

First-price Auctions to Sell Display Advertising [Working Title]

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Date: As of now

Type: Bachelor's/Master's Thesis

Language: German or English

Motivation:

Ad exchanges are two-sided markets that enable publishers to sell advertising inventory in real-time, i.e., using real-time information about user and context, to advertisers, using the so-called "Real-time Bidding" (RTB) protocol.

When RTB was initially introduced, ad exchanges operated second-price auctions where the highest bidder wins but pays a price equal to the second highest bid. In a relatively rapid development of about two years, most ad exchanges have transitioned to a first price auction mechanism where the highest bidder wins the auction and pays their bid. The transition to first-price auctions has profound implications for advertisers, publishers, and ad tech companies. It affects bidding strategies, pricing, and market dynamics.

Goal:

This thesis seeks to explain the economic incentives of ad exchanges to transition from first to second price auctions, as well as discussing potential impact on market outcomes and other stakeholders.

- How did ad exchange auction work prior to the transition and how did they work before?
- What are the potential reasons behind the transition from second price to first price auctions in online display advertising?
- How does the shift to first price auctions affect bidding strategies of advertisers?
- What are the implications of this transition for ad pricing and revenues for publishers?
- How does the transition impact overall (allocative) efficiency and/or transparency of the online display advertising ecosystem?
- How do advertisers and publishers adapt to this transition?
- What are possible policy implications of this transition, particularly in terms of competition and market transparency?

Suggested References:

- Balocco, F., Lu, Y., & Li, T. (2020). Off With Their Headers: Mechanism Choices in Online Display Advertising. *ICIS 2020 Proceedings*. 18.
- Despotakis, S., Ravi, R., & Sayedi, A. (2021). First-price auctions in online display advertising. *Journal of Marketing Research*, 58(5), 888-907.