Application to the 2021 NBER Doctoral Student Workshop on Economics of Artificial Intelligence

Dear Madam or Sir,

I am a PhD student at Duesseldorf Institute for Competition Economics (DICE) in Germany. Currently, I am about to complete my first year of PhD studies. My research interest is related to the impact of digitization on industrial economics. I apply both empirical and theoretical methods. Artificial intelligence is one of the most disruptive technologies of the digital age. At the moment, I am working together with Simon Martin (also DICE) on a theoretical model with temporary market asymmetries that analyses the impact of advances in the technological ability to predict future market characteristics on collusive behavior. Furthermore, we analyse how prediction ability affects specific cartel mechanisms differently. Doing that, we want to contribute to a deeper understanding to which extent predictive algorithms foster collusion and how antitrust authorities should (re-)adjust their attention to detect cartels. According to our preliminary results, there are important insights and policy implications that go considerably beyond the ones already identified in the seminal work by Jeanine Miklós-Thal and Catherine Tucker.

At DICE, we have by now a large and still growing research community interested in AI, such that I plan to work further on AI related topics with senior faculty and fellow PhD scholars. At the NBER workshop, I would like to get inspiration for future research questions, take the chance to discuss our project findings with Catherine Tucker, and I want to get in touch with other young scholars in the field. I am convinced that my European perspective would contribute to the discussion. In turn, I am looking forward to learning a lot from the diverse US-based participants.

Yours faithfully,

Wolfgang Benedikt Schmal

WOLFGANG BENEDIKT SCHMAL

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EDUCATION

PhD Economics *2020-present*
Heinrich-Heine-University, Düsseldorf Institute for Competition Economics

MS Quantitative Economics *2019-2020*
University College Dublin– GPA: 4.1, First Class Honours (best GPA: 4.2)

BS Economics *2016-2019*
Freie University Berlin – GPA: 1.2, 98% quantile (best GPA: 1.0)

BA Business Administration *2013-2016*
Welfenakademie Brunswick – GPA: 1.4 (best GPA: 1.0)

Paris School of Economics *June 2021 (scheduled)*
IO Summer School, especially platform economics

RESEARCH FOCUS AND KEY COURSEWORK

My research focus is set on both theoretical and empirical competition topics in industrial organisation. In particular, I want to examine the impact of digitization via platforms, predictive algorithms and artificial intelligence on markets and firm behavior.

Postgraduate Studies at DICE:
Advanced modules in Competition Theory, Microeconometrics, Behavioral Economics
Postgraduate Studies at UCD:
Microeconomics, Macroeconomics, Econometrics (Core & Advanced)

CURRENT RESEARCH

The impact of DEAL on competition in the academic publishing market
with Justus Haucap and Nima Moshgbar
DICE Discussion Paper No. 360/ CESifo Working paper 8963, March 2021

Collusion with prediction accuracy and temporary asymmetry
together with Simon Martin (work in progress)

PRESENTATIONS

OLIGO 2021, Maastricht University (scheduled) *2021*
DICE PhD Research Workshop, Heinrich-Heine-University *2021*
DICE PhD Research Workshop, Heinrich-Heine-University *2020*

SOFTWARE

Programming Languages	Python (basics), VBA (for MS Excel)
Statistical Software	JMP, R, STATA (all advanced)
Mathematical Software	Maple, Mathematica
Misc.	LaTeX(incl. TikZ), MS Office, Typo3