Explaining Systematic Bias and Nontransparency in US Social Security Administration Forecasts[1]

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(Hellenic American Bankers Association, 1/28/2015)

[1] Based on joint work with Konstantin Kashin and Samir Soneji
[2] GaryKing.org

References

References

- Systematic Bias and Nontransparency in US Social Security Administration Forecasts

  Journal of Economic Perspectives

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- Articles, data, code available at GaryKing.org/ssa

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  - Straightforward solutions exist for all problems discovered

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Actual Mortality Time Profiles are Complex

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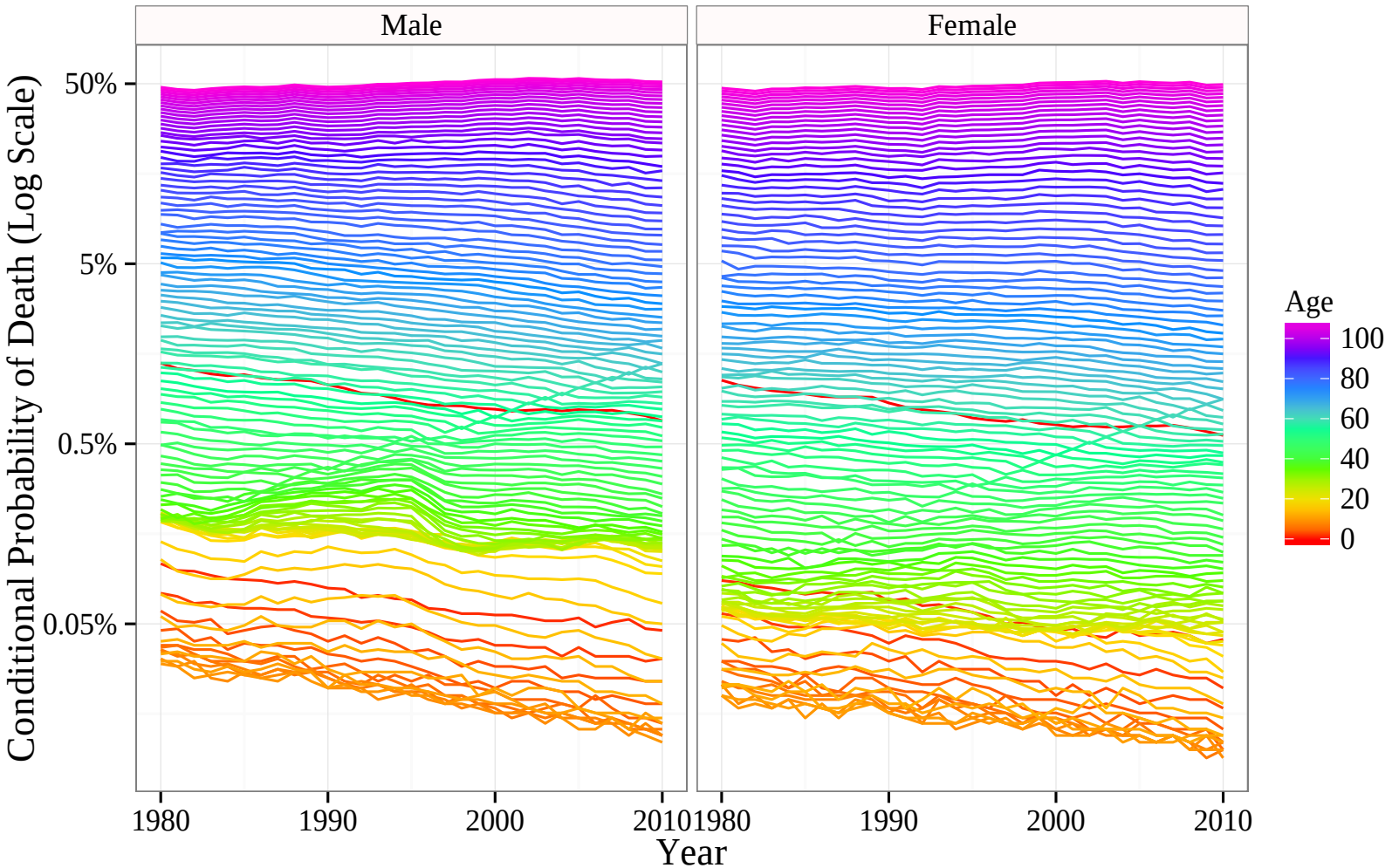

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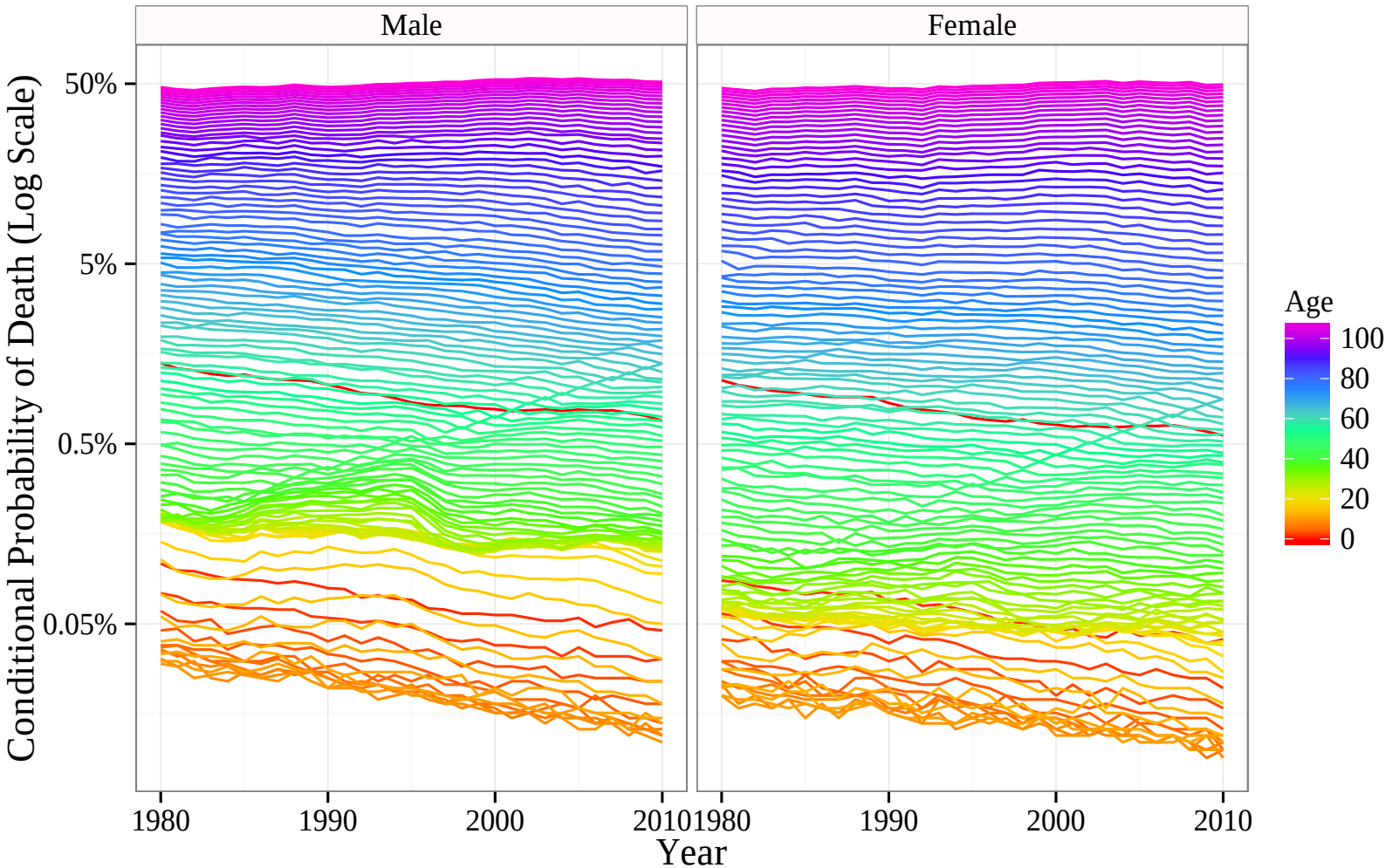

Patterns:

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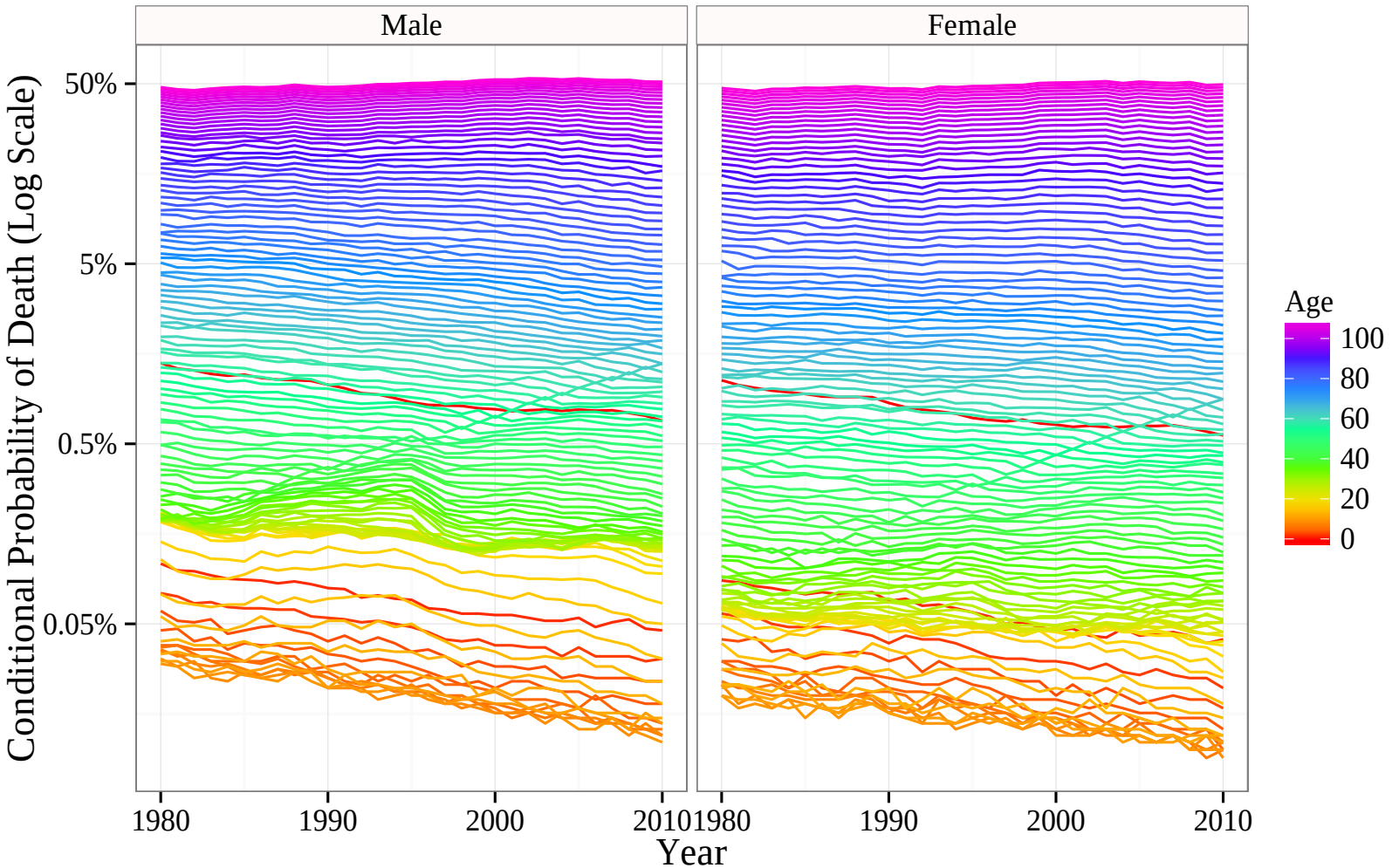

Patterns: $\approx$ linear,

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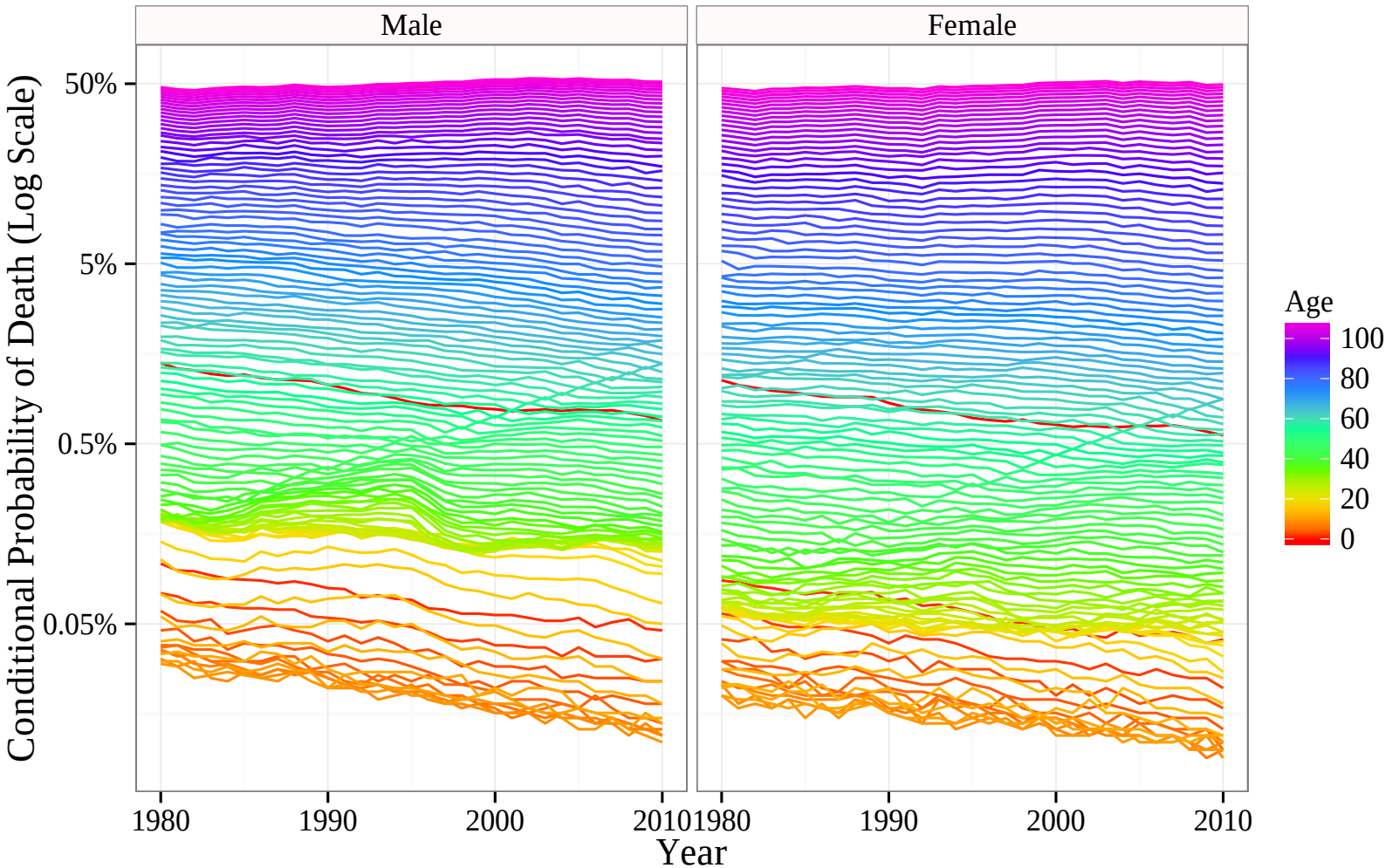

Patterns: $\approx$ linear, different slopes,

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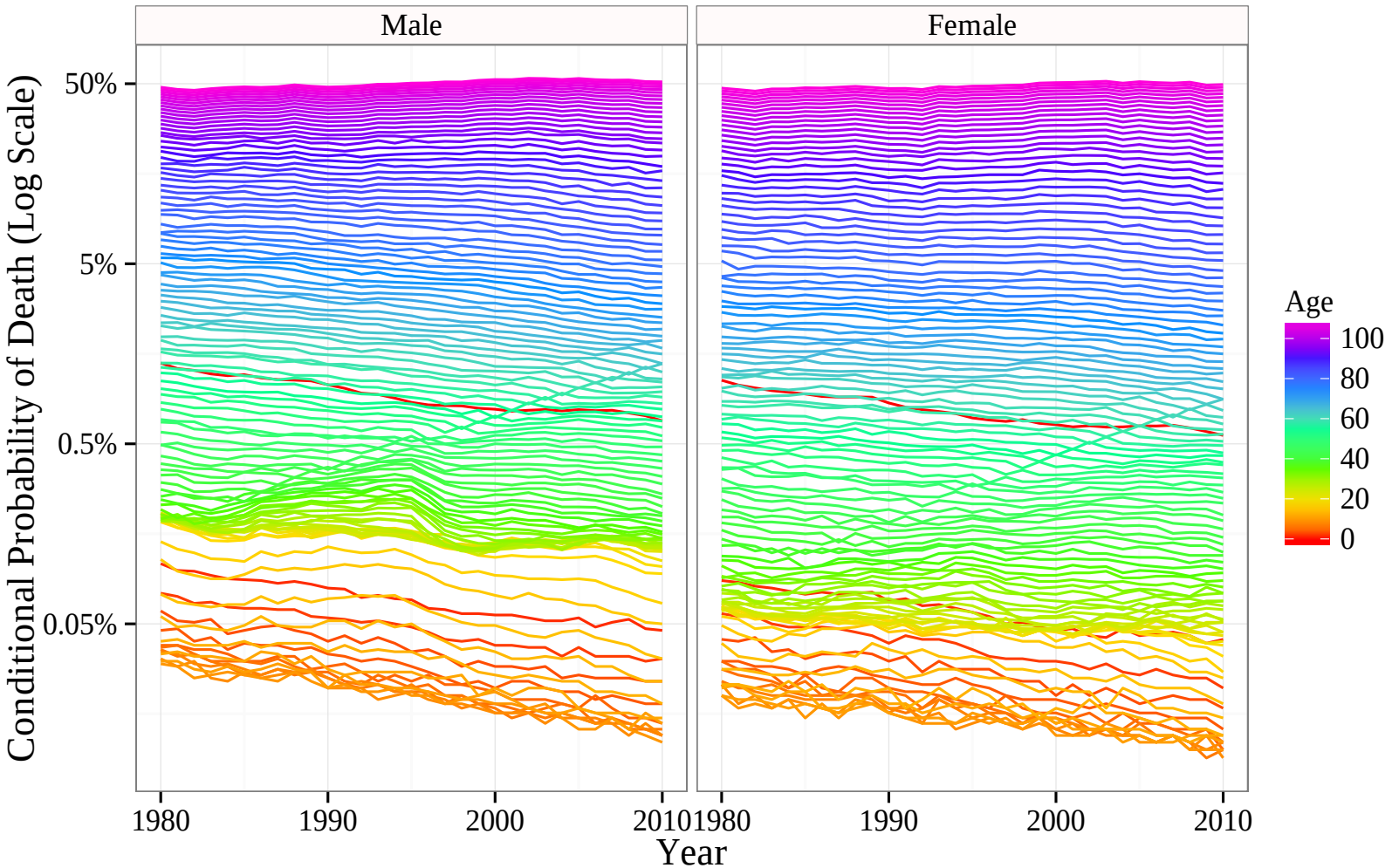

Patterns: $\approx$ linear, different slopes, different variances,

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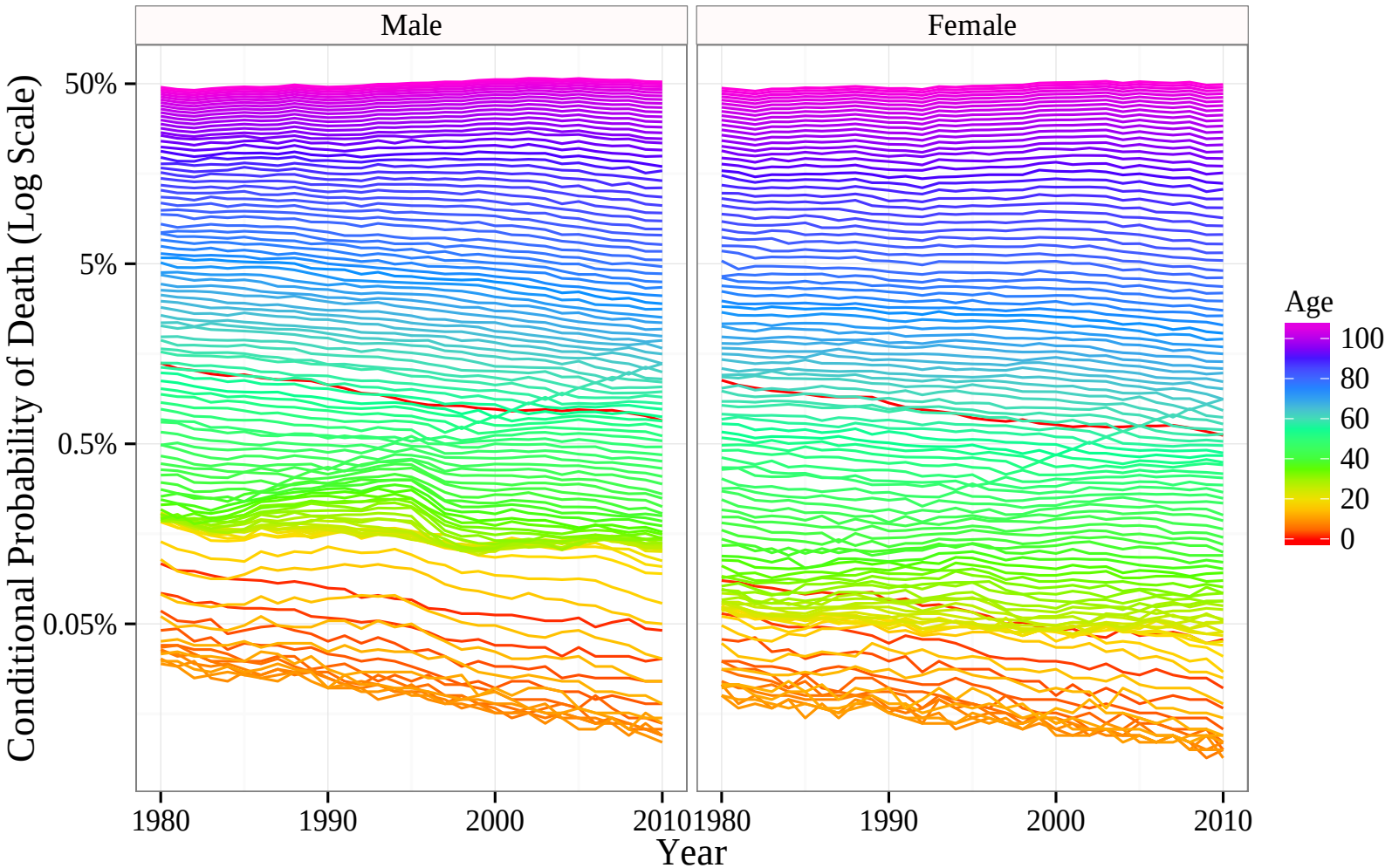

Patterns: $\approx$ linear, different slopes, different variances, diagonal ripples

Actual Mortality Age Profiles are also Complex

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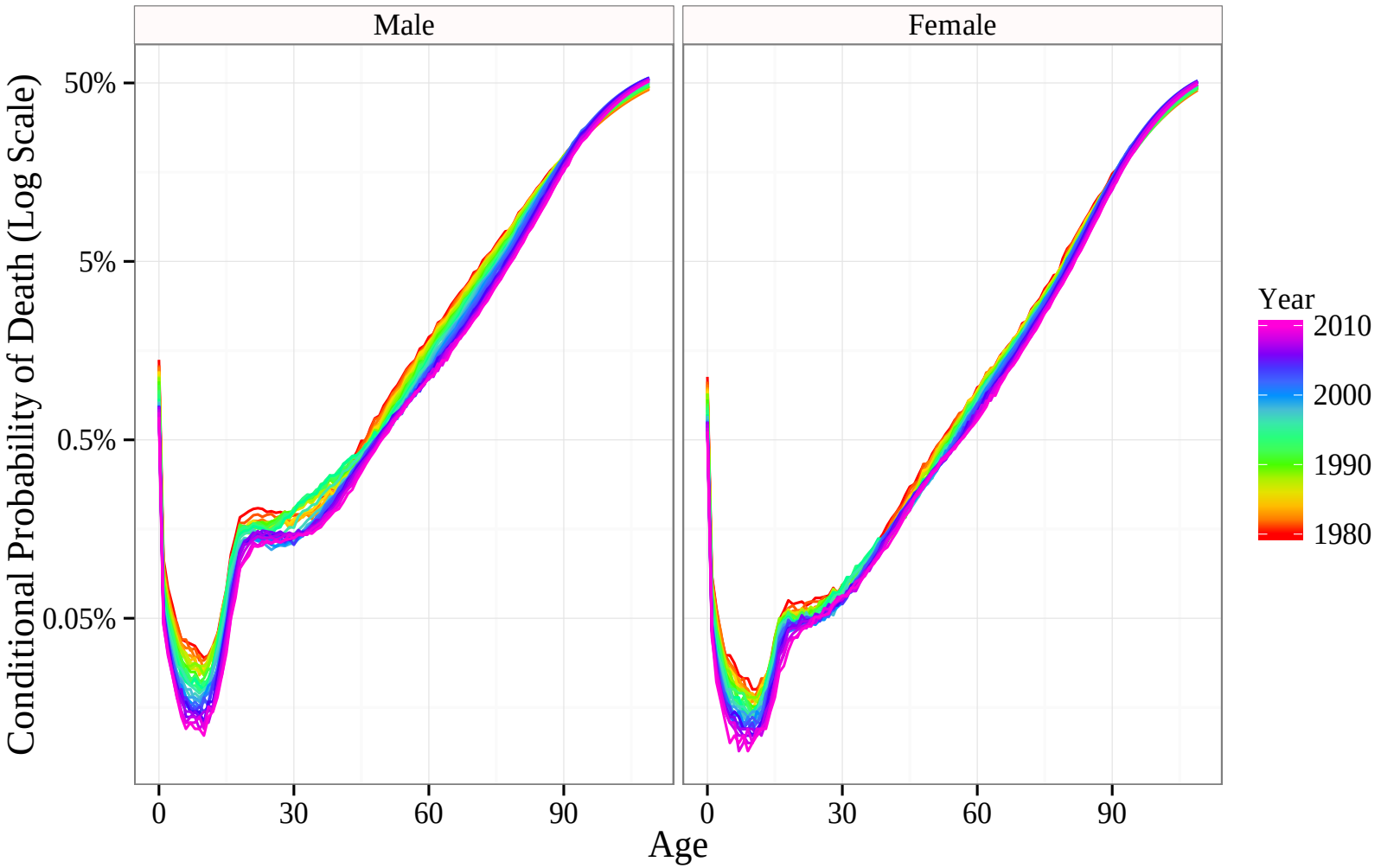

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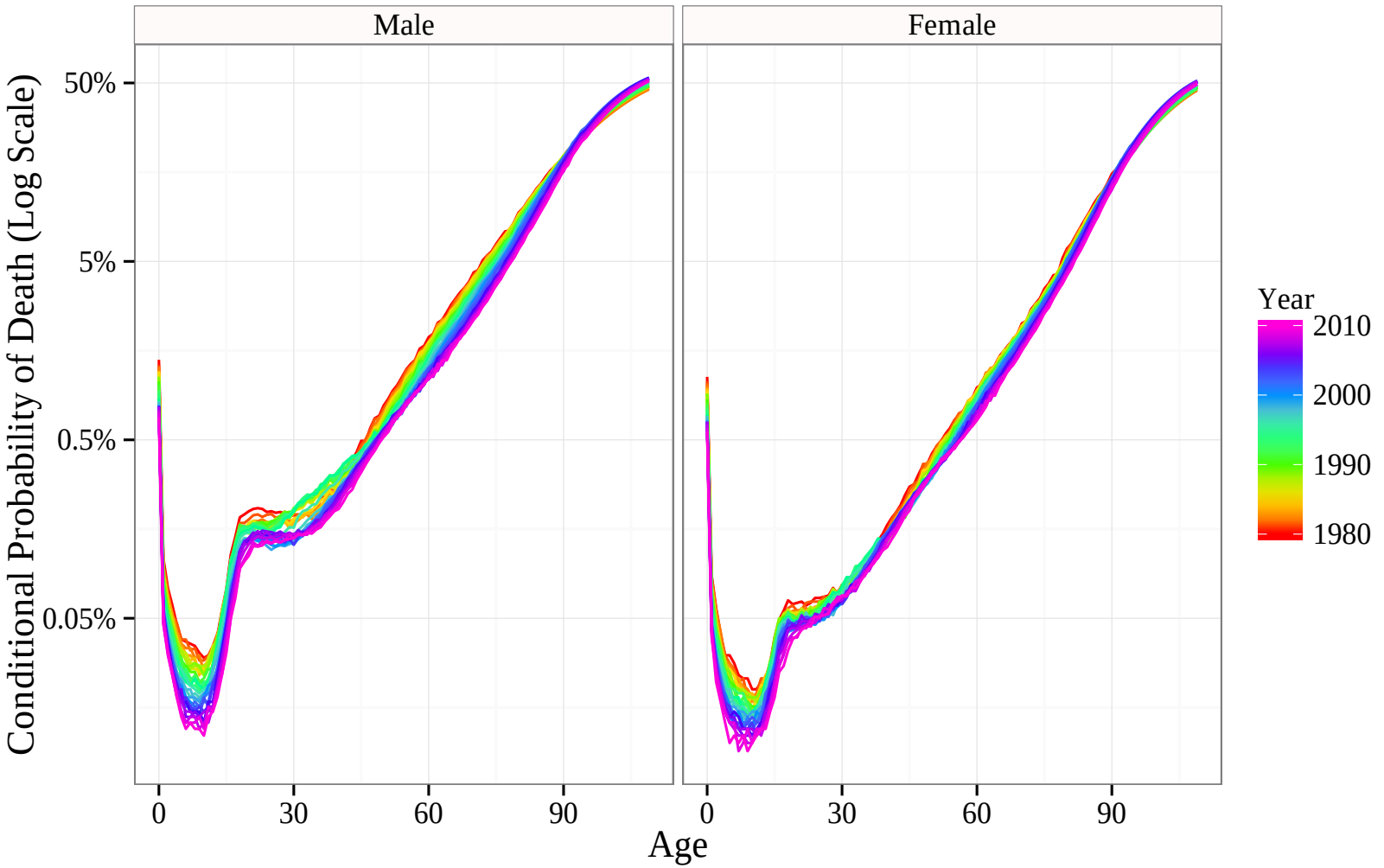

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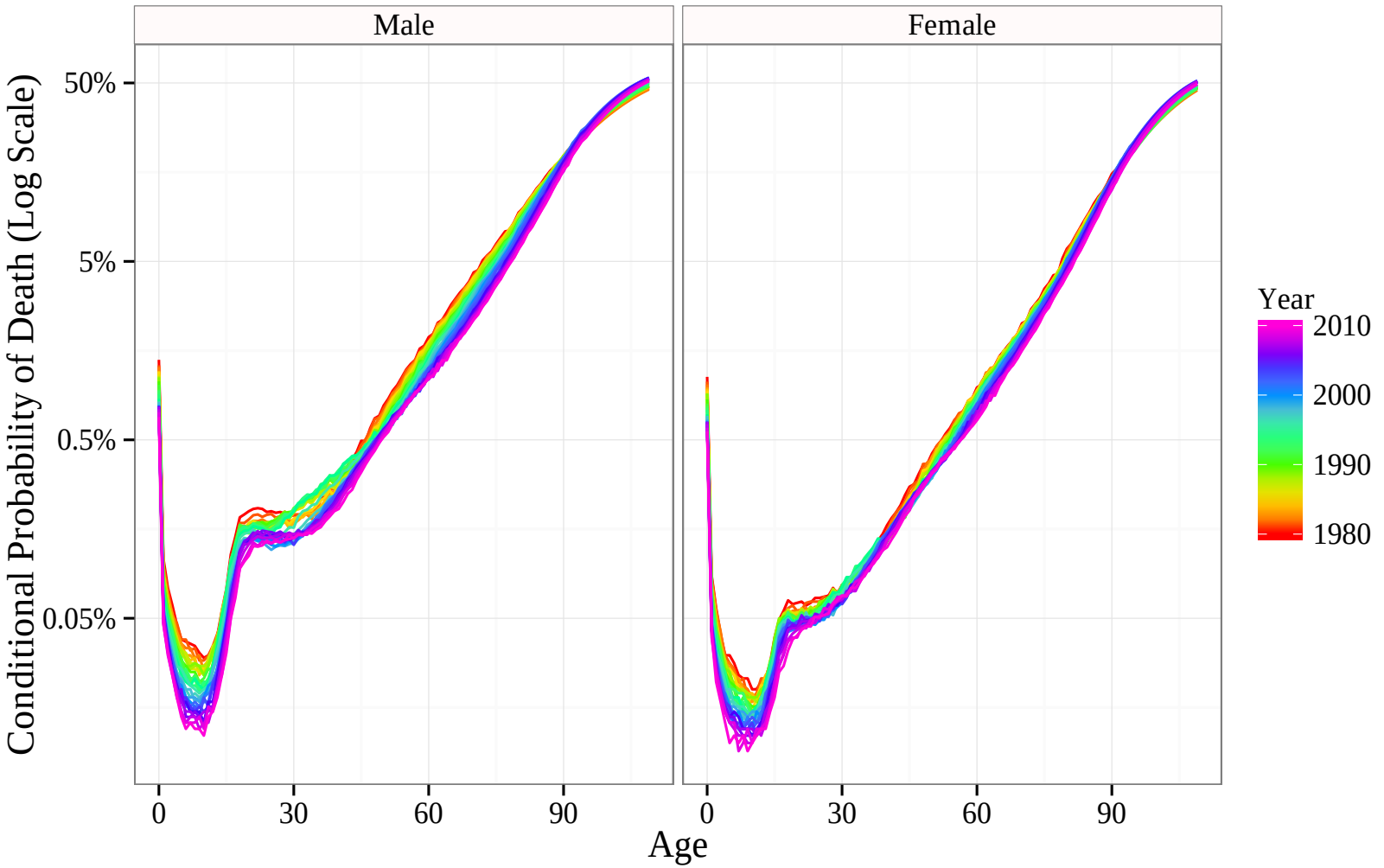
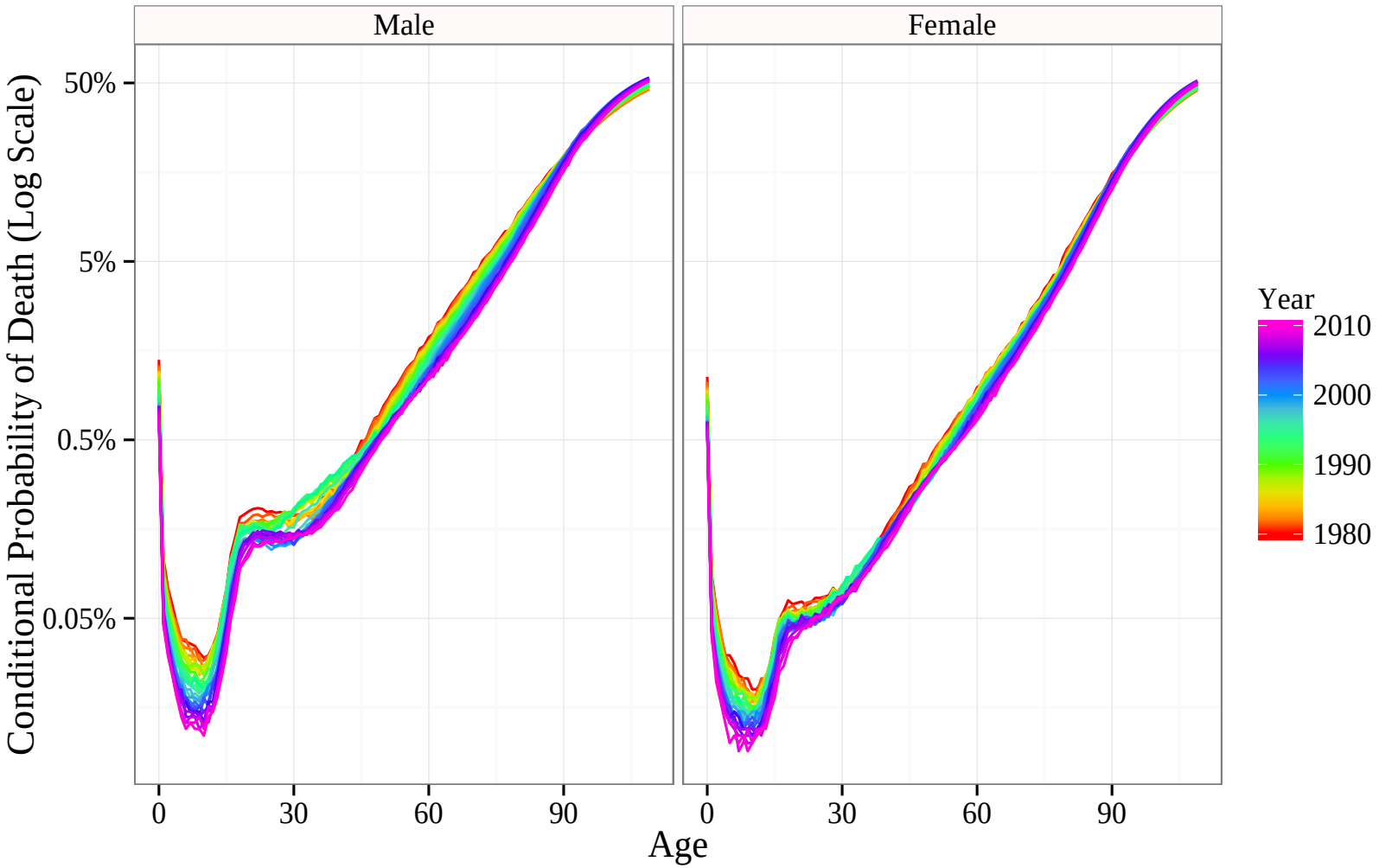


Patterns: Characteristic shape,

Actual Mortality Age Profiles are also Complex



Patterns: Characteristic shape, partly linear,

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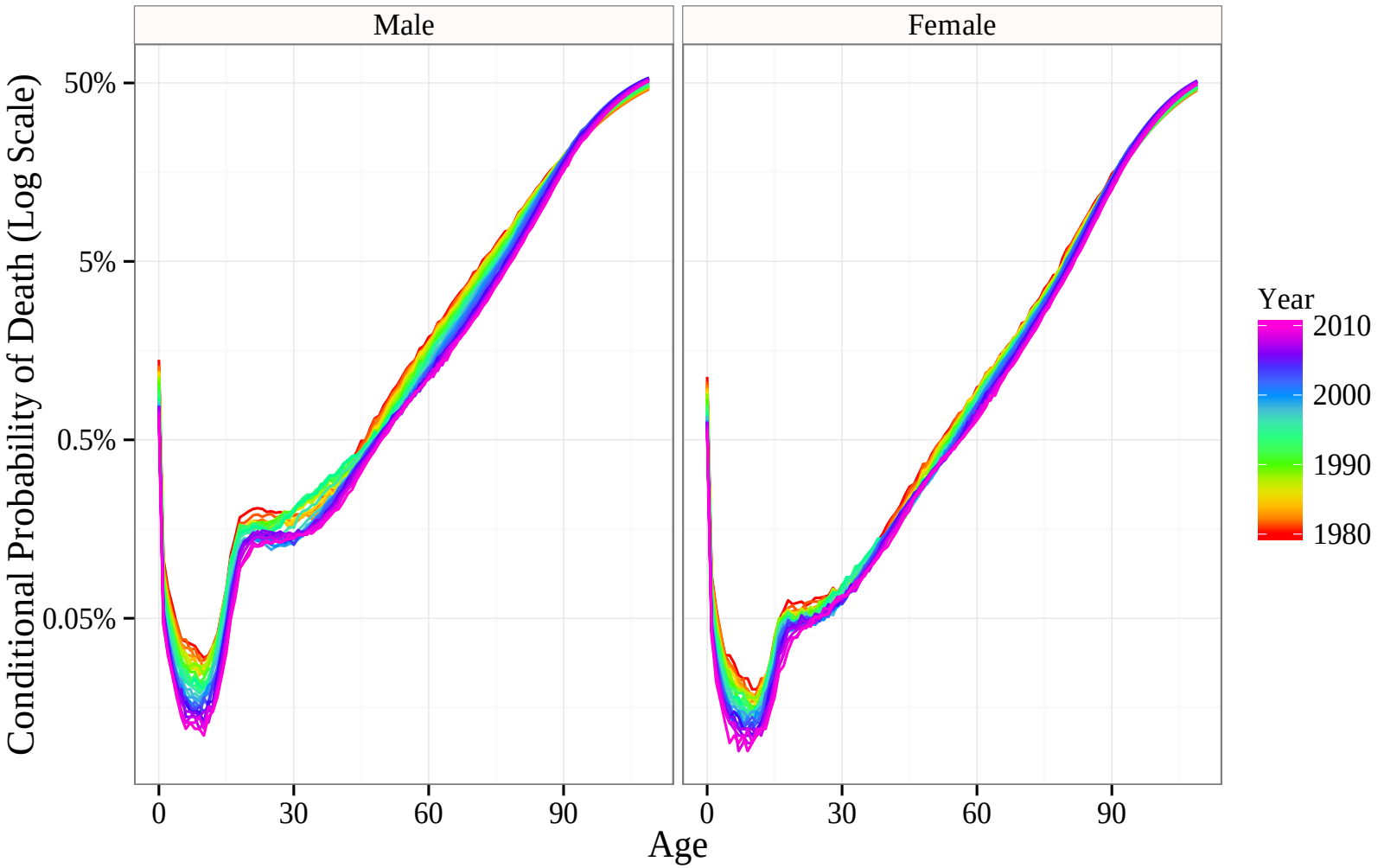

Patterns: Characteristic shape, partly linear, different time×age trends

OCACT Qualitative Choices

OCACT Qualitative Choices: Violate Known Information

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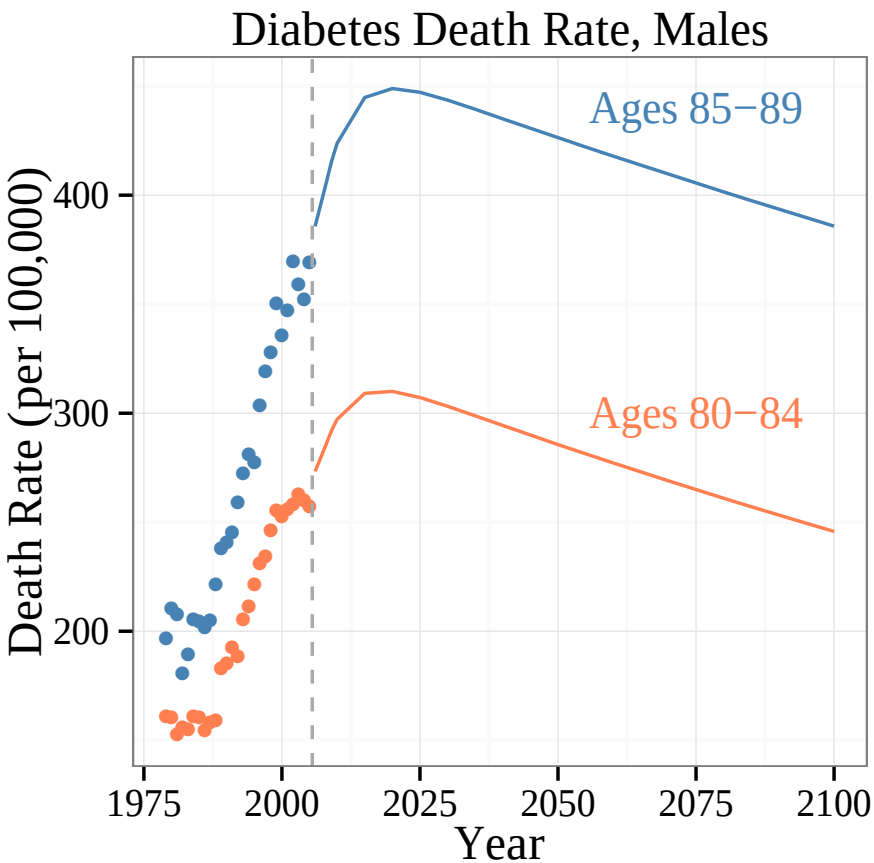

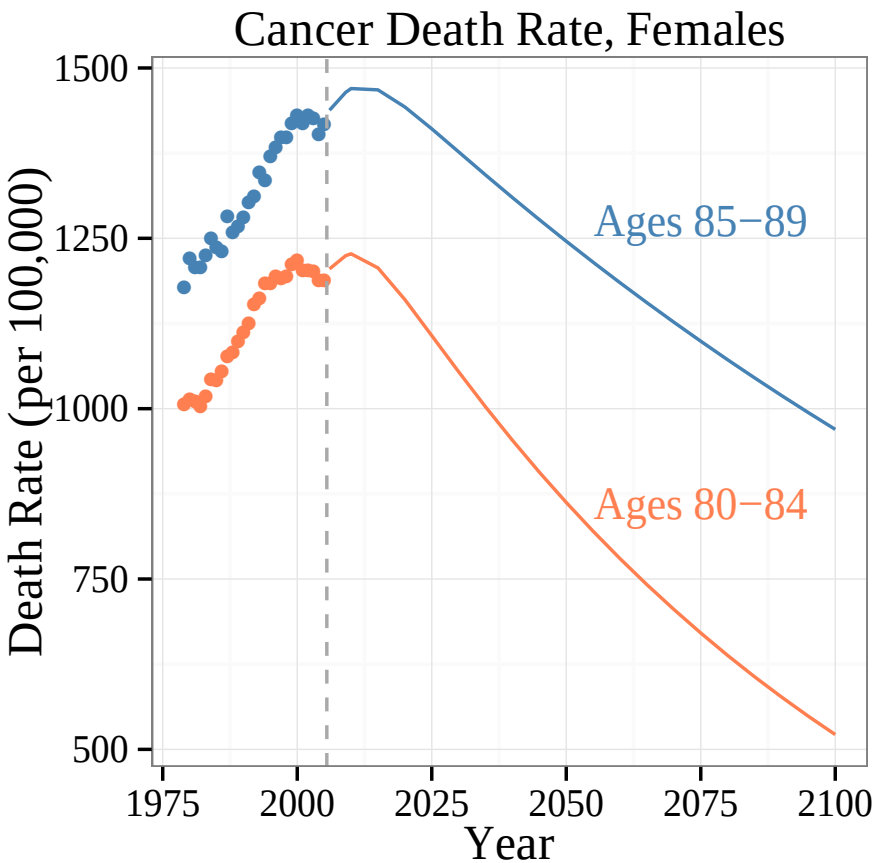

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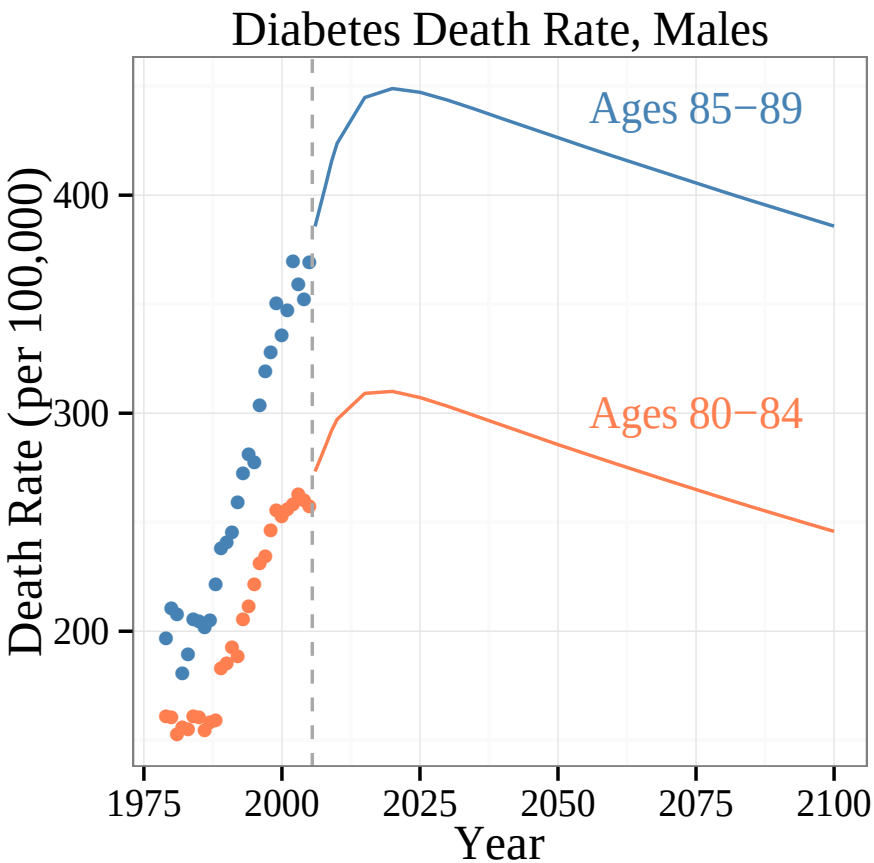

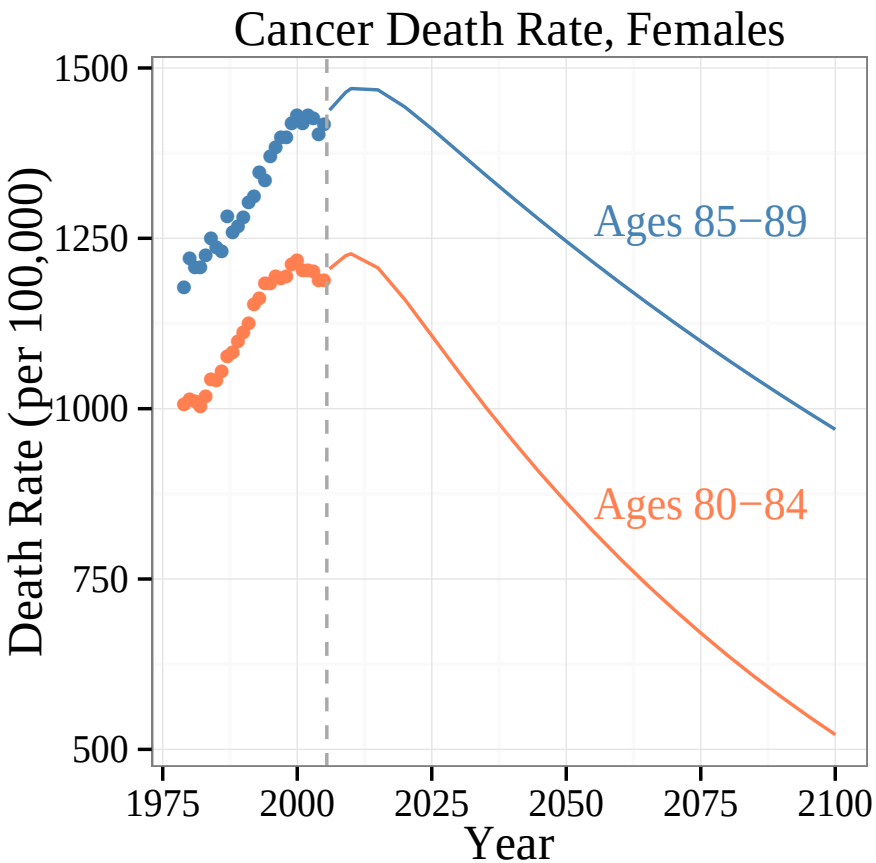

Unrealistic patterns:

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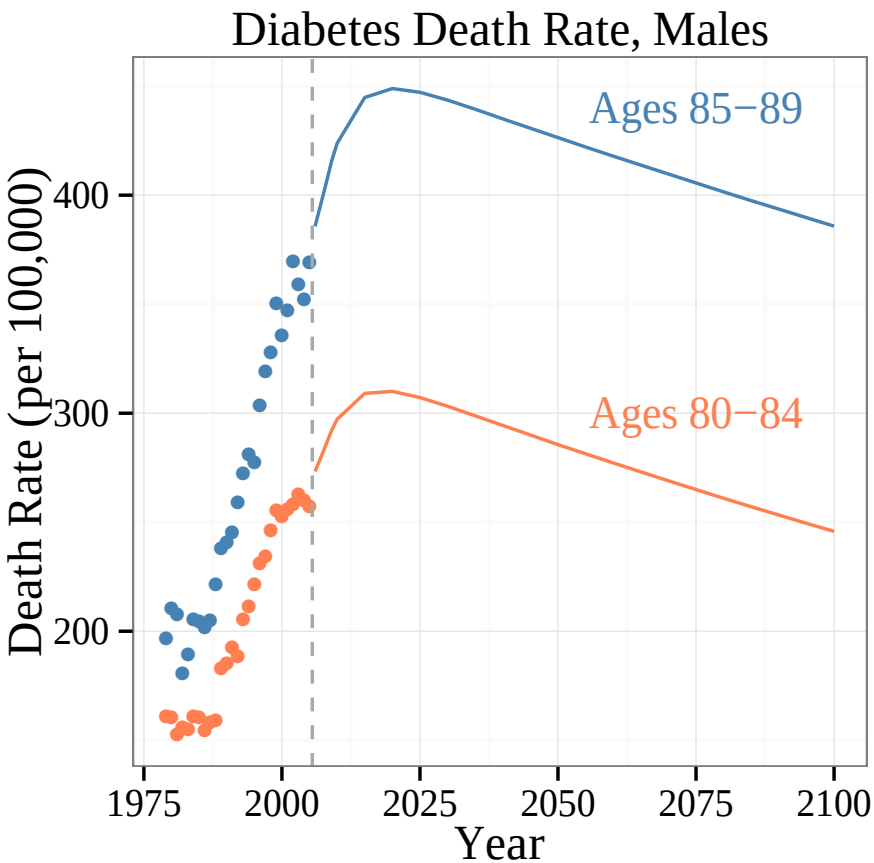

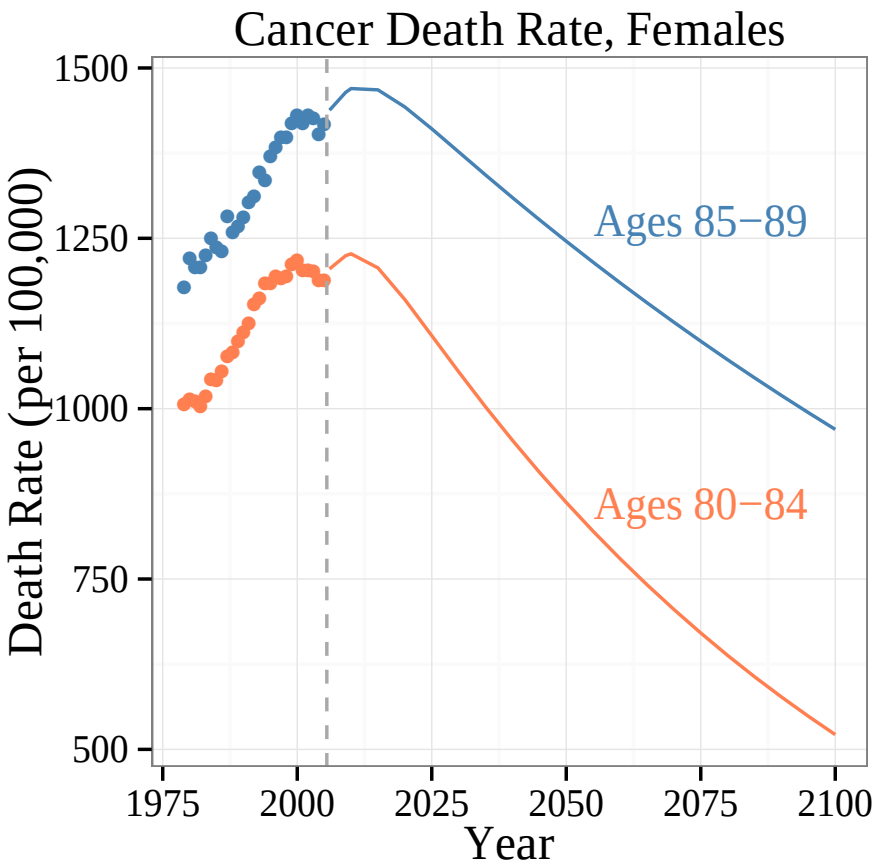

Unrealistic patterns: change of directions,

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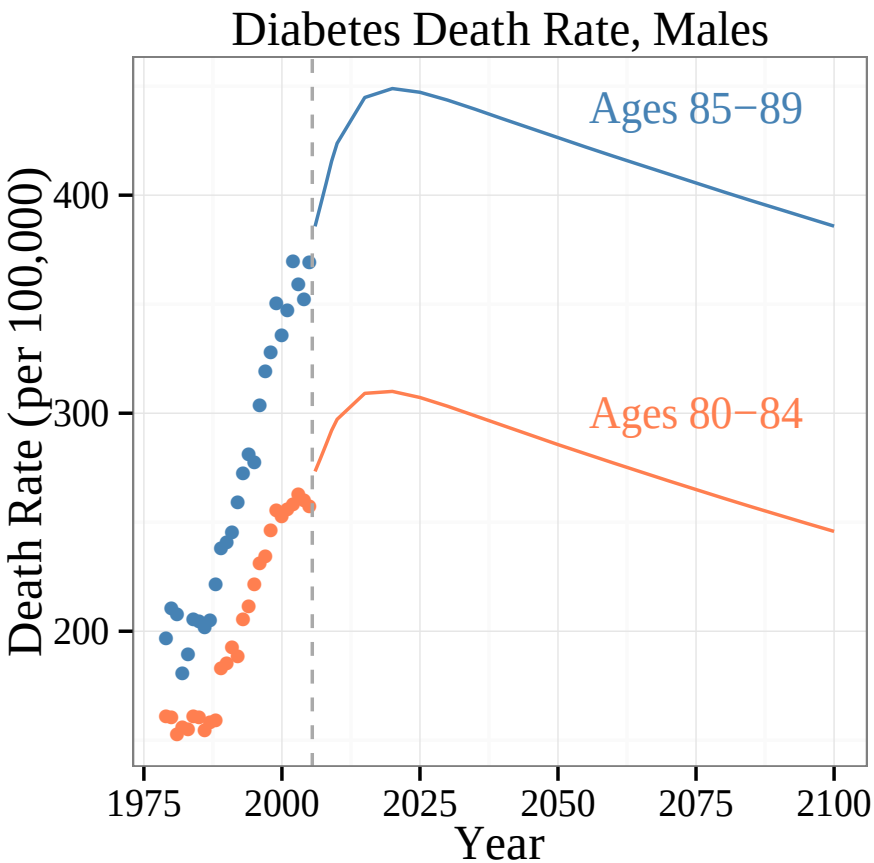

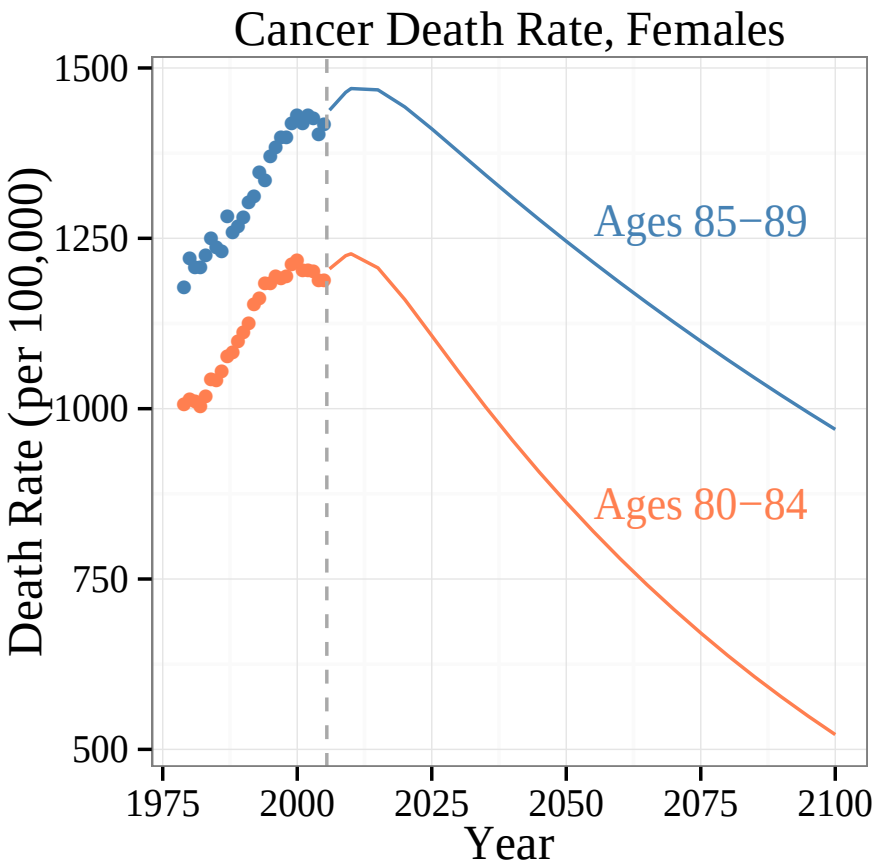

Unrealistic patterns: change of directions, change of differences

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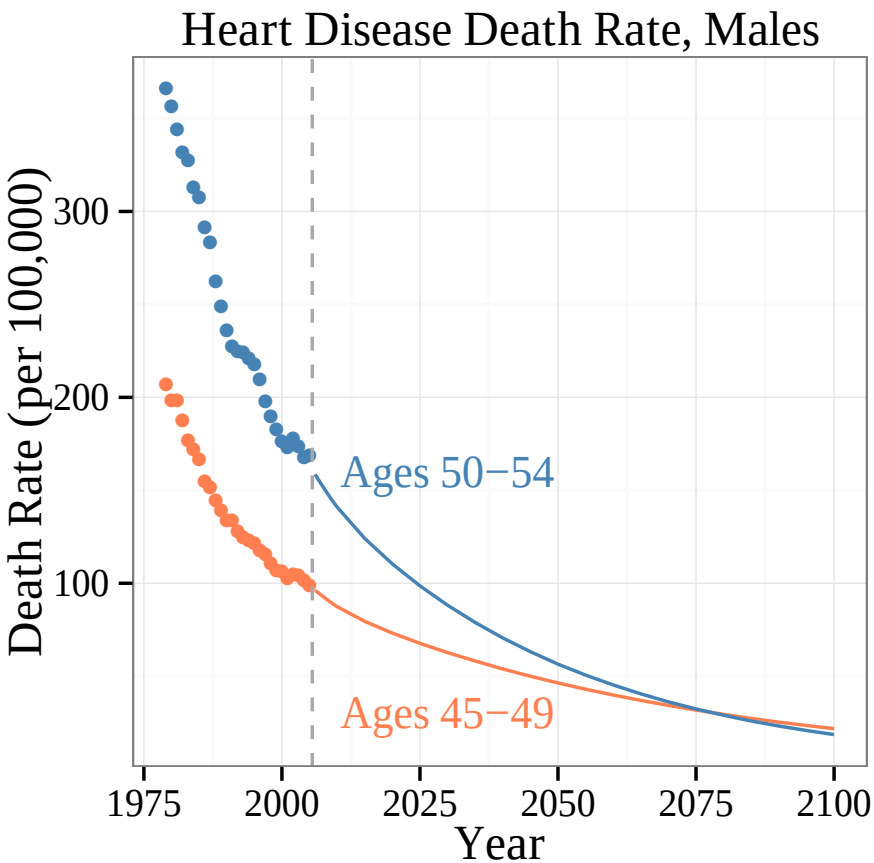

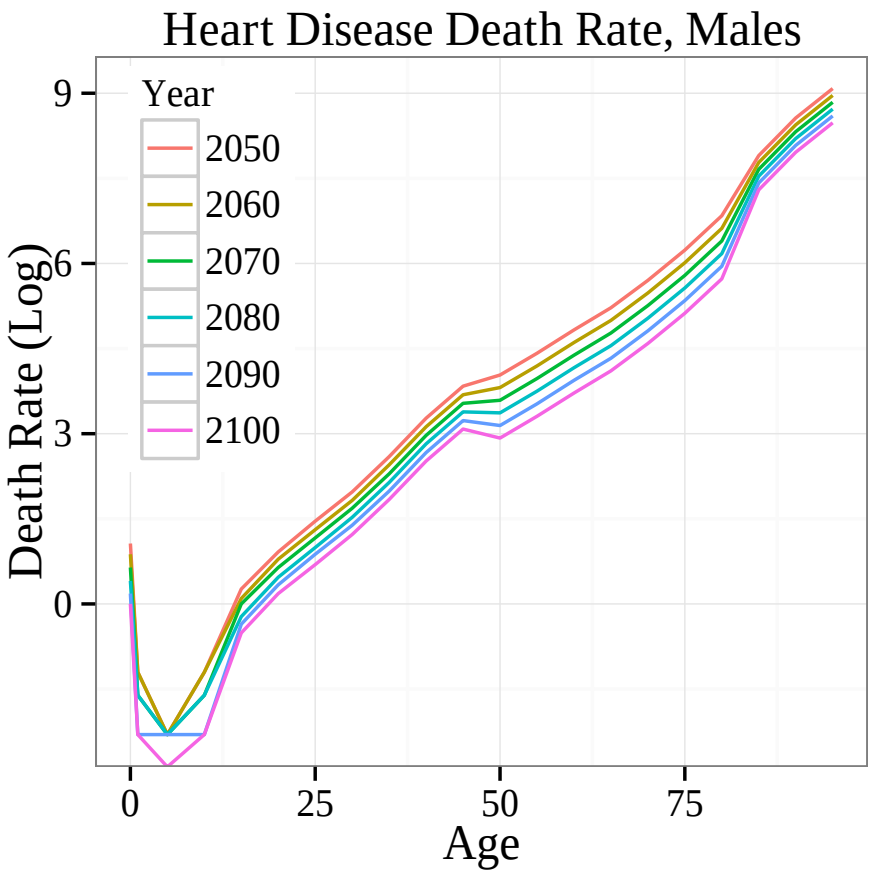

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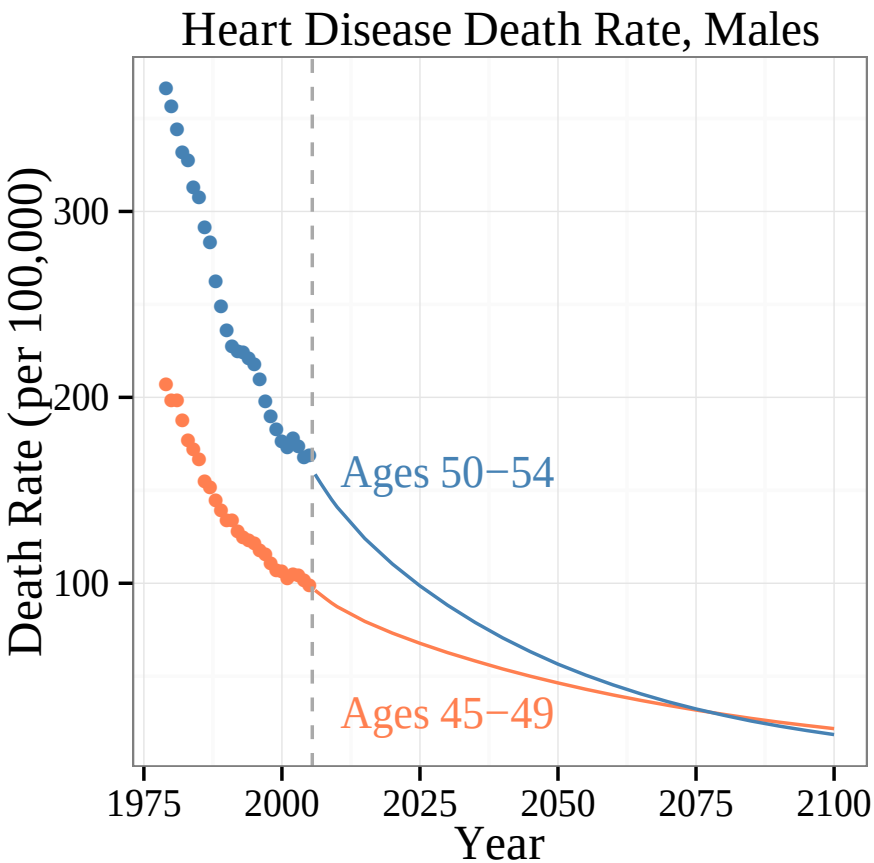

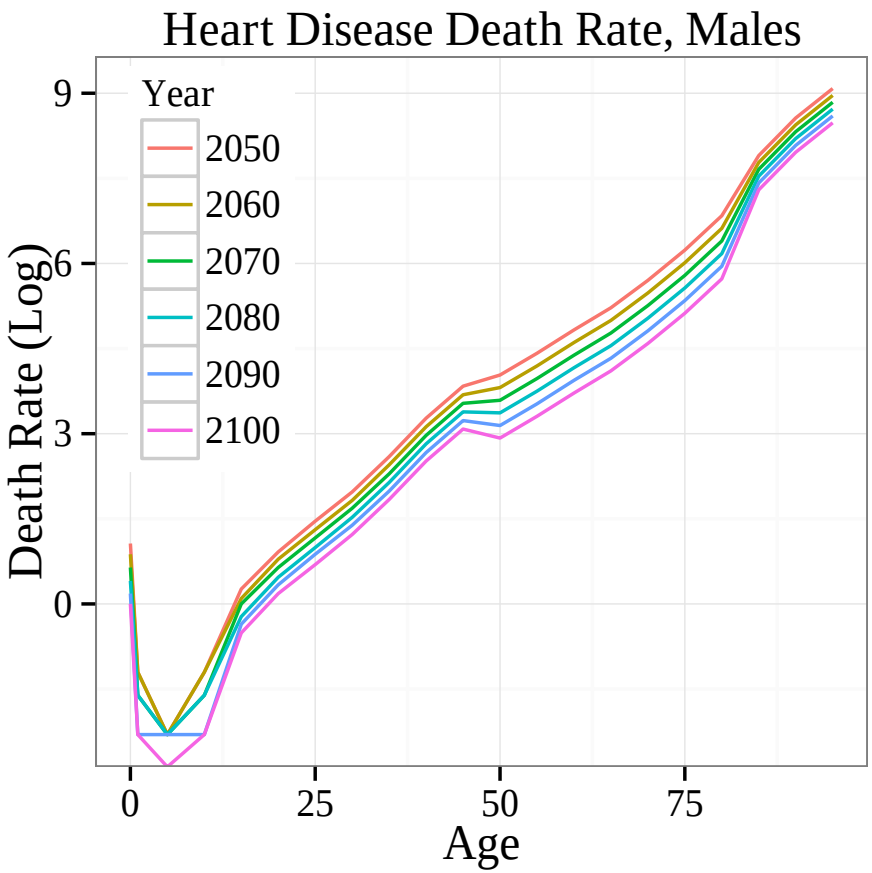

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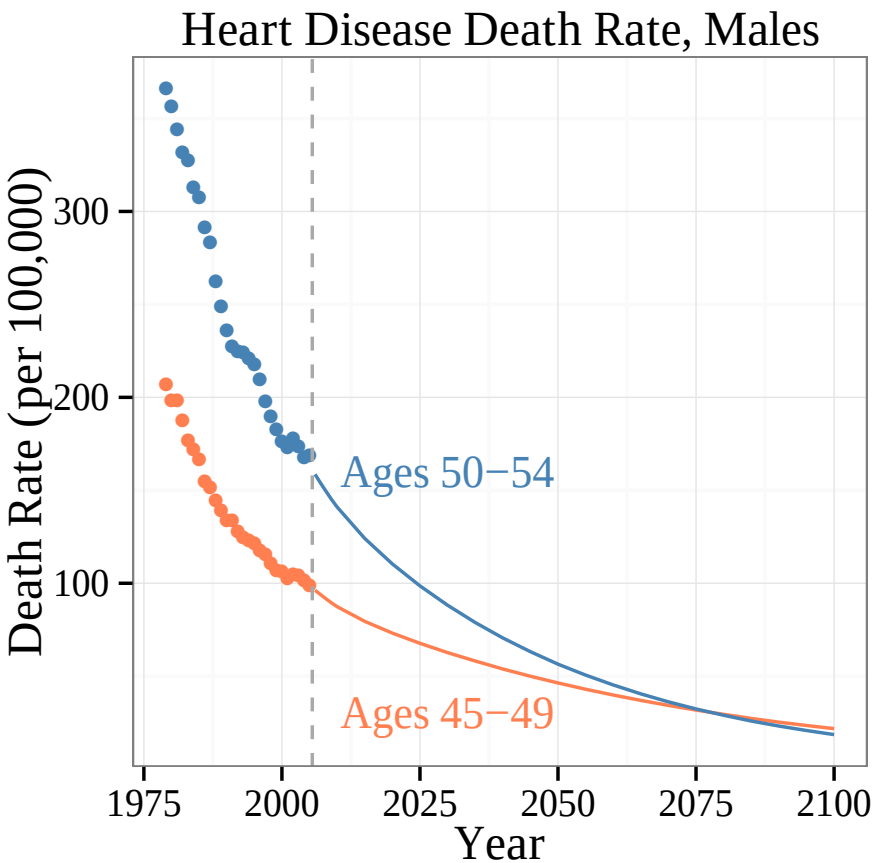

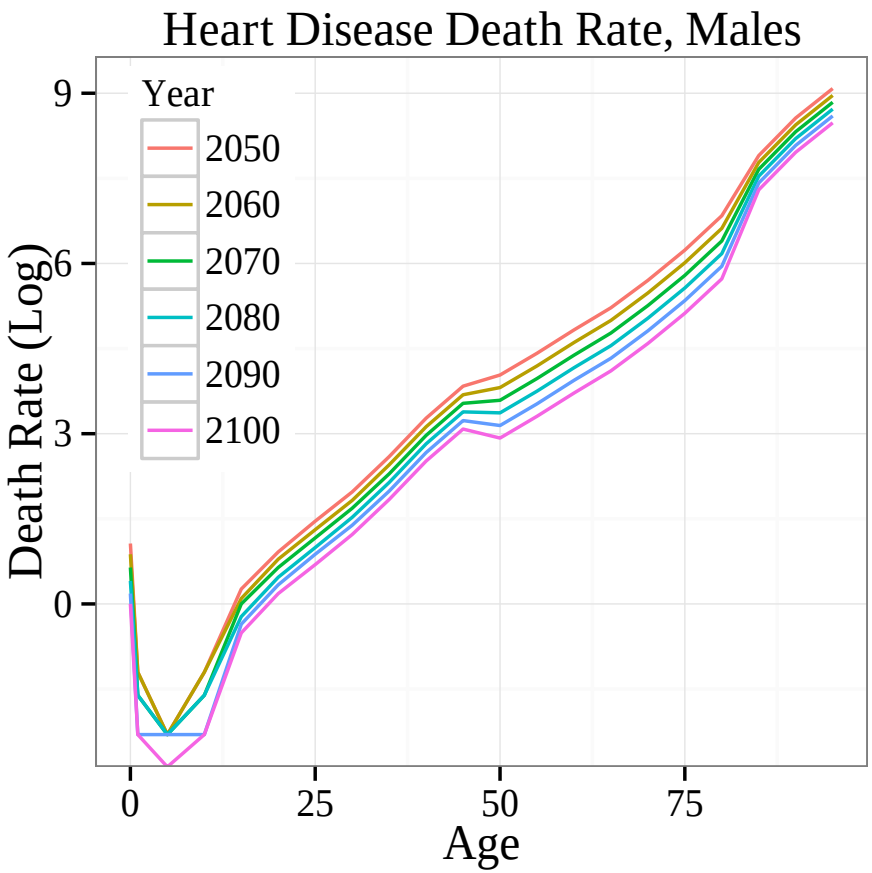

Unrealistic patterns: Crossing age plots,

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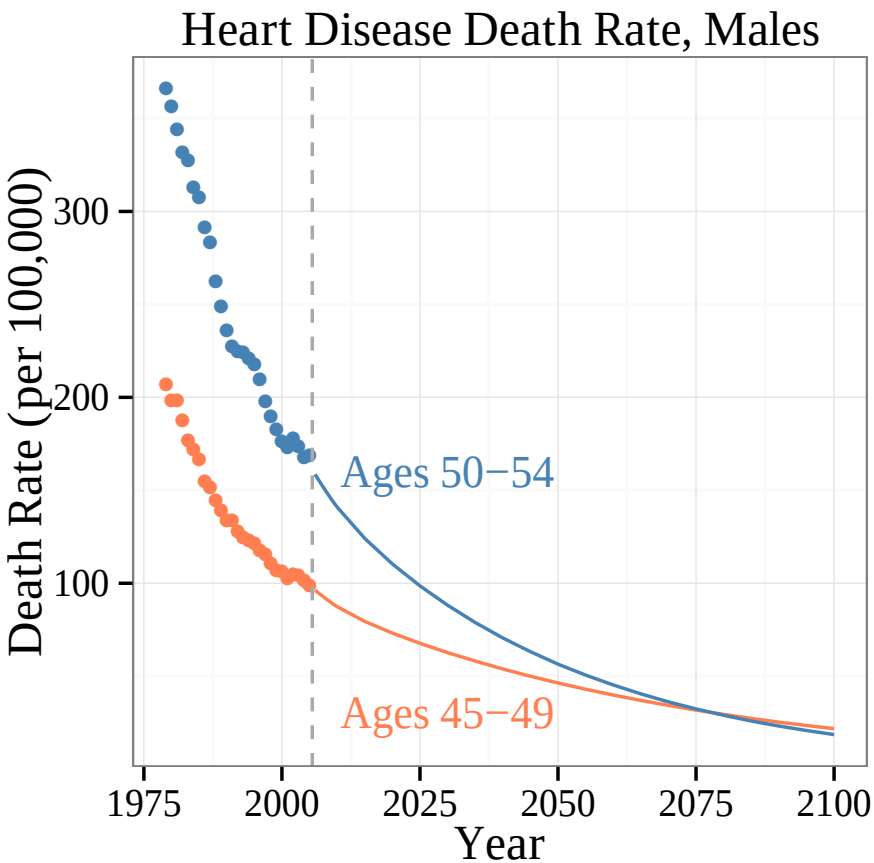

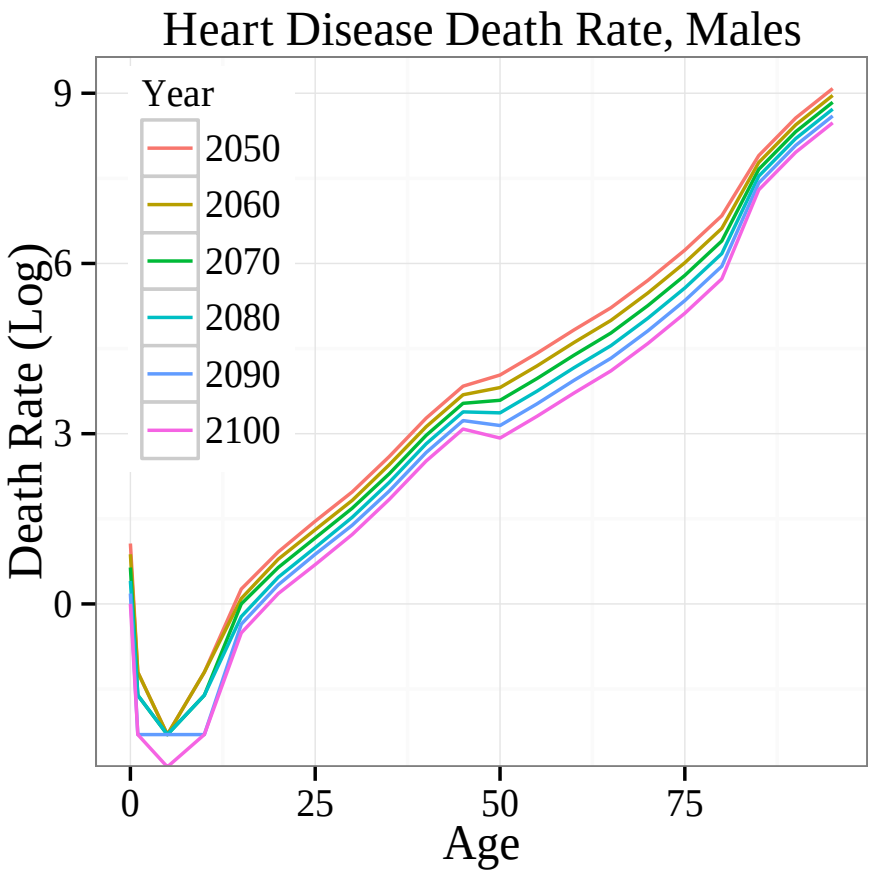

Unrealistic patterns: Crossing age plots, notch for 50-75 year olds

SSA Life Expectancy Forecasts: Increasing Bias Since 2000

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

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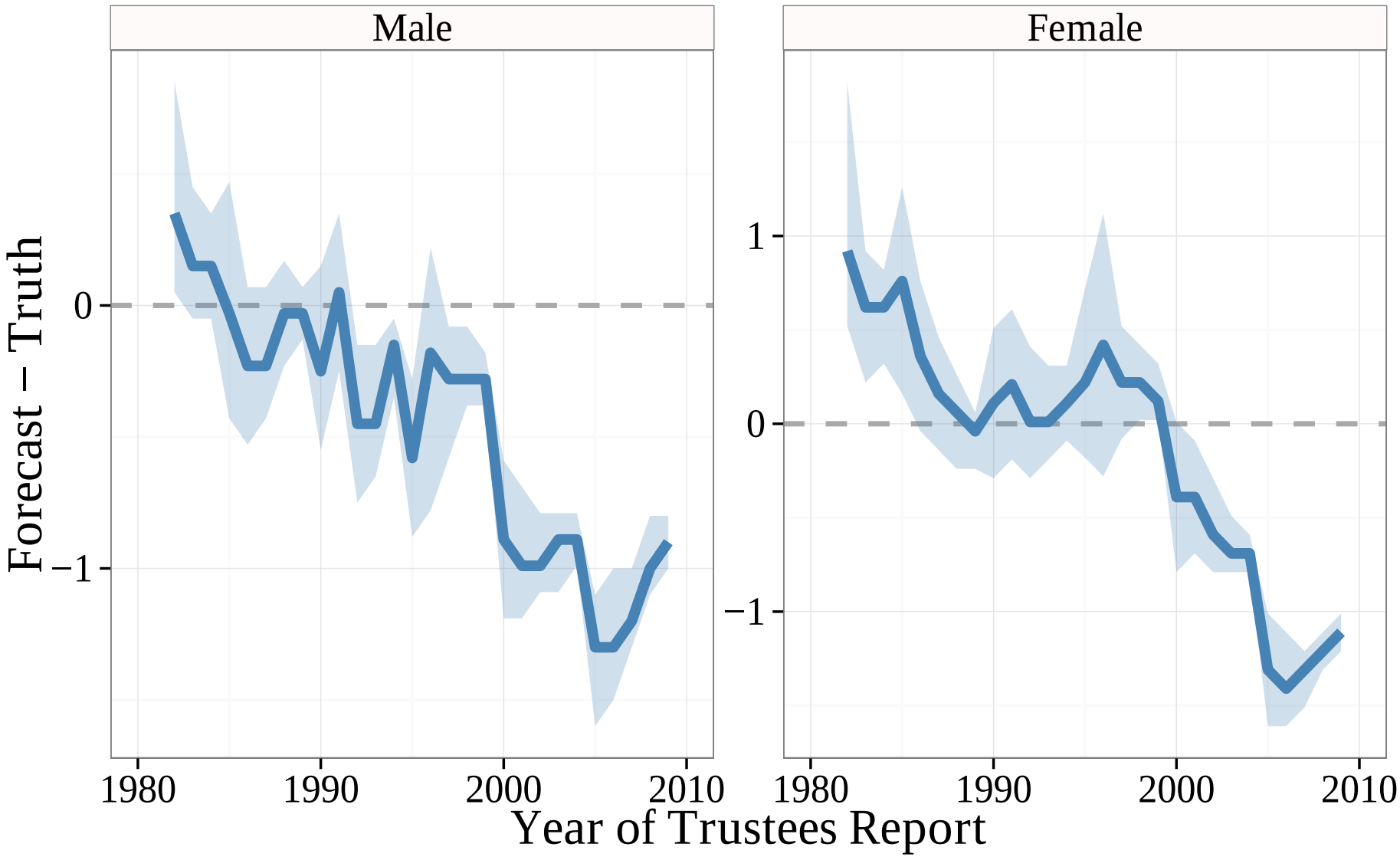

Life Expectancy "Uncertainty Interval" Coverage

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Systematic overconfidence since at least 2000

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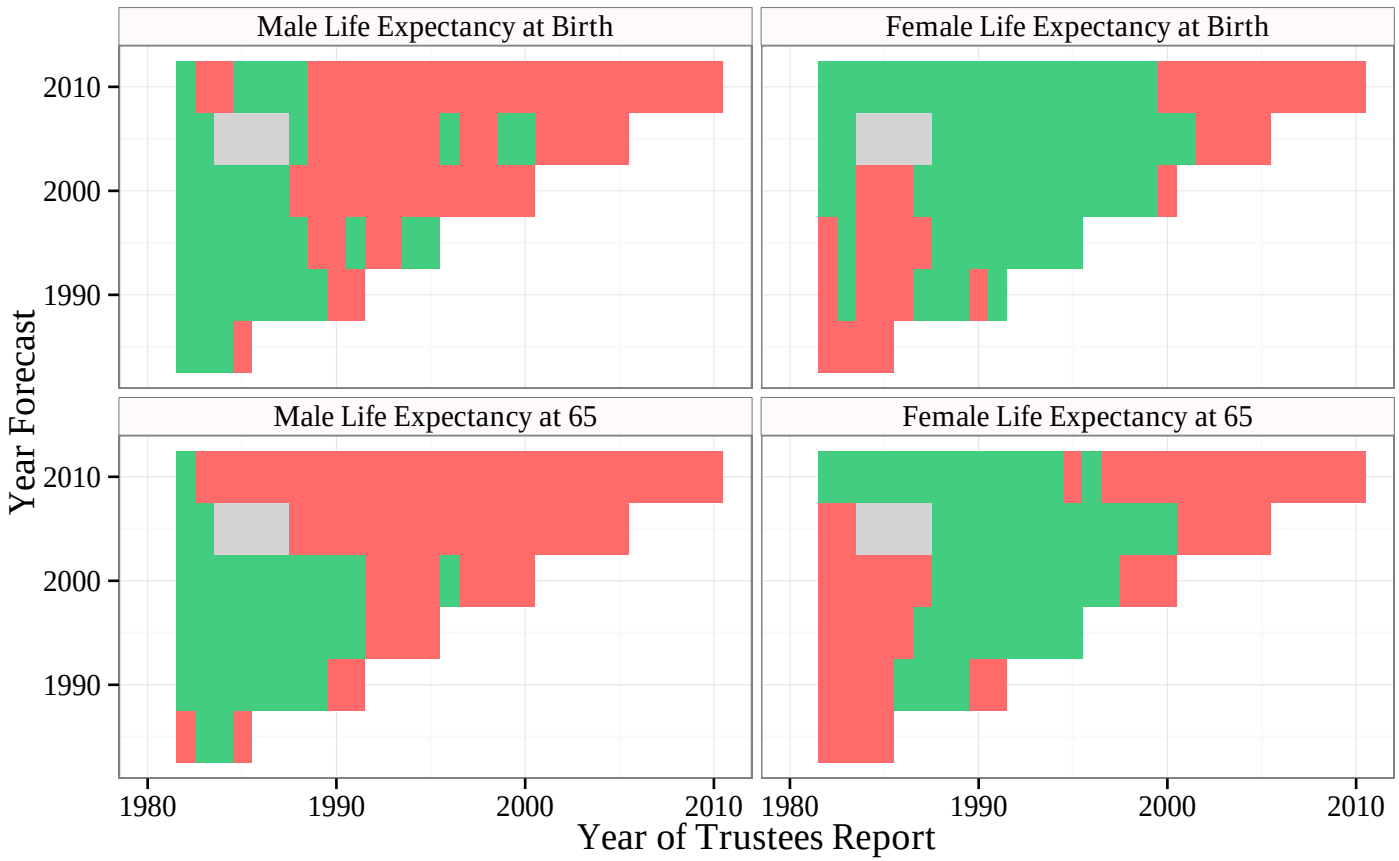

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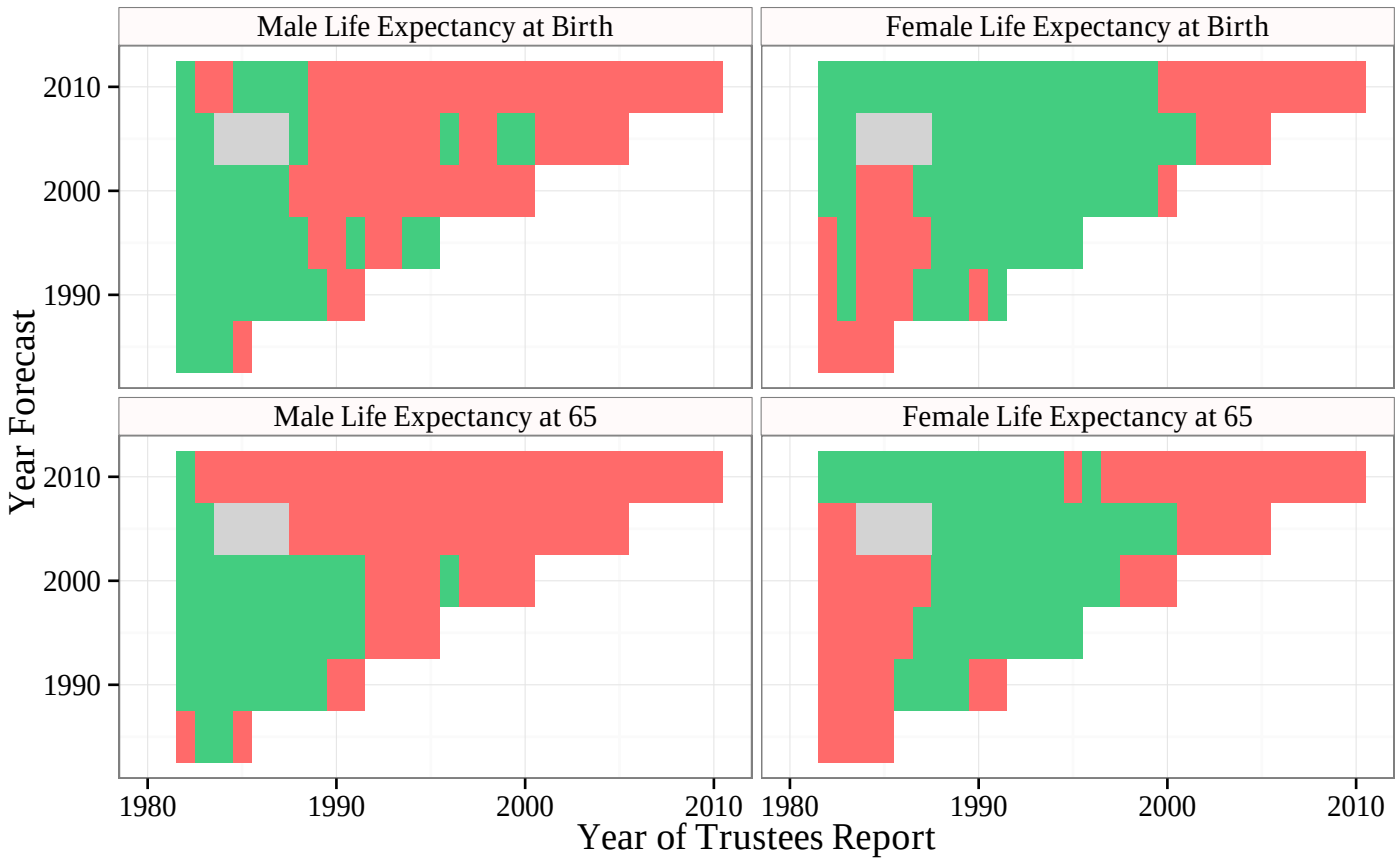

Patterns:

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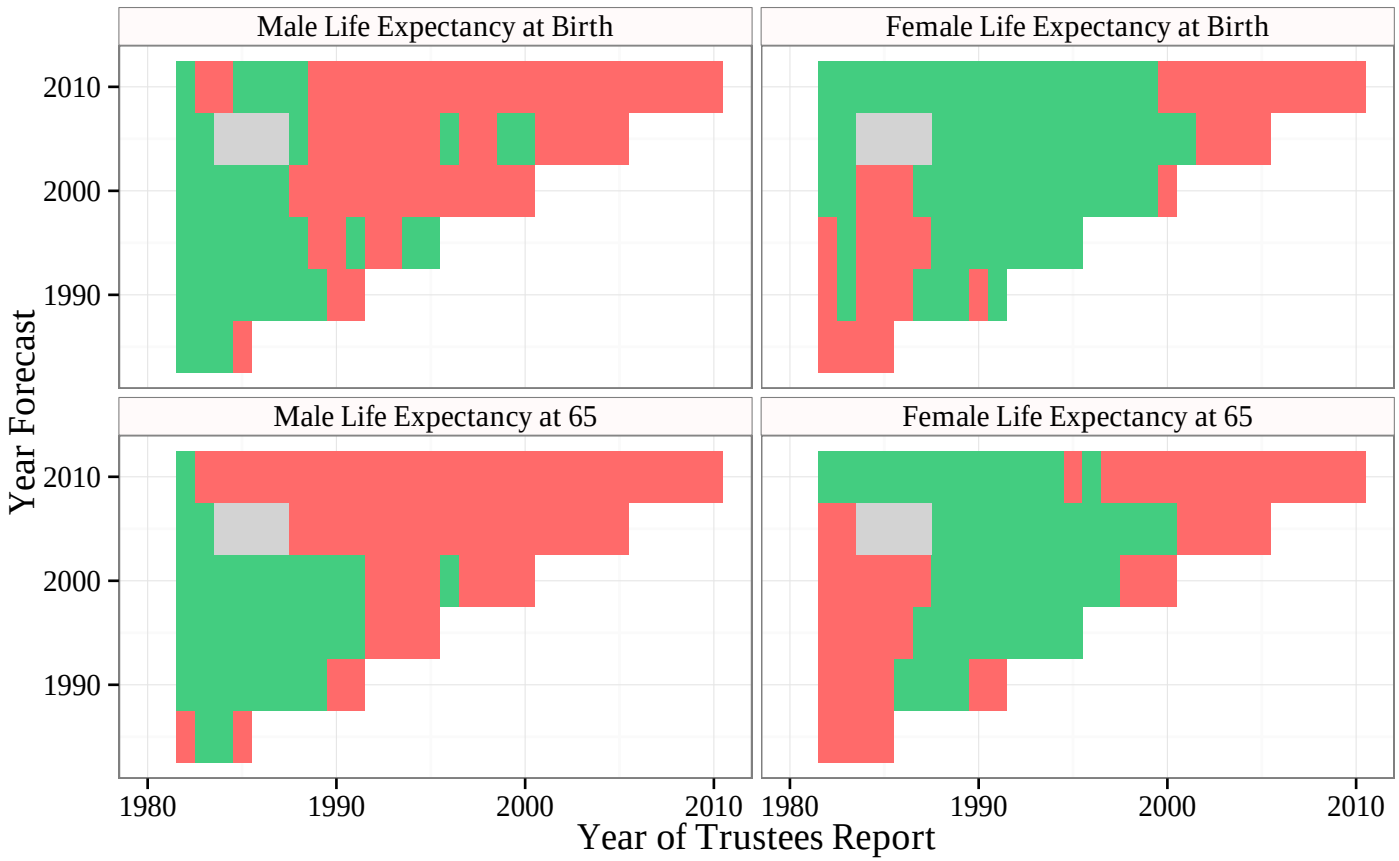

Patterns:

- Vertical: Later Trustees Reports are overconfident

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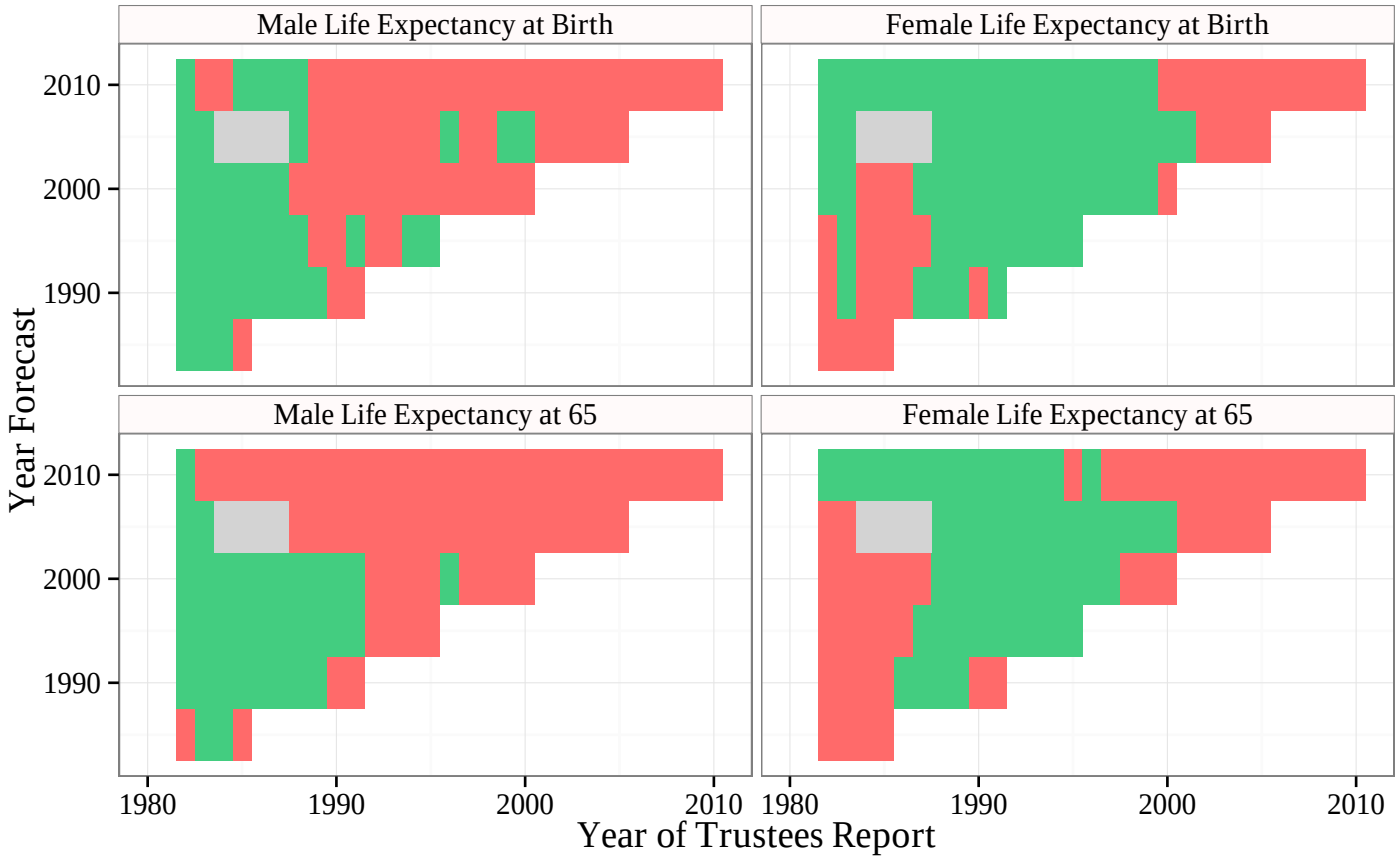
Systematic overconfidence since at least 2000

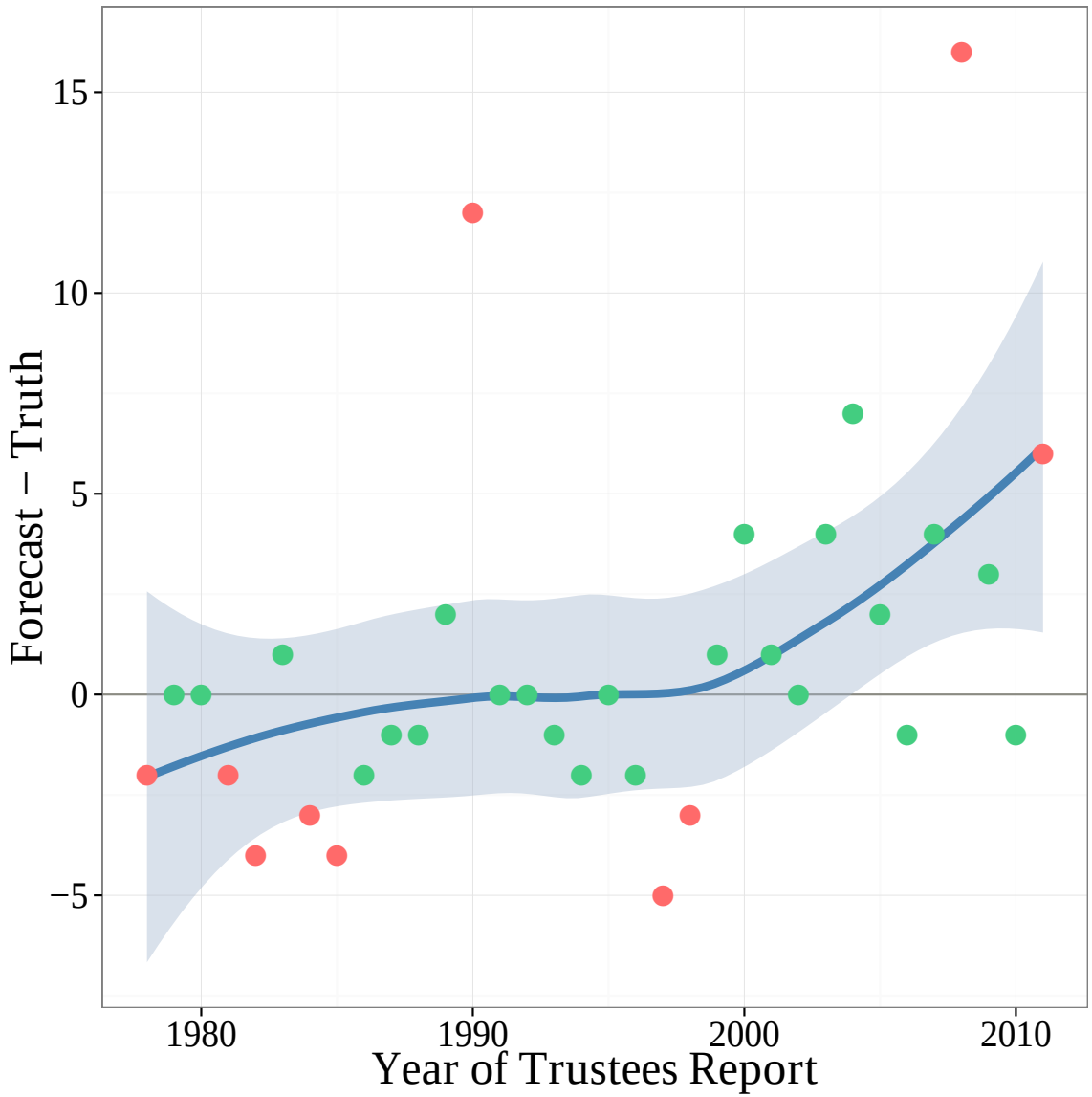


Patterns:

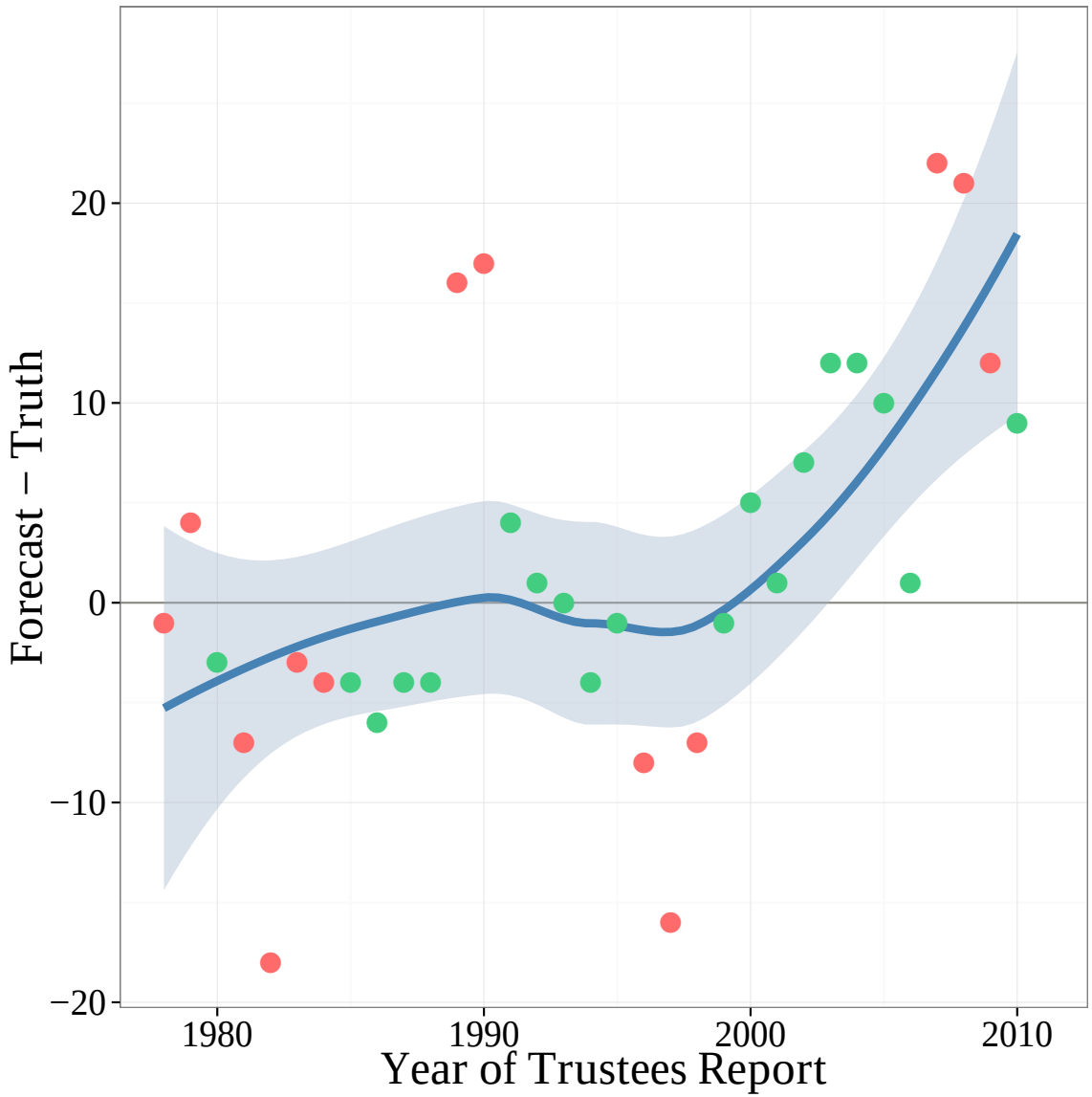
- Vertical: Later Trustees Reports are overconfident
- Not horizontal: Shorter term forecasts should be better, but aren't

Trust Fund Ratio Forecasting Errors

Trust Fund Ratio Forecasting Errors: 1 Year Ahead



Trust Fund Ratio Forecasting Errors: 2 Years Ahead

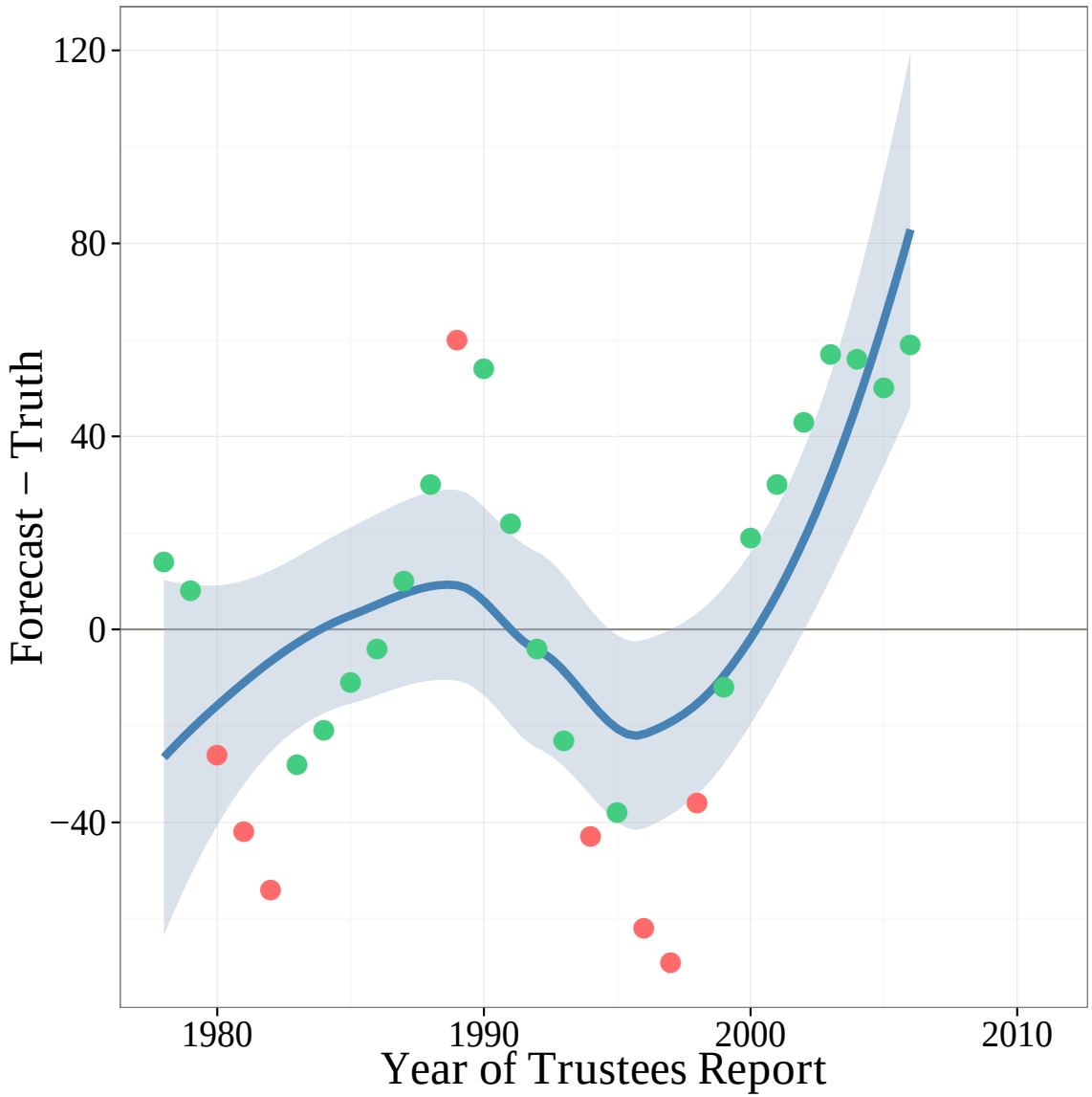


Trust Fund Ratio Forecasting Errors: 3 Years Ahead

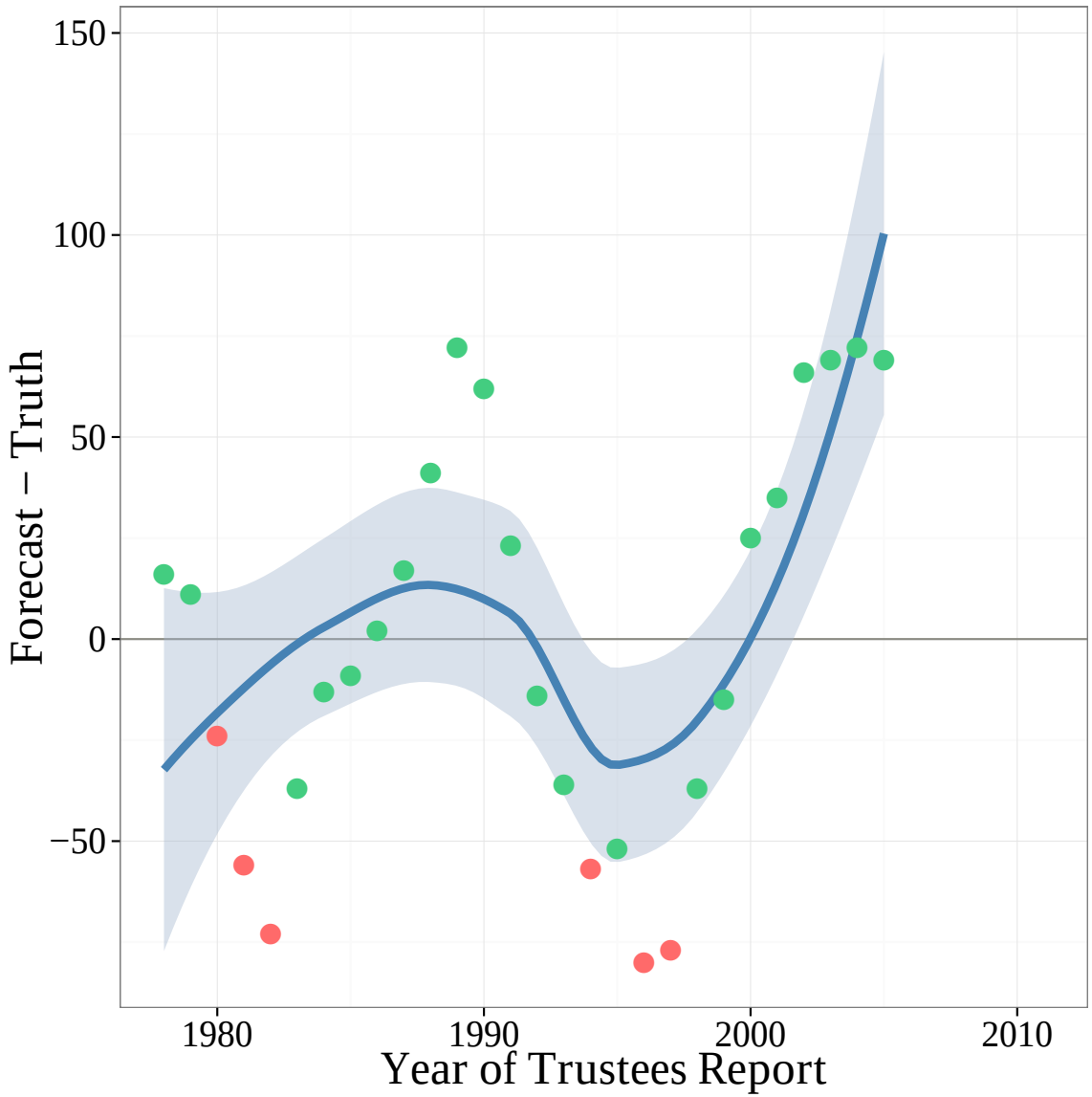
Trust Fund Ratio Forecasting Errors: 4 Years Ahead

Trust Fund Ratio Forecasting Errors: 5 Years Ahead

Trust Fund Ratio Forecasting Errors: 6 Years Ahead



Trust Fund Ratio Forecasting Errors: 7 Years Ahead



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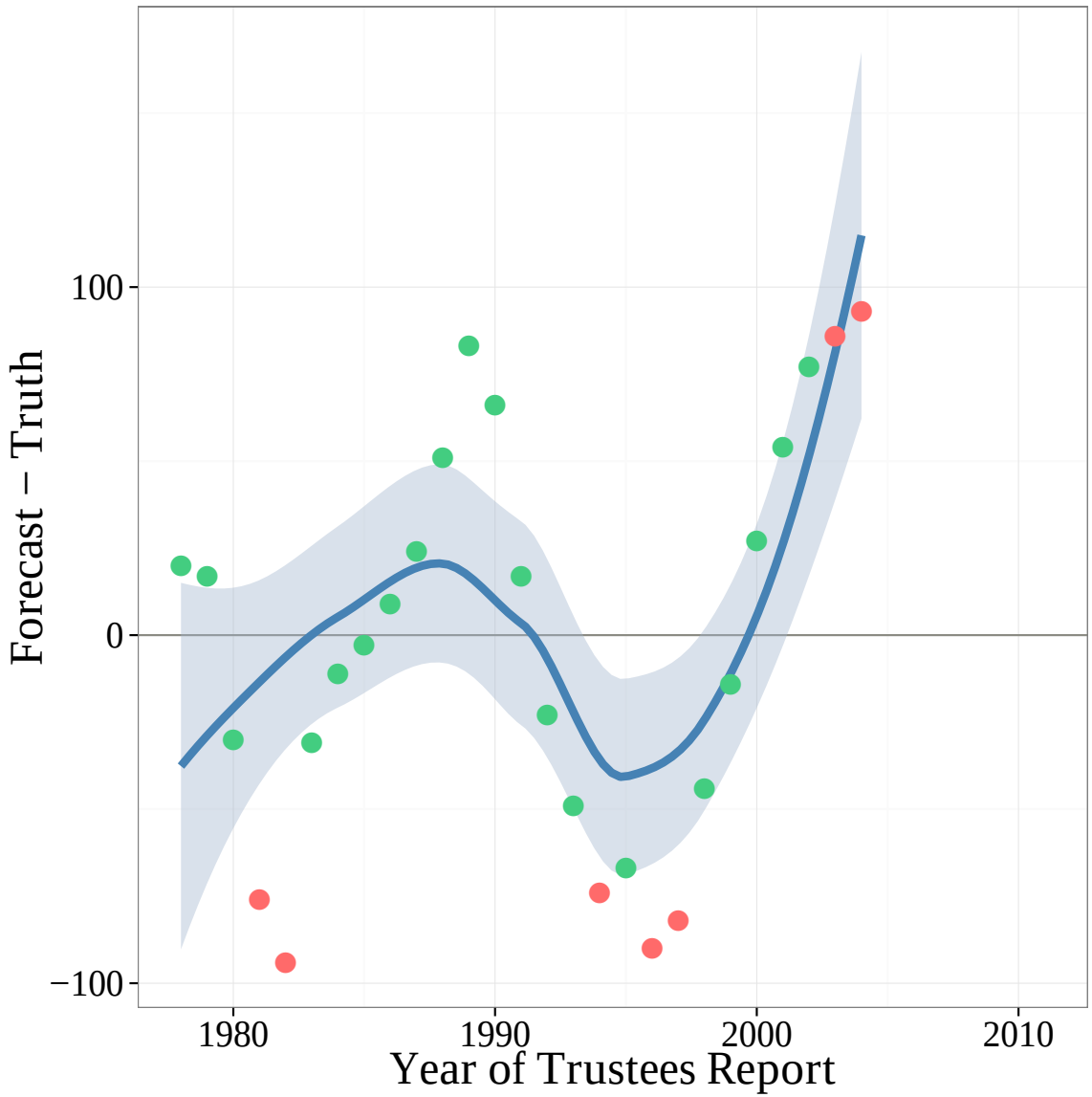
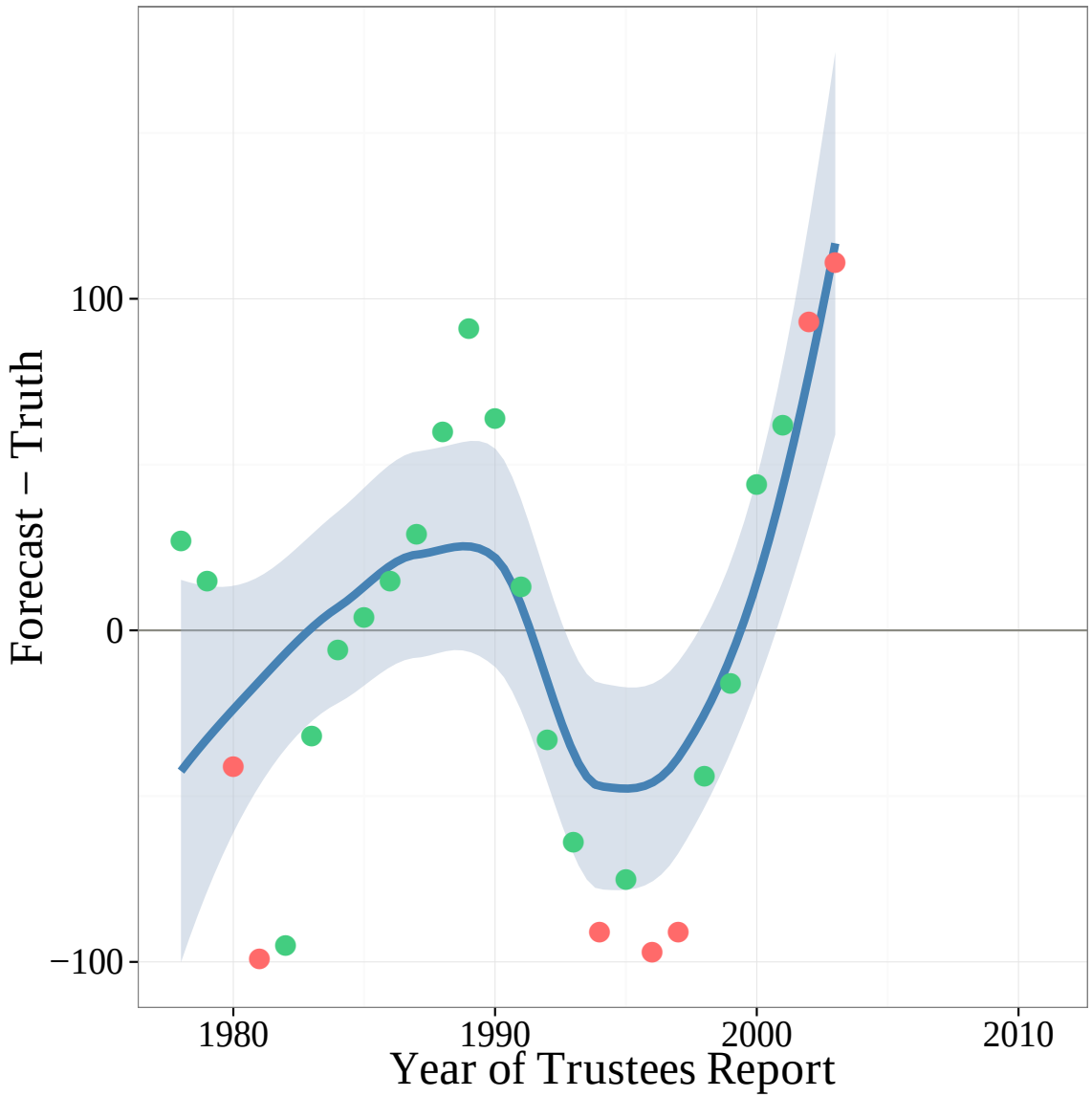
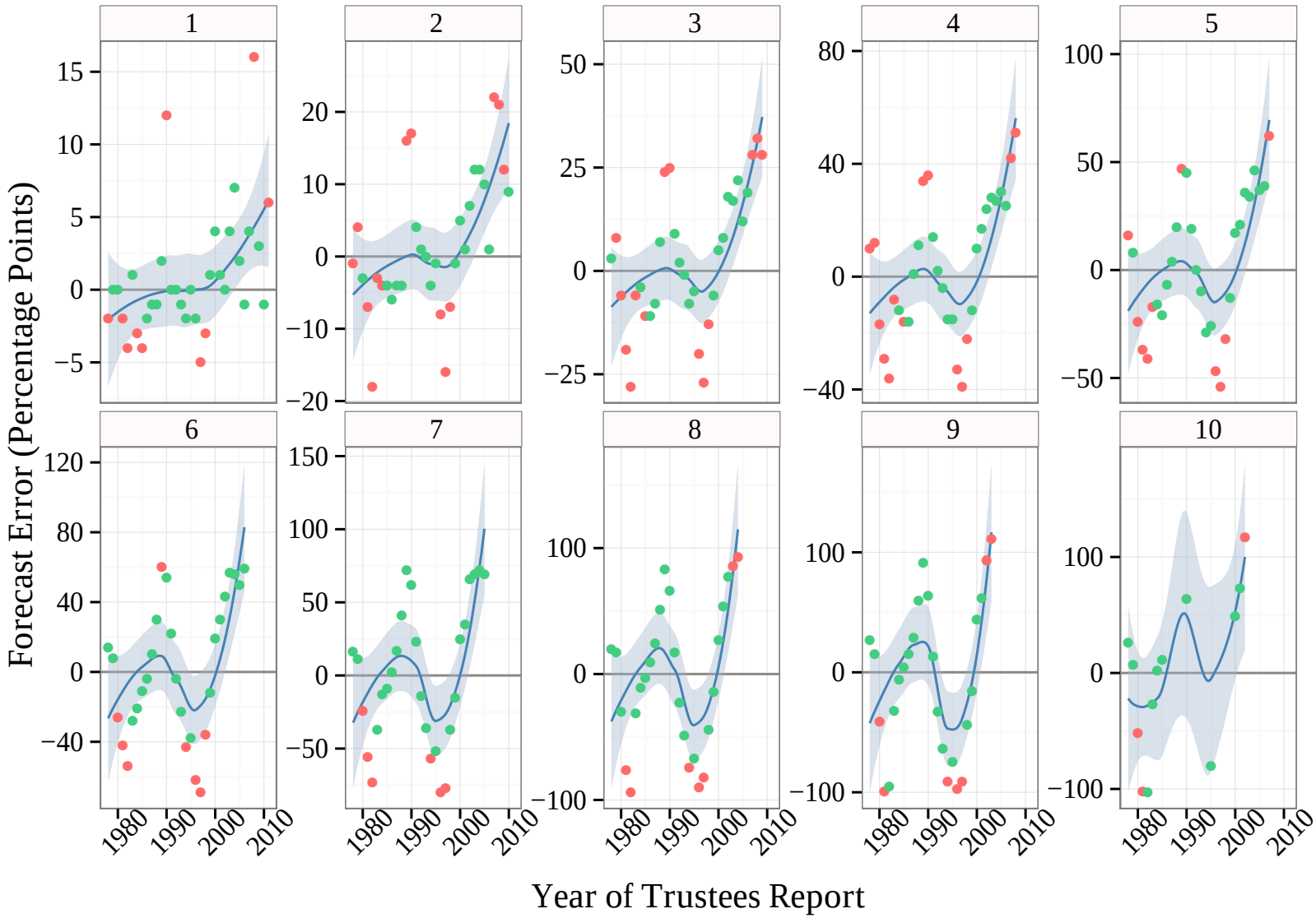


Trust Fund Ratio Forecasting Errors: 9 Years Ahead



Trust Fund Ratio Forecasting Errors: Summary



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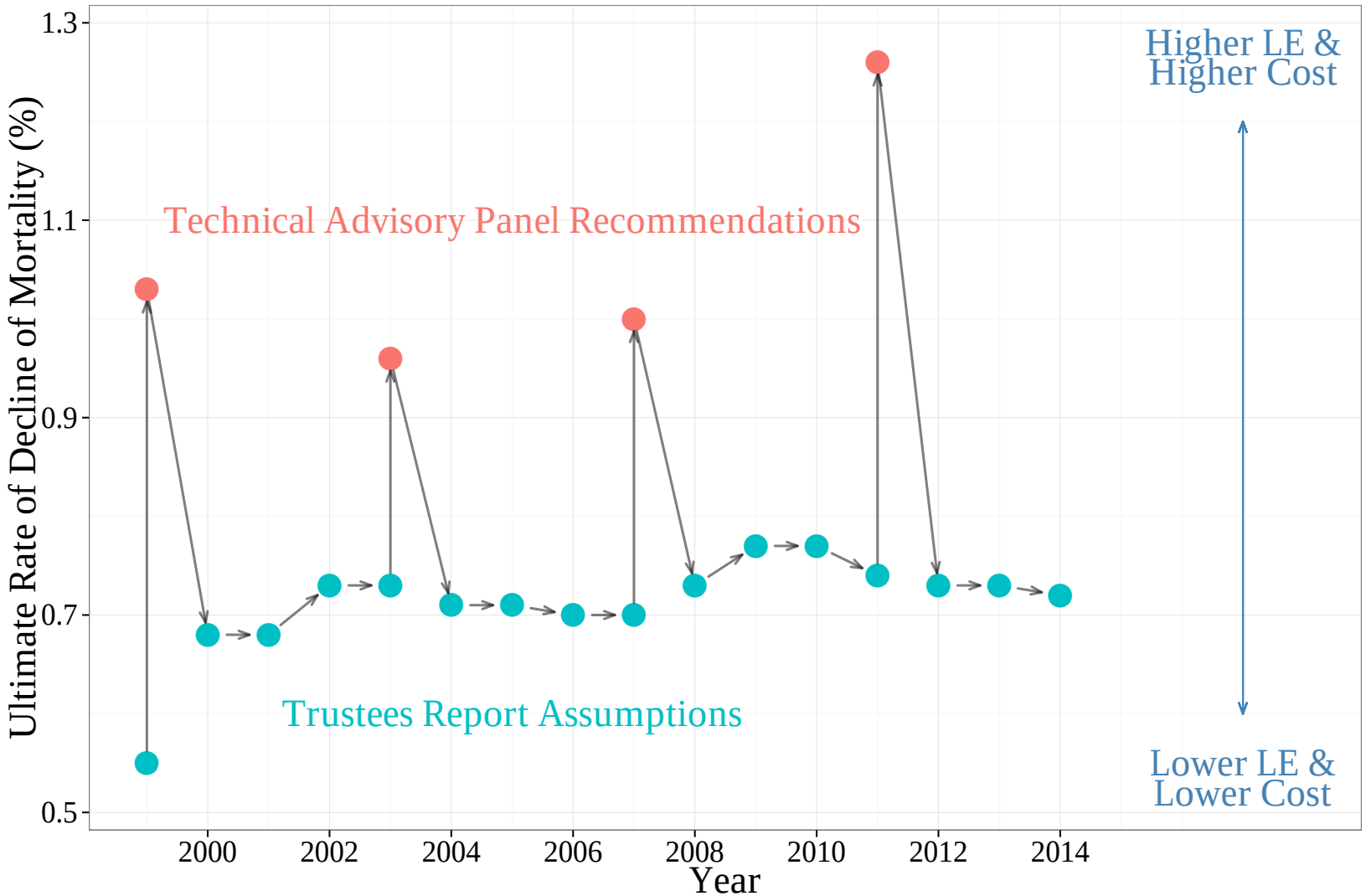

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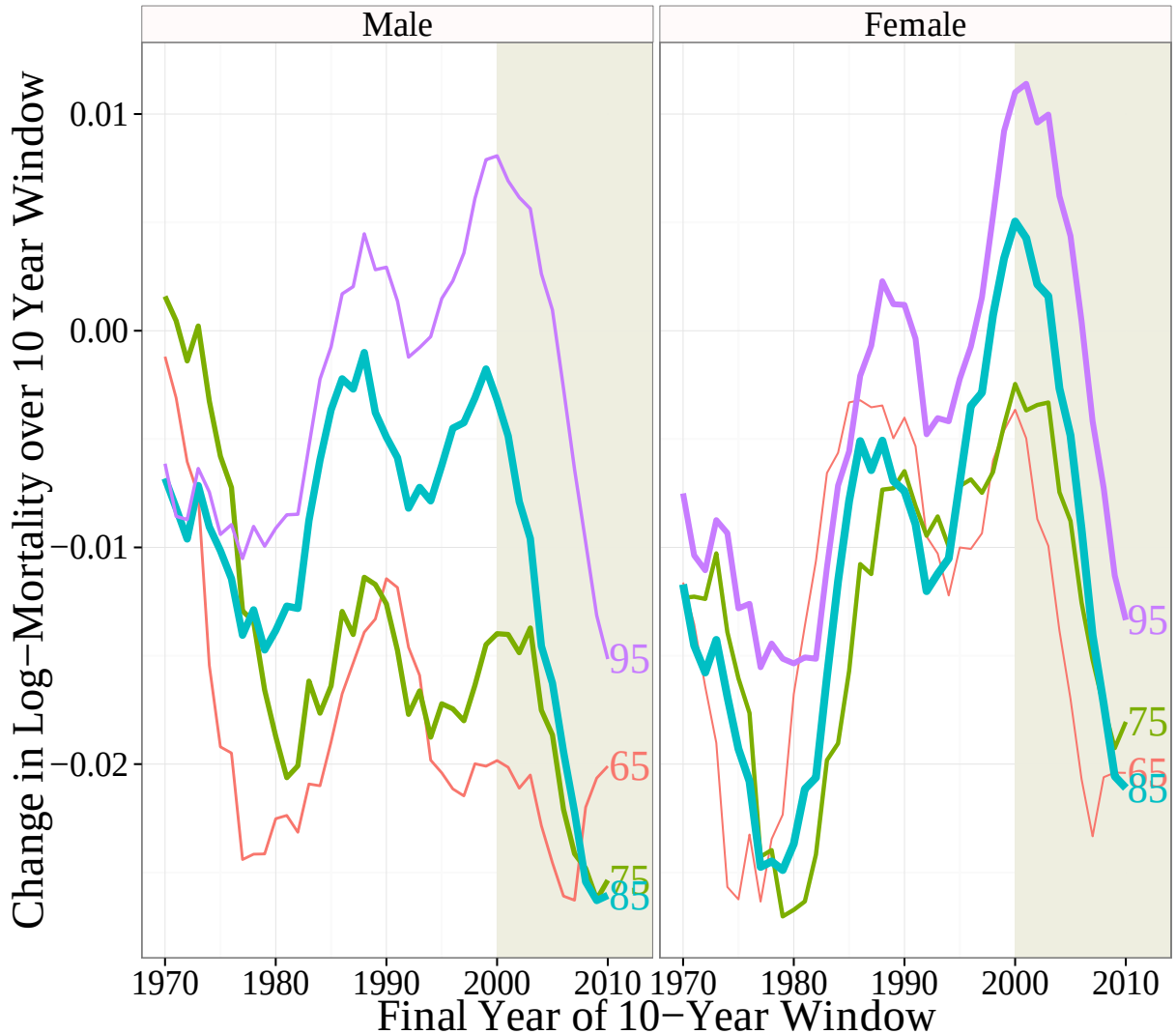

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For more information:

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