

New Projections of Physician Supply

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Limitations of Physician Supply Model

1. Heavy reliance on AMA Masterfile
2. Concern that Masterfile underestimates retirement → overestimates future supply, especially as boomers retire
3. Uncertainties regarding trends in current inflow, especially IMGs
4. Concerns that growing proportion of women becoming physicians will affect future supply

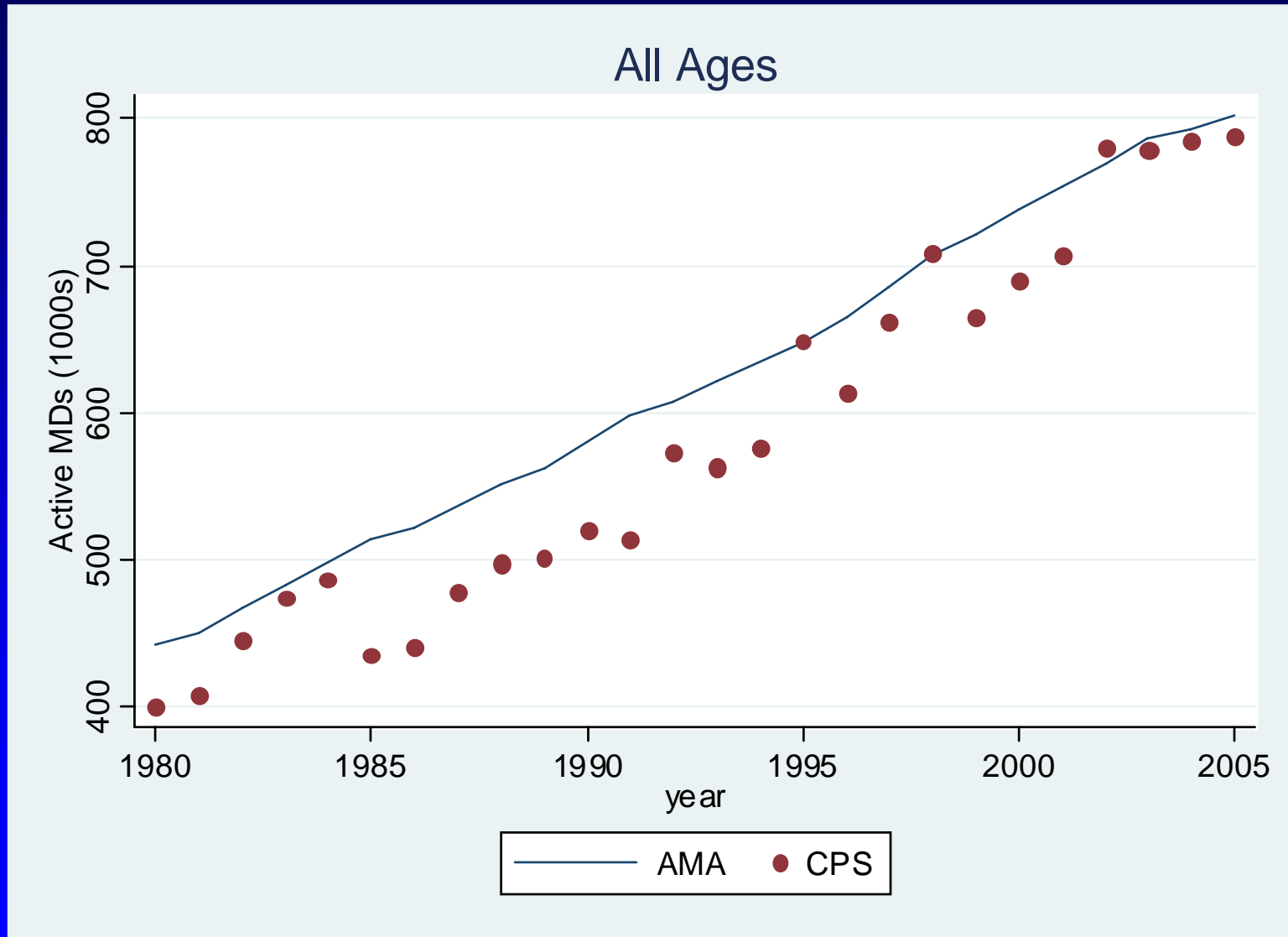
Contribution of Our Analysis

1. Use Current Population Survey (CPS) to estimate historical trends in # physicians by age
2. Apply alternative projection method, which was used previously to forecast RN supply
3. Estimates of retirement rates and trends in cohort size from CPS can be compared to AMA data
4. Analysis can be done separately by gender

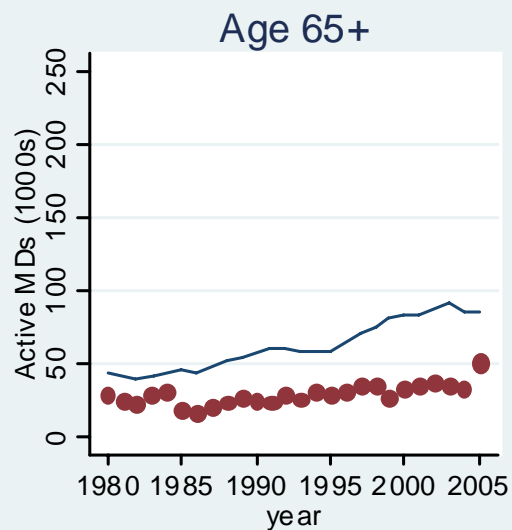
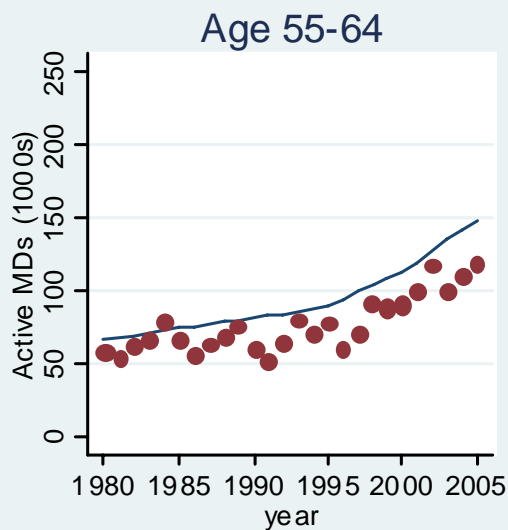
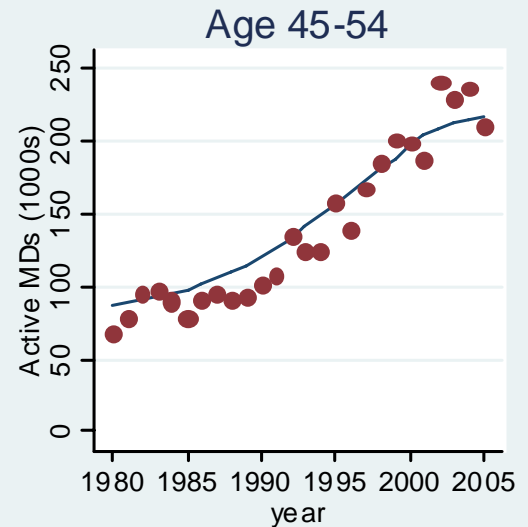
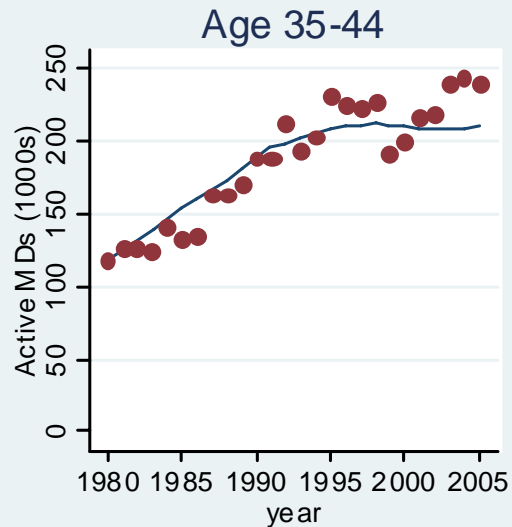
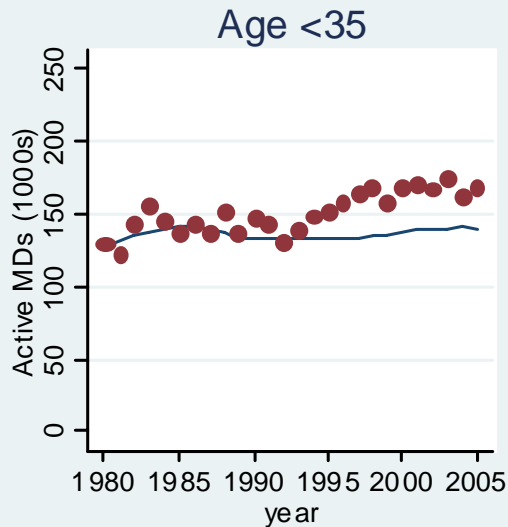
Data Sources

- **Current Population Survey (CPS), 1980-2005**
 - Primary source of data on employment and earnings used by federal government
 - Large monthly survey, nationally representative
 - Includes roughly 1000 physicians per year
 - Questions on age, occupation, hours last week
- **AMA Masterfile, 1980-2005**
 - Data from published tables (missing some years)
 - All active physicians (>20 hours/week)
 - Age groups: <35, 35-44, 45-54, 55-64, 65+

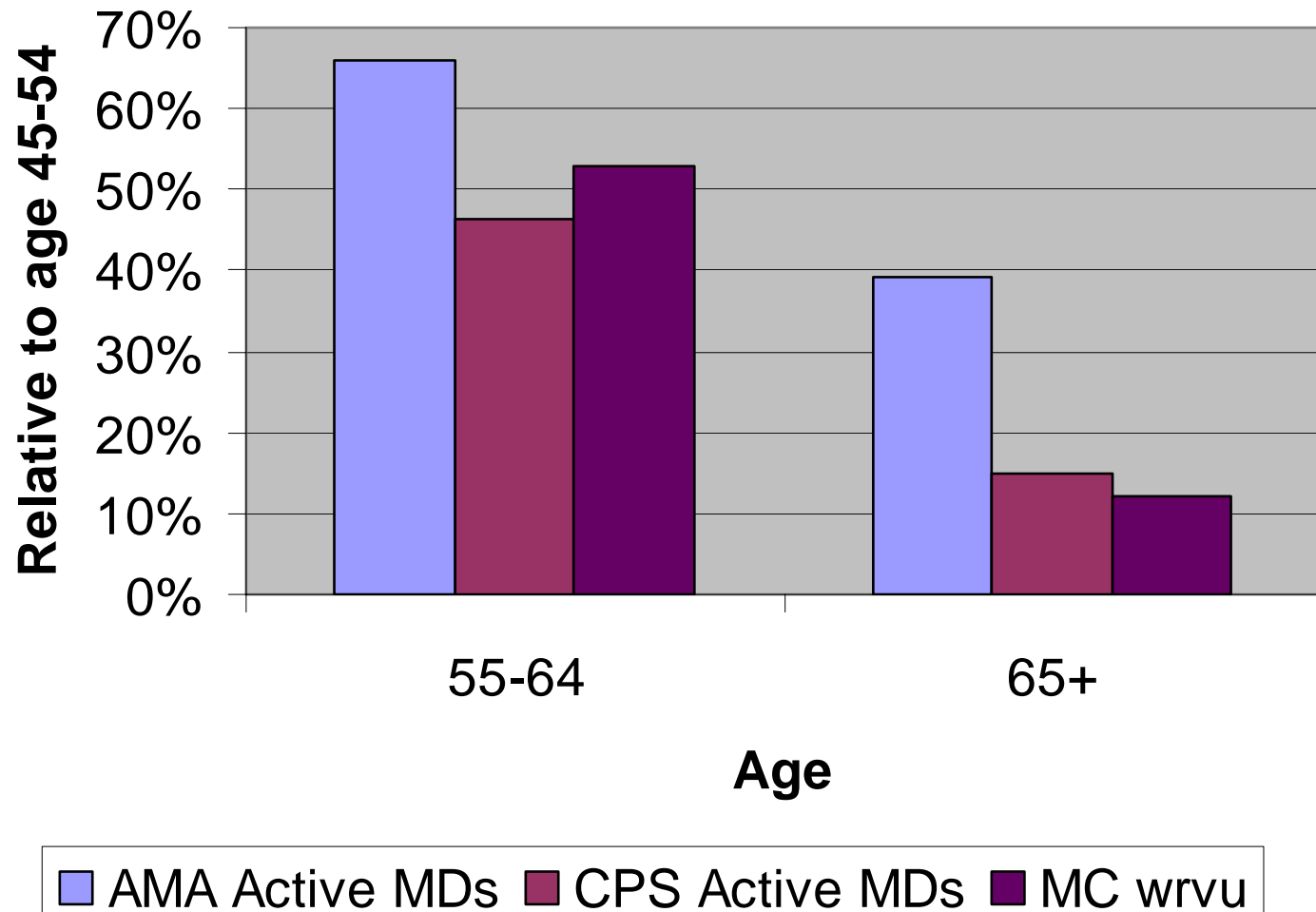
Estimated # Active Physicians Similar in Master File (AMA) and Current Population Survey (CPS)...



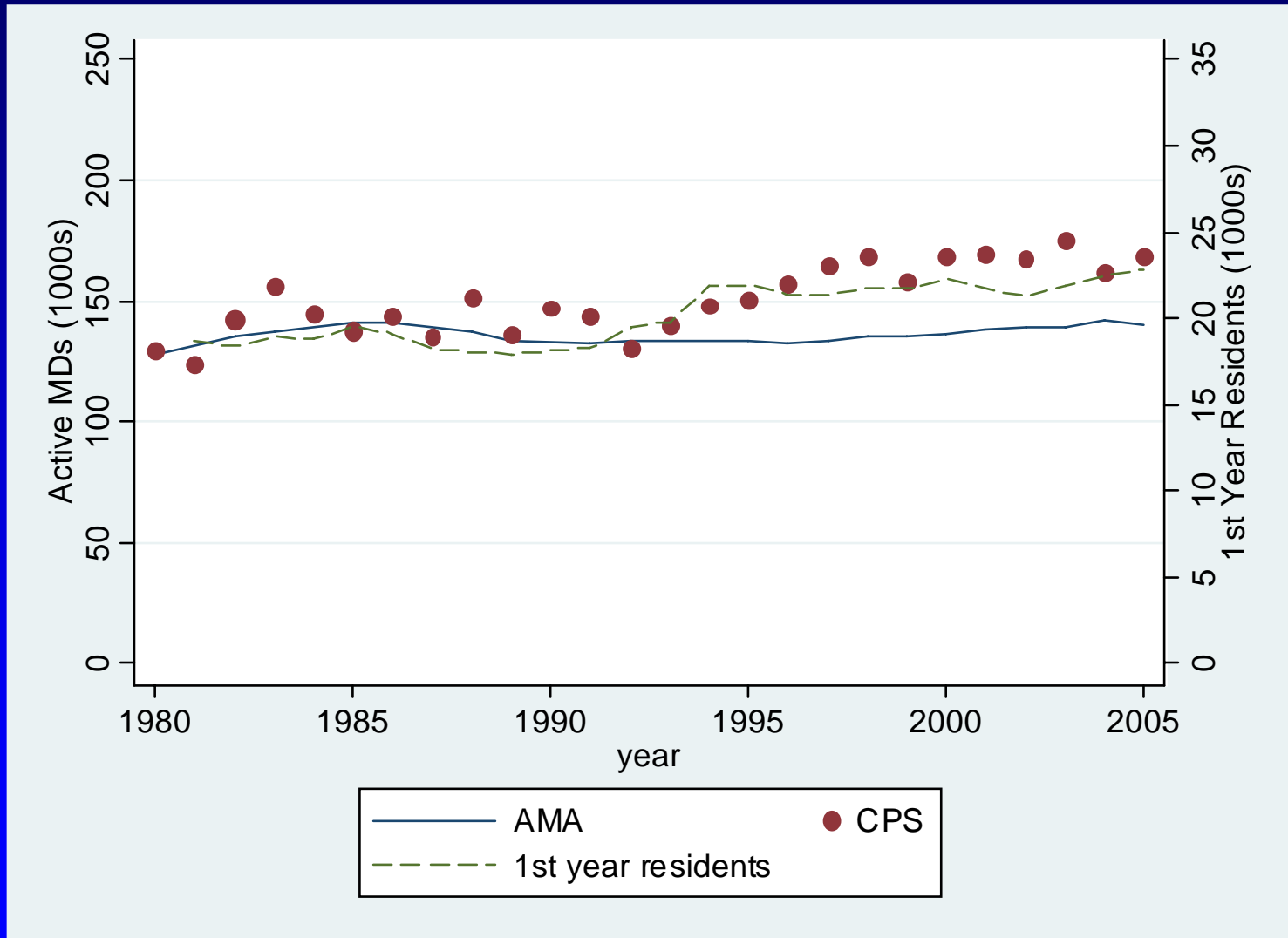
... But AMA under-counts young and over-counts old



CPS decline in supply at older ages (relative to 45-54) is consistent with Medicare RVUs in 2003



CPS rise in supply at younger ages since mid-1990s is consistent with trends in 1st year residents



Forecasting Methodology

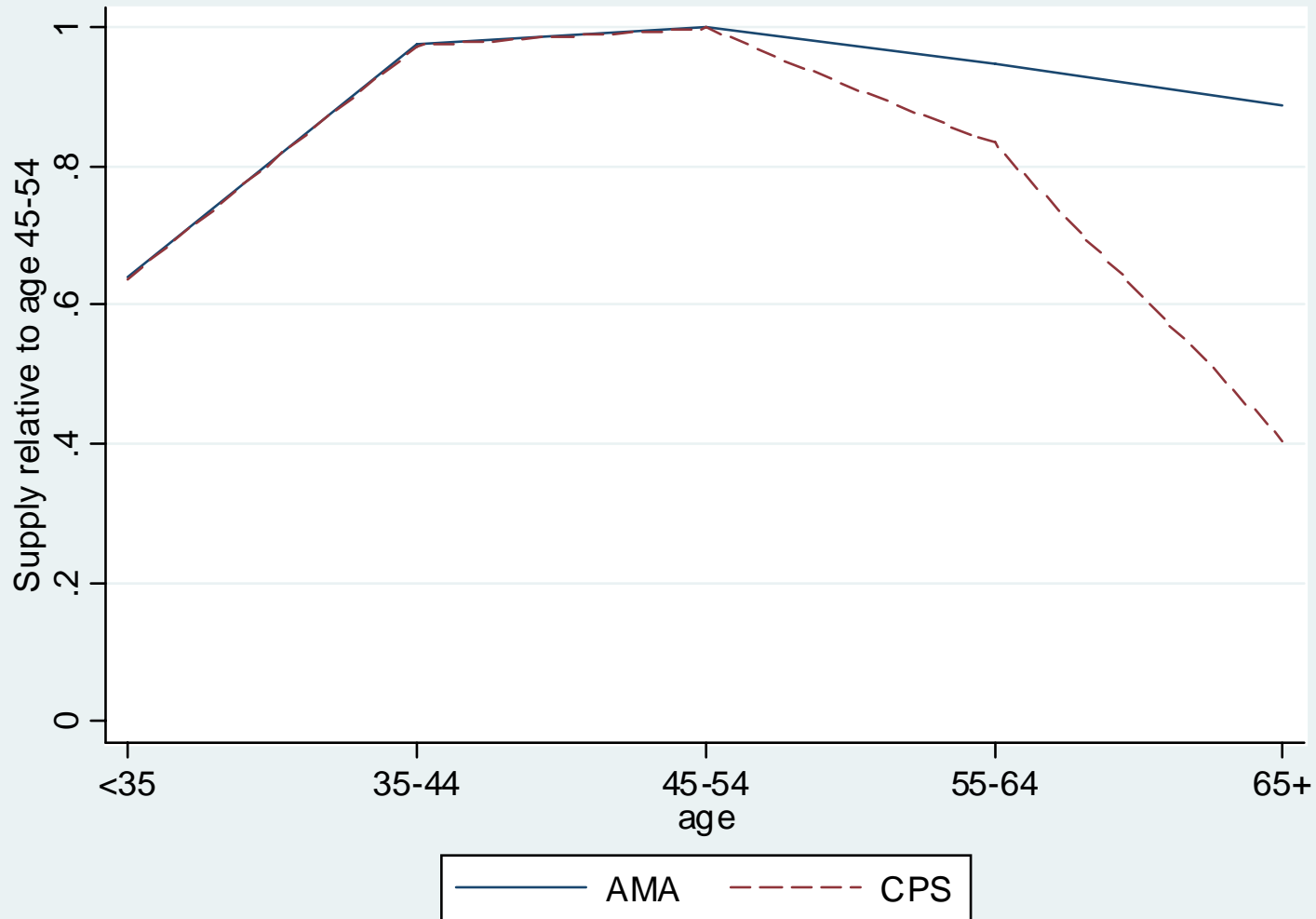
- Decompose historical data on physician supply by year and age into cohort & age effects:

(#physicians in cohort C that are active at age A)

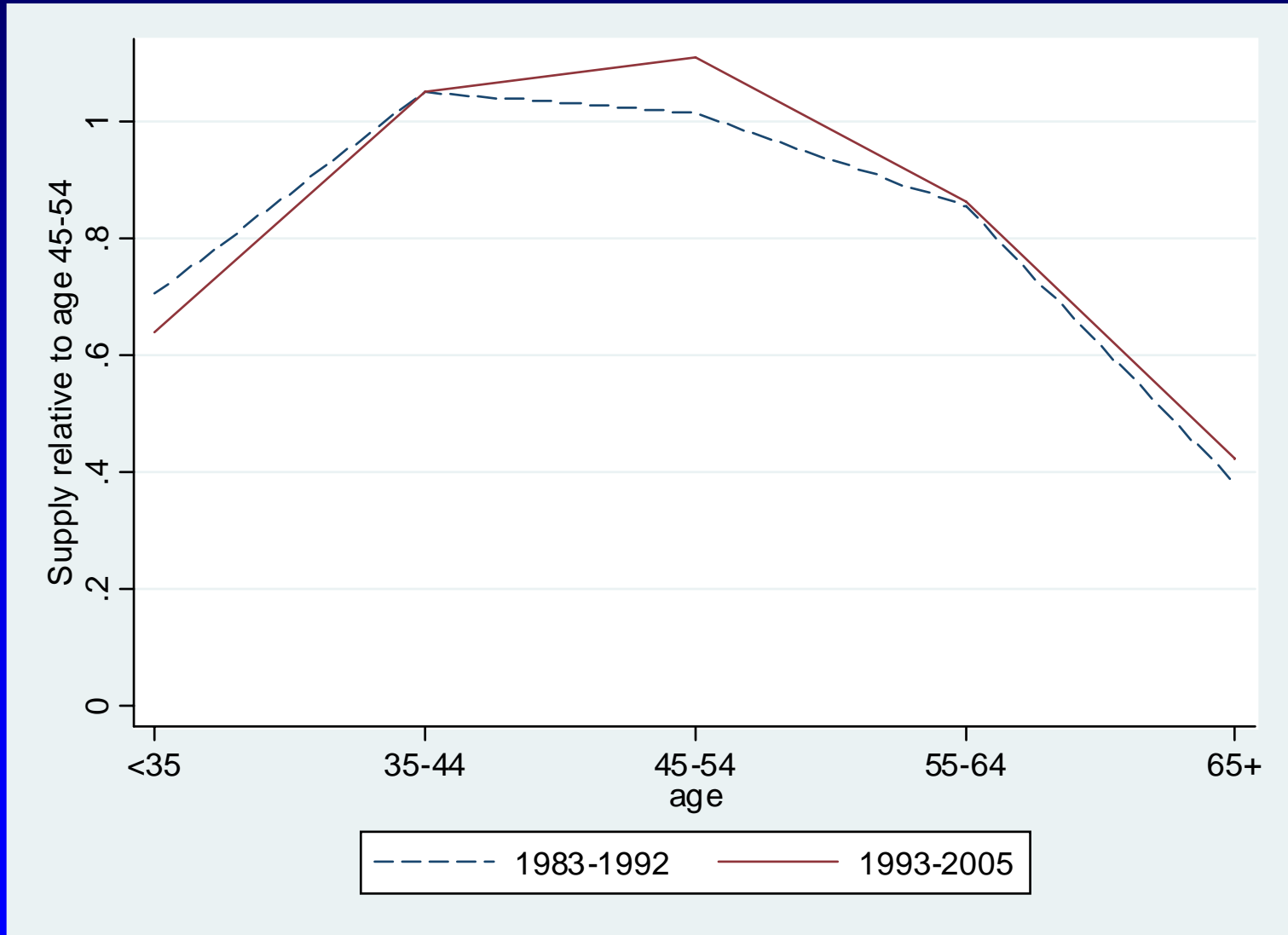
$$= (\text{\#physicians in cohort C}) \times (\% \text{ active at age A})$$

- Cohorts defined by years of birth
- Estimate using both AMA and CPS data
- Projections assume:
 - Stable age effects (no change in retirement patterns)
 - Future cohorts same size as most recent cohorts

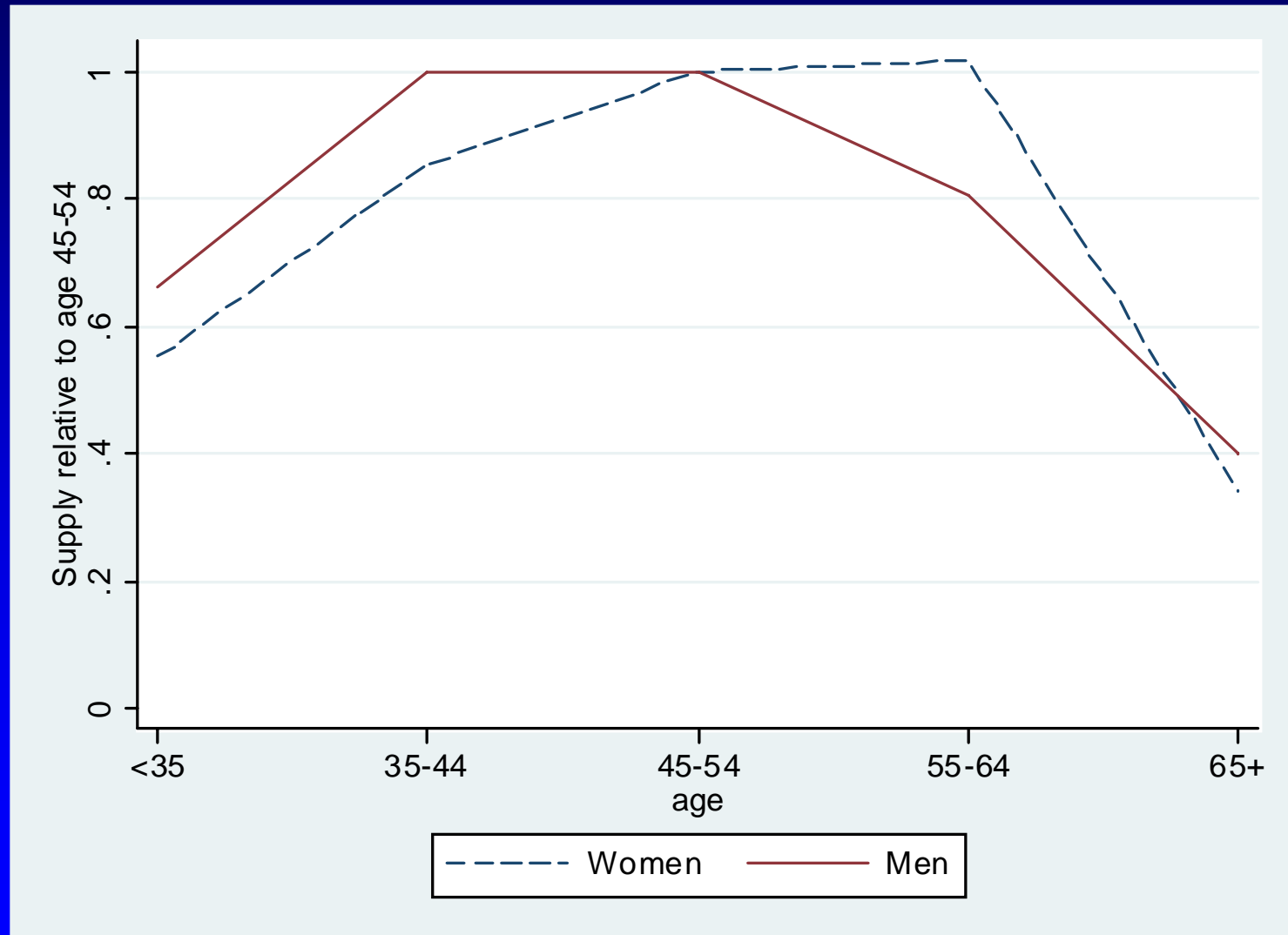
Age effects from decomposition: Sharper decline in supply at older ages in CPS



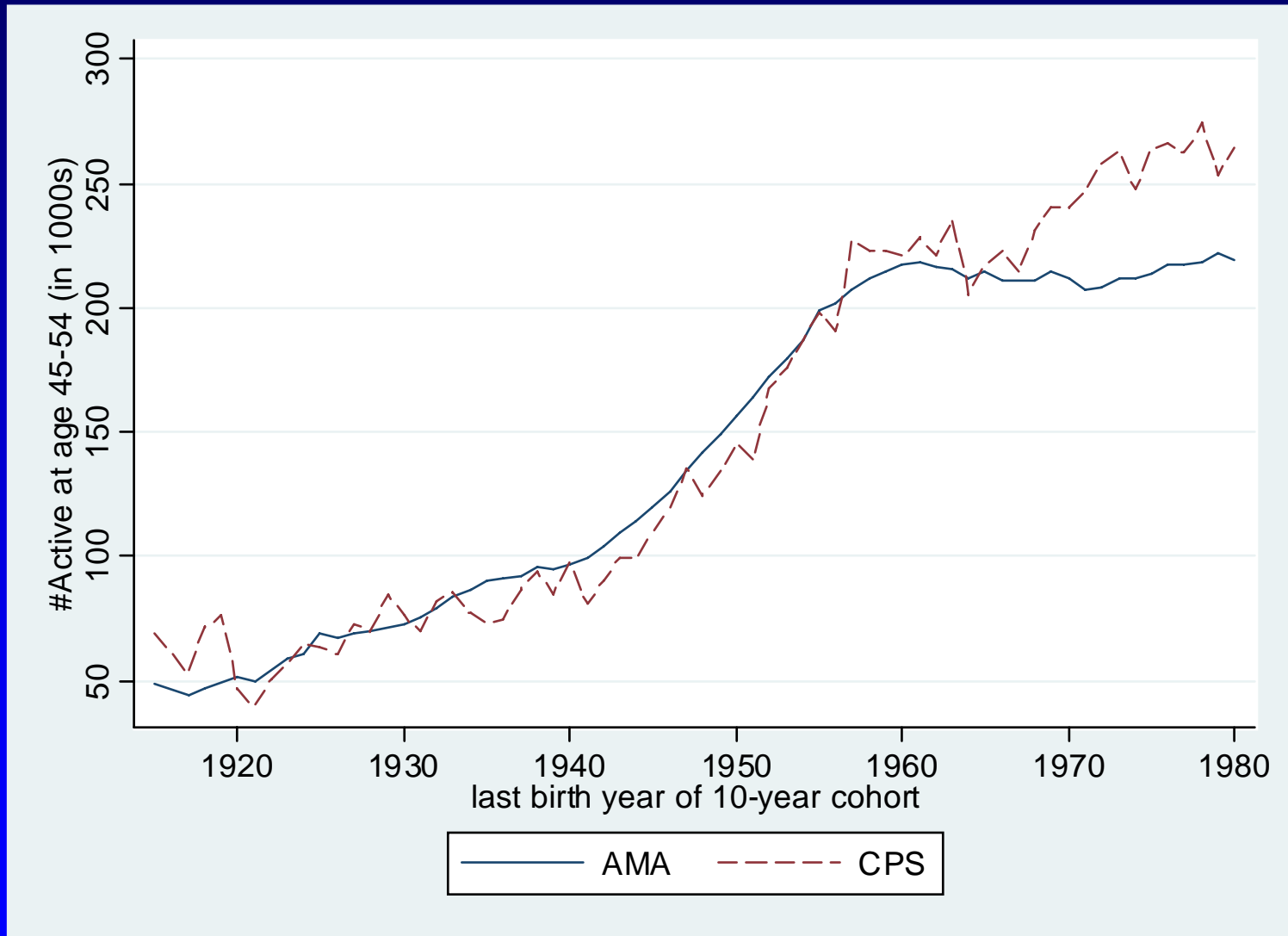
Age effects from decomposition: Stable age effects in CPS (no change in retirement)



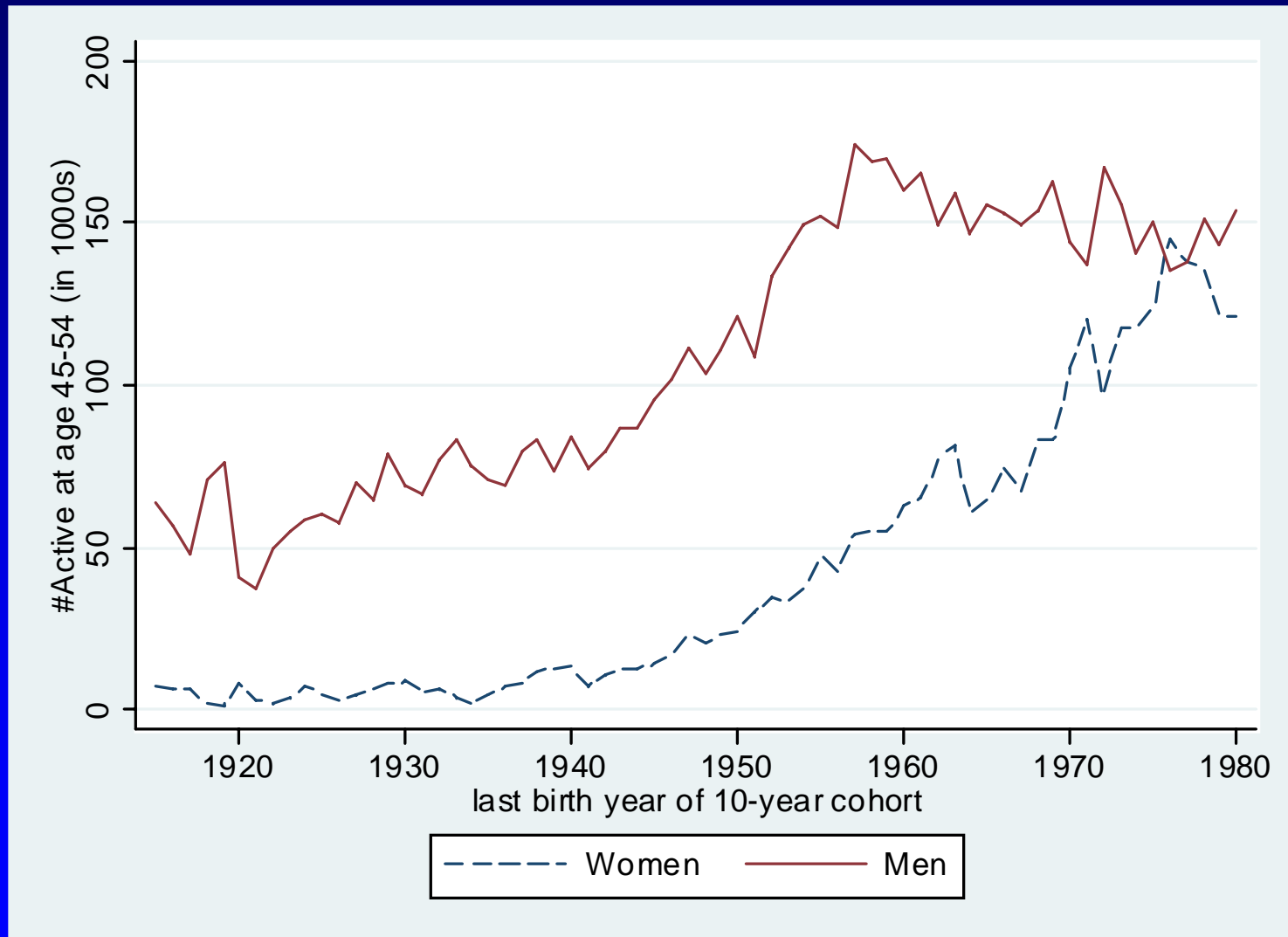
Age effects from decomposition by gender: Women delay work until after child-bearing in CPS



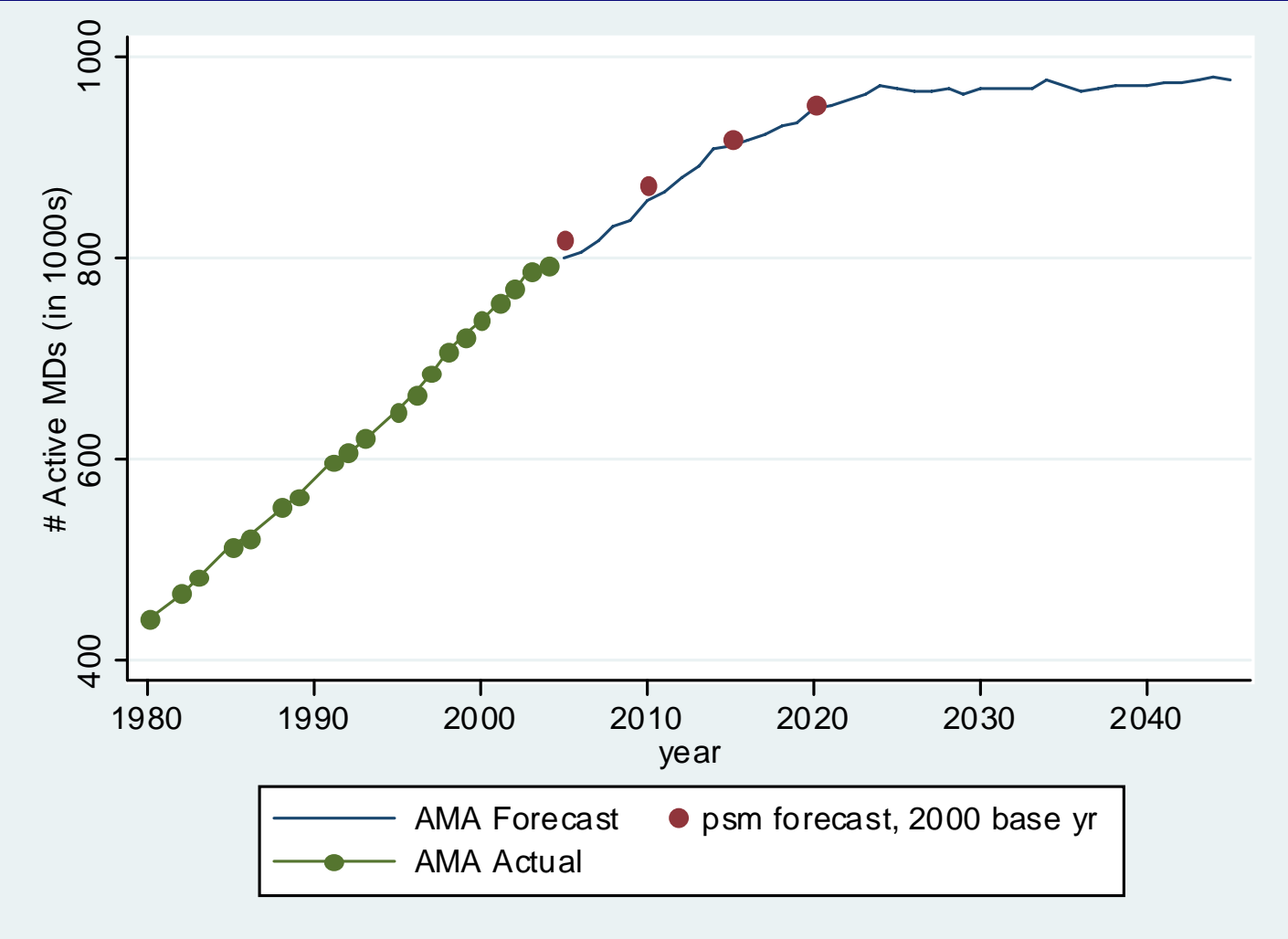
Cohort effects from decomposition: Steeper rise in supply among recent cohorts in CPS



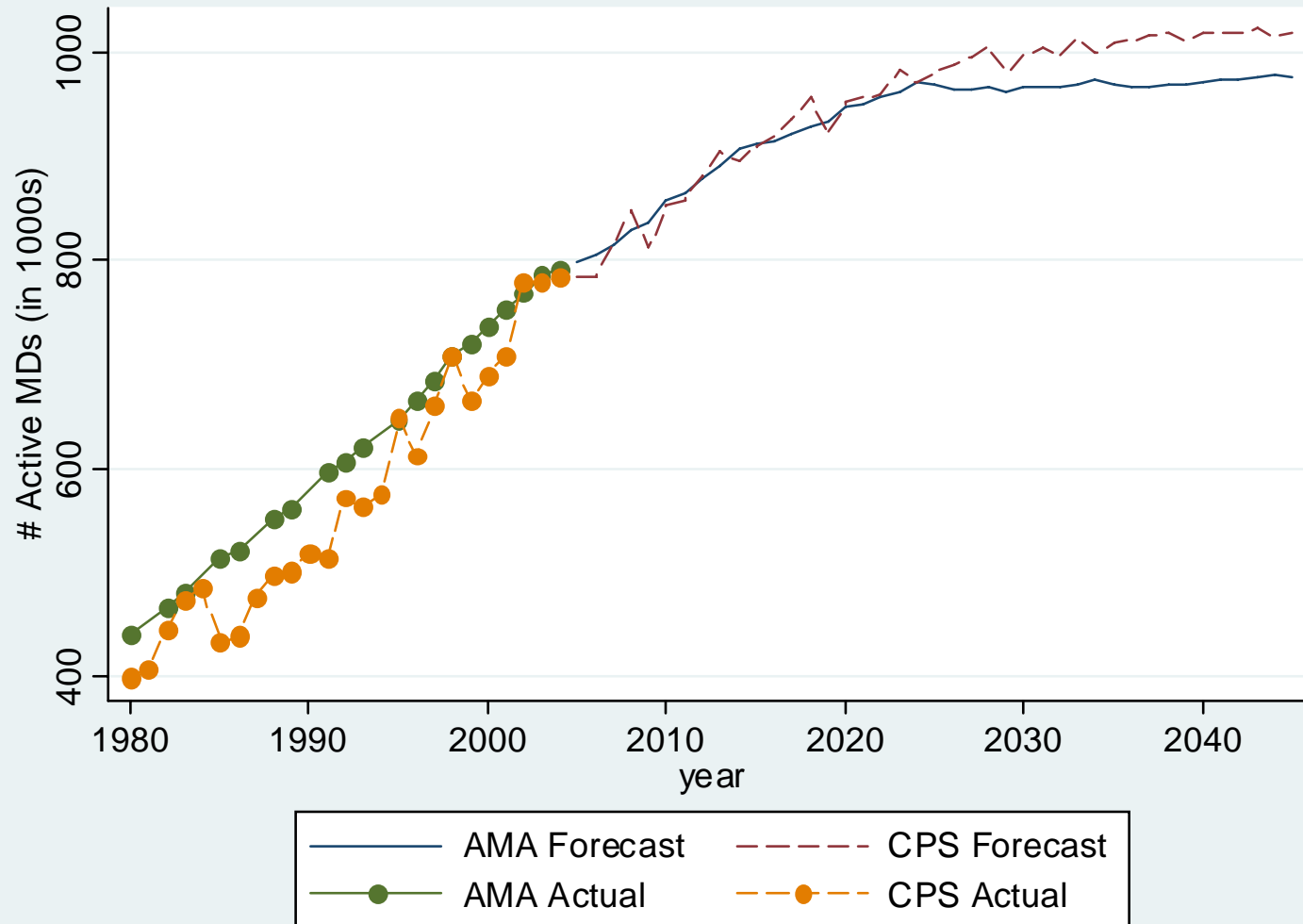
Cohort effects from decomposition by gender: All growth in last 25 years has been women in CPS



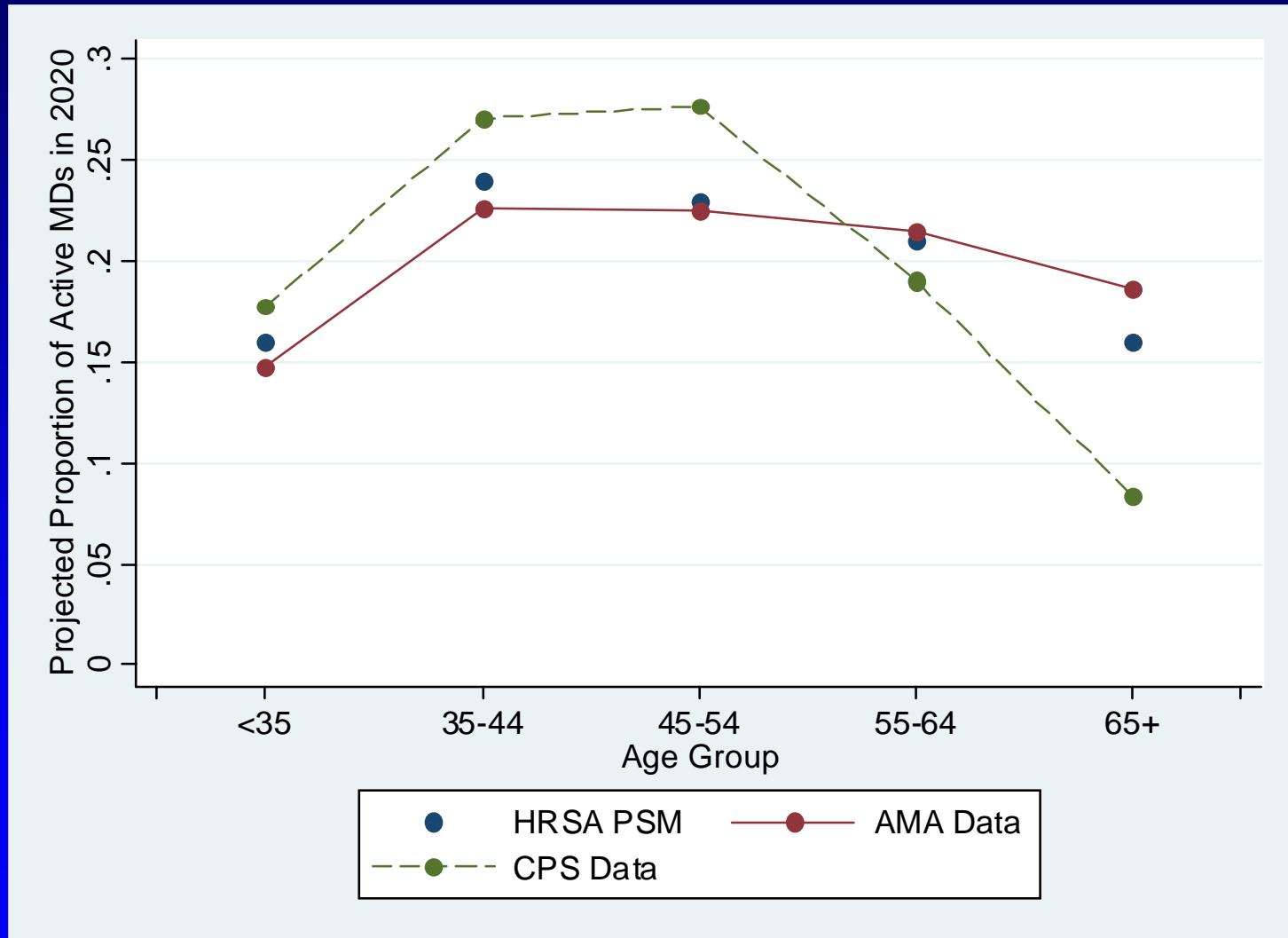
Our projections similar to PSM when we use AMA data
→ CPS data drives any difference, not the method



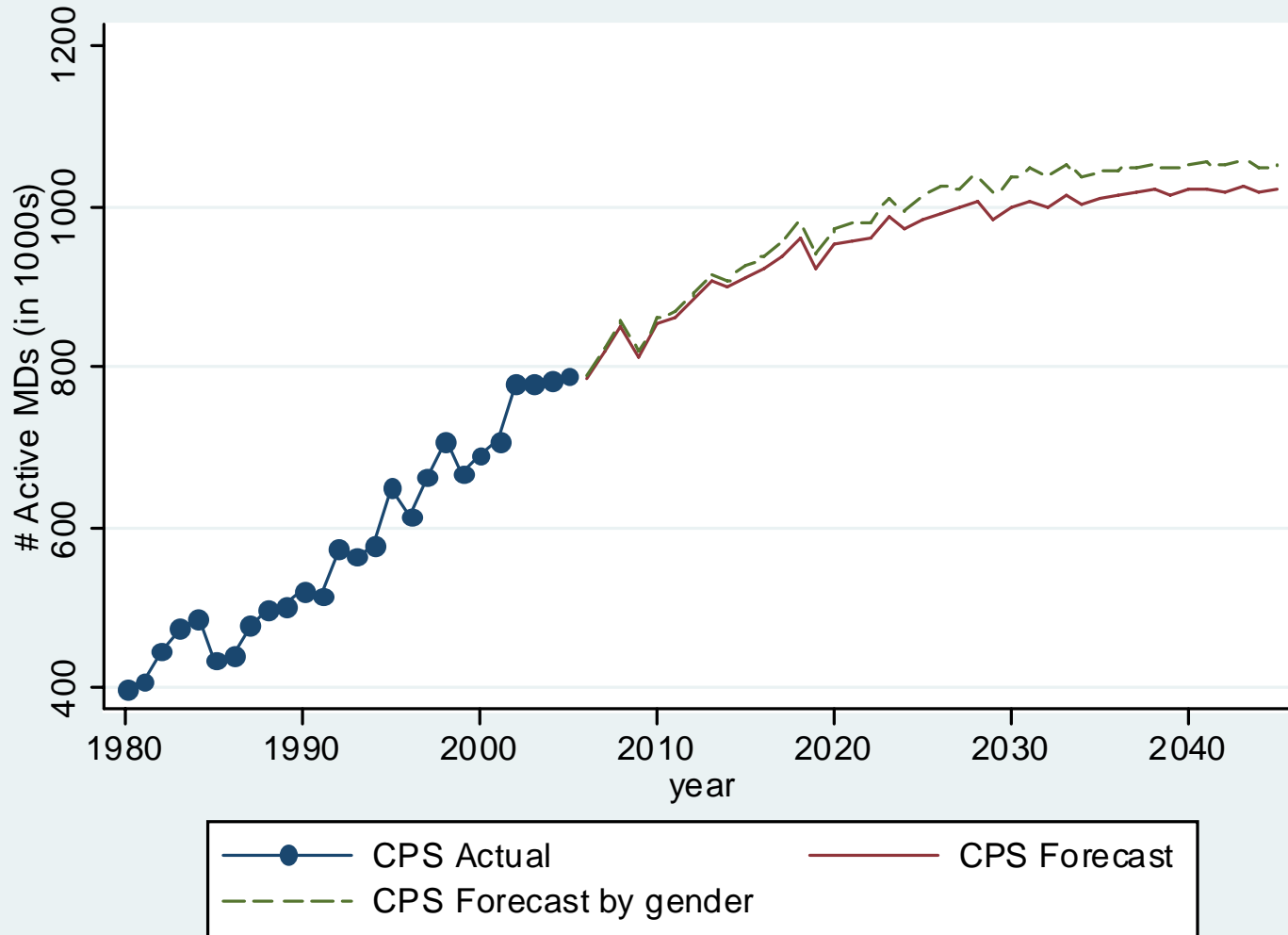
CPS projects similar overall supply as AMA: Larger entering cohorts offset higher retirement rates



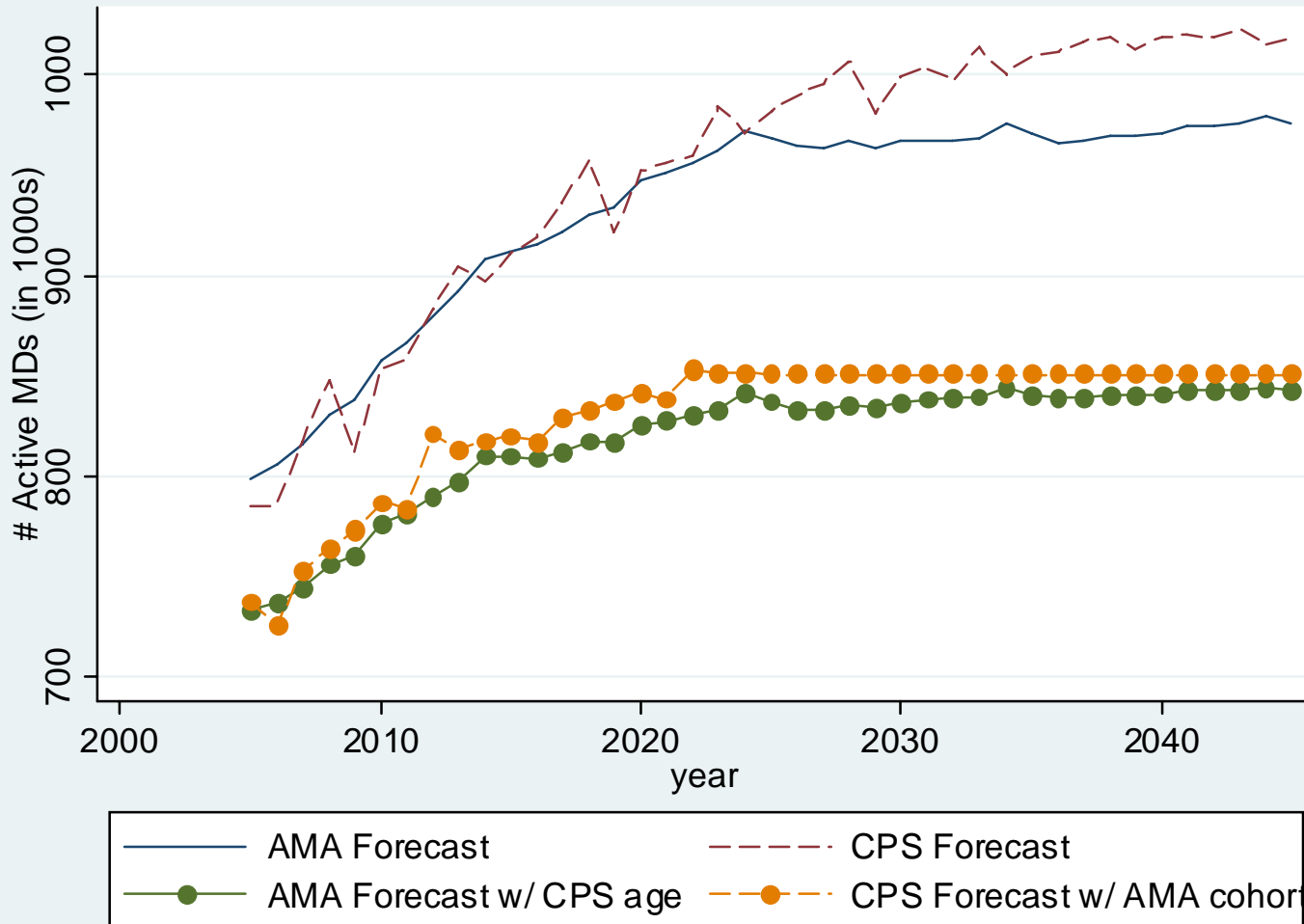
But CPS projects younger age distribution in 2020



CPS projections are not very different when allow age & cohort effects to differ by gender

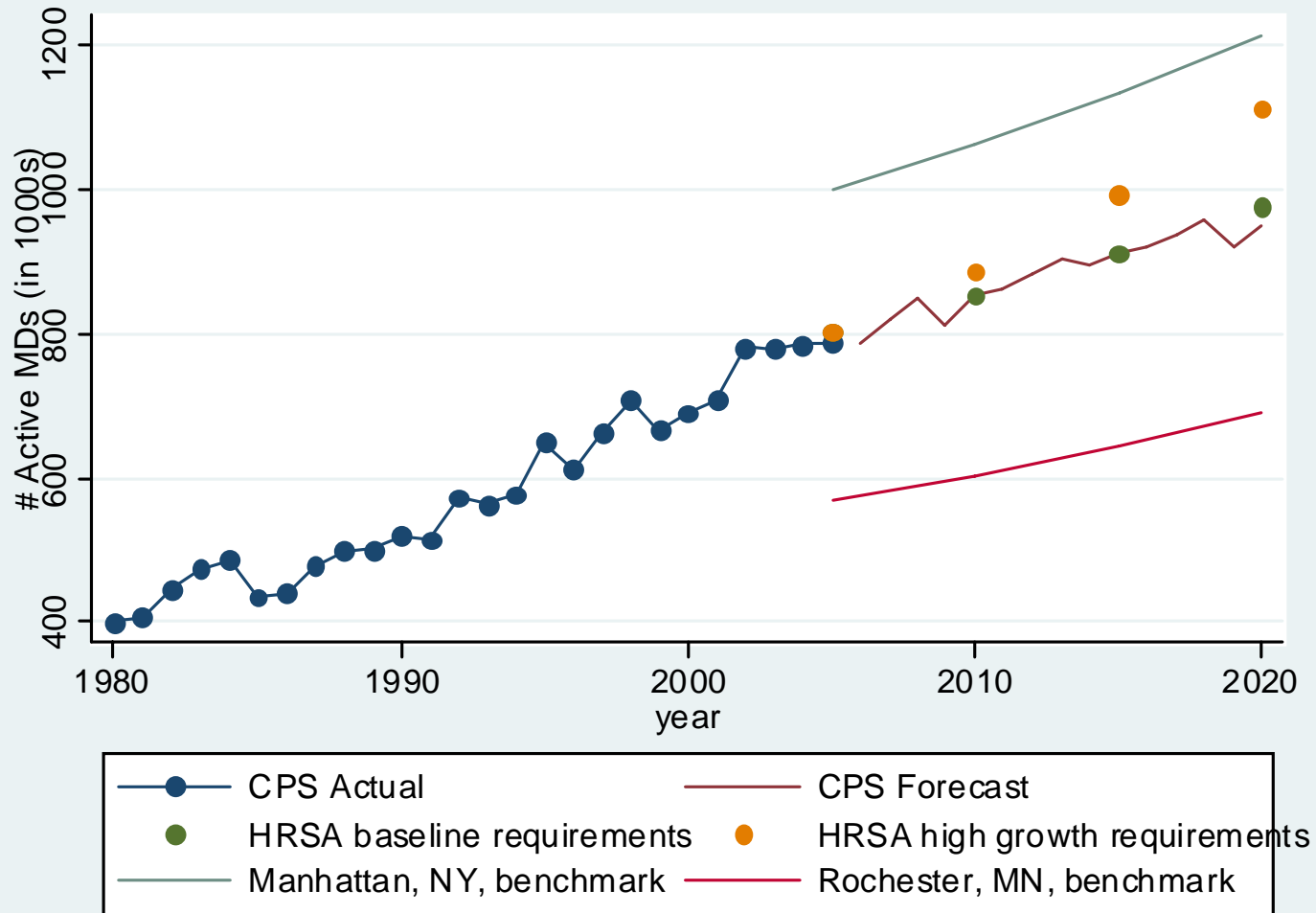


If retirement rates from CPS are correct, but
incoming cohorts smaller (as in AMA)
→ 10-20% lower projections



Will future supply be adequate?

Depends on requirements assumptions,
not supply model



Summing Up

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CPS projects similar overall supply as Masterfile, but projects younger ages than Masterfile

