

# Manpreet Singh

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## FIELDS OF INTERESTS

Market Design, Industrial Organisation, Energy Transition

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## EDUCATION

**Paris School of Economics and ENPC**, Paris, France Sep'20 - present

PhD, Economics

Dissertation Title: Essays in renewable capacity auctions

Thesis Committee: Laurent Lamy, Olivier Tercieux, Philippe Gagnepain

**Queen Mary University**, London, UK Nov'24 - Dec'24

Visiting PhD, School of Finance and Economics

Host: Emmanuel Guerre

**Paris School of Economics and EHESS**, Paris, France Sep'18 - Aug'20

Masters, Analysis and Policy in Economics (APE)

GPA: 15.4/20 (Magna-cum-Laude)

Thesis Grade: 16/20

**Indian Institute of Technology (IIT)**, Kharagpur, India Jul'11 - May'16

Bachelor and Masters of Science (5 year integrated), Economics

GPA: 8.73/10

Top 1% rank among 485,136 candidates in Joint Entrance Exam to IITs (IITJEE) 2011

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## RESEARCH

### Job market paper

- Designing large procurement auctions: India's utility-scale renewable capacity market  
Abstract: Auctions to procure capacity for large-scale renewable electricity production have become important policy tools in climate change mitigation and improving electricity access. These auctions have procurement targets that often exceed any supplier's capacity, resulting in nuanced allocation rules. In this paper, I use theoretical and structural methods to analyse the auctions in India for their allocation inefficiency and the government's expenditure, which is financed by costly public funds. I theoretically prove that the design of these auctions incentivises lower-capacity firms to be more competitive. Such firms may get larger contracts despite having higher costs, leading to inefficient allocation. To measure the inefficiency, I first estimate firms' cost distributions structurally using a recent dataset. Then, I simulate the theoretical equilibrium with empirical cost distributions of winners to quantify the inefficiency. I further suggest counterfactual designs which lower the inefficiency and government expenditure, without reducing capacity allocation.

### Work in progress

- Procurement with rationing of capacity-constrained suppliers  
Abstract: Large-scale procurement auctions with capacity-constrained bidders often have multiple

winners with split awards, where the split percentage is typically pre-specified. However, in certain auctions, such as renewable electricity capacity creation auctions in India and Brazil, the auctioneer does not specify the split in advance. Instead, bidders report their capacities before the auction. Following this, in an open descending price auction, bidders compete on price, and the lowest price loser is given a residual quantity to clear the market, thus splitting the award ex-post. The semi-separating Bayes-Nash Equilibrium of the auction, under the independent private values (IPV) assumption for given quantity bids, is characterized by reduced competitiveness and a strictly positive probability of the higher capacity bidder bidding at the reserve price. I demonstrate that the boundary value problem characterizing this equilibrium has a unique solution. The baseline model is extended to include players with asymmetric cost information and fringe firms.

- Participation, efficiency, and auctioneer's payoff in large auctions: Experimental evidence from designs in India and Philippines (joint with Carlos Vega, Philippines Competition Commission)  
Abstract: Many auction designs in the renewable capacity market include all-pay elements. Given the theoretical difficulties in analyzing asymmetric all-pay auctions, not much can be said about their efficiency, cost to public funds, or participation incentives. In this paper, we address this issue through experiments in which subjects participate in auctions modeled after those designed in India and the Philippines. Since both countries have similar policy objectives, the experiments aim to reveal which country's auction attains them with lesser inefficiency and cost to the auctioneer.

## Publication

- Singh, M., & Husain, Z. (2016). Self-fulfilling equilibrium and social disparities in urban India. *Economic and Political Weekly*, 43-51.

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## CONFERENCES

Econometric Society European Meeting (summer)	2023
CEPR Paris symposium (poster)	2023
European Association for research in Industrial Economics	2023
Society for Advancement of Economic Theory	2023
Stony Brook Game Theory Festival	2023
HEC Paris PhD conference	2023
European Association for Research in Industrial Economics	2024

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## TEACHING

**Université Paris 1 Panthéon Sorbonne** Sep'23 - present

- Optimisation and matrix calculus, 2<sup>nd</sup> year undergraduate, Teaching assistant
- International monetary economics, 3<sup>rd</sup> year undergraduate, Teaching assistant
- Growth economics, 3<sup>rd</sup> year undergraduate, Teaching assistant
- Game theory, 1<sup>st</sup> year masters in Economics and Psychology, Teaching assistant

**Ecole National des Ponts et Chaussées (ENPC)** Jan'22 - Dec'22

- Introduction to economics, Engineering undergraduates, Teaching assistant

**Sciences Po** Jan'20 - Dec'21

- Mathematics for social sciences, 1<sup>st</sup> year undergraduate, Course instructor
- Statistics for social sciences, 1<sup>st</sup> year undergraduate, Course instructor
- Core economics, 1<sup>st</sup> year undergraduate, Teaching assistant

## DEPARTMENTAL SERVICE

- Organise meetings between REM group members and external presenters of REM seminars.
  - Volunteer for ITEA conference 2019, SAET conference 2023.
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## GRANTS

**Attaché Temporaire de Enseignement et Recherche** Sep'23 - present  
Grant to fund final years of PhD by teaching at Sorbonne

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## NON-ACADEMIC EXPERIENCE

**Policy researcher and consultant, NIPFP, New Delhi** Sep'17 - Aug'18  
**Analyst, Prime brokerage, Credit Suisse, Mumbai** Jun'16 - Jul'17

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## SKILLS

**Technical:** R, Mathematica, L<sup>A</sup>T<sub>E</sub>X, Excel

**Language:** English (bilingual), Hindi (native), Punjabi (native), French (conversational)

**Soft:** Adaptability, Public speaking, Critical thinking, Writing

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## REFERENCES

**Laurent Lamy**

*ENPC, Paris*

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**Olivier Tercieux**

*PSE and CNRS, Paris*

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<https://sites.google.com/site/otercieux/home>

**Michaël Visser**

*CREST and CNRS, Paris*

E-mail: michael.visser@ensae.fr

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**Philippe Gagnepain**

*PSE and Univ Paris 1, Paris*

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<https://www.parisschoolofeconomics.eu/fr/gagnepain-philippe/>

**Emmanuel Guerre**

*Queen Mary University, Paris*

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<https://eoguerre.github.io/>

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