

Introduction

- ⇒ **This PowerPoint presentation explains, why market coupling (or market splitting) makes real competition between spot exchanges unfeasible**
 - ✓ **In this presentation, “spot exchanges” means exchanges where electrical energy is traded day-ahead**
 - **And where the exchanges uses double auction trading**
 - **ie, for each hour of the next day, the price is set by calculating the intersection between the exchange’s supply and demand curves.**
- ⇒ **In this presentation, market coupling is used to illustrate the point**
 - ✓ **However, the conclusion is the same, whether we have market splitting or market coupling.**
- ⇒ ***This PowerPoint presentation is animated. It’s recommended to run the animation when viewing the presentation.***

Example – 1

- ⇒ **For a given country, assume we have 5 competing spot exchanges – all participating in market coupling.**
- ⇒ **The market coupling will run the following way:**
 - ✓ **Shortly after gate closure, the five exchanges send their day-ahead bids to the market coupling company (MCC).**
 - ✓ **For each hour of the following day, MCC calculates the country's electricity price. The MCC calculation is based on:**
 - **All the country's day-ahead bids (the bids from the 5 exchanges).**
 - **The capacities on the links to neighbouring countries**
 - **And the day-ahead bids in these countries.**

Example – 2

We are considering one given hour of the next day

- ⇒ **For simplicity, assume for this hour the market coupling creates zero net energy flow to/from the neighbouring countries**
 - ✓ **ie., the total sales of energy to the country's spot exchanges is equal to the total purchase of energy from the country's spot exchanges – even when the market coupling is taken into account.**
- ⇒ **Assume MCC calculates a price 40 EUR/MWh for this hour.**
- ⇒ **Problem: at the price 40 EUR/MWh, each of the 5 exchanges will normally not have a sale, which is equal to the purchase**
 - ✓ **For example: an exchange can not pay (all) the sellers, if the sale to the exchange is 500 MWh higher than the purchase from the exchange.**
 - ✓ **Hence, the exchanges can not do the settlement (also called the clearing)!**

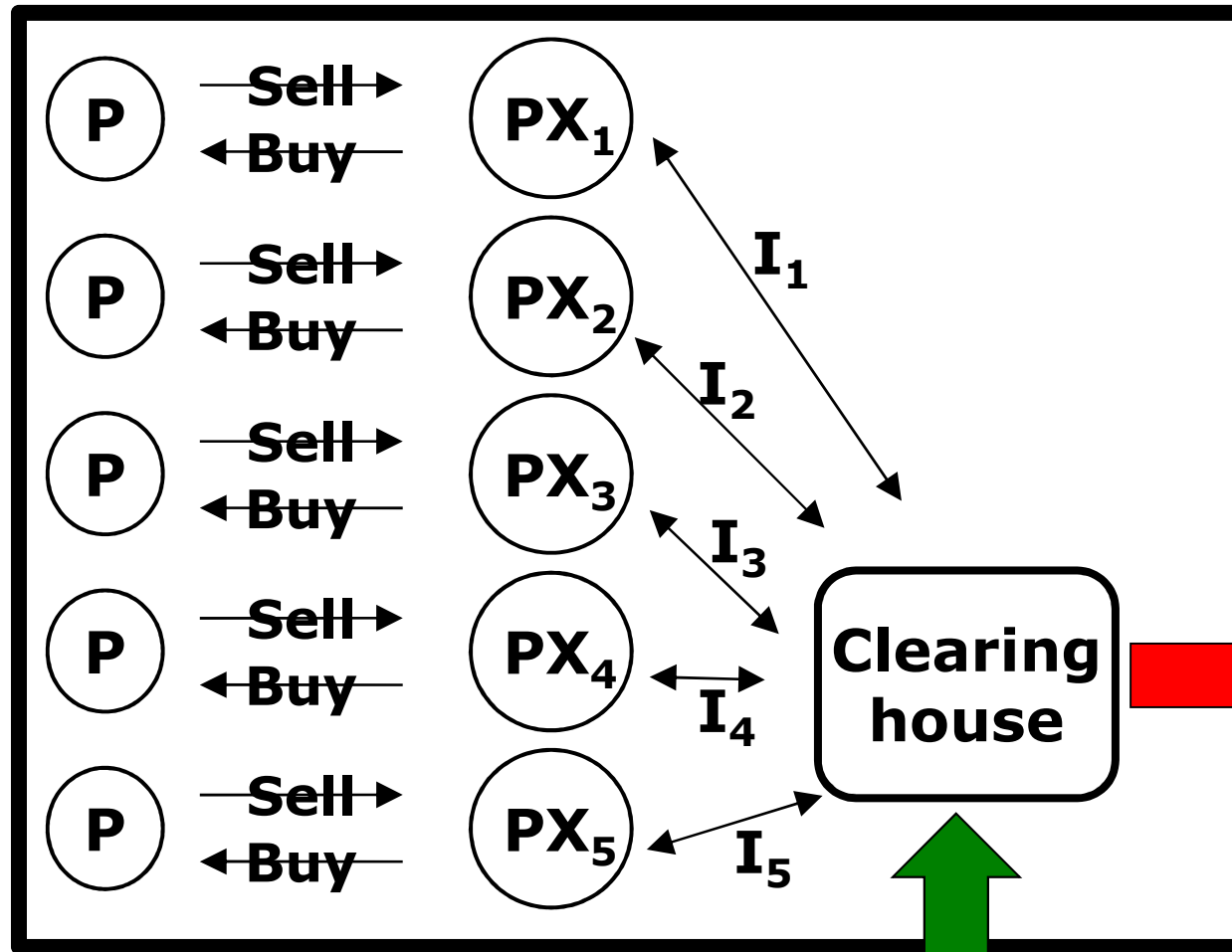
Example – 3

- ⇒ **Conclusion: behind the 5 exchanges, there must be a common clearing house.**
- ⇒ **However, now the pretended competition between the five exchanges is just a cost-increasing smokescreen**
 - ✓ **Behind the 5 exchanges, you find the monopolist: the common clearing house.**

Example - 4

One hour of the next day.

The market coupling does not create net inflow/outflow of energy



P: Players

PX: Power exchange

I: Imbalance between the sale to the exchange and the purchase from the exchange

Link_B: 1000 MWh energy outflow from market coupling

Country

Link_A: 1000 MWh energy inflow from market coupling

Conclusion from the example – 1

- ⇒ **The clearing house may be replaced by a network of payments between the 5 exchanges**
 - ✓ **However, this is a very complicated and costly solution; and the payment network now assumes the monopoly role of the clearing house.**
 - **With the liquidity from the market coupling somehow granted to the “commercial” exchanges?**
- ⇒ **Conclusion – with market coupling as the day-ahead congestion management system:**
- ⇒ **The fair and cost-efficient solution is one, regulated spot exchange per country (or per region)**
 - ✓ **This exchange must be regulated as a monopoly, as a competing spot exchange does not exist.**
- ⇒ **Note: *it's the clearing (ie, the settlement), which makes the competition unfeasible.***

Conclusion from the example – 2

- ⇒ **The market coupling company carries out the price calculation.**
- ⇒ **Hence, the local exchange becomes a clearing house**
 - ✓ **Carrying out the settlement of the day-ahead exchange trading of electrical energy.**
- ⇒ **In a later step, the settlement can be centralised**
 - ✓ **Making it possible for the players to net their day-ahead positions over a large geographical area.**
 - ✓ **And eliminating the need for the market coupling company and other cross-border traders to post big, redundant collaterals towards different clearing houses in different countries.**
- ⇒ **Then, the local offices become sales offices for this common day-ahead exchange trading system.**

Thank you for your attention!

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