How (Not) to Schedule a Conference

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Outline

Demographics

Female	30.4%
Male	69.6%

26 Countries

| Country			Country	
Germany	97		Austria	5
United States	58		Japan	5
Switzerland	33		Sweden	3
United Kingdom	29		Guatemala	2
Netherlands	26		Norway	2
Italy	17		South Africa	2
France	16		Tunisia	2
Australia	12		Belgium	1
China	11		Brazil	1
Spain	10		Mexico	1
Israel	7		New Zealand	1
Czech Republic	6		Poland	1
Singapore	6		Taiwan	1

Regions

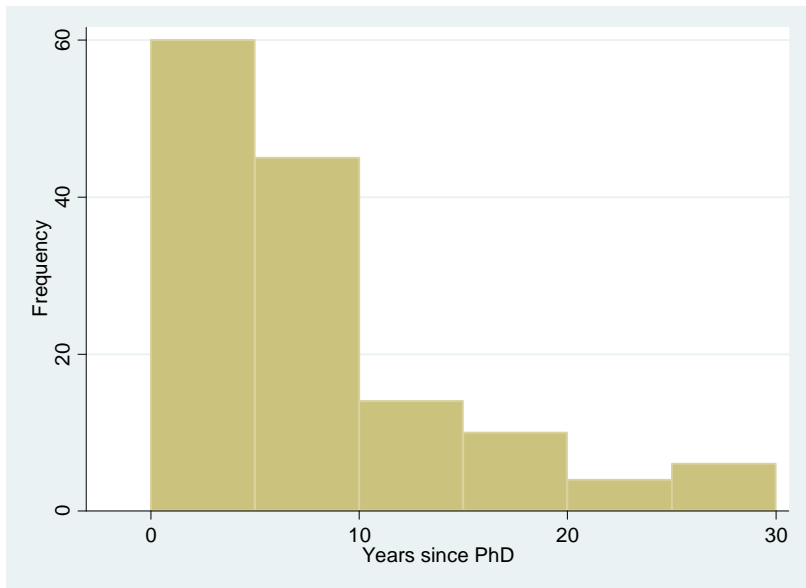|		
Europe	246	69.3%
North America	59	16.62%
Asia	23	6.48%
Australia and Oceania	13	3.66%
Middle East, North Africa, and Greater	9	2.54%
Central America and the Caribbean	2	0.56%
Sub-Saharan Africa	2	0.56%
South America	1	0.28%

PhD

Has PhD	#	Percent
No	80	36.53
Yes	139	63.47

Stage in PhD
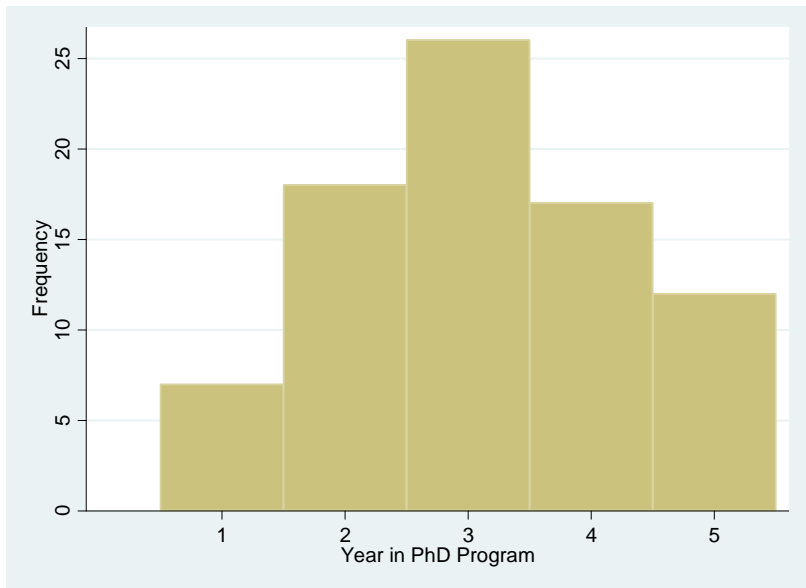
Stage in Career

Motivation

- 326 talks in 36 time slots -> at most can attend 11% of talks
- plausible additional value of having related talks in the same session
- participants know better than organizers how their talk relates to other talks
- organizers do not know participants' preferences

Overview of Procedure

1. Participants submit abstracts and specify 2 topics for their talk.
2. Organizers manually assign talks to *streams* of 12-28 talks
3. Participants bid using money and tokens
   3.1 Who they would like in their session
   3.2 Which talks they would like to attend
4. Organizers construct two conference programs based on bids
5. Participants vote to determine which program is implemented

Allocation to Streams

Applied Economics (20)

Auctions and Market Design (26)

Contests (20)

Decision Theory (24)

Field Experiments (16)

Games (23)

Group Behavior (19)

Labor Market (19)

Markets (28)

Methodology (12)

Norms and Ethics (22)

Psychology and Biology (12)

Public Choice (24)

Repeated Games (15)

Risk and Ambiguity (24)

Social Behavior (24)

Assigning Talks to Sessions

- Let b_{ij} denote i's bid for being in the same session as j.
- Let $x_{ij} = 1$ if presenter i is in the same session as j and $x_{ij} = 0$ otherwise.
- $\underset{\mathbf{x}}{\arg\max} \sum_i \sum_j x_{ij} b_{iv}$

  Subject to
  - Each presenter presents once
  - 4 talks in each session

Assigning Sessions to Time-slots

- Let S denote the set of all session and P denote a partition of S.

- At time t, person i will attend the session they value most from the set of sessions available $B \in P$.

- Denote the value of i's best session in B as $v_i(B)$.

- $\underset{P}{\arg\max} \sum_{B \in P} \sum_i v_i(B)$
  Subject to
    - a $|P| \leq nTimeSlots$
    - For all $B \in P$, $|B| \leq nRooms$
    - Sessions from same stream do not clash.

Comparing Tokens & Money

- Both use the same optimization procedure.
- With tokens, the procedure is run and there are no transfers.
- With money, there are transfers.

Transfers in the Money Mechanism

- A Vickrey–Clarke–Groves like mechanism is used to determine payments.
- Let person i's value of program $a \in A$ be denoted $v_i(a)$.
- Let $a^* = \arg\max_{a \in A} \sum_i v_i(a)$
- Person i's payment $p_i = \left[\max_{a \in A} \sum_{j \neq i} v_j(a) \right] - \sum_{j \neq i} v_j(a^*)$
- Person i's refund $r_i = \frac{\sum_{j \neq I} p_j}{n-1}$

Bidding

	Tokens		Money	
	session	attend	session	attend
# bidders	215		85	
# bidders	182	177	69	72
mean	8.98	3.37	2.07	3.53
max	50	50	20	30
bids per bidder	2.62	7.37	6.69	2.44
sum bid per bidder	23.52	24.84	13.85	8.59

Voting

	Tokens	Money
Before seeing programs	235 (86.72%)	36 (13.28%)
After seeing programs	159 (64.9%)	86 (35.1%)

Concluding Remarks

- People care about who is in their session and which talks they are able to attend
- A majority but not everyone submitted preferences, suggesting participation is costly
- Strong preference for tokens rather than money

- For future
  - use tokens
  - minimize participation cost
  - consider alternatives to manual allocation to streams
  - consider eliciting time slot preferences

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