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# **SCREENING FOR (PARTIAL) BID RIGGING**

## **Practical Experiences by Swiss Competition Authority**



# The Screening Method in a Nutshell

1. Focus:

industry and data

2. Flag suspicious tenders:

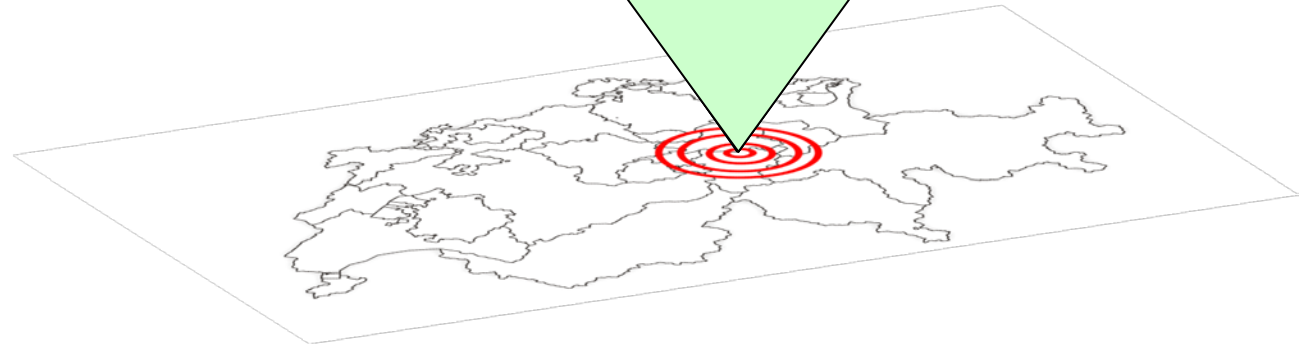
variance screen  
relative distance screen

3. Identify a bid rigging ring:

firm interaction  
geographic pattern

4. Double check:

bid rotation  
screen

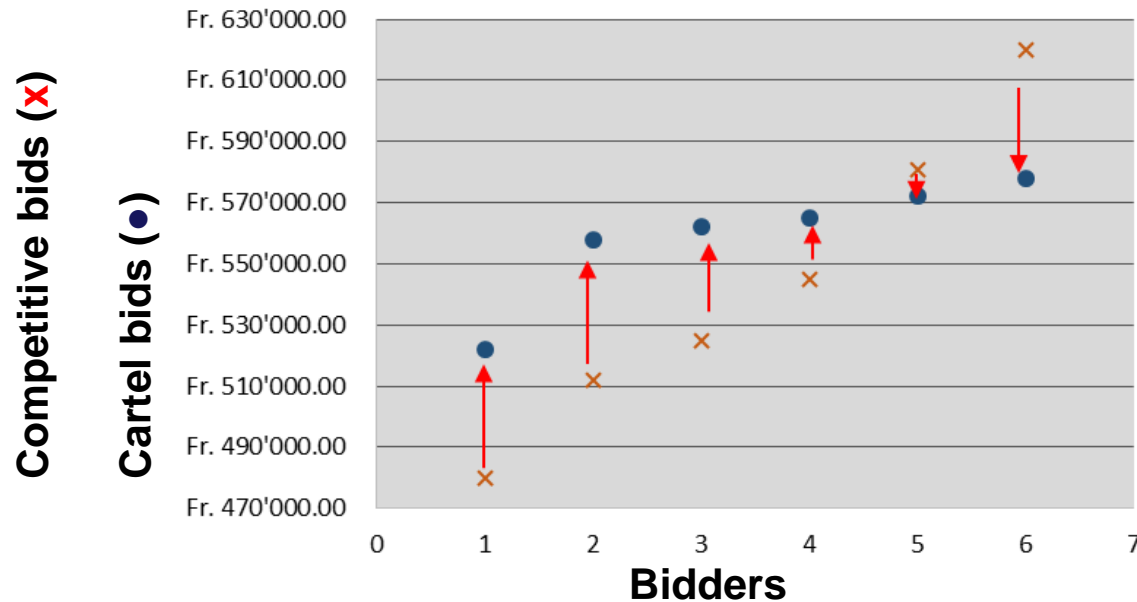




## 2. FLAG TENDERS: VARIANCE SCREEN

**Experience:** Variance of bids within a tender is lower in case of collusion.

➤ **Flag** tenders with a low variance.



**Operationalization:** The coefficient of variation ( $CV_j = \sigma_j / \mu_j$ ) captures the variance from the distribution of the bids.



## 2. FLAG TENDERS: VARIANCE SCREEN

Figure 1: Coefficient of variation, Experience in Canton Ticino

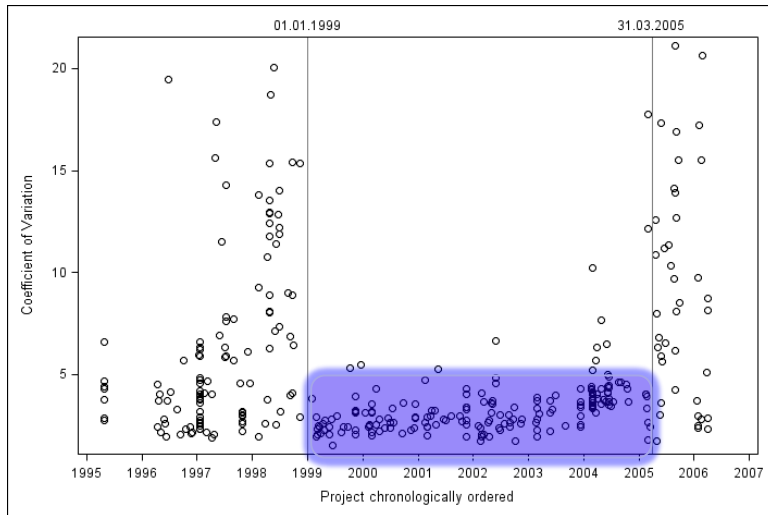
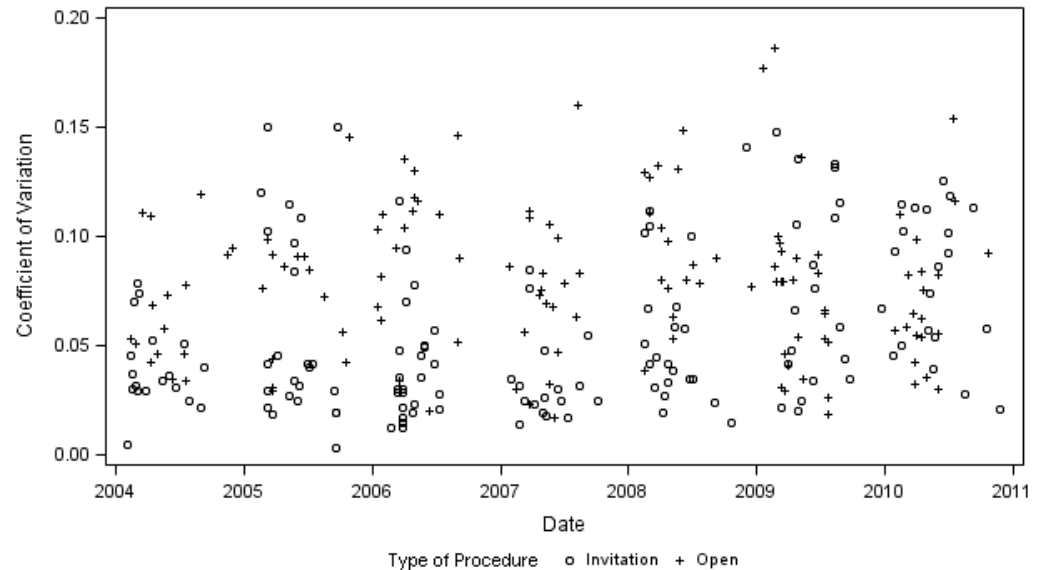


Figure 2: Coefficient of variation, Data to screen

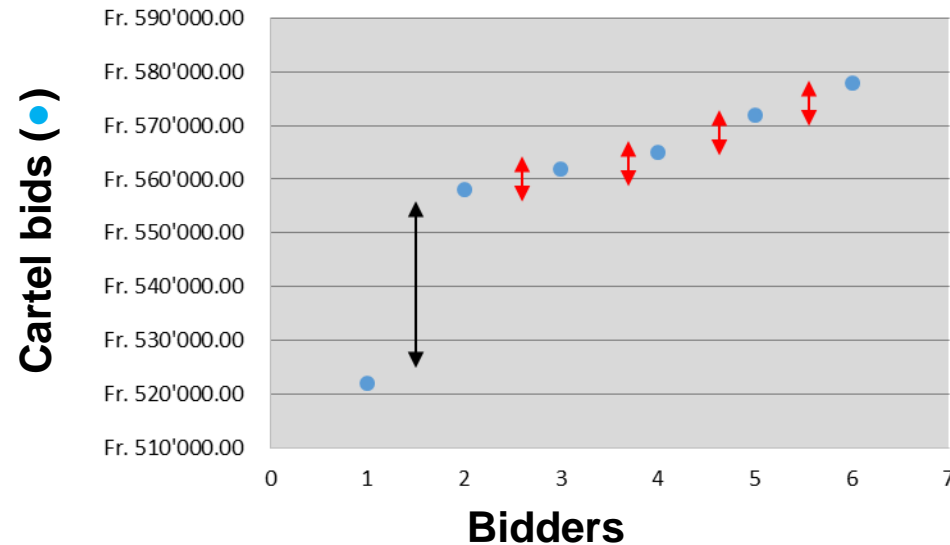




## 2. FLAG: RELATIVE DISTANCE SCREEN

**Experience:** Bid riggers manipulate the tender award by creating a notable difference between the bid of the designated winner and the cover bids

➤ **Flag** projects with a large distance



**Operationalization:** Relative distance measure

$$\text{RDM} = \frac{\text{difference of the two lowest bids}}{\text{standard deviation of the losing bids}}$$



## 2. FLAG: RELATIVE DISTANCE SCREEN

Figure 3: Relative distance measure  
Experience in Ticino

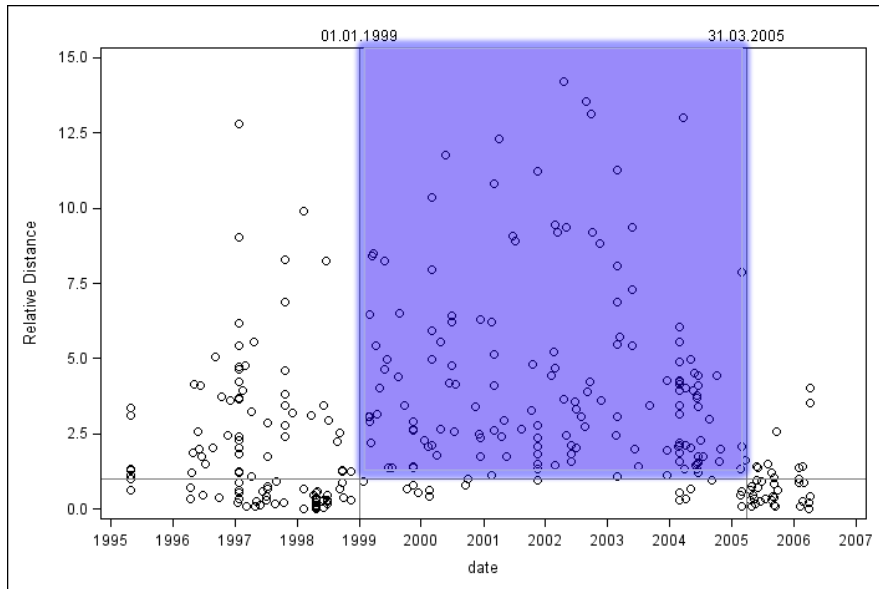
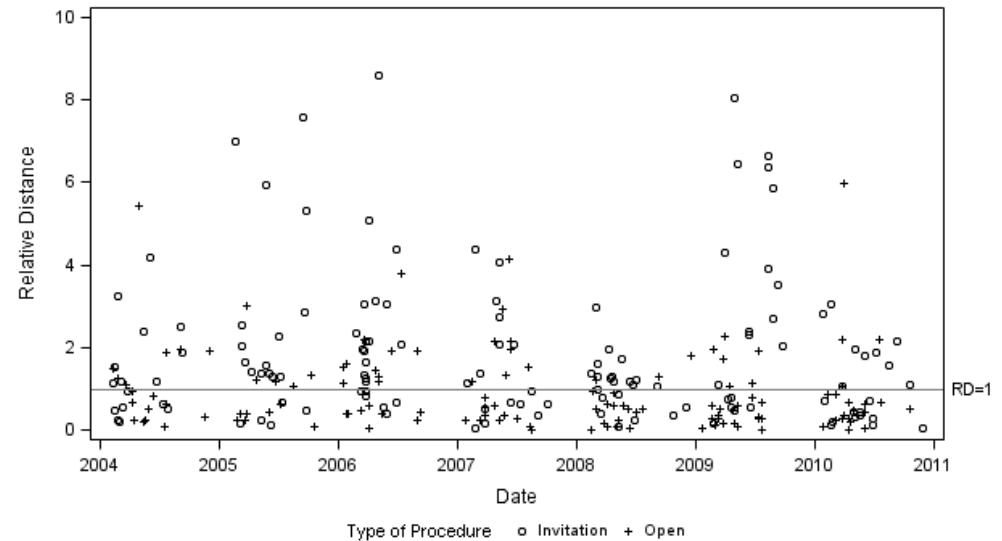


Figure 4: Relative distance measure  
Data to screen





# THANK YOU FOR YOUR ATTENTION

More information:

Imhof D., Y. Karagök and S. Rutz (2017) Screening for Bid-rigging: Does it Work? CRESE WP 2017-9

Imhof D. (2017) Simple Statistical Screens to Detect Bid Rigging. WP

<http://doc.rero.ch/record/289133>