down approach) **INSIGHTS:**

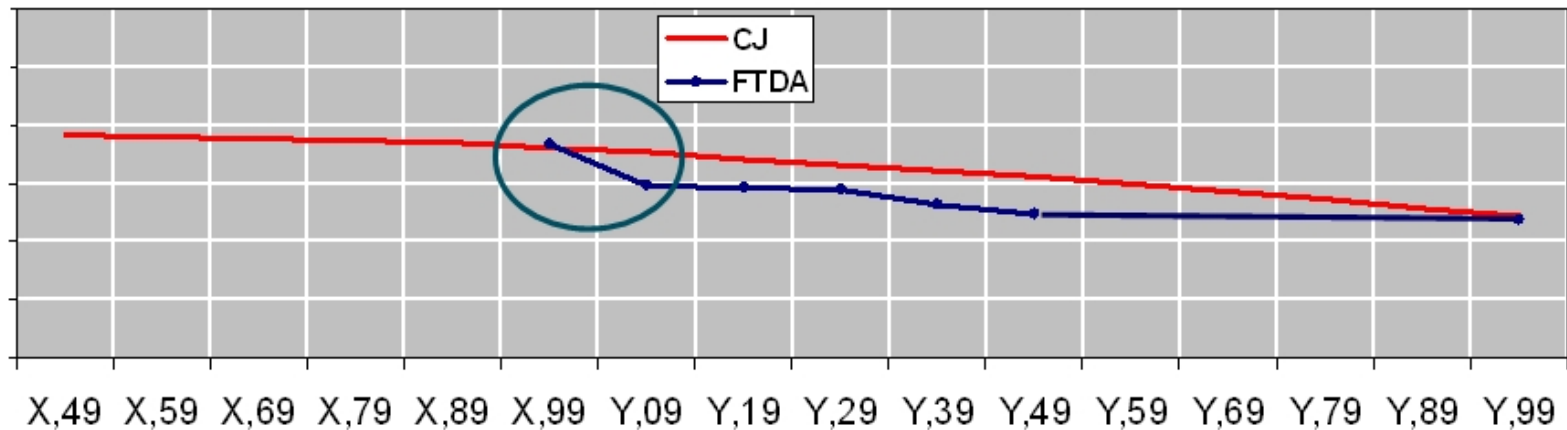
## A. Price Segmentation



- Most of the customers are not affected by price changes at all

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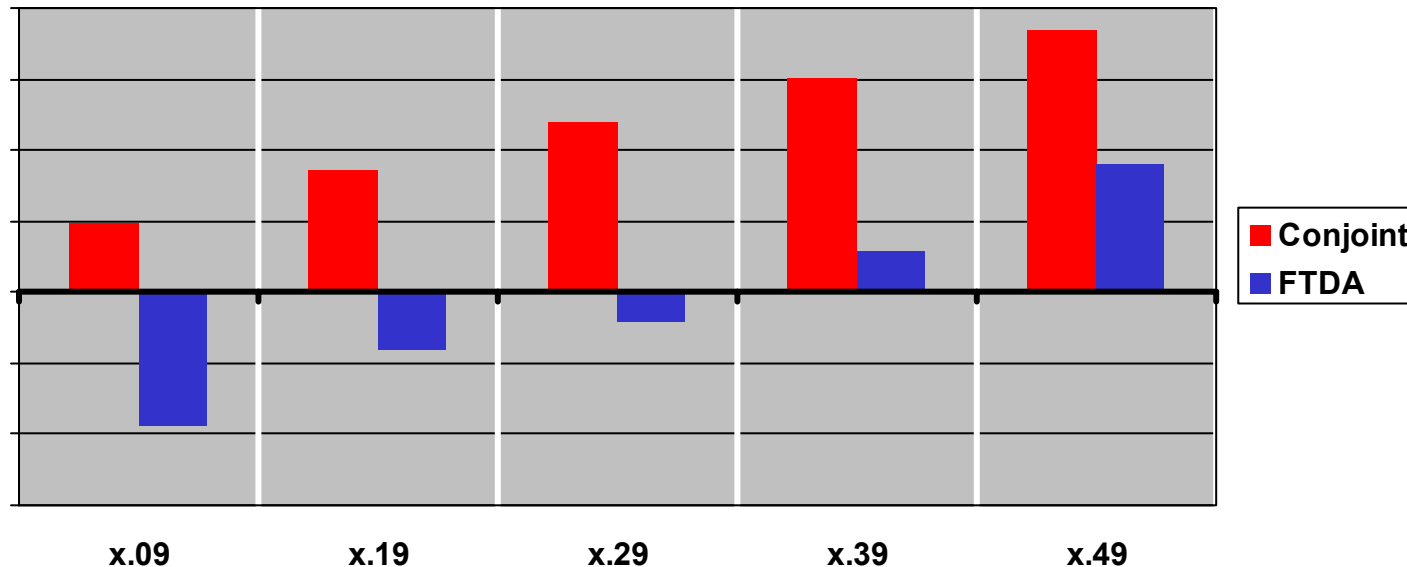
## FTDA (fixed trading down approach) **INSIGHTS:** B. PRICE ELASTICITY



- Crossing the price barrier does have a stronger impact than indicated by conjoint simulation!

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## FTDA (fixed trading down approach) **INSIGHTS:** C. PROFIT CONTRIBUTION



- Strong impact on profit contribution simulation
- Different conclusion from FTDA

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## CONCLUSIONS

- FTDA added a lot of information about the price elasticity around the threshold price
- CJ has limitations in such situation due to linearity between the price points
- Additional measurement should be considered unless very large sample size is available