

Bansak et al (2018), “Improving refugee integration through data-driven algorithmic assignment.”

Sociology Statistics Reading Group

Hannah Postel

Princeton University

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Outline

- ① Context
- ② Data & methodology
- ③ Machine learning for public policy

Institutional/political context

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- Only 1 in every 200 refugees is resettled.
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 - ▶ Of these, only ~14% are put forward (annually).
- With limited options, important to achieve best possible outcomes for those resettled.

Growing body of research

Transfer systems

- Countries buy and sell refugee resettlement quotas (Hathaway and Neve 1997, Schuk 1997, Bubb, Kremer, and Levine 2011, Moraga and Rapoport 2014).
- Explicitly focused on political tractability over integration outcomes.

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Bansak et al identify “practical barriers,” noting: “in contrast, our data-driven approach can be immediately implemented by using existing data to optimize integration outcomes” (326).

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Method:

- Model
- Map
- Match

Data

United States

- Information on 33,728 working-age refugees resettled 2011-2016.
 - ▶ 43 locations: those receiving 200+ over entire period.
 - ▶ Covariates: sex, English-speaking, age, education, origin country, year & month of arrival, employment status.
 - ▶ Training through 2016Q2, 'free refugees' from 2016Q3 (n=919) as test.

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Switzerland

- Asylum seekers receiving subsidiary protection 1993-2013 (n=22,159).
 - ▶ 25 of 26 cantons.
 - ▶ Same covariates as above plus marital status, Christian/Muslim, French-speaking.
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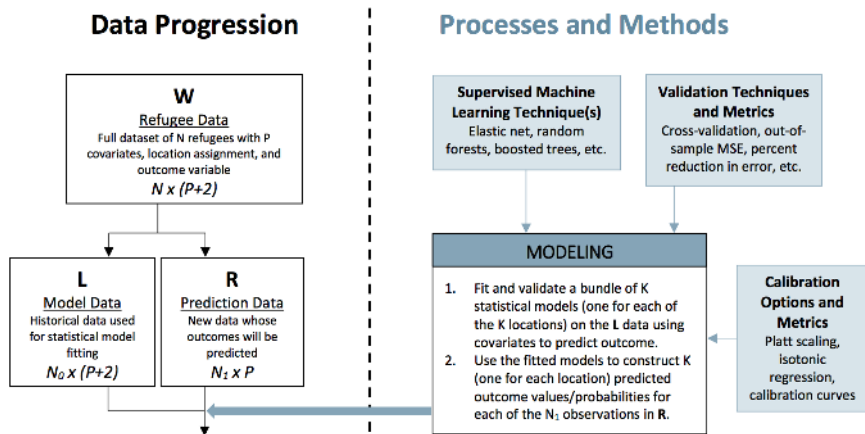
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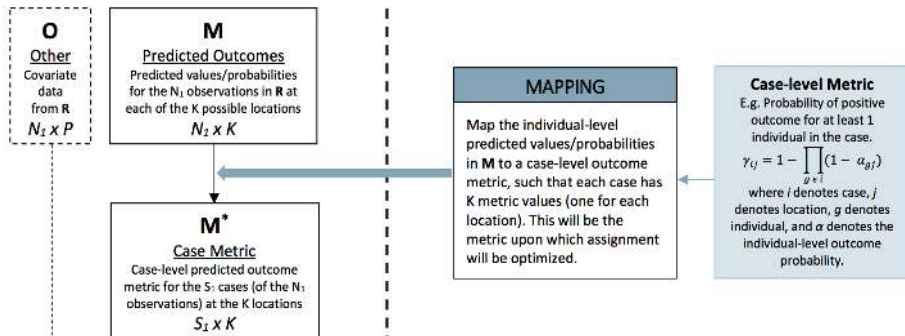
Training/test split is the key to this whole endeavor!

Step One: Model

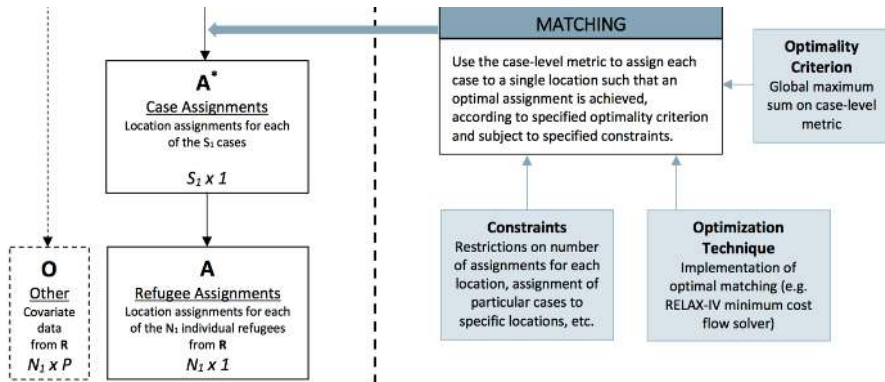
Fig. S3: **Data-driven algorithm for refugee assignment.** Figure shows a schematic of the main stages of the algorithm.



Step Two: Map



Step Three: Match



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- Predicted probability of employment for median refugee approximately doubled in both countries.
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- Simulating outcome based on old system.
- No one will ever agree to do an RCT of this.

Personalized policy

- Often we target policies to the average person, or a group based mainly on location.
- These methods enable us to (potentially) choose the best treatments for individual groups or people.
- Other applications you can think of?

Ethics

- Main pushback has been lack of refugee choice.
- Is this still an improvement over the status quo?
- People get weird about computers making human-impact decisions.

Broader questions on social science for policy

- Impressive attempt to tailor to current context, but does not fully reflect reality in some key ways.
 - ▶ E.g. sociopolitical context at destination as major integration factor.
- Think-tank industry built to narrow distance between research and policy, but gaps remain.
- Should we still design research explicitly targeting policy even with missing/inaccurate information and/or low chance of implementation?