

Túlio Sousa

Curriculum Vitae

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Education

2019–Present **PhD Economics**, *Duke University*, Durham, USA.

2017–2018 **MSc Economics**, *Sao Paulo School of Economics*, Sao Paulo, BR.

2011–2015 **BSc Economics**, *University of Sao Paulo*, Sao Paulo, BR.

Research Interests

Primary **Industrial Organization, Microeconometrics.**

Secondary **Quantitative Marketing, Digital Ads.**

Working Papers

Title **Competition and Targeting in Auctions for Online Ads** (Job Market Paper)

Abstract The digital display advertising industry is phasing-out third party cookies due to growing concerns about data privacy, fundamentally altering how advertisers target and reach consumers. This paper investigates the potential impact of this shift on advertisers and platforms, focusing on the retargeting strategy, where advertisers reach consumers who have previously visited their website. Utilizing a dataset of 1.4 billion auctions paired with an experiment varying bids of live campaigns, I estimate a structural model of endogenous advertiser entry in the online ads industry. The model allows for the disentanglement of two opposing forces affecting winning bids when third-party cookies are removed: the matching effect, where the inability to precisely identify and reach advertisers' most valued audiences decreases their bids; and the competition effect, where advertisers face tougher competition in the auctions after adjusting their targeting strategies towards broader audiences, increasing the winning bids. Counterfactual simulations reveal that removing third-party cookies would decrease total ad spend by 60%, with an 84% reduction due to lower match values, partially offset by a 24% increase arising from intensified competition.

Title **Advertiser Learning in Direct Advertising Markets**
Joint with Carl F. Mela and Jason M. T. Roos
Submission Second round at Marketing Science

Abstract Direct buy advertisers procure advertising inventory at fixed rates from publishers and ad networks. Such advertisers face the complex task of choosing ads amongst myriad new publisher sites. We offer evidence that advertisers do not excel at making these choices. Instead, they try many sites before settling on a favored set, consistent with advertiser learning. We subsequently model advertiser demand for publisher inventory wherein advertisers learn about advertising efficacy across publishers' sites. Results suggest that advertisers spend considerable resources advertising on sites they eventually abandon—in part because their prior beliefs about advertising efficacy on those sites are too optimistic. The median advertiser's expected CTR at a new site is 0.23%, five times higher than the true median CTR of 0.045%. We consider how pooling advertiser information remediates this problem. Specifically, we show that ads with similar visual elements garner similar CTRS, enabling advertisers to better predict ad performance at new sites. Counterfactual analyses indicate that gains from pooling advertiser information are substantial: over six months, we estimate a median advertiser welfare gain of \$2,756 (a 15.5% increase) and a median publisher revenue gain of \$9,618 (a 63.9% increase).

Research Assistant positions

2021–2024 **Allan Collard-Wexler**, *Duke University*.
2017 **Emanuel Ornelas**, *Sao Paulo School of Economics*.
2016 **Fabio Miessi**, *University of Sao Paulo*.
2015-2016 **Gabriel Madeira**, *University of Sao Paulo*.

Teaching Assistant positions

2023-2024 **Econometrics and Data Science**, *Duncan Thomas*, Duke University, B.A.
2021 **Industrial Organization**, *Allan Collard-Wexler*, Duke University, PhD.
2020 **Game Theory**, *Attila Ambrus*, Duke University, M.A.
2020 **Microeconomics 1**, *Huseyin Yildirim*, Duke University, M.A.
2018 **Econometrics 1**, *Raone Costa*, Sao Paulo School of Economics, M.A.
2018 **Strategic Competition**, *Lucas Ferraz*, Sao Paulo School of Economics, M.A.
2018 **Contract and Firm Theory**, *Lucas Ferraz*, Sao Paulo School of Economics, M.A.
2018 **Microeconomics 1**, *Braz Carmago*, Sao Paulo School of Economics, M.A.

Internship Experience

2013–2014 **Economics Research Analyst**, *Credit Suisse Investment Banking*, Sao Paulo.
2012–2013 **Consultant**, *Elo Group*, Sao Paulo.

Programming

Python, Matlab, Stata

References

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