NY State projections

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CORNELL POPULATION CENTER

Introduction

- Population estimates and projections part of our expertise
- Last round of PAD projections were in 2018
  - Our projections were closer to Census 2020 then Census Bureau estimates
- Time for a new round and a new methodology
  - Bottom-up (2018) vs Top-down (2024)

What are projections?

- Estimates of the future population
- Different methods based on assumptions of demographic trends:
  - Extrapolation
  - Housing units
  - Births, deaths, and net migration (domestic and international)

NOT a guaranteed trend

Why are projections important?

- Illustrate possible routes of population change
- Describe the future population makeup
  - Help determine need for policies/services
    - For example, will there be a need for increased childcare? More eldercare services
  - Help businesses and organizations determine potential for demand and expansion
- Allow policymakers to develop strategies to possibly impact future population change
- What-if scenarios

Cohort-Component Method

- Population change =
  Births – Deaths +
  Net domestic migration (InMigration – OutMigration) +
  Net international migration (InMigration – OutMigration)

- Future population =
  Base population + population change

- Components of change depend on age structures
  - ➢ Method takes changing age structures into account

Assumptions

- Calculation of each of the components often involves multiplying the number of people of a certain age with a rate

$$Component^{t-1,t} = \sum_{age=min}^{max} Pop_{age}^{t-1} * Rate_{age}^{t-1}$$

The projection model keeps track of the population

Assumptions on future rates of change

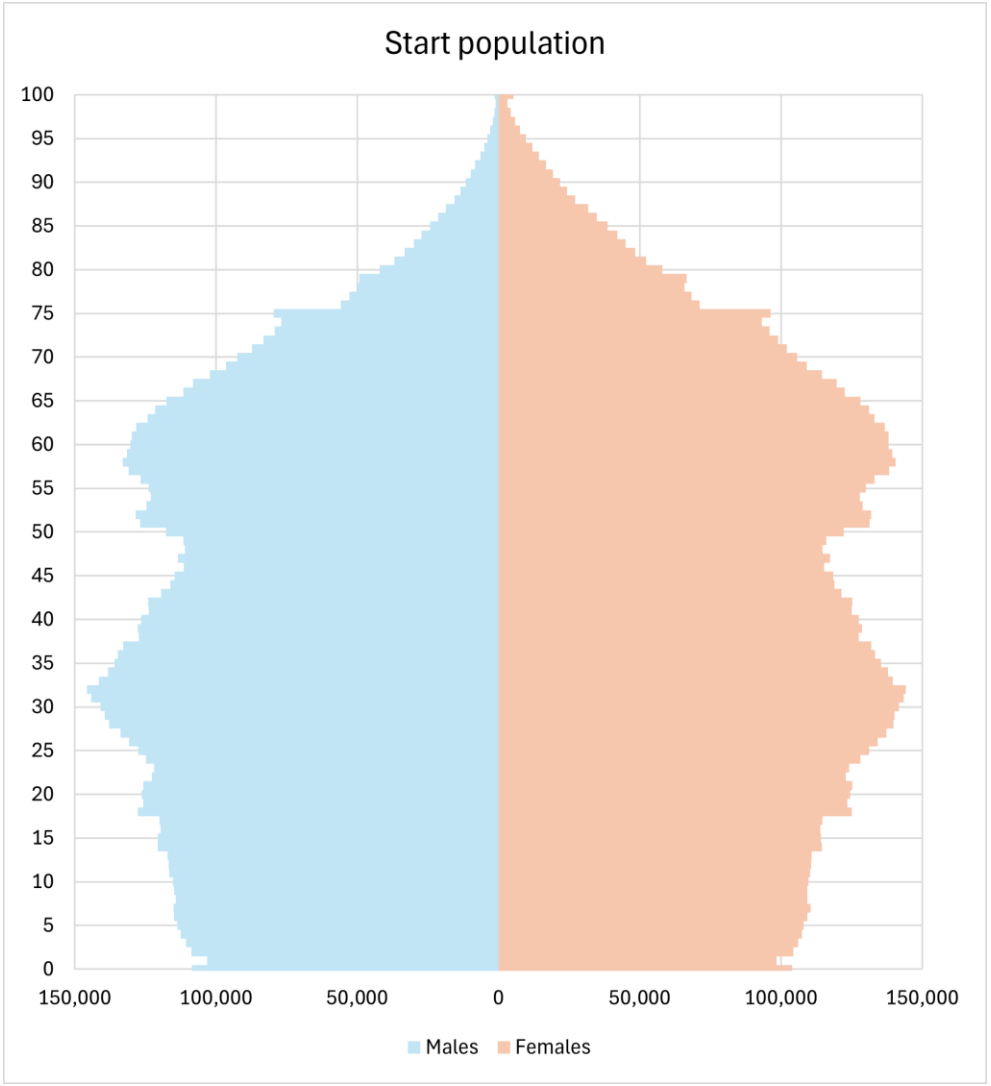
Assumptions & Scenarios

- Step 1: Analyze rates in recent past
  - We exclude Covid years since many rates were not representative

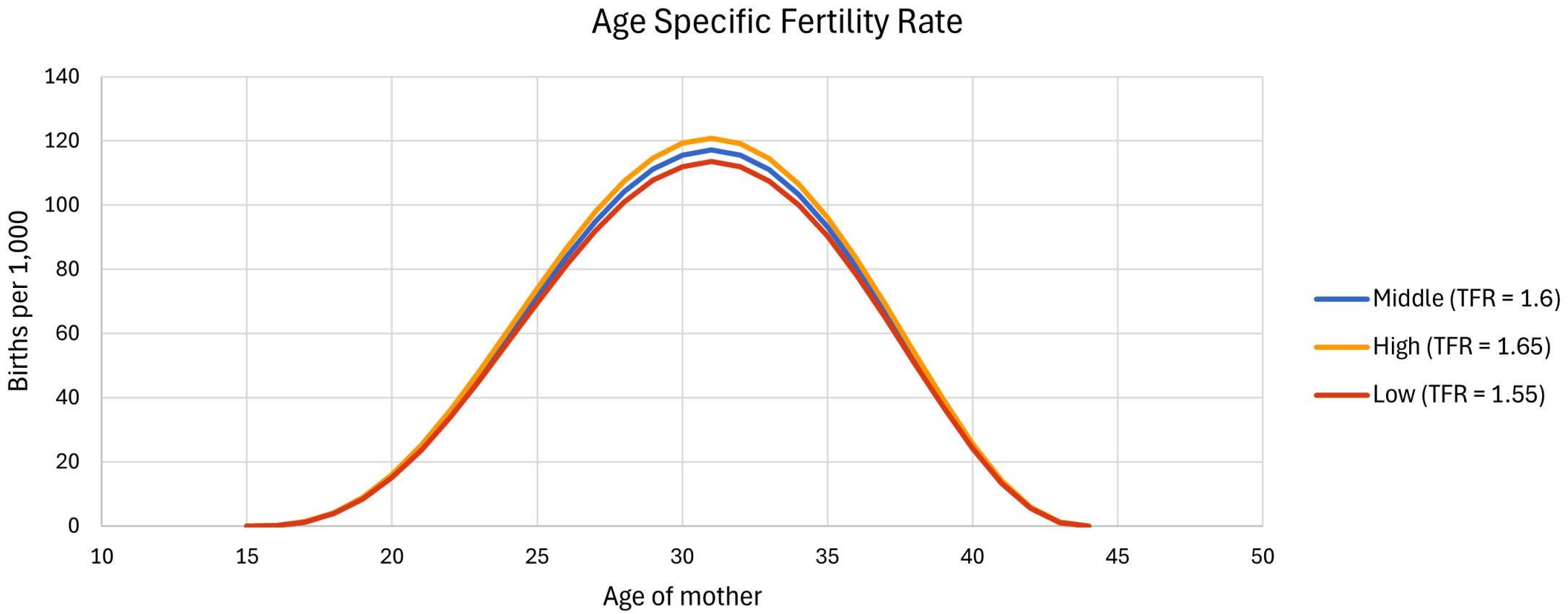
- Step 2: Define scenarios (overarching themes)
  - **Middle** – Return to rates as observed in step 1
  - **High** – Assume that all rates move slightly more in favor of population growth
  - **Low** – Assume that all rates move slightly more in favor of population decline

Base population

- Vintage 2023 Estimates Series
  - ➢Age distribution for series came from blended base
  - ➢Limited information from 2020 Census
- Used July 1, 2022 as our base population (total: 19,673,203)
- Age only available up to 85+
  - ➢Used additional data to get population counts for ages 85 to 100

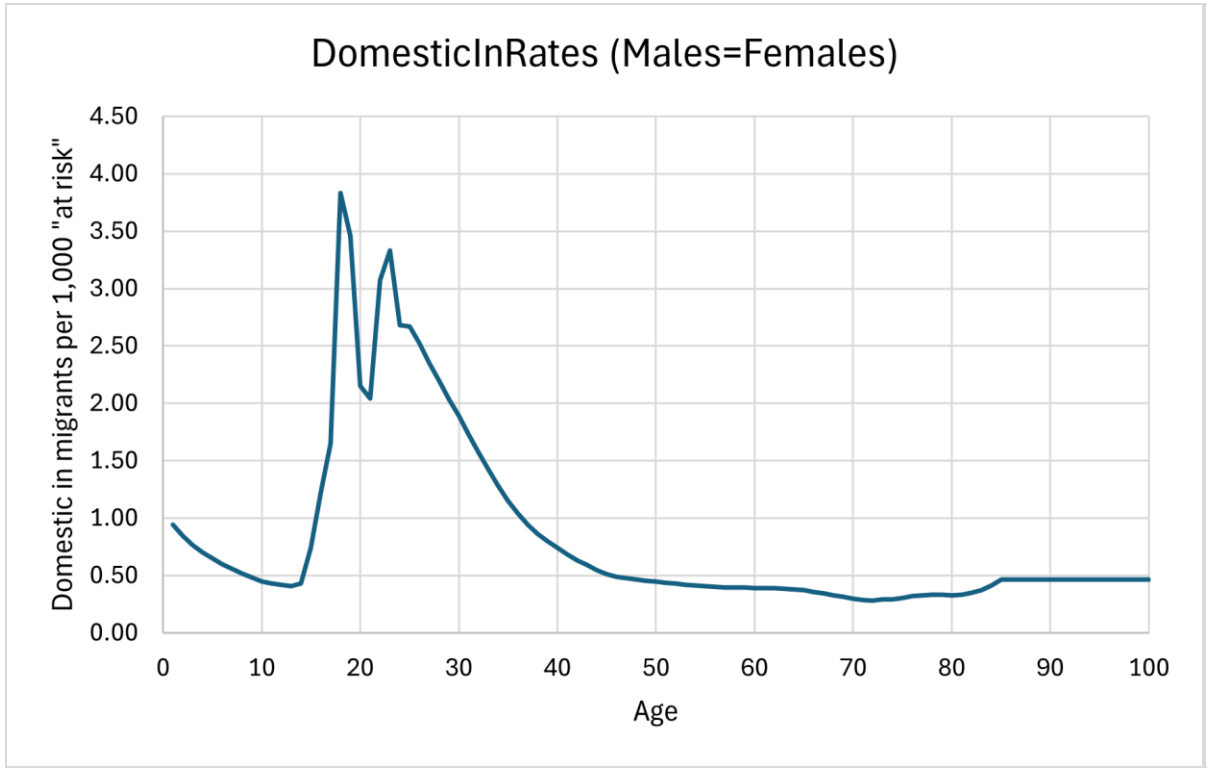


Fertility assumptions

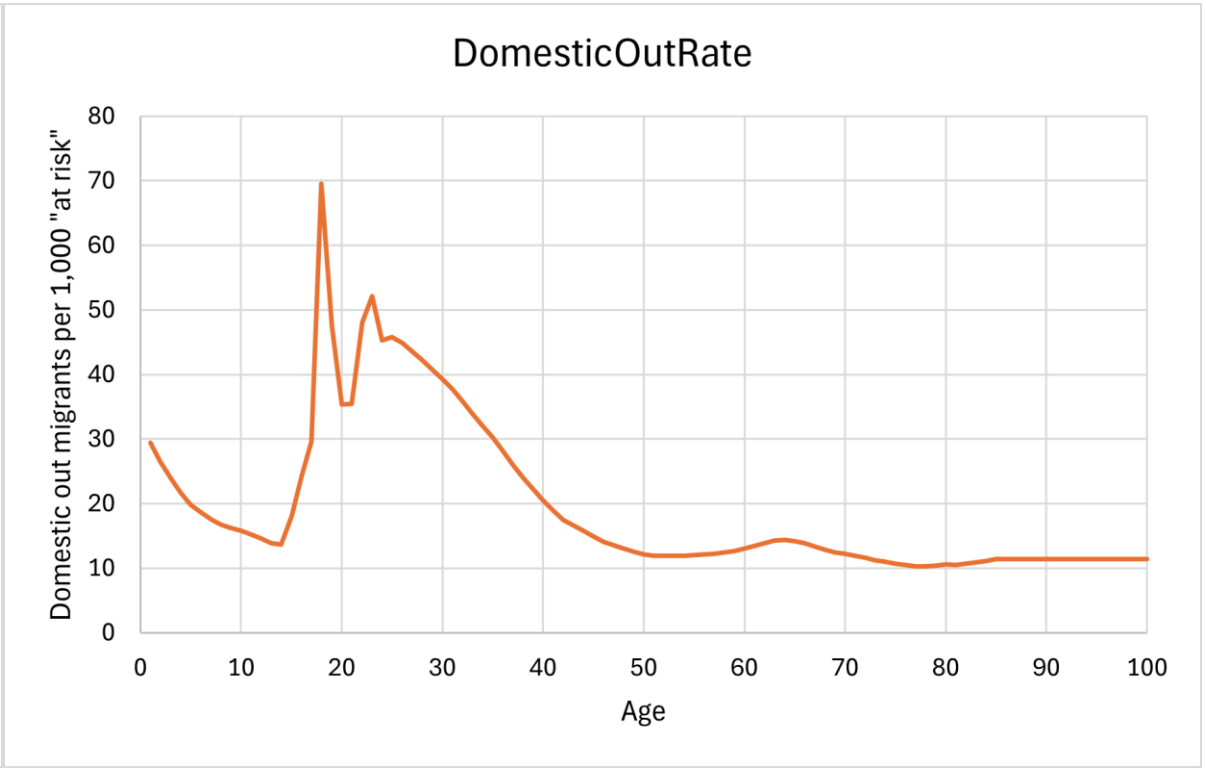


Mortality assumptions

Domestic Migration Rates

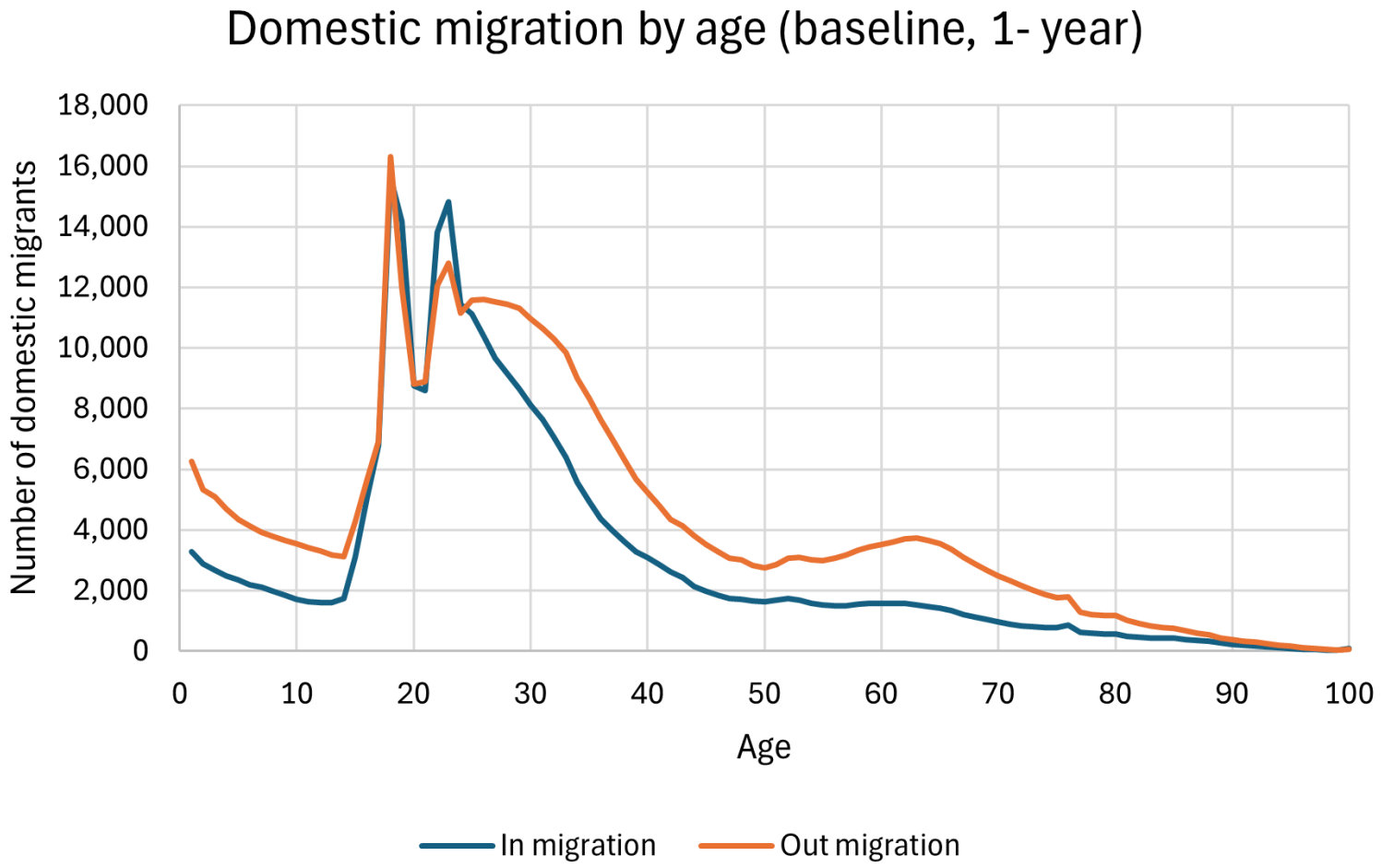


US population outside NY “at risk”



NY population “at risk”

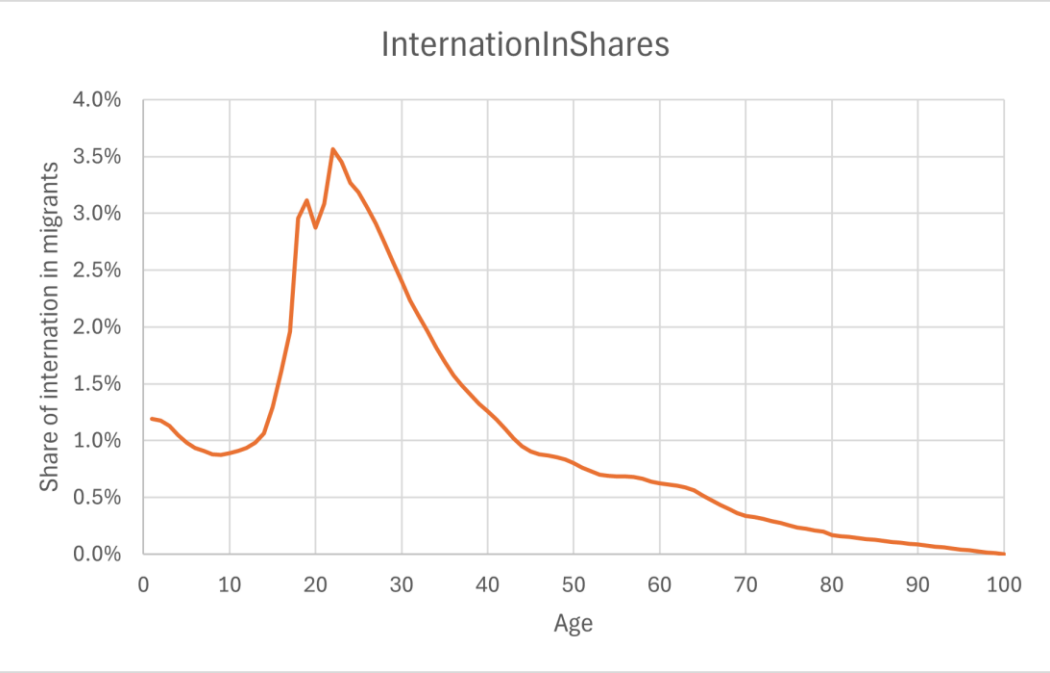
Domestic migration

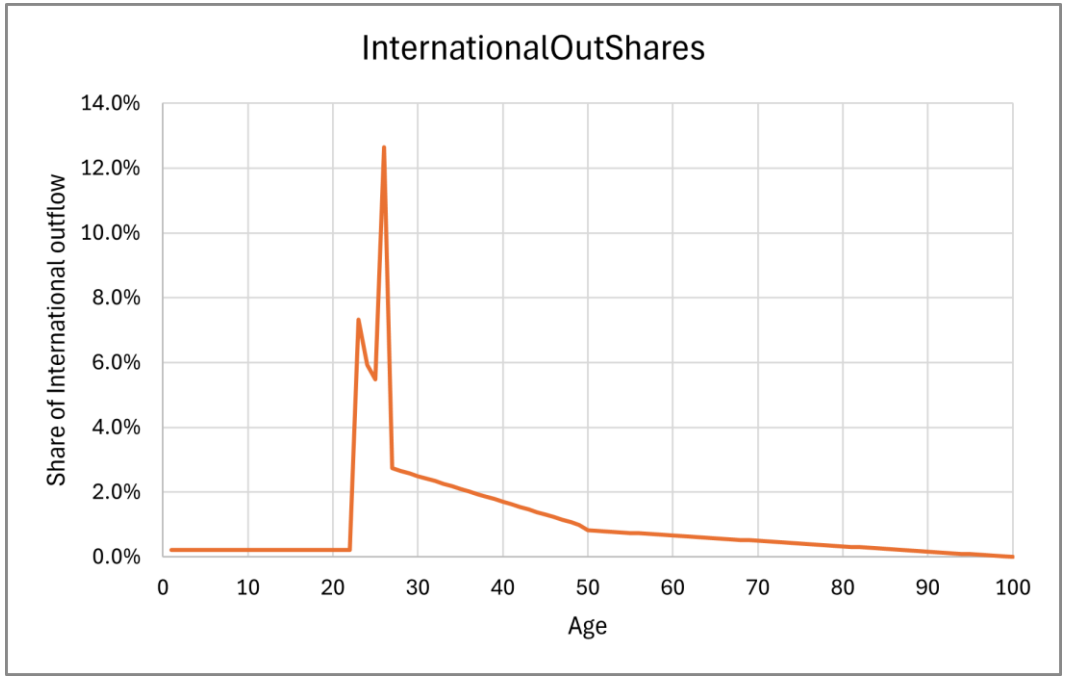


Scenarios adjust:

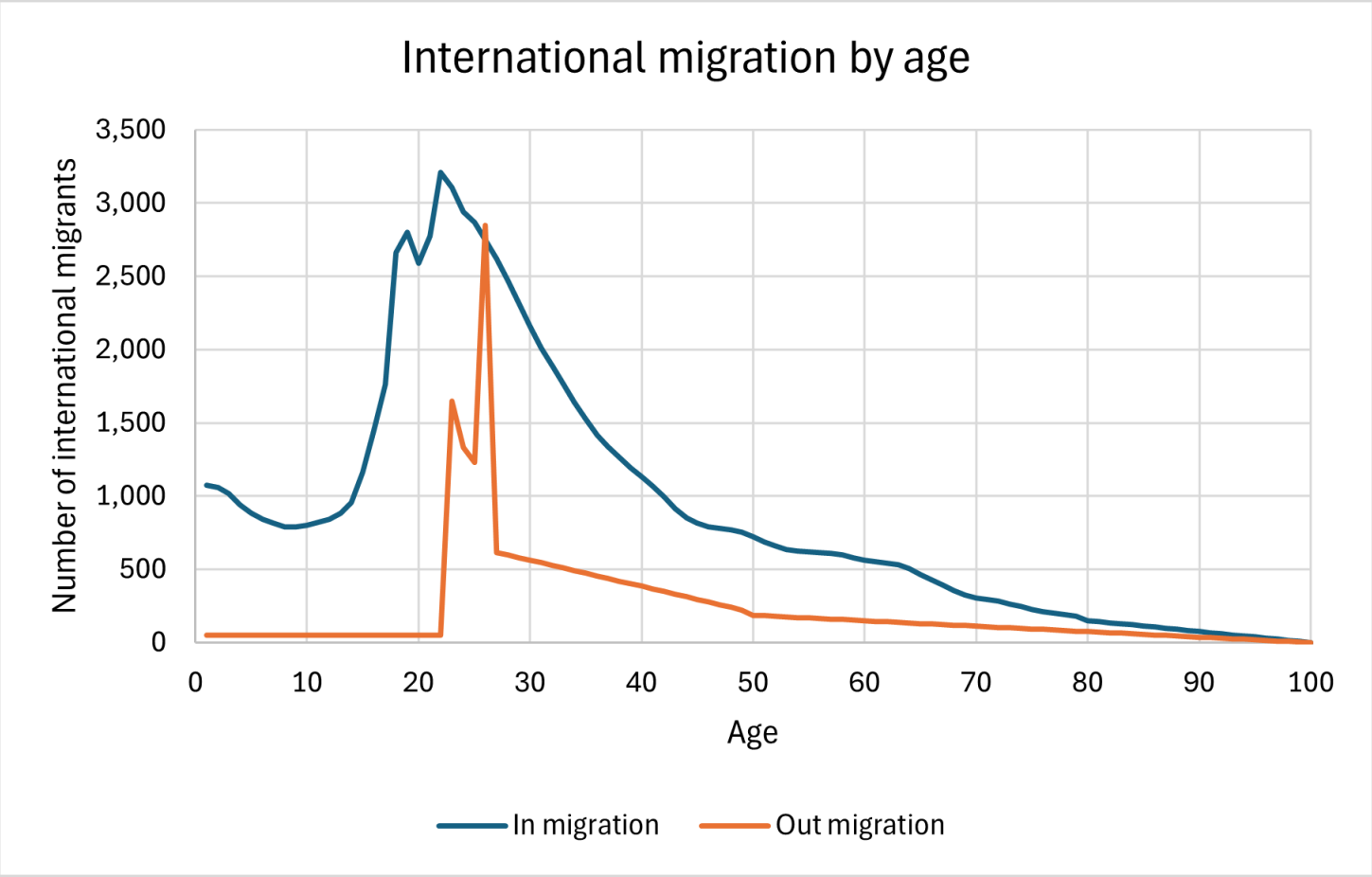
- Size in- and outflows (+/- 10%)
- Efficiency (Net/Gross) (+/- 5 pp)

International migration





International migration

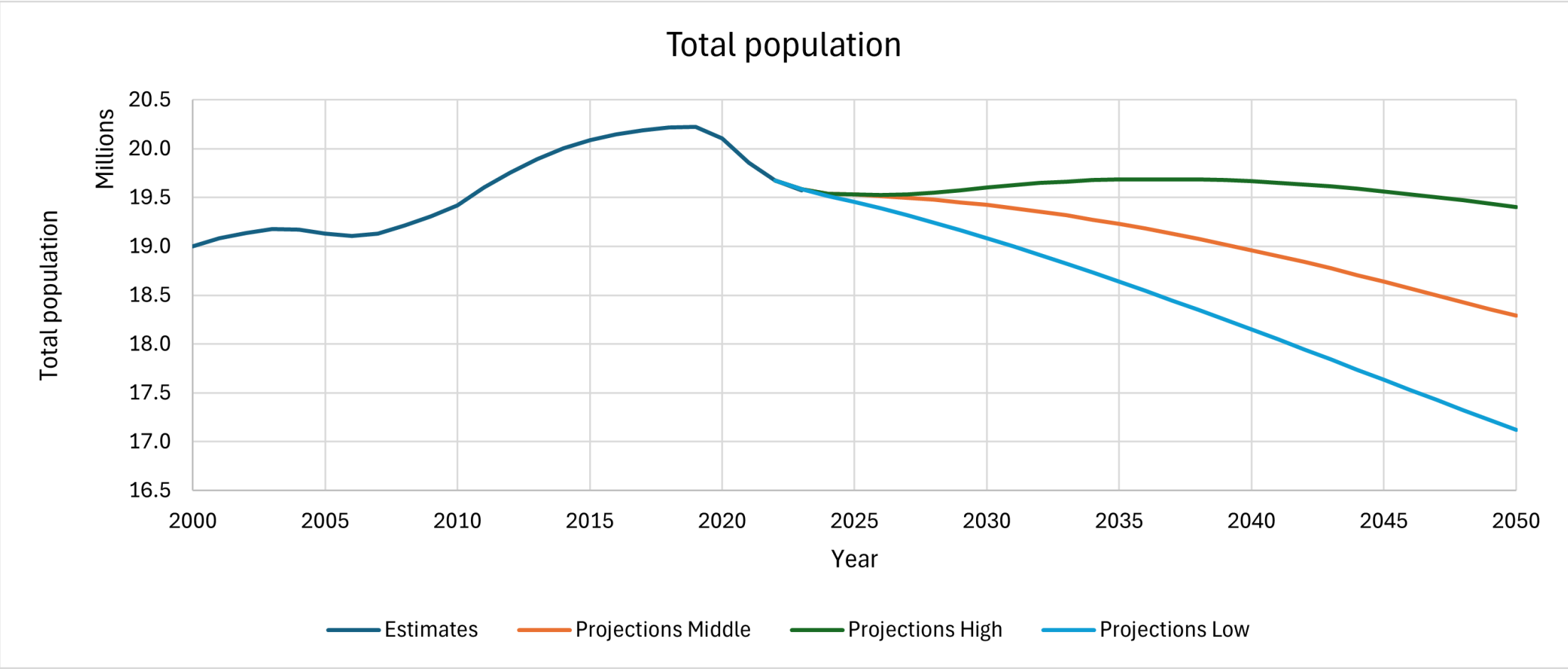


Scenarios adjust:

- Total immigrants and emigrants

	Immigration	Emigration
Middle	90,000	22,500
High	100,000	25,000
Low	80,000	22,500

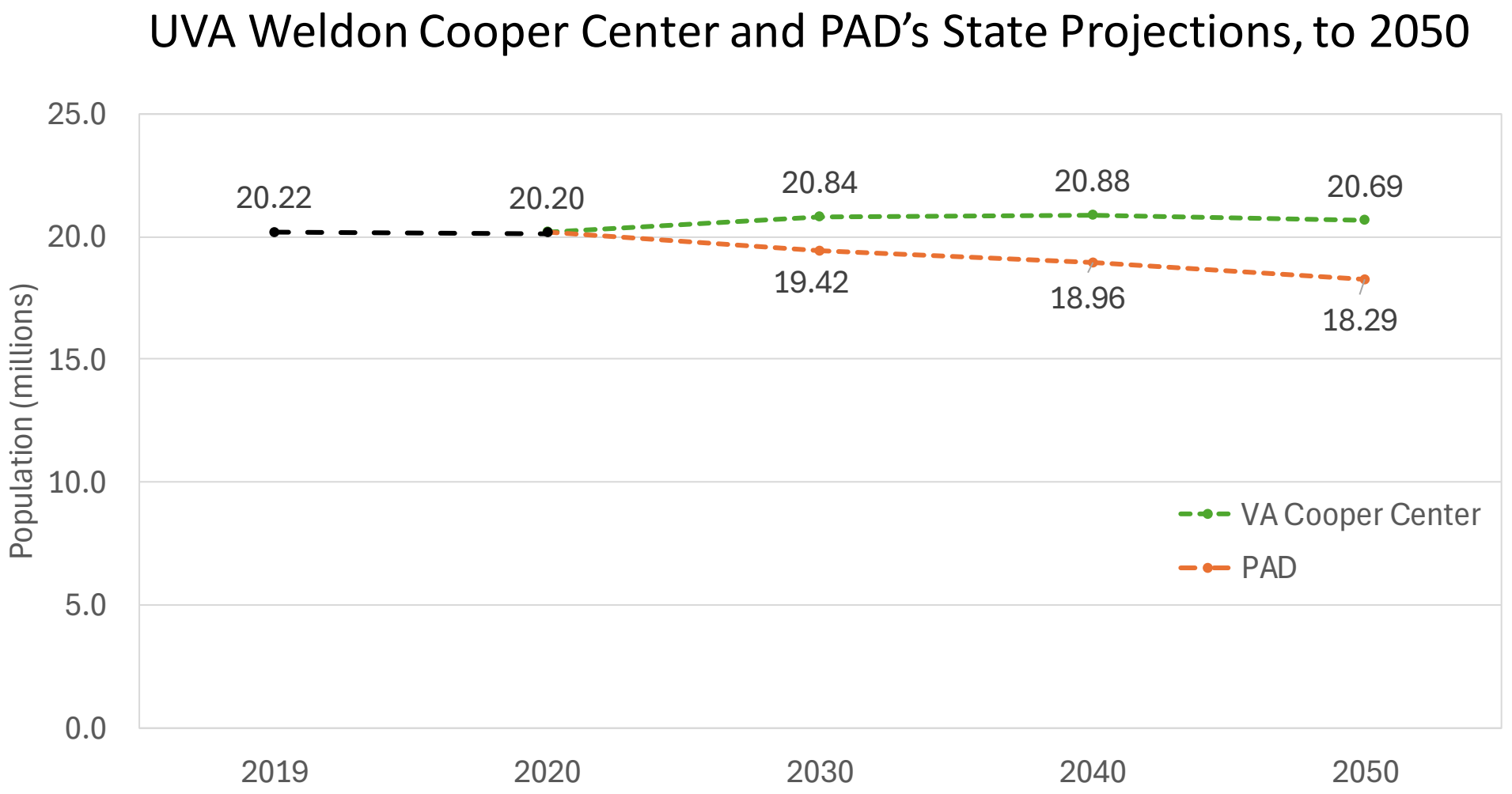
Results: total population



Web site demonstration

- https://pad.human.cornell.edu/state_projections/index.cfm

Comparing Projection Sources

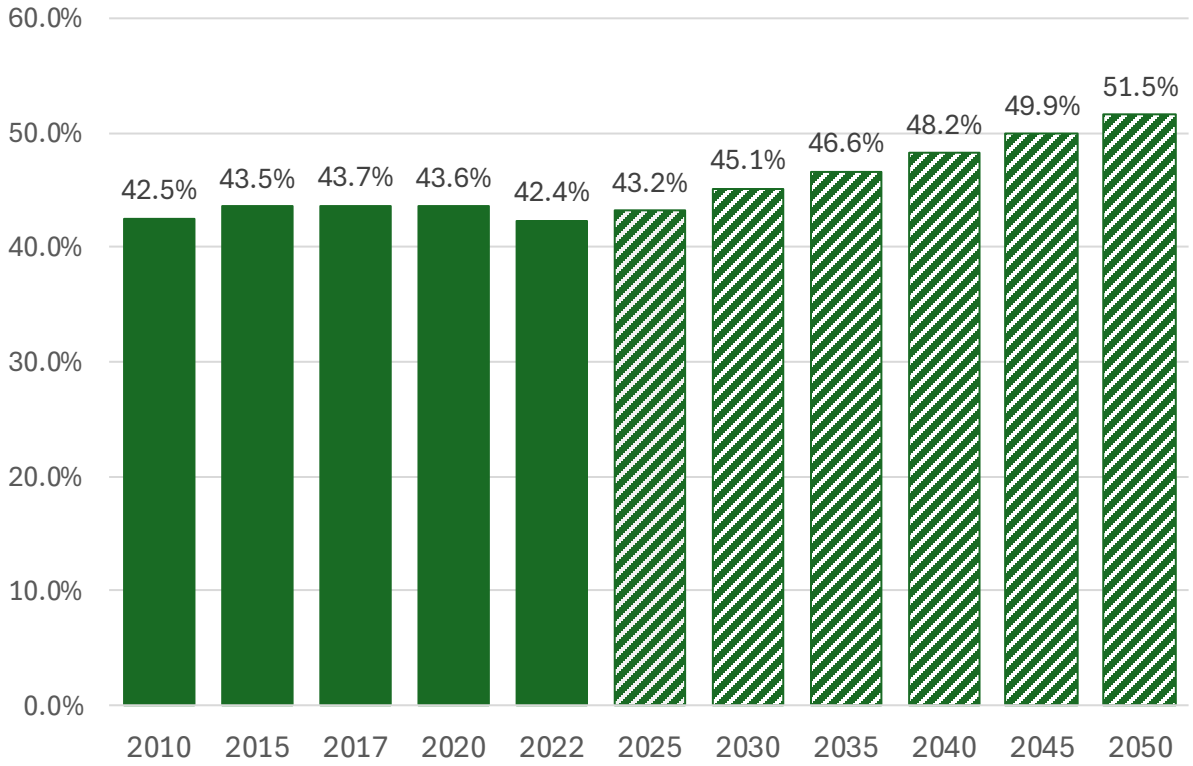


https://coopercenter.org/national-population-projections

How do Other Projections Compare?

NYMTC Projections for NYC

NYC's Share of the state if Both Projections Held



NYMTC and PAD Projections to 2050

Year	NYC (millions)	NYS (millions)
2010	8.24	19.38
2015	8.74	20.09
2017	8.82	20.19
2020	8.80	20.20
2022	8.34	19.67
2025	8.43	19.53
2030	8.76	19.42
2035	8.96	19.23
2040	9.14	18.96
2045	9.29	18.64
2050	9.42	18.29

https://www.nymtc.org/en-us/Data-and-Modeling/Socioeconomic-and-Demographic-SED-Forecasts/2055-Forecasts

Next steps

- This round of projections are “top down” (state to counties)
  - Use state projections as control for regional and county projections
  - Finalizing methods and producing regions as a “check step”

- Revise the base population when more 2020 Census data is integrated into the population estimates

- Remain flexible in our assumptions
  - Can revisit if the patterns we project are out of sync with real trends