TRADE SURVEILLANCE TOOL CONSTANT EFFICIENCY: a matter of balance

London, 07th October 2020 – ETRC Summit

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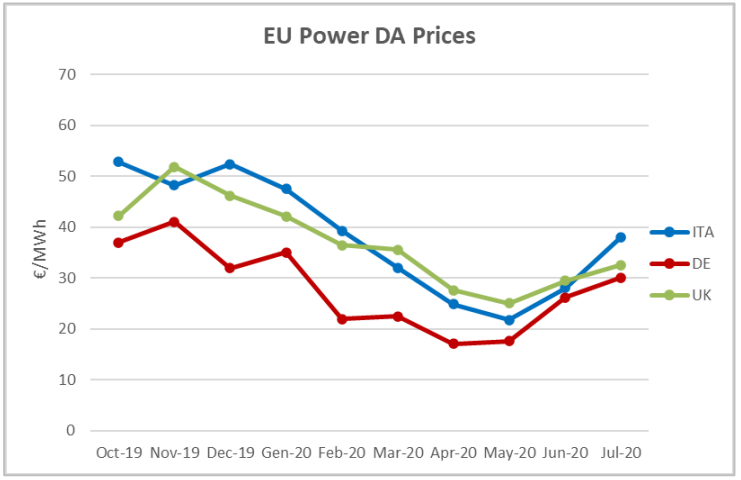
TRADE SURVEILLANCE TOOL

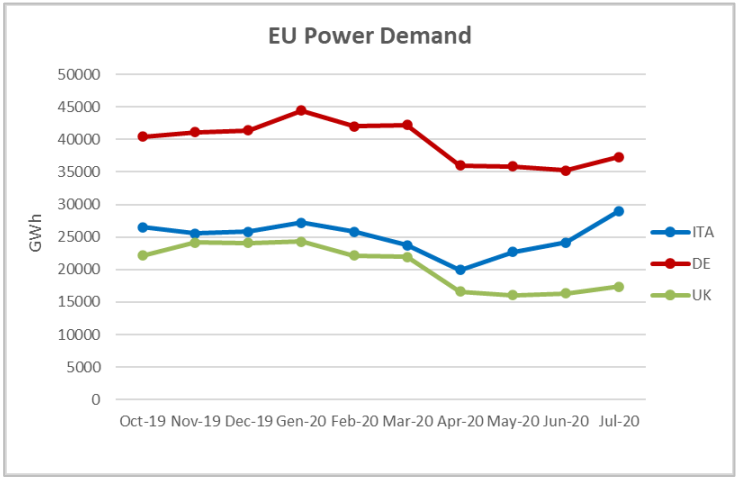
INSPECTION EFFICIENCY IN UNCERTAIN MARKET CONTEXT

Trade Surveillance tools inspect potential market abuse practices in **typically uncertain commodities market contexts**. **Covid-19** represents **an example of possible causes**.

Trade Surveillance tools must ensure efficiency in order **to limit false positive alerting**:

- **changes in the market context** impact the effectiveness of inspection rules implying **false positives increase** or **significant alerts decrease**
- unfortunately, **impacts cannot be completely avoided**
- despite this, **combined use** of **scenario indicators, pre-defined pattern** recognition and active **thresholds management** allows **effective market abuse analysis** in almost every market condition





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TRADE SURVEILLANCE TOOL

HOW TO DESIGN A RELIABLE INSPECTION RULE?

Effective Trade **Surveillance tools are the result of a complex combination of different approaches:**

Pre-defined Pattern Recognition

- Pre-defined schemes analysis **aims at specific trading patterns recognition**
- Focus on distinctive behaviors:
  - in **normal market context**, pattern recognition means **lower risk** of false positives
  - in case of **market context sudden changes** identified **suspicious patterns** could become **irrelevant if contextualized**

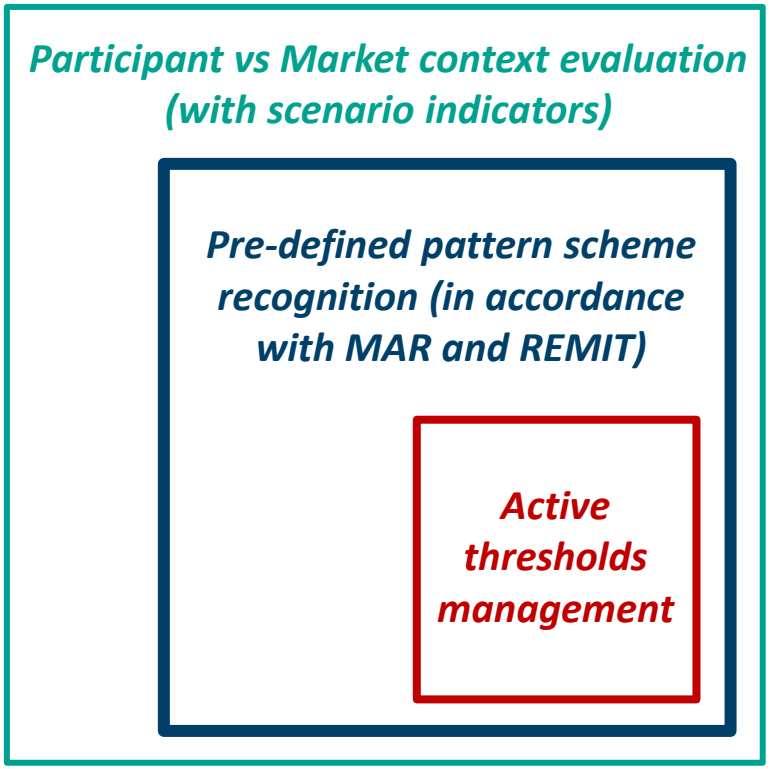
Scenario Indicators

- Scenario indicators **aim to highlight potential abnormal situations** where **Market Participant activities are relevant**
- Focus on quite general situations/activities and strictly dependent on the context evolution:
  - In general, **false positives are more probable**
  - In case of **significant external changes it could imply a lower risk** of false positives

TRADE SURVEILLANCE TOOL

BEST INSPECTION RULE: A PERFECT MIX

The **design** phase of an inspection rule could **insist on a combined approach of pattern recognition and scenario analysis, constantly improved** to respond to regulatory requirements:



Evaluation of the operator activities with respect to market **scenario evolution**, combined with the **use of auto-updating thresholds** based on time series:

- prompt **adaptability** to context changes
- **quality depending on time series** consistency

Pre-defined pattern recognition based on **operator trading activity**:

- consistency and **comparability over time**
- quality depending on **threshold's definition** and update **for every instrument and delivery period**

Thresholds update must be assessed in continuous and through structured **processes and methodologies**

CASE STUDY – ABUSIVE SQUEEZE AND PHYSICAL WITHHOLDING (1/3)

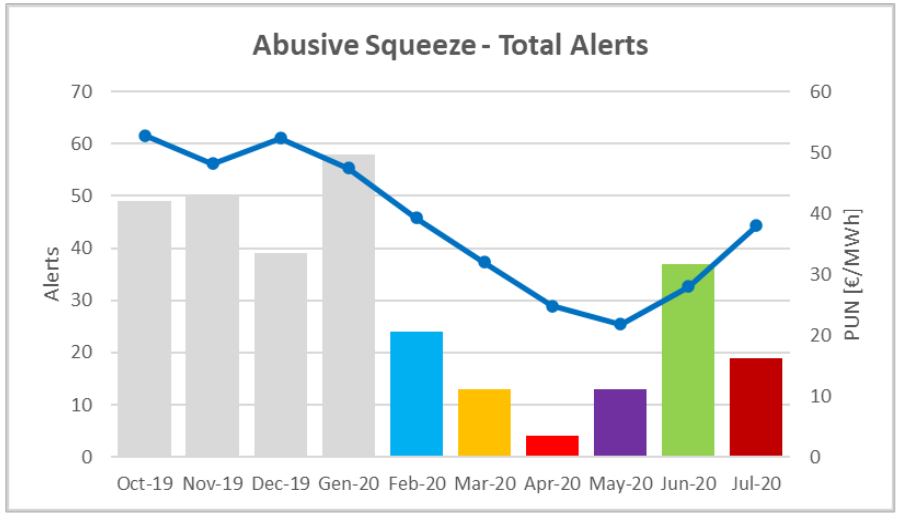
SIMPLIFIED INSPECTIONS RULES RESULTS

ABUSIVE SQUEEZE – SPOT MARKET

Taking advantage of the significant influence of a dominant position in order to materially distort the prices at which other parties have to comply with their obligations

Pattern Recognition Example – KEY POINT

- *Analysis of daily and weekly downward variation of market participant supply offers in terms of price and volume compared to the market on zonal market basis*
- *Distinction between holidays and weekdays*

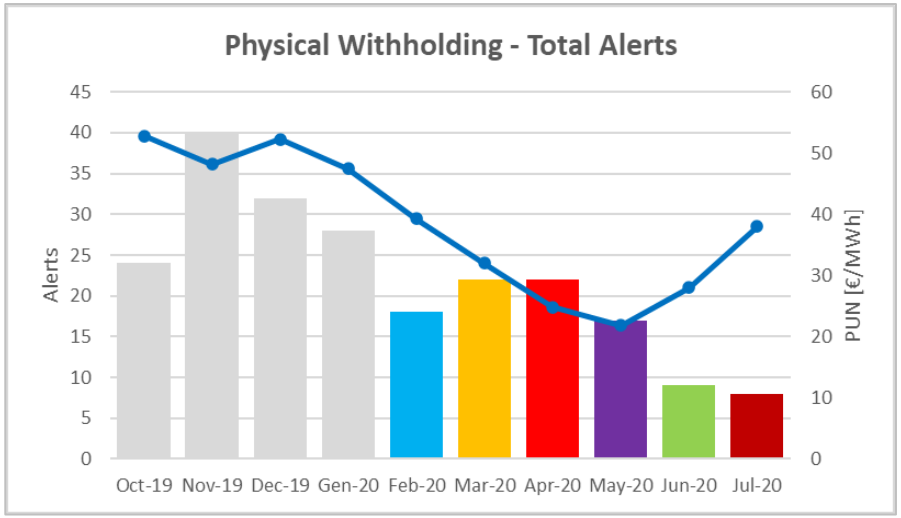


PHYSICAL WITHHOLDING – SPOT MARKET

Manipulative capacity withholding occurs when a market participant, without justification, decides not to offer or to economically withhold the available production on the market

Pattern Recognition Example – KEY POINT

- *Analysis of market participant supply offers upward deviation with respect to the market on zonal market basis*
- *Distinction between holidays and weekdays*
- *Identification of upward trends using time series*



Results based on two SIMPLIFIED INSPECTION RULES of BizPro with the aim to inspect how market context could effect trade surveillance analysis. **Simulations performed on MGP**.

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CASE STUDY – ABUSIVE SQUEEZE AND PHYSICAL WITHHOLDING (2/3)

COMPLEX INSPECTION RULES RESULTS

ABUSIVE SQUEEZE & PHYSICAL WITHHOLDING

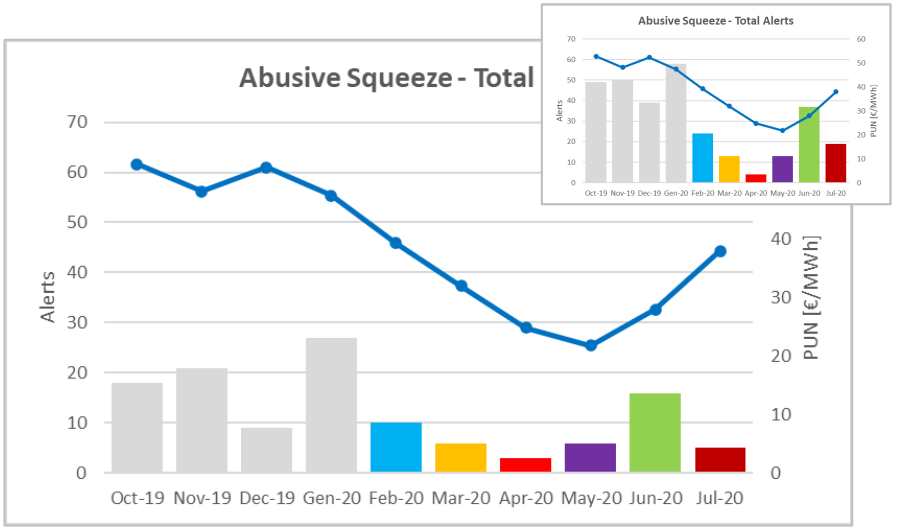
Scenario Analysis Example – KEY POINT

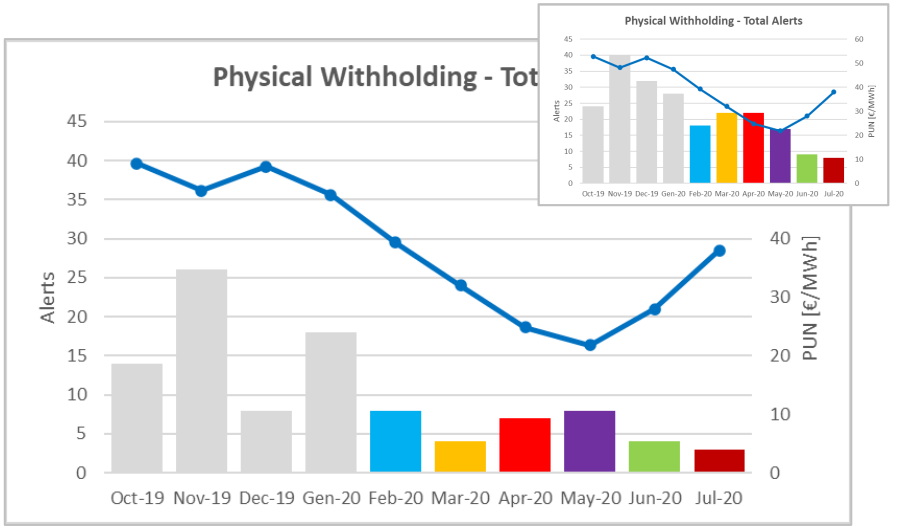
- *Identification of significant market zone in terms of supply volume offered by the market participant*
- *Analysis performed on significant market zone characterized by system criticalities (e.g. congestions)*

Pattern Recognition

The **combination of** a preliminary analysis, aimed at significant **market conditions identification, with specific patterns recognition allows** a Trade Surveillance tool **to react in a more effective way** to sudden changes in the market context. Main results are:

- **decrease in the number of alerts** generated
- change in alert distribution: **survival of significant alerts**





CASE STUDY – ABUSIVE SQUEEZE AND PHYSICAL WITHHOLDING (3/3)

ACTIVE THRESHOLDS MANAGEMENT RESULTS

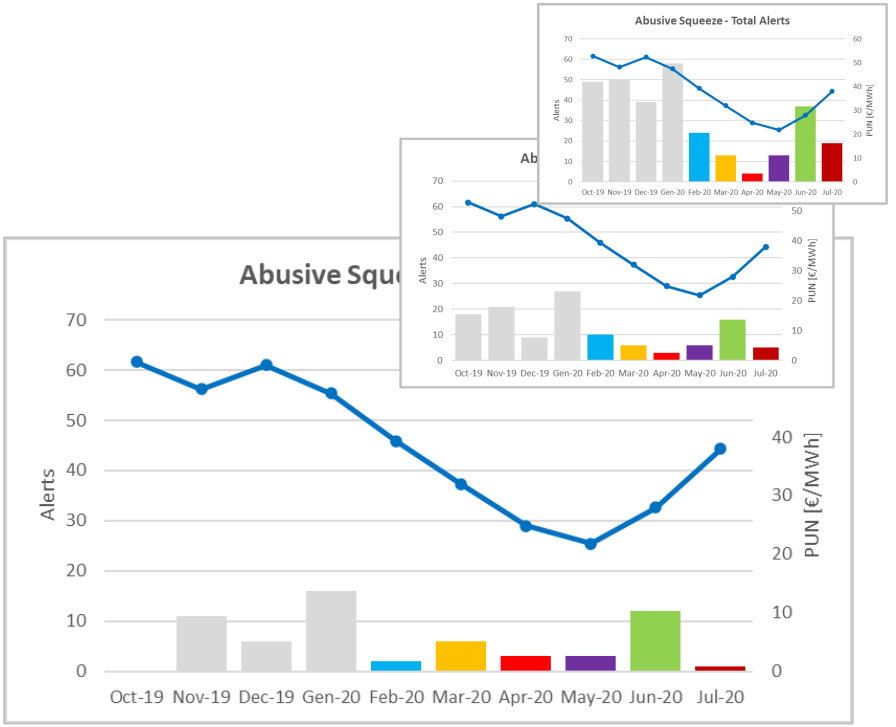
ABUSIVE SQUEEZE & PHYSICAL WITHHOLDING

Scenario Analysis

Pattern Recognition

Active Thresholds Management

- *A statistical approach for thresholds evaluation allows to obtain great results in reduction of false positives*
- *Thresholds updating, in abnormal market context, must be carried out more frequently. The use of rolling time series is also recommended*



Results based on simulation of BizPro Abusive Squeeze inspection rules on day-ahead spot power Italian market between Oct-19 and Jul-20.

The **efficiency of the analyses** carried out by Trade Surveillance tools **turns out to be a delicate matter of balance**: it is necessary to use a tool equipped with **solid inspections rules**, both in terms of scenario analysis and pattern recognition as well as in terms of adoption of **a consolidated methodology for thresholds updating over time**.

TRADE SURVEILLANCE TOOL CONSTANT EFFICIENCY

CONCLUSIONS

Inspection Rules - a matter of Balance

- Trade Surveillance tools **must be able to effectively address anomalous market conditions** (typical of commodities markets), although **impacts cannot be completely avoided**

- In abnormal market context, the **best way to prevent** the generation of **many false positive alerts is to have a solid** Trade Surveillance tool in term of **inspection rules** and **solid thresholds management**

Generally, Trade Surveillance tools are able to adapt more easily to market context if:

- **they use a combined approach of scenario analysis and pattern recognition**
- **thresholds management by end-users is done in continuous and based on a consolidated process and methodology (e.g. statistical analysis)**

Trade Surveillance tools must **ensure both effectiveness in alert generation** and **efficiency** in terms of Market Participant effort for the **analysis** limiting the **total cost of ownership**.

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