

Price Fairness in Thin Markets

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What is the fair price?

Definition: Fair price

A price for a commodity is considered fair if two rational parties that have knowledge of all relevant information would agree to exchange the commodity at that price.

Definition: Market price

Market price = mid price of a marketplace
(e.g. OTC*-Broker or Future-Exchange)

Mid price = average of best bid
and best offer

Price	Quantity	
>=32.5	64	Selling interest (offers)
32.4-32.45	30	
32.3-32.35	20	
32.2-32.25	34	
32.15	30	
32.1	10	
32.08	Mid	
32.05	10	Buying interest (bids)
32	50	
31.9-31.95	55	
31.8-31.85	15	
31.7-31.75	20	
<=31.65	30	

*OTC = over the counter

Price fairness in liquid markets

Bubbles occur, whenever:

market price \neq fair price

A "mini-bubble" is a temporary price-unfairness that is corrected within a short time (a few minutes to several days).

"Mini-bubbles" are well-known to exist in highly liquid markets.

Reasons:

- Herding behavior: speculators with little knowledge follow the trends
- Automated trades: stop loss orders and fully automated systems amplify price jumps

Brent Crude Oil
May 2015,
USD/bbl



The Swiss electricity market is thin (very few trades per day, small bid-offer-stack).

As a consequence:

- Little speculative trading
- Market participants are mostly well-informed
- Almost no automated trades

Can we conclude that the market price is always fair?

Price	Quantity
37.2-37.25	15
37.15	10
37.1	10
37.05	Mid
36.95	5
36.7	15
36.55	5

The largest quantity one can trade immediately is:
 Buy 35MW at 37.17 (+12 Cents)
 Sell 25MW at 36.72 (-33 Cents)

Swiss Cal 16 Base,
 EUR/MWh and MW

Conclusion:

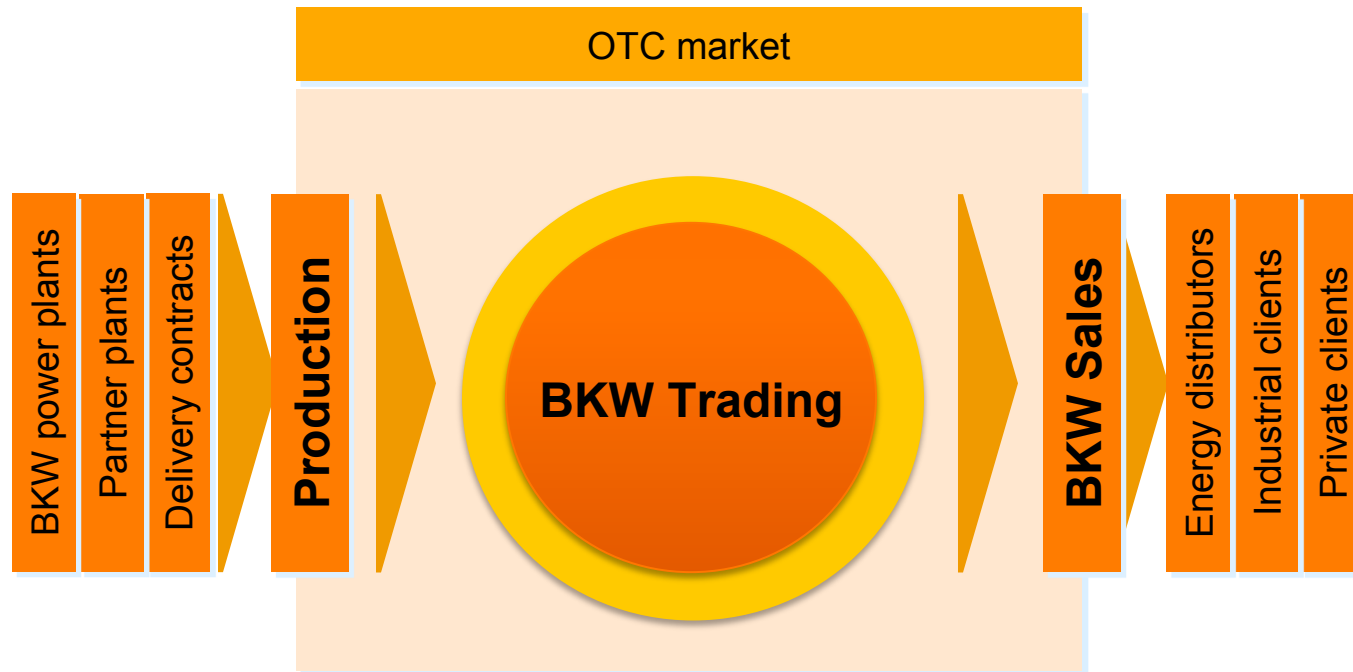
If a market participant trades a reasonable quantity (10-30MW)* at once, the market price can move 1%.

→ Price exaggerations ("mini-bubbles") are likely to occur.

Given the low trading frequency of thin markets, the correction of unfair prices is likely to take longer than for liquid markets.

*For comparison: the small nuclear power plant of Mühleberg produces the energy that corresponds to 340MW Cal Base.

Alternative trading channels



BKW sells a considerable amount of electrical energy using direct deals over its sales unit.

This trading channel is hidden from the OTC market.

Example of an unfair price?

In August 2014, the BKW sales unit was asked for a quote for a standard product (Switzerland Cal15 Base).

This product is also quoted on the OTC market.

Feedback from the client:

A competitor of BKW had offered a price **55 Cents** below the OTC market price.

Does this prove that the market price was unfair?

Example of an unfair price?



Example of an unfair price?

- Direct deals (over the sales unit) are not anonymous. The competitor could have offered a low price to attract this particular client.
→ Market price could still be **fair**.
- Direct deals are a means to sell large quantities unseen by other market participants. The discount of 55 Cents may be the price of staying "undercover".
→ Market price would be **unfair** (would not reflect this selling interest).
- Sellers in the market want high index (market) prices
→ Incentive for sellers to use direct deals,
 thus preserving a high (**unfair**) market price
Analogously, a large buyer would try to maintain a low (**unfair**) market price.

- As long as alternative channels for exchanging goods exist (and no means of arbitrage), the market price will never display the true fair price.
- The "unfairness" of the market price depends on how much the usage (types of trades) of the market differs from the usage of the alternative channels.
- The thinner a market, the larger the benefit of using alternative trading channels. The higher the use of alternative channels, the thinner the market.
- Should one still use the market price as a proxy for the fair price?
Yes, if there is no better source.

Be careful when using a thin market price for asset valuations and business decisions!