

Explaining Systematic Bias and Nontransparency in US Social Security Administration Forecasts

Konstantin Kashin, Gary King, Samir Soneji¹

Institute for Quantitative Social Science
Harvard University

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¹KonstantinKashin.com, GaryKing.org, j.mp/soneji

References

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- Systematic Bias and Nontransparency in US Social Security Administration Forecasts
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- Online Appendix: Systematic Bias and Nontransparency in US Social Security Administration Forecasts
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- All available at GaryKing.org/ss

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 - Straightforward **solutions** exist for all problems discovered

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How OCACT Forecasts

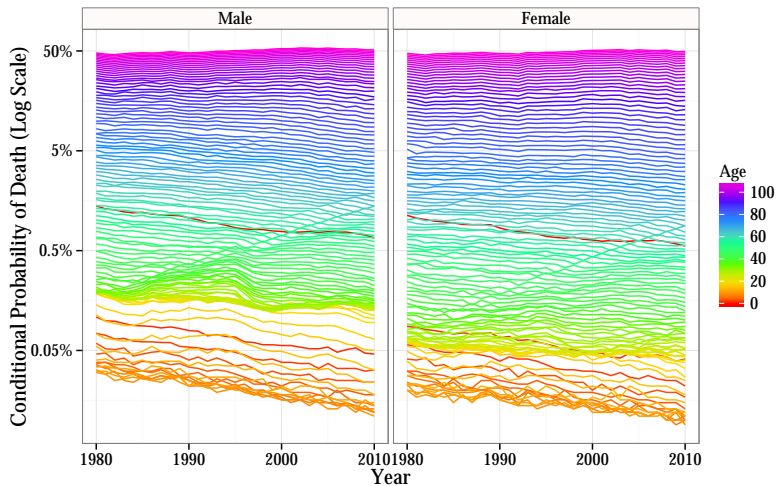
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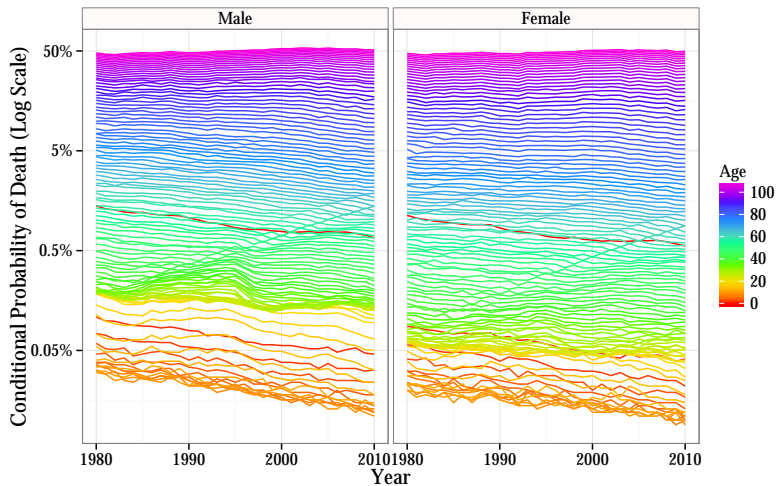
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Actual Mortality Time Profiles are Complex

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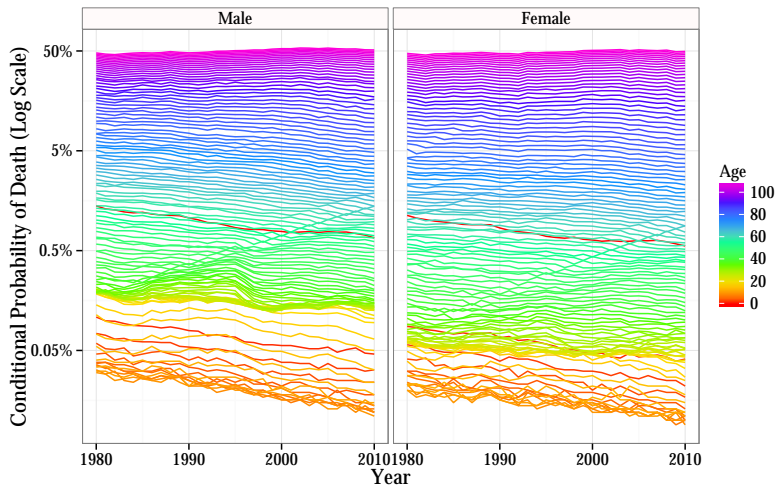


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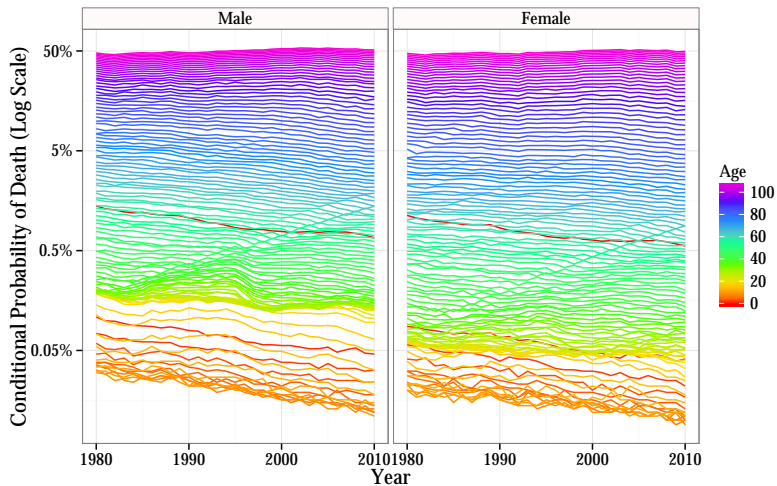
Patterns:

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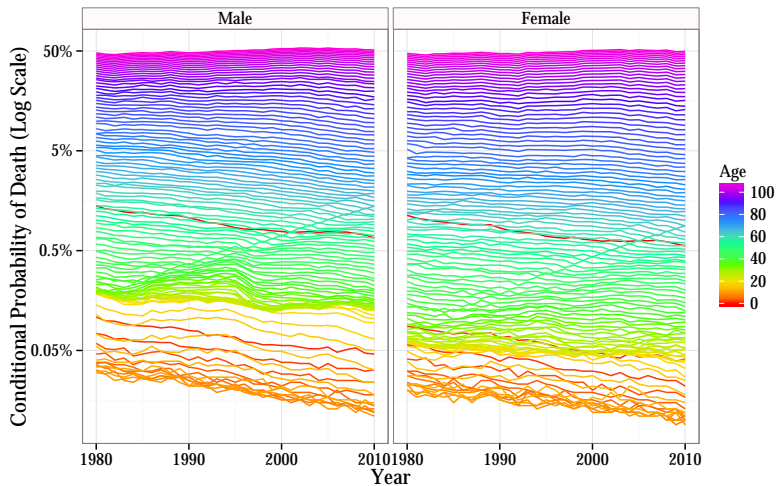
Patterns: \approx linear,

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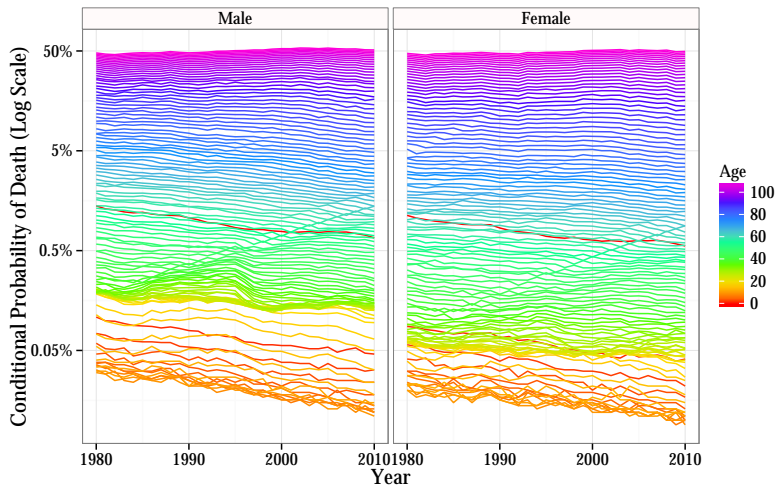
Patterns: \approx linear, different slopes,

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Patterns: \approx linear, different slopes, different variances,

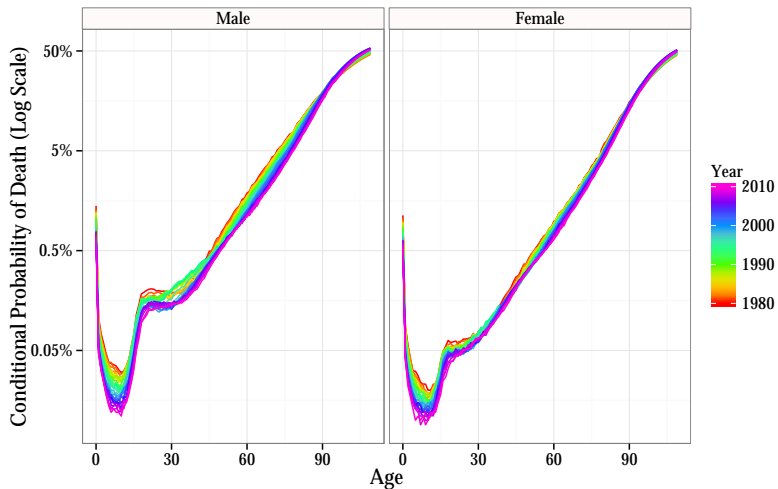
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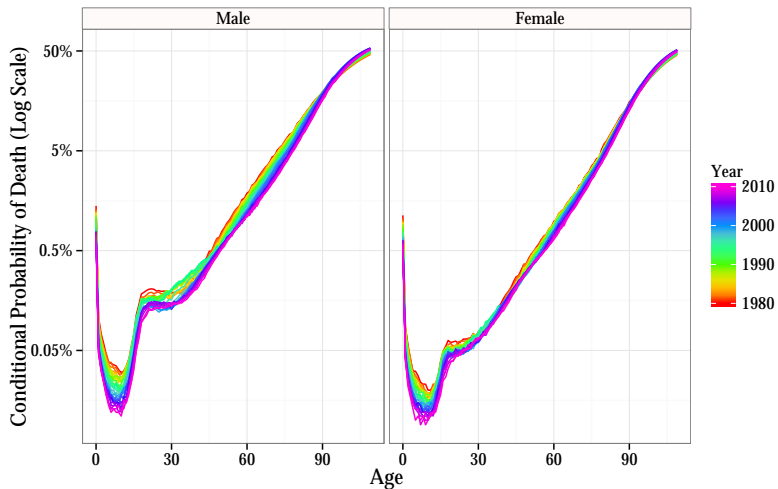
Patterns: \approx linear, different slopes, different variances, diagonal ripples

Actual Mortality Age Profiles are also Complex

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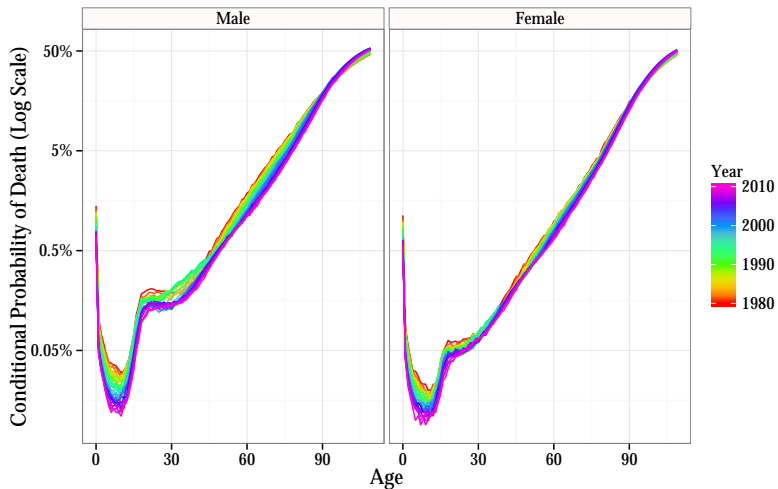


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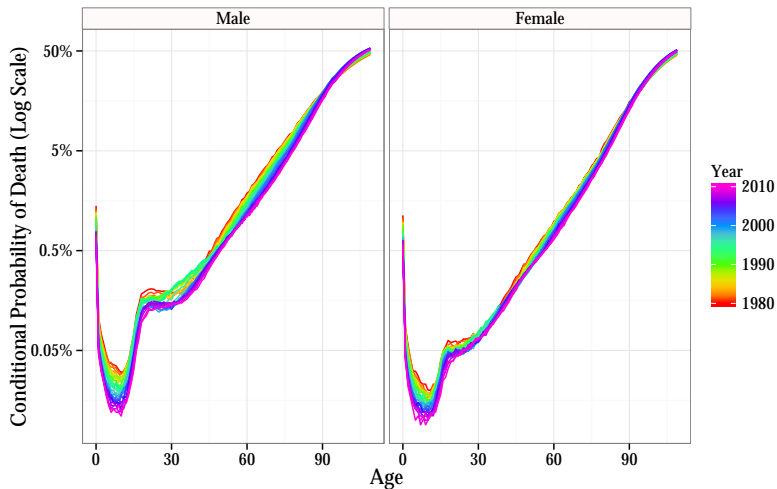
Patterns:

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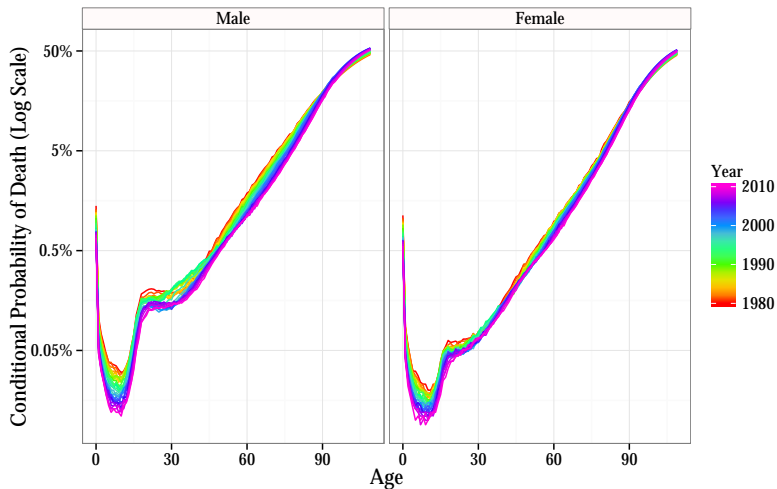
Patterns: Characteristic shape,

Actual Mortality Age Profiles are also Complex



Patterns: Characteristic shape, partly linear,

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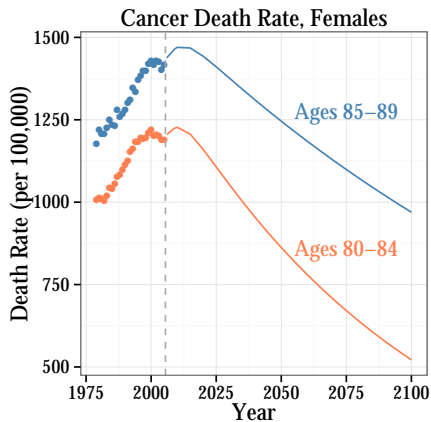
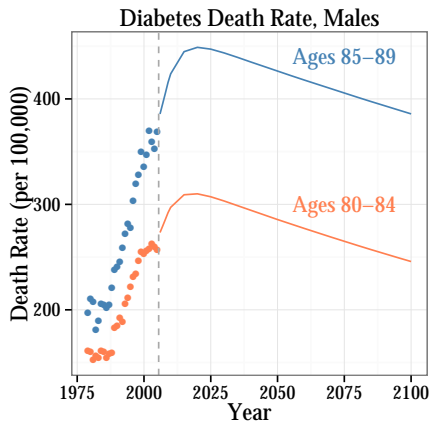


Patterns: Characteristic shape, partly linear, different time \times age trends

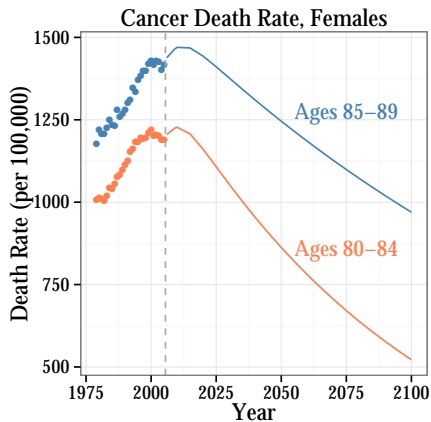
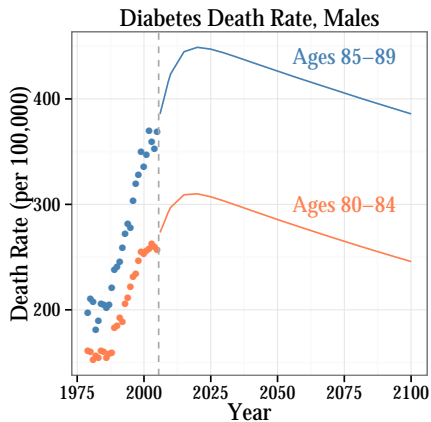
OCACT Qualitative Choices

OCACT Qualitative Choices: Violate Known Information

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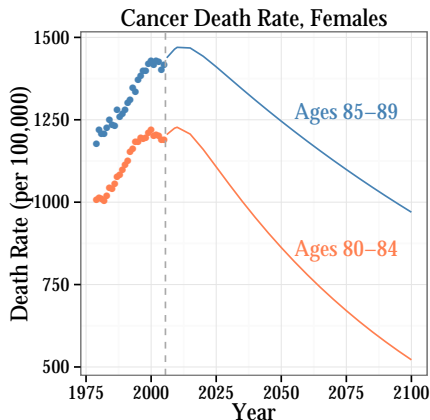
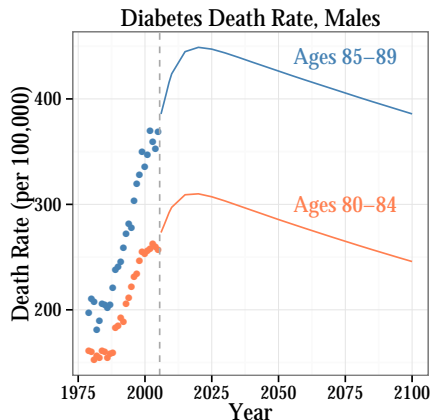


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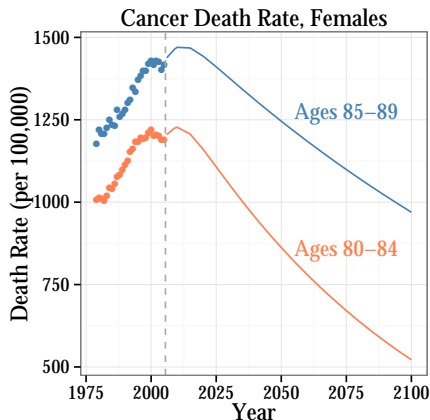
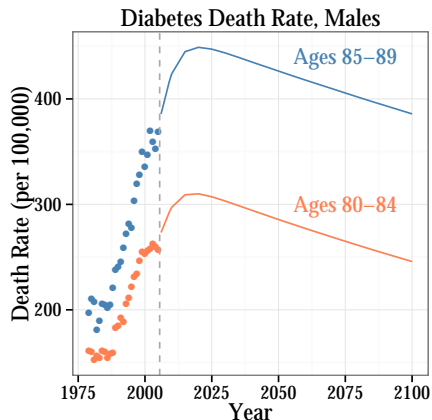
Unrealistic patterns:

OCACT Qualitative Choices: Violate Known Information



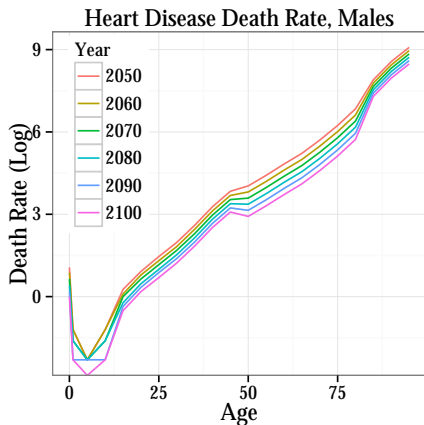
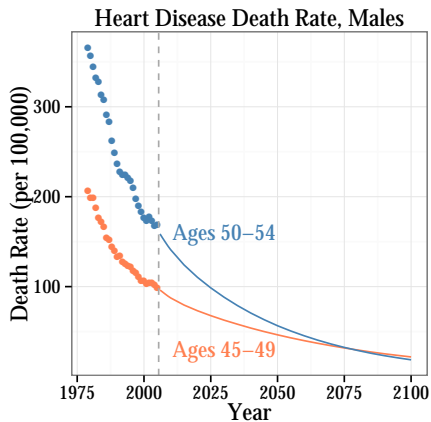
Unrealistic patterns: change of directions,

OCACT Qualitative Choices: Violate Known Information

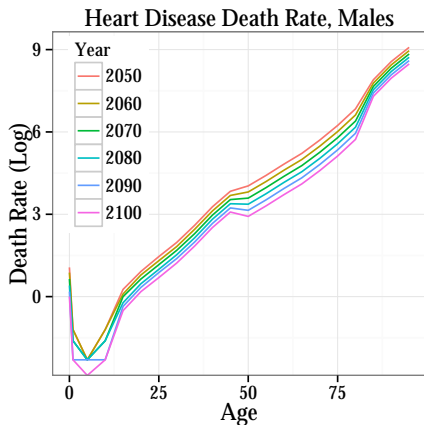
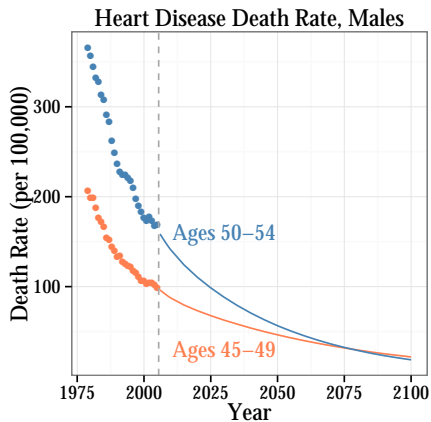


Unrealistic patterns: change of directions, change of differences

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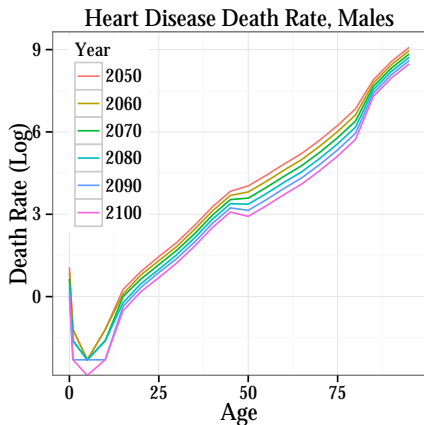
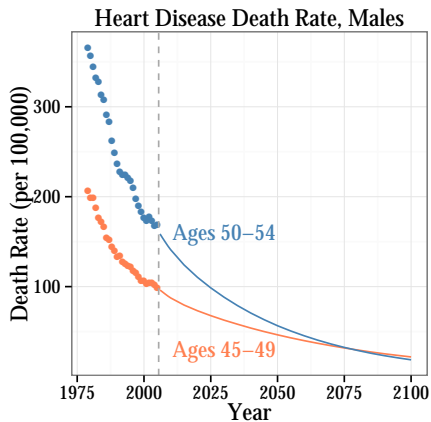


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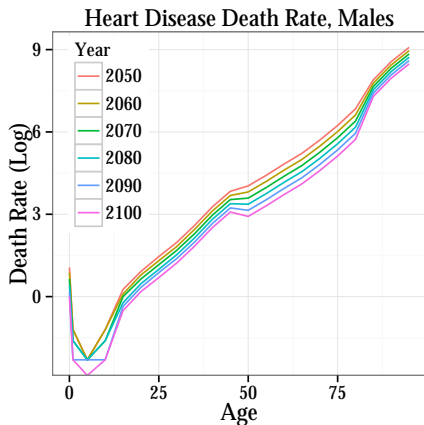
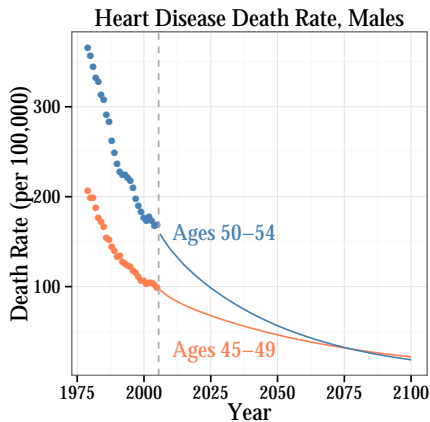
Unrealistic patterns:

OCACT Qualitative Choices: Violate Known Information



Unrealistic patterns: Crossing age plots,

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Unrealistic patterns: Crossing age plots, notch for 50-75 year olds

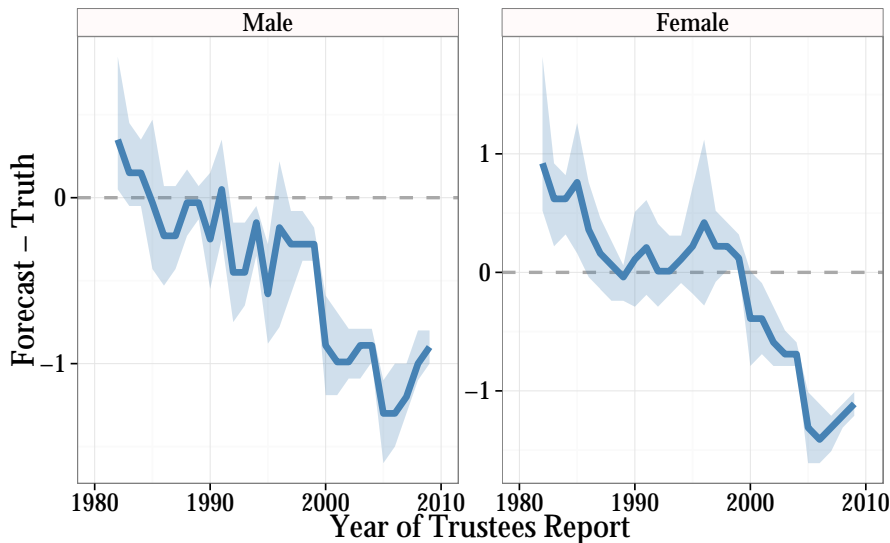
SSA Life Expectancy Forecasts: Increasing Bias Since 2000

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(LE at 65; 1-5 year SSA forecasts)

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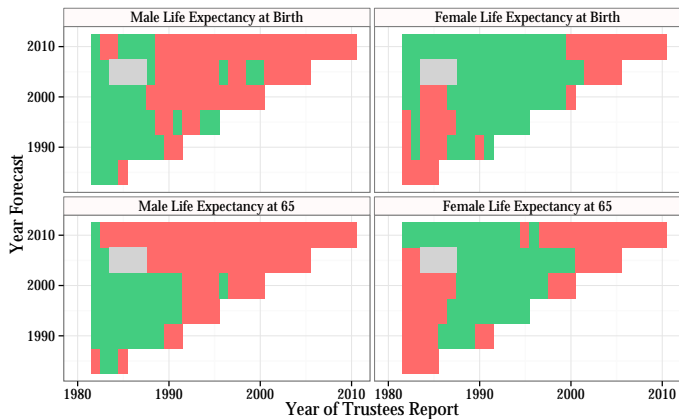
Life Expectancy “Uncertainty Interval” Coverage

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Systematic overconfidence since at least 2000

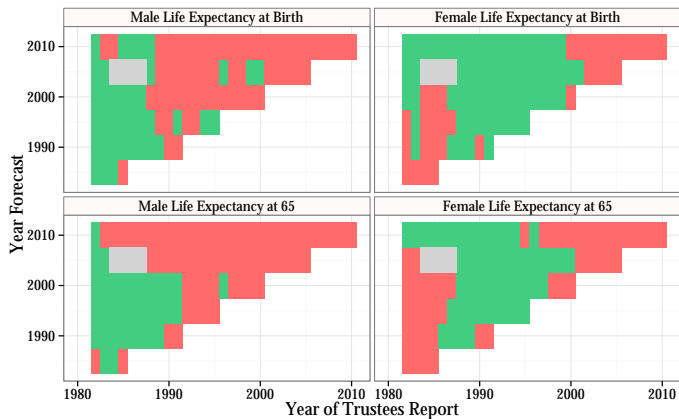
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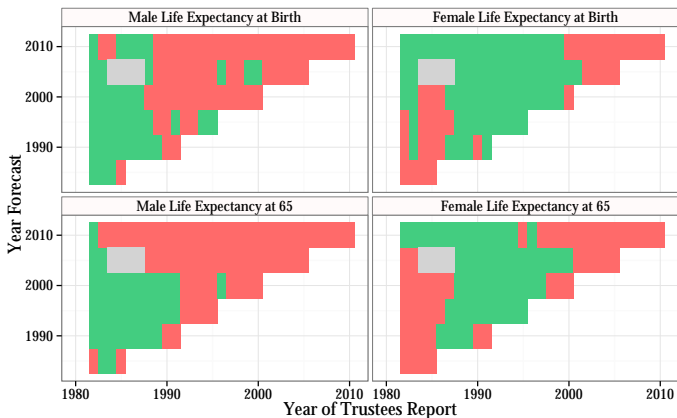
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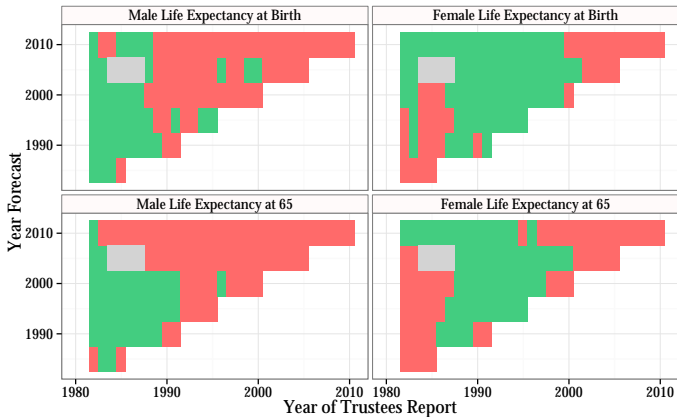


Patterns:

- Vertical: Later Trustees Reports are overconfident

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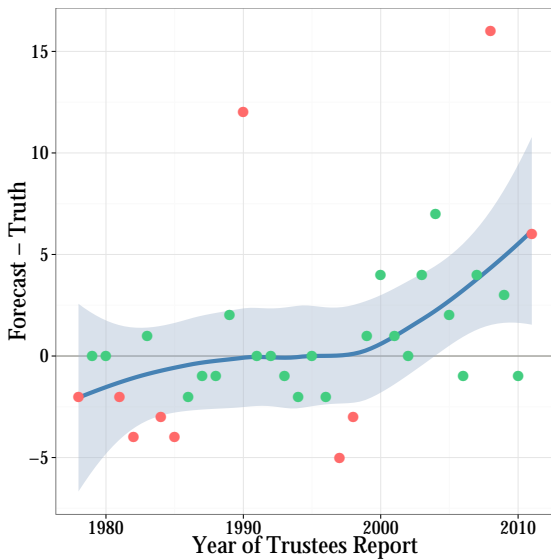


Patterns:

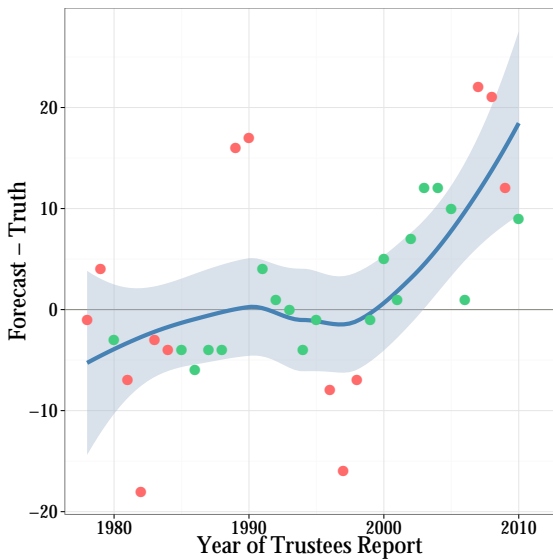
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- Not horizontal: Shorter term forecasts should be better, but aren't

Trust Fund Ratio Forecasting Errors

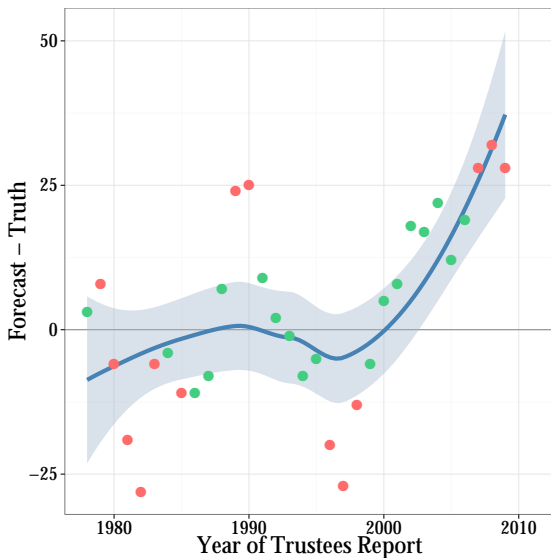
Trust Fund Ratio Forecasting Errors: 1 Year Ahead



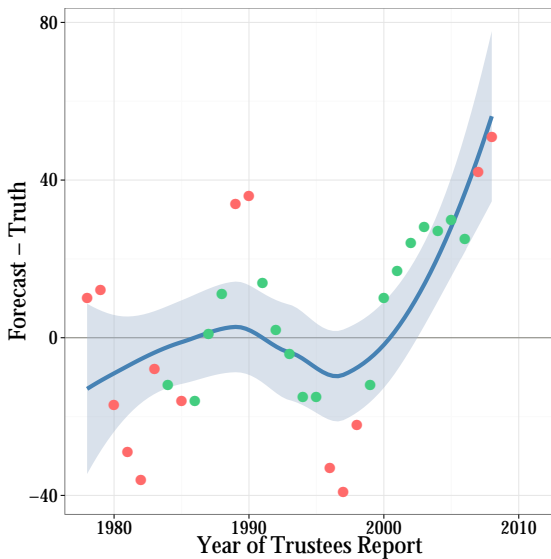
Trust Fund Ratio Forecasting Errors: 2 Years Ahead



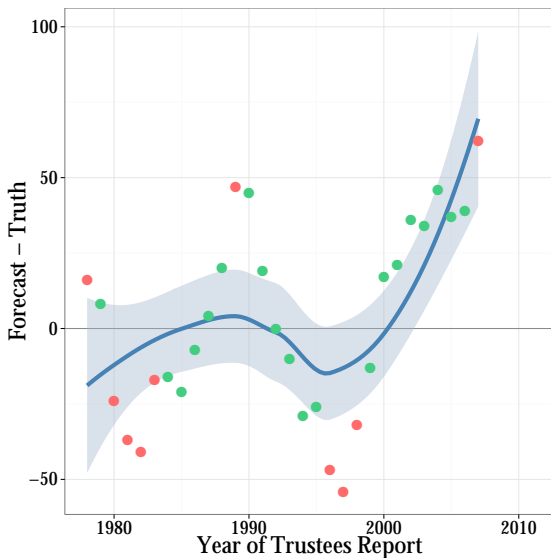
Trust Fund Ratio Forecasting Errors: 3 Years Ahead



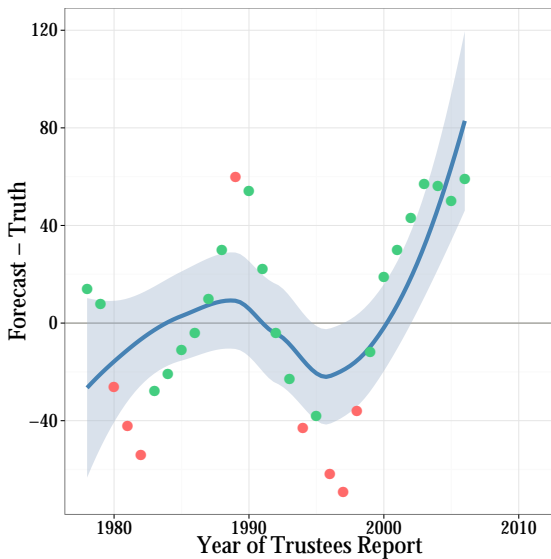
Trust Fund Ratio Forecasting Errors: 4 Years Ahead



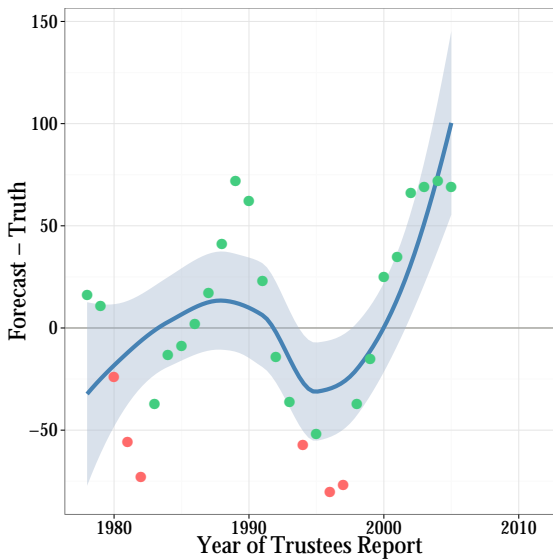
Trust Fund Ratio Forecasting Errors: 5 Years Ahead



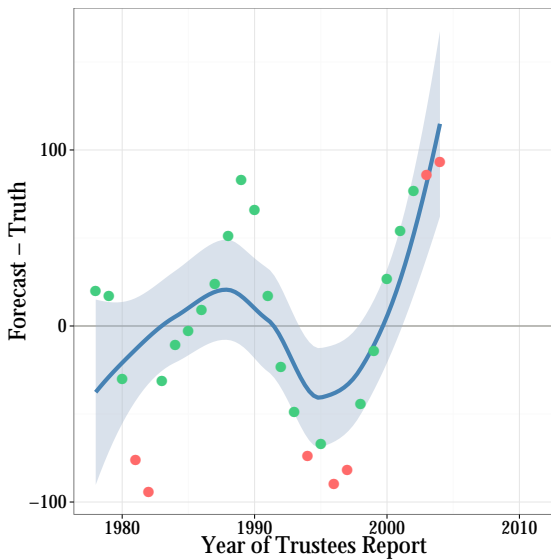
Trust Fund Ratio Forecasting Errors: 6 Years Ahead



Trust Fund Ratio Forecasting Errors: 7 Years Ahead



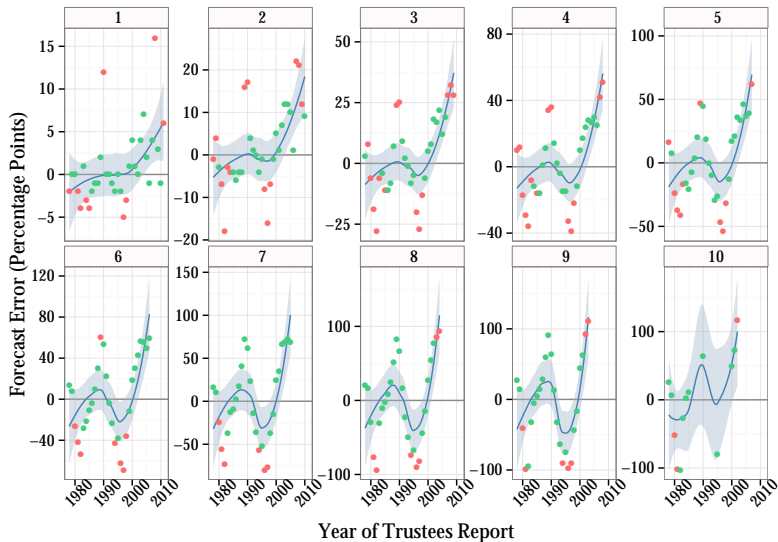
Trust Fund Ratio Forecasting Errors: 8 Years Ahead



Trust Fund Ratio Forecasting Errors: 9 Years Ahead



Trust Fund Ratio Forecasting Errors: Summary



Uncertainty Estimates for OCACT Policy Scores

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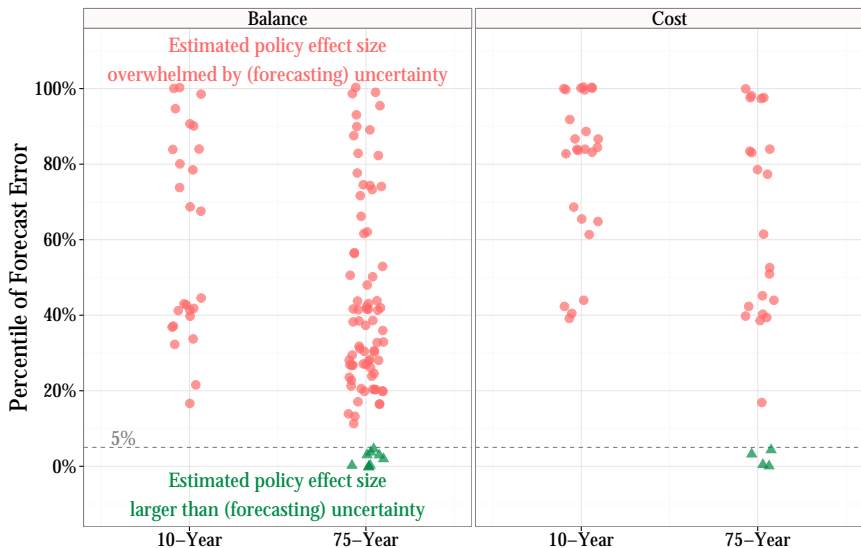
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- It can’t be learned: “Teaching psychology is mostly a waste of time” (Kahneman 2011)

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 - If the Panel has good evidence: he ignores the panel
 - If the Panel has very strong evidence: he adjusts the parameter part way, and adjusts another so the forecast is unchanged
 - Many quotes; e.g. Goss: "The hard part is trying to balance the need to change on the basis of new ideas and understanding with the desire for consistency and stability over time"

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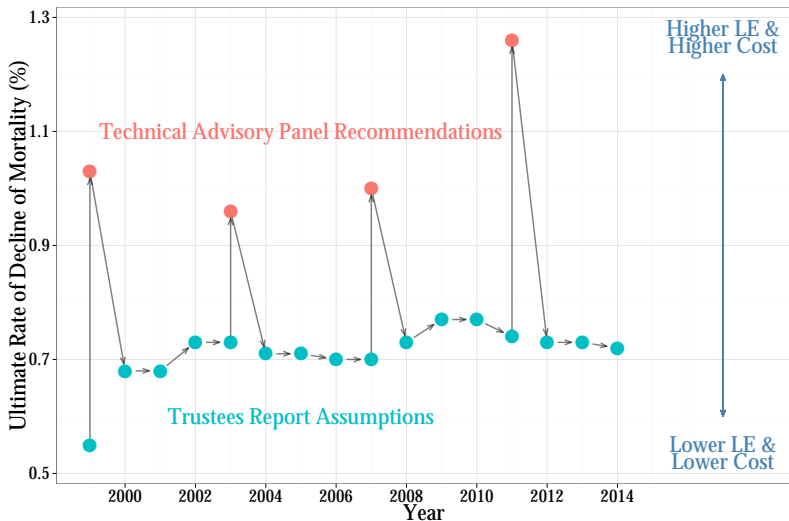
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Especially since 2000, Americans started living unexpectedly longer lives (due to statins, early cancer detection, etc.)

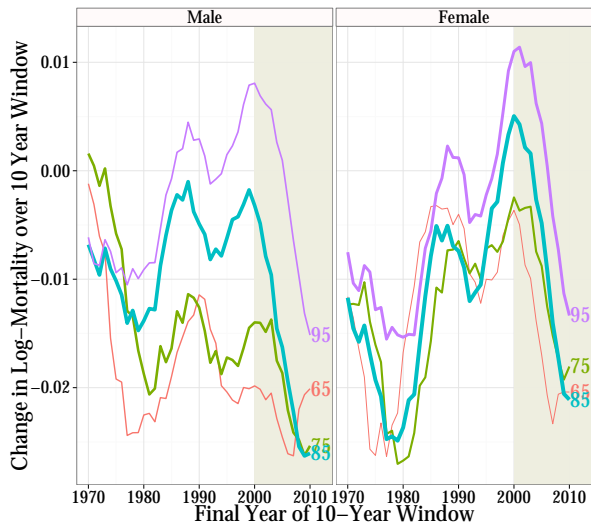
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For more information:

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