CARMA 2016

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Online CASE CPI

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Agenda

- Online vs. offline prices
- Online CASE CPI vs. GUS's CPI
- Preliminary results

Why we look for measuring online prices?

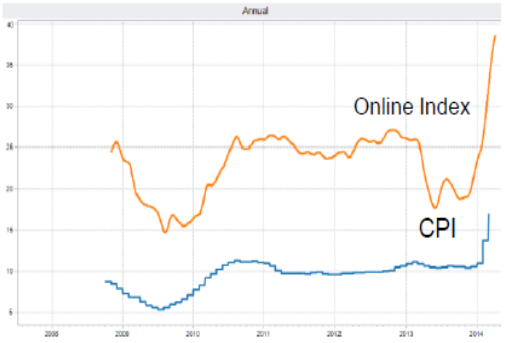
- Whether we are able to assess the prices changes online?
- **How they behave in comparison to offline prices? If the changes have a similar nature, what about the time and strength of changes?**
- Do pricing strategies offline and online differ?
- Do online products and services really have lower prices than those purchased offline?
- Can we reduce the time delay in public statistics?
- Whether e-commerce is developed enough in a given country that it can reflect price tendencies for the whole economy?

Online vs. Offline prices

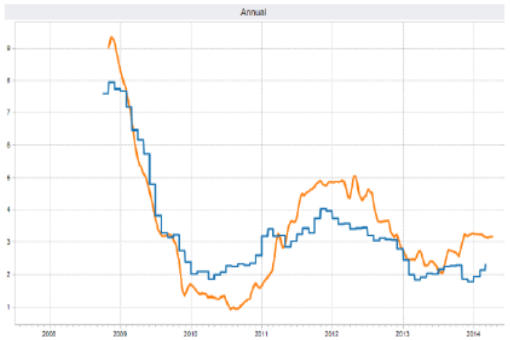
- Three types of relation between online and offline prices:
  - Permanent shift;
  - Cohesion;
  - Different strength.

Online vs. offline indexes source: Cavallo A. (2015)

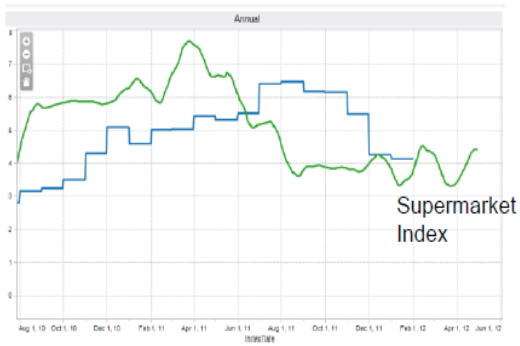
Argentina



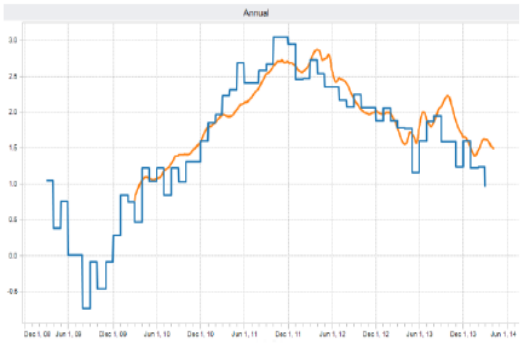
Colombia



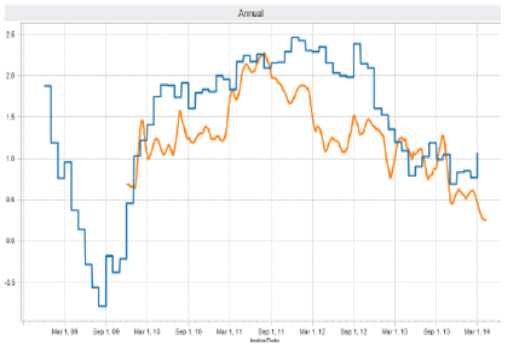
China



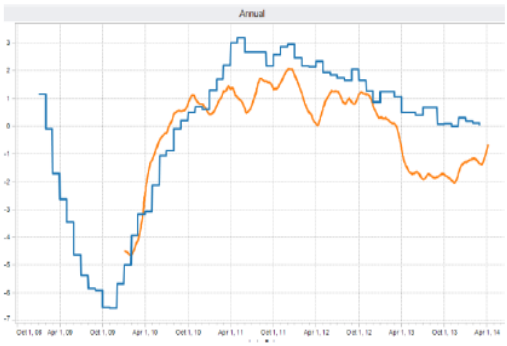
Germany



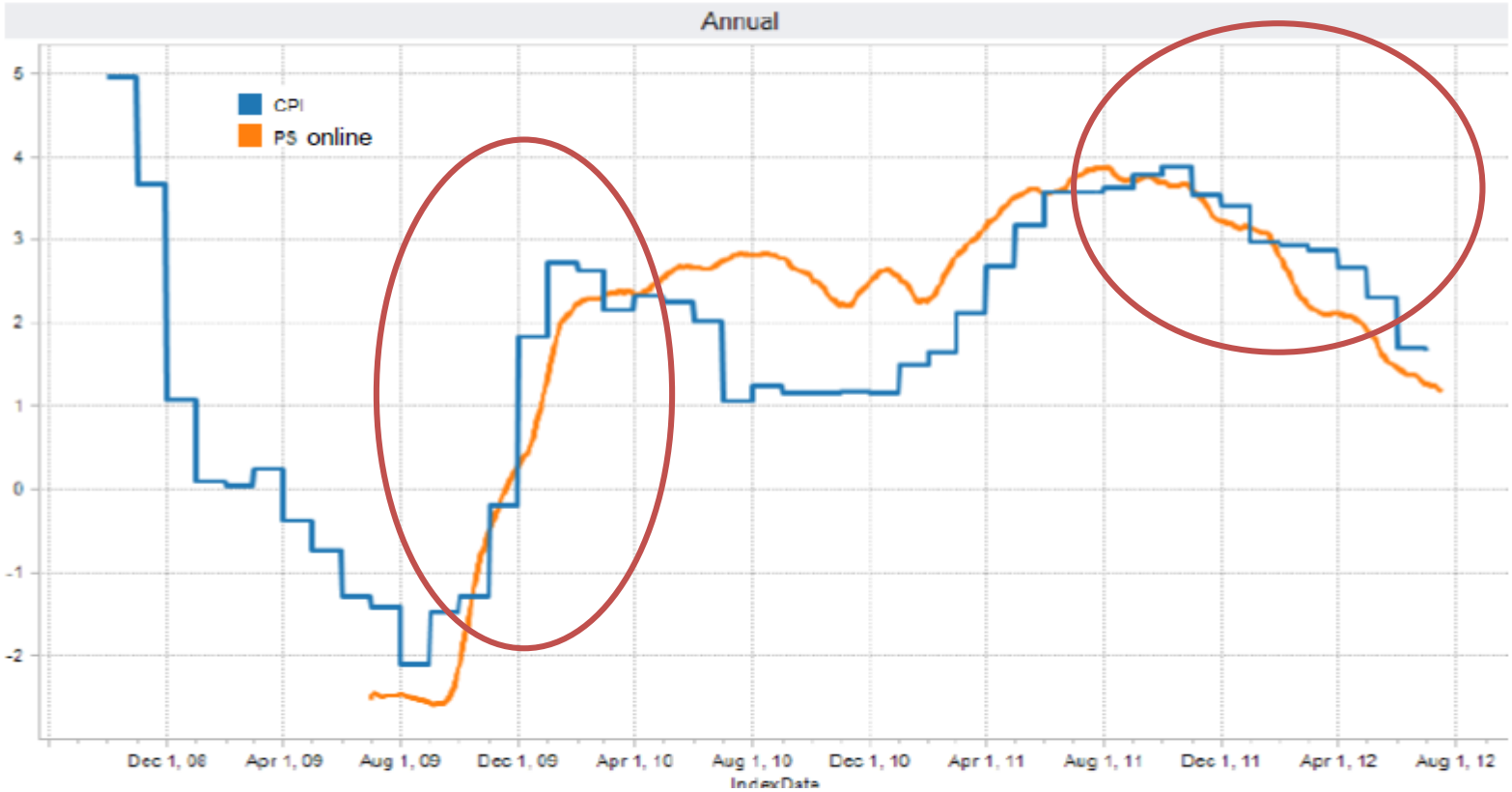
France



Ireland



Moreover, relation between prices may also differ due to a reference period. source: Cavallo A. (2015)



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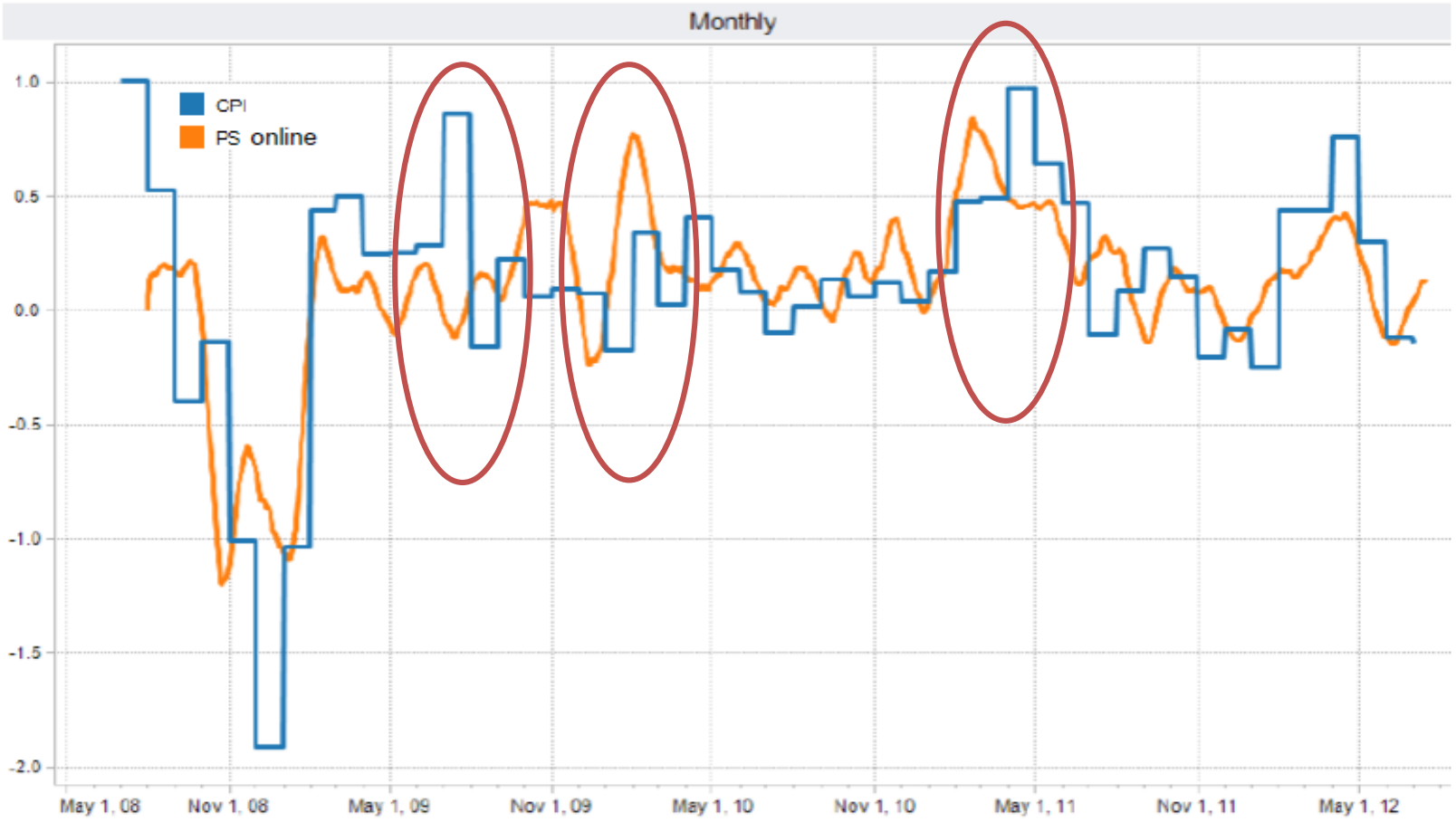
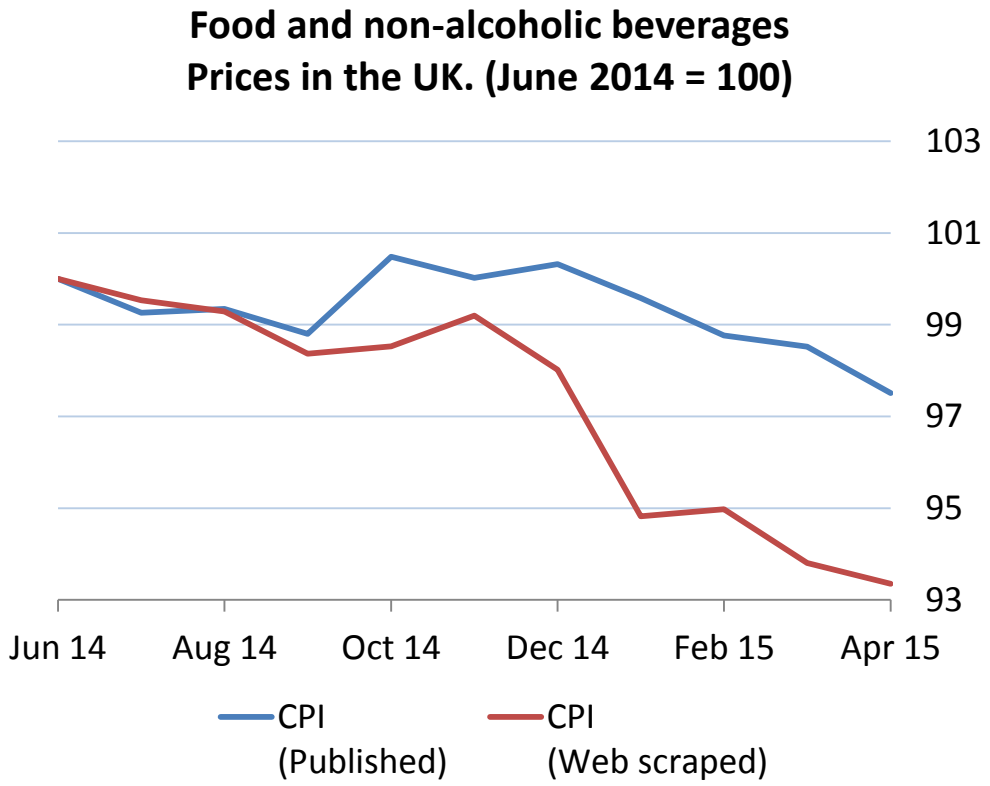


Online vs. offline prices

35 items of food and drink were observed during 9-month-period in the UK. Offline prices fell 2,5%, while online fell 6,7%. Examples:

a) Bananas offline 0%, online (-15%),
b) Red wine offline +3%, online (– 3%).



Online vs. Offline prices

- Short-term disparities may stem from a number of reasons:
  - Online and offline markets differ;
  - E-commerce is a small fraction of traditional consumption;
  - More goods than services are traded online, which means an overrepresentation of the former in the online indices;
  - Online market is more competitive: information on substitutes is available easier – alternative evaluation;
  - Online consumer is on average younger and richer than offline consumer.

Online CASE CPI vs. GUS's CPI

Category	Share
Food and non-alcoholic beverages	24.04%
Alcoholic beverages. Tobacco	6.56%
Clothing and footwear	5.47%
Housing. water. electricity. gas and other fuels	21.04%
Furnishings. household equipment and routine maintenance of the house	4.99%
Health	5.45%
Transport	8.72%
Communication	5.27%
Recreation and culture	6.63%
Education	1.01%
Restaurants and hotels	5.04%
Miscellaneous goods and services	5.78%
Total	100.00%

- Online CASE CPI follows GUS's CPI methodology:
  - Basket composition
  - Official weights of main aggregates of goods and services in inflation basket in 2016
  - 86% of categories covered

Online CASE CPI vs. GUS's CPI

Section	Participation in the inflation basket	Data availability
Food and non-alcoholic beverages	24.04%	100.00%
Alcoholic beverages, tobacco and narcotics	6.56%	100.00%
Clothing and footwear	5.47%	100.00%
Housing, water, electricity, gas and other fuels	21.04%	74.00%
Furnishings, household equipment and routine maintenance of the house	4.99%	70.00%
Health	5.45%	67.78%
Transport	8.72%	82.47%
Communications	5.27%	97.44%
Recreation and culture	6.63%	65.88%
Education	1.01%	62.00%
Restaurants and hotels	5.04%	100.00%
Miscellaneus goods and services	5.78%	87.34%
TOTAL:	100.00%	86.38%

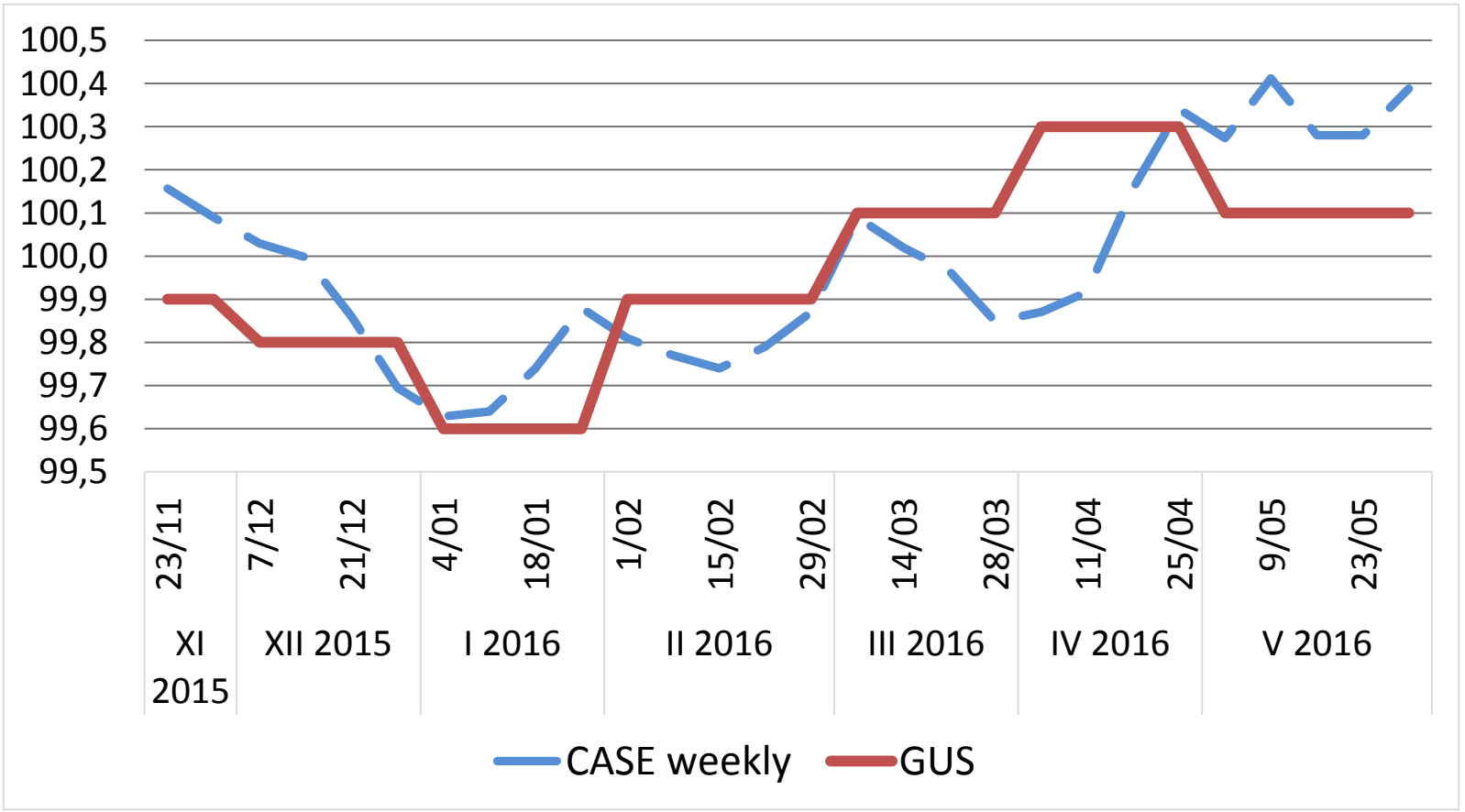
Online CASE CPI

- Using price comparison websites and dedicated websites;
- Data scrapping:
  - Collection
  - Processing
  - Calculation
  - Aggregation
- The whole process takes a few hours.

Online CASE CPI vs. GUS's CPI

	Online CASE CPI	GUS's CPI
Number of representatives	~1400	~1400
Number of observations	~240 000	~260 00
Frequency of data collection	Weekly	1-3 times a month
Time of availability	Real-time	Up to 4 weeks delay

Preliminary results – weekly releases November 2015 – May 2016



Findings and further research

- Online price indices reduce the time delay between measuring prices and announcements of the results. Thus, they can also be published more frequently;
- Data scrapping - a faster and cheaper way of data collection;
- Availability of certain goods and services in the Internet, more goods than services in the Internet;
- A relation between online and offline indices confirms the difference between both markets;
- E-commerce – a growing but still small fraction of total consumption;
- Price comparison websites;
- Online indices should reflect online consumers behaviors, they are on average younger and richer.

Thank you

http://www.case-research.eu/