

Market Design Approaches to Inequality

Scott Duke Kominers

Lecture Topics

Pre-Reading/Introduction.

Alvin E. Roth. The economist as engineer: Game theory, experimentation, and computation as tools for design economics. *Econometrica*, 70:1341–1378, 2002.

Parag A. Pathak and Tayfun Sönmez. Leveling the playing field: Sincere and sophisticated players in the Boston mechanism. *American Economic Review*, 98:1636–1652, 2008.

Part 1: Balancing Fairness, Efficiency, and Incentives.

Parag A. Pathak and Tayfun Sönmez. School admissions reform in Chicago and England: Comparing mechanisms by their vulnerability to manipulation. *American Economic Review*, 103:80–106, 2013.

John William Hatfield, Fuhito Kojima, and Yusuke Narita. Promoting school competition through school choice: A market design approach. Stanford Graduate School of Business Working Paper, 2015.

Eduardo M. Azevedo and Jacob D. Leshno. A supply and demand framework for two-sided matching markets. *Journal of Political Economy*, forthcoming.

Itai Ashlagi, Yash Kanoria, and Jacob D. Leshno. Unbalanced random matching markets: The stark effect of competition. MIT Working Paper, 2014.

Caterina Calsamiglia and Antonio Miralles. Catchment areas and access to better schools. Universitat Autònoma de Barcelona Working Paper, 2014.

Caterina Calsamiglia and Maïa Güell. The illusion of school choice: Empirical evidence from Barcelona. CEPR Discussion Paper No. DP10011, 2014.

Benjamin N. Roth and Ran I. Shorrer. Mechanism design in the presence of a pre-existing game. MIT Working Paper, 2015.

Mehmet Ekmekci and M. Bumin Yenmez. Integrating schools for centralized admissions. Tepper School of Business Working Paper, 2014.

Part 2: Design of Affirmative Action Policies.

Fuhito Kojima. School choice: Impossibilities for affirmative action. *Games and Economic Behavior*, 75:685–693, 2012.

Isa Emin Hafalir, M. Bumin Yenmez, and Muhammed Ali Yildirim. Effective affirmative action in school choice. *Theoretical Economics*, 8:325–363, 2013.

Scott Duke Kominers and Tayfun Sönmez. Designing for diversity in matching. Harvard University Working Paper, 2014.

Scott Duke Kominers and Tayfun Sönmez. Matching with slot-specific priorities: Theory. *Theoretical Economics*, forthcoming.

Federico Echenique and M. Bumin Yenmez. How to control controlled school choice. *American Economic Review*, forthcoming.

Further Reading

Survey.

- Alvin E. Roth. The art of designing markets. *Harvard Business Review*, 85, 2007.
- Alvin E. Roth. Deferred acceptance algorithms: history, theory, practice, and open questions. *International Journal of Game Theory*, 36:537–569, 2008.
- Alvin E. Roth. What have we learned from market design? In Nir Vulkan, Alvin E. Roth, and Zvika Neeman, editors, *The Handbook of Market Design*, pages 7–50. Oxford University Press, 2013.
- Alvin E. Roth. *Who Gets What – And Why: The New Economics of Matchmaking and Market Design*. Houghton Mifflin Harcourt, 2015.

Matching Theory.

- David Gale and Lloyd S. Shapley. College admissions and the stability of marriage. *American Mathematical Monthly*, 69:9–15, 1962.
- L. E. Dubins and D. A. Freedman. Machiavelli and the Gale-Shapley algorithm. *American Mathematical Monthly*, 88:485–494, 1981.
- Alvin E. Roth and Marilda Sotomayor. *Two-sided matching: A study in game-theoretic modeling and analysis*. Cambridge University Press, 1990.
- John William Hatfield and Paul Milgrom. Matching with contracts. *American Economic Review*, 95:913–935, 2005.
- Nikhil Agarwal. An empirical model of the medical match. *American Economic Review*, 105(7):1939–1978, 2015.

School Choice.

- Michel Balinski and Tayfun Sönmez. A tale of two mechanisms: Student placement. *Journal of Economic Theory*, 84:73–94, 1999.
- Atila Abdulkadiroğlu and Tayfun Sönmez. School choice: A mechanism design approach. *American Economic Review*, 93:729–747, 2003.
- Atila Abdulkadiroğlu, Parag A. Pathak, and Alvin E. Roth. The New York City high school match. *American Economic Review*, 95:364–367, 2005.
- Atila Abdulkadiroğlu, Parag A. Pathak, Alvin E. Roth, and Tayfun Sönmez. The Boston public school match. *American Economic Review*, 95:368–371, 2005.
- Atila Abdulkadiroğlu, Parag A. Pathak, Alvin E. Roth, and Tayfun Sönmez. Changing the Boston school choice mechanism: Strategy-proofness as equal access. NBER Working Paper No. 11965, 2006.
- Atila Abdulkadiroğlu, Parag A. Pathak, and Alvin E. Roth. Strategyproofness versus efficiency in matching with indifference: Redesigning the NYC high school match. *American Economic Review*, 99(5):1954–1978, 2009.
- Onur Kesten. School choice with consent. *Quarterly Journal of Economics*, 125(3):1297–1348, 2010.
- Atila Abdulkadiroğlu, Yeon-Koo Che, and Yosuke Yasuda. Resolving conflicting preferences in school choice: The “Boston mechanism” reconsidered. *American Economic Review*, 101(1):399–410, 2011.
- Surendrakumar Bagde, Dennis Epple, and Lowell J Taylor. Dismantling the legacy of caste: Affirmative action in indian higher education. University of Texas at Austin Working Paper, 2011.
- Parag A. Pathak. The mechanism design approach to student assignment. *Annual Review of Economics*, 3(1):513–536, 2011.

- Umut Dur, Scott Duke Kominers, Parag A. Pathak, and Tayfun Sönmez. The demise of walk zones in Boston: Priorities vs. precedence in school choice. Boston College Working Paper, 2013.
- Caterina Calsamiglia, Chao Fu, and Maia Güell. Structural estimation of a model of school choices: The Boston mechanism vs. its alternatives. University of Wisconsin Working Paper, 2014.
- Janet Lu. Cardinal utility and incomplete information in school choice: Strengthening the case for the Boston mechanism. Undergraduate Thesis, Harvard University, 2014.
- Lars Ehlers, Isa E. Hafalir, M. Bumin Yenmez, and Muhammed A. Yildirim. School choice with controlled choice constraints: Hard bounds versus soft bounds. *Journal of Economic Theory*, 153:648–683, 2014.
- Atila Abdulkadiroğlu, Nikhil Agarwal, and Parag A. Pathak. The welfare effects of congestion in uncoordinated assignment: Evidence from the NYC HS match. MIT Working Paper, 2014.
- Itai Ashlagi and Peng Shi. Improving community cohesion in school choice via correlated-lottery implementation. *Operations Research*, 62(6):1247–1264, 2014.
- Itai Ashlagi, Afshin Nikzad, and Assaf Romm. Assigning more students to their top choices: A tiebreaking rule comparison. MIT Working Paper, 2015.

Tuition Exchange.

- Umut Dur and M. Utku Ünver. Two-sided matching via balanced exchange: Tuition and worker exchanges. Boston College Working Paper, 2015.

Cadet–Branch Matching.

- Tayfun Sönmez and Tobias B. Switzer. Matching with (branch-of-choice) contracts at United States Military Academy. *Econometrica*, 81:451–488, 2013.
- Tayfun Sönmez. Bidding for army career specialties: Improving the ROTC branching mechanism. *Journal of Political Economy*, 121:186–219, 2013.

Combinatorial Assignment.

- Eric Budish. The combinatorial assignment problem: Approximate competitive equilibrium from equal incomes. *Journal of Political Economy*, 119:1061–1103, 2011.
- Eric Budish and Estelle Cantillon. The multi-unit assignment problem: Theory and evidence from course allocation at Harvard. *American Economic Review*, 102:2237–2271, 2012.
- Eric Budish, Yeon-Koo Che, Fuhito Kojima, and Paul Milgrom. Designing random allocation mechanisms: Theory and applications. *American Economic Review*, 103(2):585–623, 2013.

Eminent Domain.

- Scott Duke Kominers and E. Glen Weyl. Concordance among holdouts. Harvard Institute of Economic Research Discussion Paper, 2012.
- Scott Duke Kominers and E. Glen Weyl. Holdout in the assembly of complements: A problem for market design. *American Economic Review Papers & Proceedings*, 102:360–365, 2012.
- Steven P. Lalley and E. Glen Weyl. Quadratic voting. University of Chicago Working Paper, 2015.

Public Housing Allocation.

- Jacob D. Leshno. Dynamic matching in overloaded waiting lists. Columbia University Working Paper, 2015.
- Neil Thakral. Matching with stochastic arrival. Harvard University Working Paper, 2015.

Youth Employment.

Alexander Gelber, Adam Isen, and Judd B. Kessler. The effects of youth employment: Evidence from New York City Summer Youth Employment Program lotteries. NBER Working Paper No. 20810, 2014.

Microcredit.

Ashok Rai and Tomas Sjöström. Redesigning microcredit. In Nir Vulkan, Alvin E. Roth, and Zvika Neeman, editors, *The Handbook of Market Design*, pages 249–265. Oxford University Press, 2013.