

Screening for Bid-Rigging in Practice

Pros & Cons of the Swiss Experience

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Agenda

1) Screening

- A tale of two markers
- Some examples
- Invitation versus open procedure
- Some recommendations

2) Proof

- Application of the markers in cartel proceedings
- Example Ticino
- Example See-Gaster
- Proof of a «broad» cartel?

3) Conclusions

A tale of two markers

Variance Screen (CV): established marker

- Cartel members group around a reference price
- Driven by the goal to avoid detection (which allows detections?)
- Bids are less responsive to cost shocks

Relative Distance Measure (RD): developed by ComCo

- Security distance between winning bid and cover bids
- Bidders avoid wide spread of offers for reputational considerations
- But what about the goal to avoid detection?

→ **What is the rational behavior of firms?**

→ **Does a large difference between the winning bid and losing bids indicate a competitive fringe or a safety margin?**

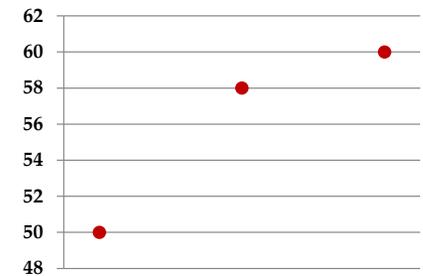
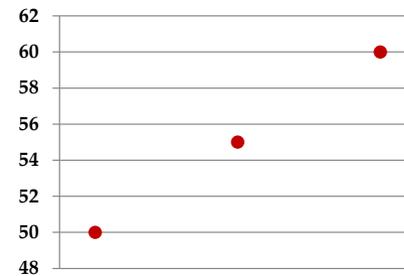
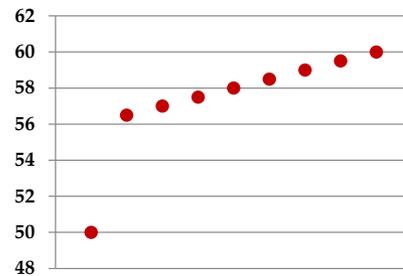
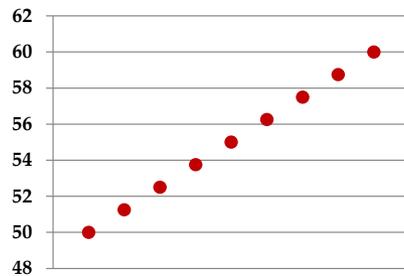
Some examples

Uniformly dist.

Safety margin

Uniformly dist.

Safety margin



CV = 6.2%
 → competitive
 RD = 0.41
 → competitive

CV = 5.2%
 → ambiguous
 RD = 5.31
 → collusion

CV = 9.1%
 → competitive
 RD = 1.41
 → collusion

CV = 9.4%
 → competitive
 RD = 5.66
 → collusion

The RD in particular

Conceptual problems of the Relative Distance Measure (RD):

- Depends on the assumed distribution of bids and sample size
- In general, RD decreases with the number of bids
- With only three bids, the RD can take extreme values
- Averages of RD is driven by outliers

	Example 1	Example 2
Bid 1	293'801	64'320
Bid 2	293'651	50'136
Bid 3	265'143	49'499
RD	270	0.63

→ **RD can only detect differences in bidding behavior, the absolute value is meaningless**

Invitation versus open procedures

Different averages of the markers for invitation and open procedures are interpreted as different degree of collusion

- Invitation procedures are usually smaller projects with fewer bids (min three bids, max CHF 500'000)
- Procedures often differ with regard to other factors, such as: information, better guess of expected prices, a given maximum price

→ **The different values of the markers in different procedures may just capture procedural differences not collusion**

Some recommendations

VS and RD imply different rational behavior by cartel members

- Motivate parallel usage
- Elaborate on the expected distribution of bids

RD is driven by sample size

- Need to control for sample size
- Given the statistical properties of the RD, its usage on invitation procedures is questionable

Absolute values and thresholds provide little information

- Use geographic and temporal variance
- Better motivation of thresholds of $CV > 0.06$ and $RDM > 1$

Application of the markers cartel proceedings

Some particularities of Swiss Cartel Law

- Prior to Gaba/Gebro (2017), ComCo had to prove that a cartel resulted in a «significant restriction of competition»
- ComCo had to show that a significant part of the market was affected
- and that cartel members did not deviate

→ **ComCo needs to define relevant markets & proof the impact of the cartel**

Today, also in the Swiss Cartel Law agreements on price-fixing, quantity limitation and market allocation are considered as especially detrimental to competition and de facto unlawful

Which part of market was effected?

What's the relevant market? - a never ending story

- individual tenders or
- all tenders for certain projects in a certain period (basically bid rotation)

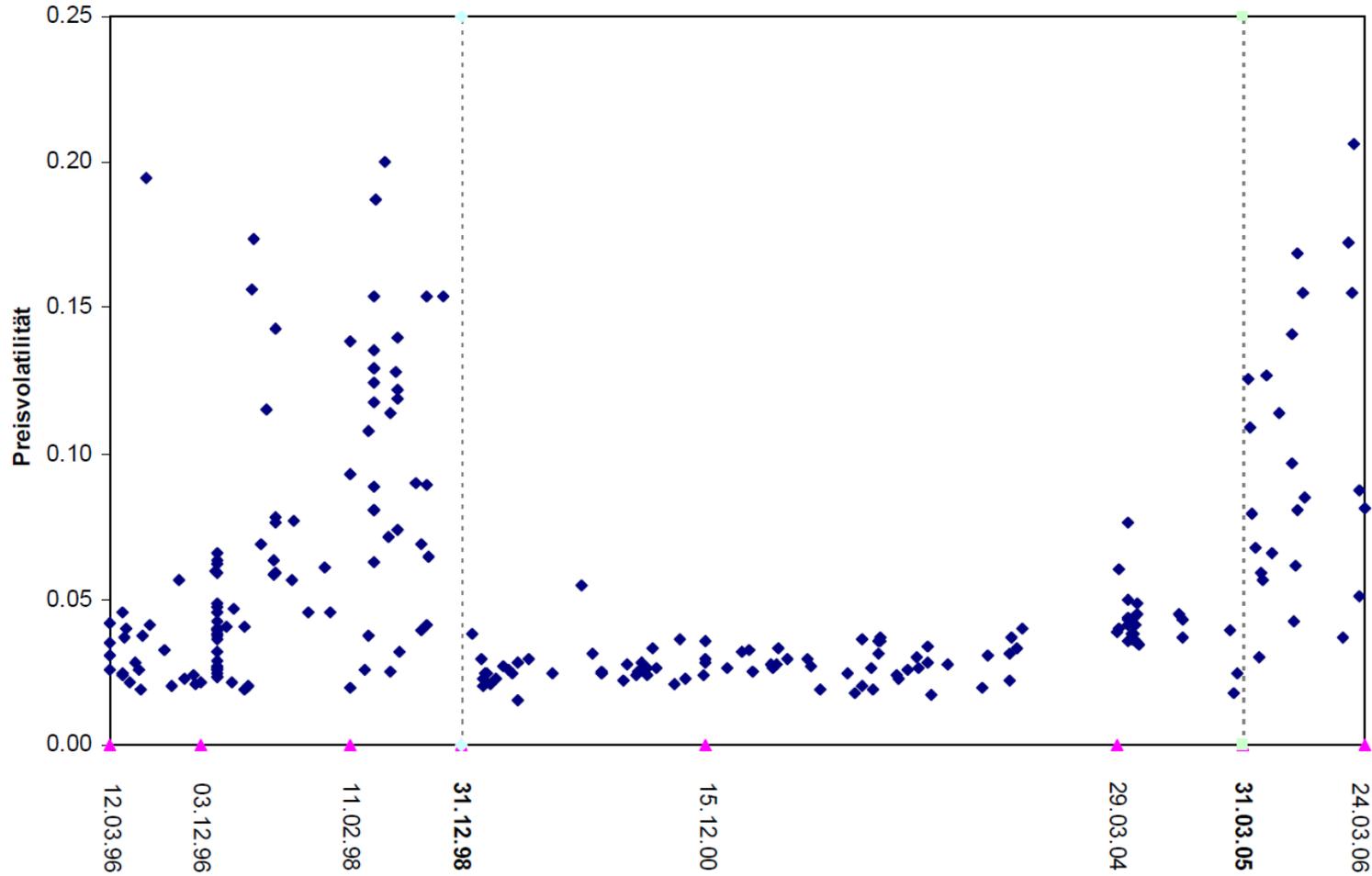
Usage of the statistical methods in the case See-Gaster (among others)

- Proof that the whole market was affected by the alleged cartel
- Proof tat the cartel was active until June 2009

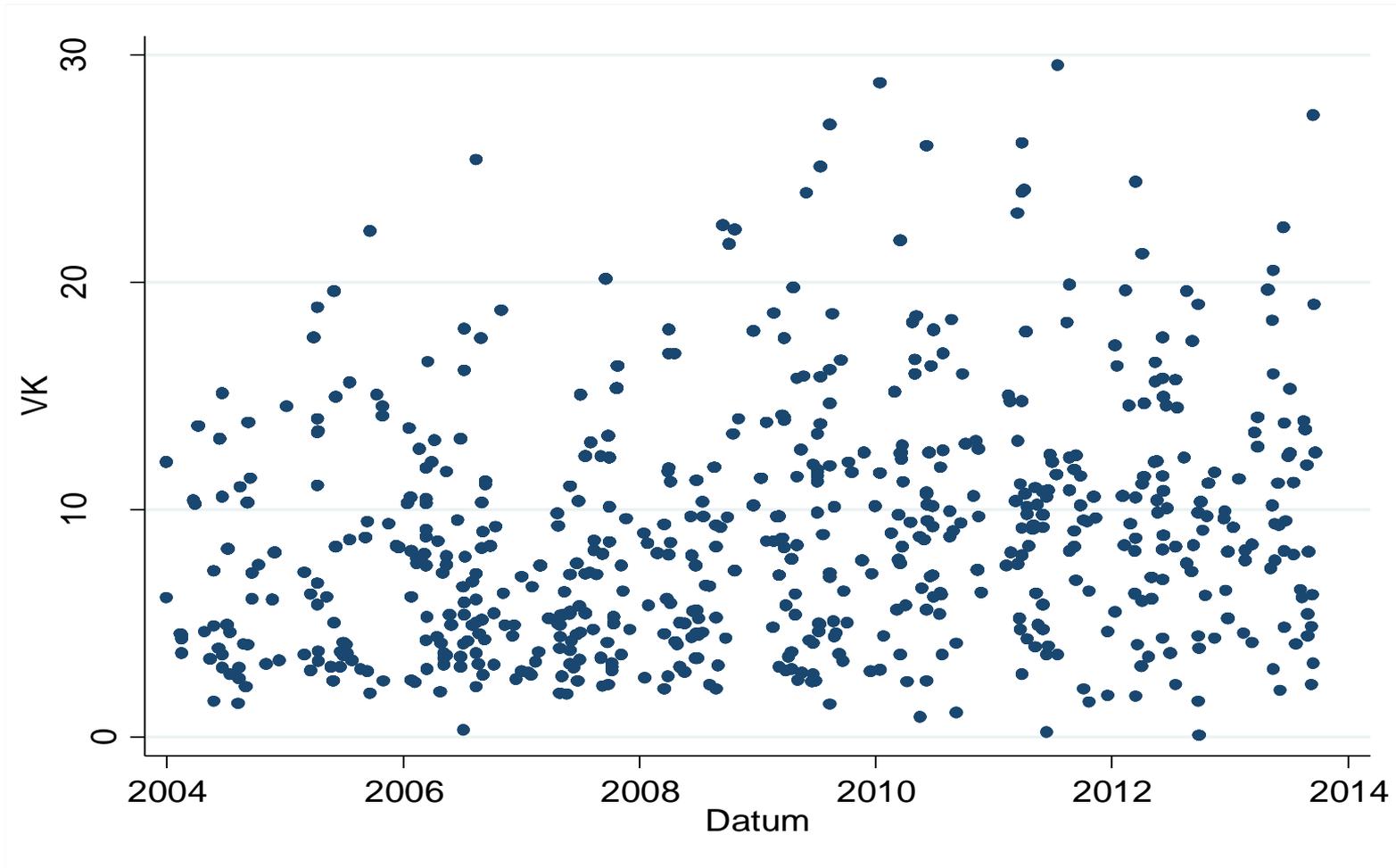
→ **ComCo uses the markers to show a significant difference in bidding behavior between the alleged cartel period and the following years**

Conclusion (Rz 853): The bidding behavior of the eight companies in the cartel period differs significantly from the bidding behavior afterwards for comparable projects

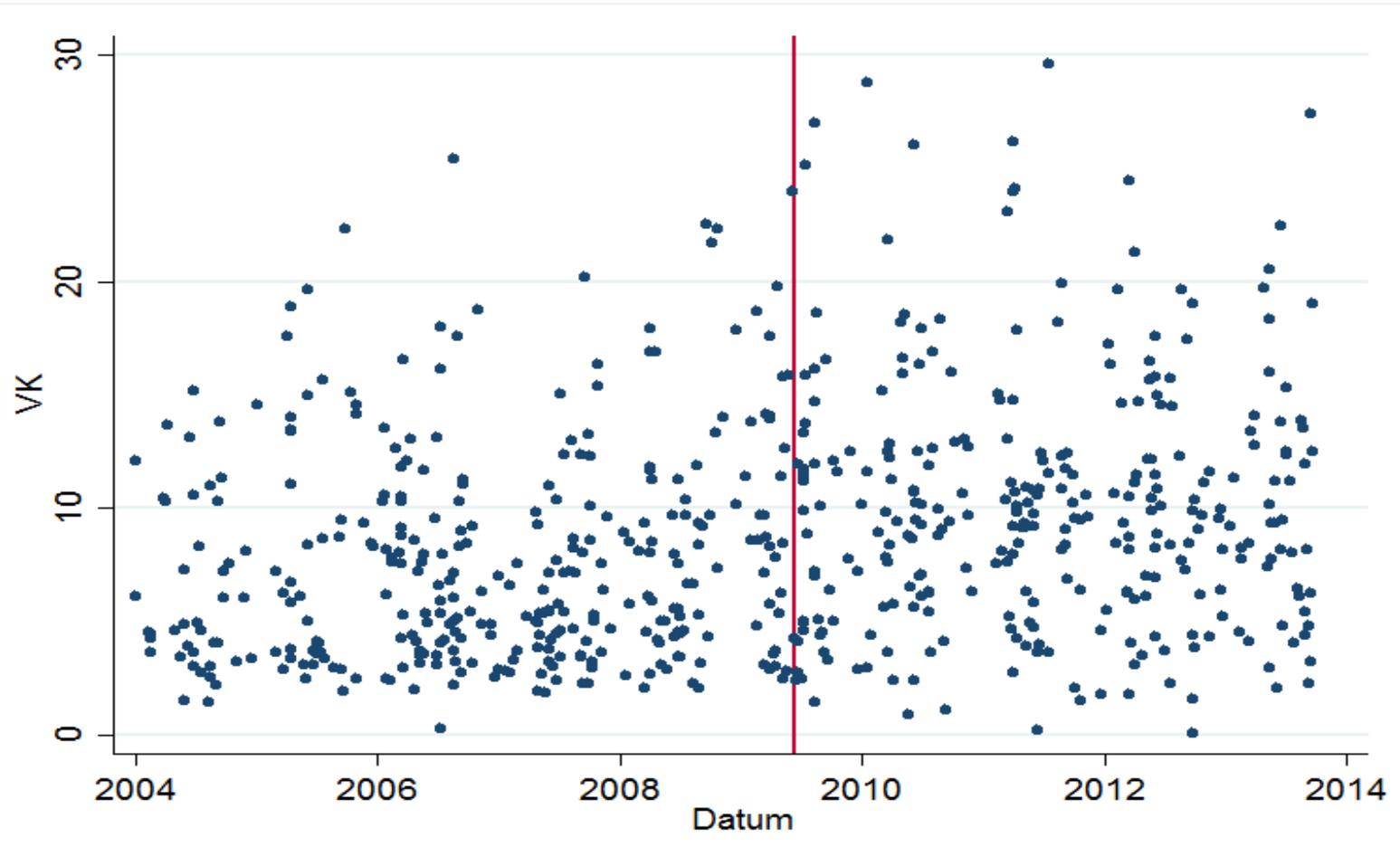
CV in the Canton of Ticino



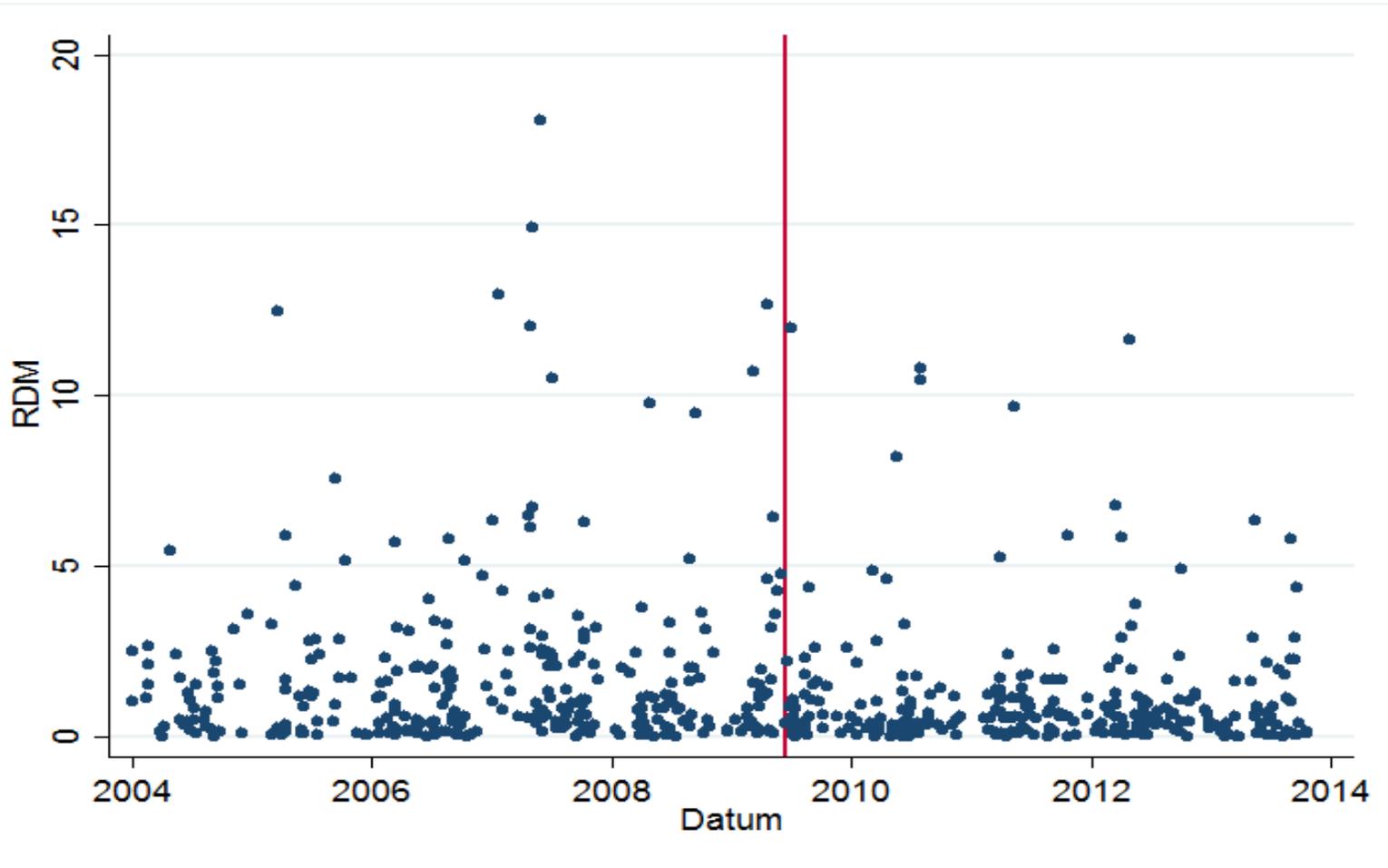
CV in See-Gaster



CV in See-Gaster (red line = end of cartel period)



RD in See-Gaster (red line = end of cartel period)



Proof of the alleged cartel?

ComCo claims «a fundamental change in bidding» behavior after June 2009

Proof by conducting (among others) the following tests

1. whether the distribution of CV and RD differ between the alleged cartel period and the following years
2. whether the CV and RD differ between years in the cartel period significantly

- Mann-Whitney-Test & Kolmogorow-Smirnow-Test (for 1)
- Kruskal-Wallis-Test (for 2)

Results of the statistical analysis

Results are not robust

- CV preforms more consistent than the RD
- Different «end» dates are equally probable
- Alternative hypothesis that the cartel ended in April 2008 preforms better (the firms claimed the cartel ended after a conflict over a major project)

Test if marked tenders differ from non-marked tenders

- CV does not indicated a significant difference
- RD shows the «wrong» result

Proof of a «broad» cartel?

→ **The statistical markers cannot proof that the cartel affected the whole market over a longer period in time**

Alternative explanations of empirical findings

- Alleged cartel ended in April 2008 (statute of limitation!)
- Switzerland experienced a long-term development towards a more competitive bidding behavior
- Other factors like the introduction of a national platforms for tenders in March 2009 may have driven the result

Conclusions

- **The RD has statistical flaws, which need to be addressed**
 - In its present form, the RD does measure little more than sample size
 - Control for sample size and assumed distribution of bids
- **Screening for bid-rigging can work, but we need to be careful not to over-interpret the findings**
 - Absolute values and thresholds of the markers provide little information
 - Stronger emphasis on regional and temporal variance
- **The markers fail to proof the alleged collusion over a majority of projects and over a longer period of time**
 - Only in very clear cases (Canton of Ticino)
 - Perhaps better results with regional variance

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