

REVISITING THE DYNAMICS OF THE BRAZILIAN FORWARD ELECTRICITY MARKET AFTER TEN YEARS

Cristina Pimenta de Mello Spinetti Luz, UFRJ, cristinapimenta@facc.ufrj.br

Overview

About ten years ago, Luz et al. (2012; 2013) discussed the dynamics of the Brazilian forward electricity market, which was an over-the-counter market still in the organization phase. At that time there were no trading platforms in operation and the spot prices were weekly defined by optimizations models. Besides, the number of agents in the Free Market were about 2.625¹, being 151 trading companies. That study found a contango behavior in certain periods, high risk premium and partial adherence between forward prices and the expectations of future spot prices (Luz et al., 2012; 2013).

In ten years, the Brazilian forward electricity market changed, although it remains as an over-the-counter market. We have trading platforms and specialized companies that public forward curves and, since the end of 2023, a weekly medium term forward curve is used for monitoring the market. The spot prices remain calculated by models but, since 2021, the calculus is daily for each hour of the next day. The Free Market count with 15.514² agents, being 520 trading companies. As the market walks in the growth and organization directions, we ask ourselves if the observed dynamics in 2012 has changed or not.

Based on the actual reality of the Brazilian forward electricity market, we investigate its dynamics and discuss the results considering the ten years ago dynamic and the international experience. This study contributes to overall knowledge about the Brazilian electricity market and, therefore, to agent's risk management and market rules design.

Methods

This study follows a multivariate regression approach and the basic idea of Luz et al. (2012; 2013) to investigate market dynamics, using public and agent's data. The relation between forward and spot price as well as expected spot prices is analyzed to access liquidity and risk premium (Bevin-McCrimmon et al., 2018) and identify the presence of normal backwardation or contango, in a similar way as Ruiz & Oliveira (2021).

Results

The study is still in course, but part of the 2012's dynamics continue to be observed.

Conclusions

The Brazilian forward electricity market has some unique characteristics that divers from the most studied electricity market models. In the last ten years, this market is changing based on international and financial market experiences. Despite changes, we observe that part of the today market dynamic was already present ten years ago.

References

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¹ <https://www.ccee.org.br/pt/web/guest/-/ccce-fecha-2013-com-2.625-agentes-expansao-no-ano-e-de-14-5-> retrieved in March 09, 2024.

² <https://www.ccee.org.br/en/nossos-associados> retrieved in March 09, 2024.