Systematic Bias and Nontransparency in US Social Security Administration Forecasts
Replication of Figures

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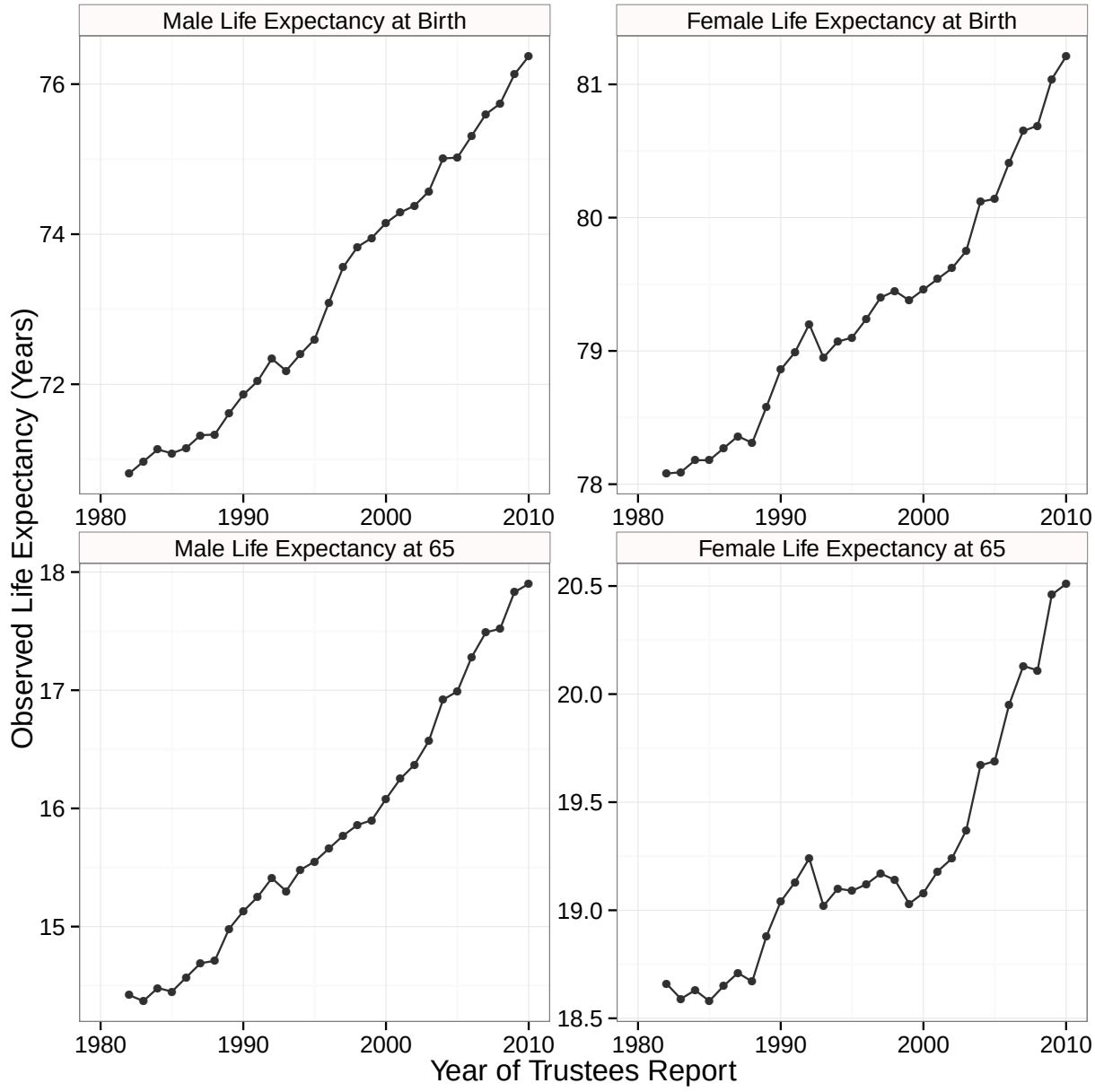
Contents

1 Demographic Forecasts: Life Expectancy

1.1 Observed Life Expectancy

Figure 1: Observed Period Life Expectancy. As described in the text, "period life expectancy" for a year is a single-number summary of all the age-specific mortality rates for that same year and is interpreted as the average number of years a person could expect to live if he or she experienced the mortality rates of a given year over the course of their life.



1.2 2010 and 2005 Life Expectancy Forecasts

Figure 2: Forecast Error of Life Expectancy in 2010 by Year of Trustees Report. Circles (females) and triangles (males) colored white when truth falls within SSA uncertainty intervals and colored black when the truth falls outside SSA uncertainty intervals.

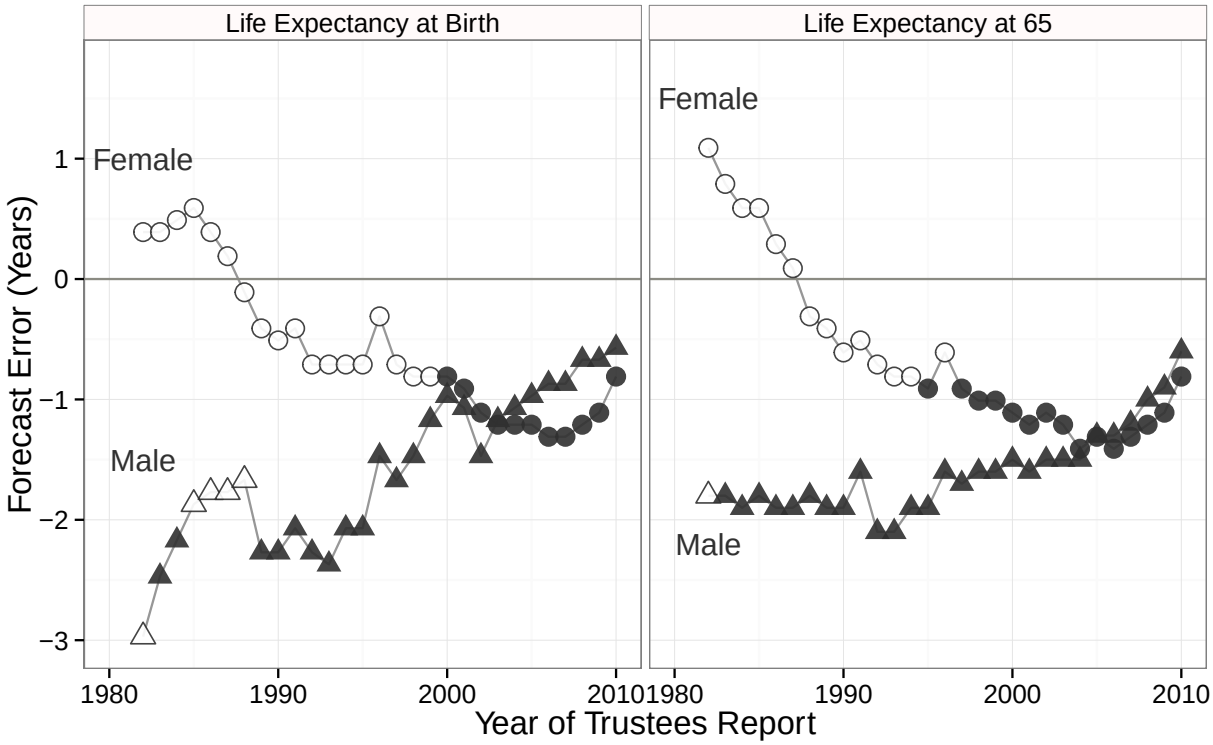
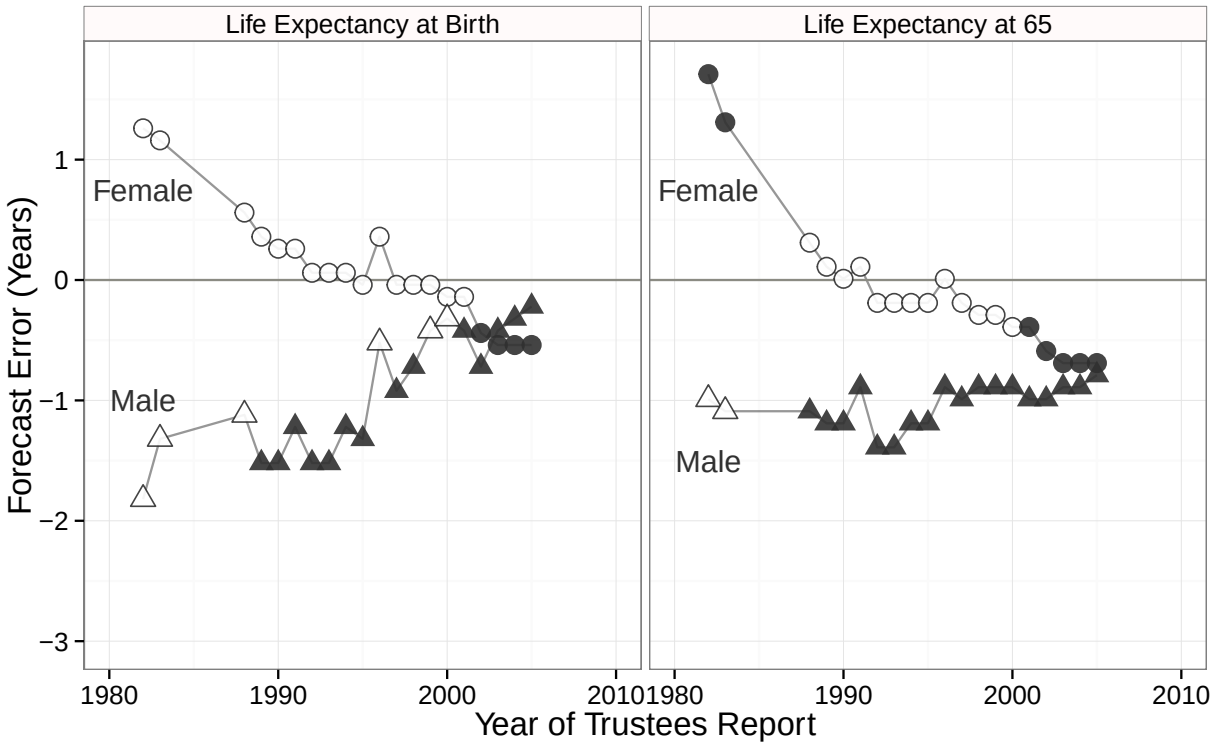
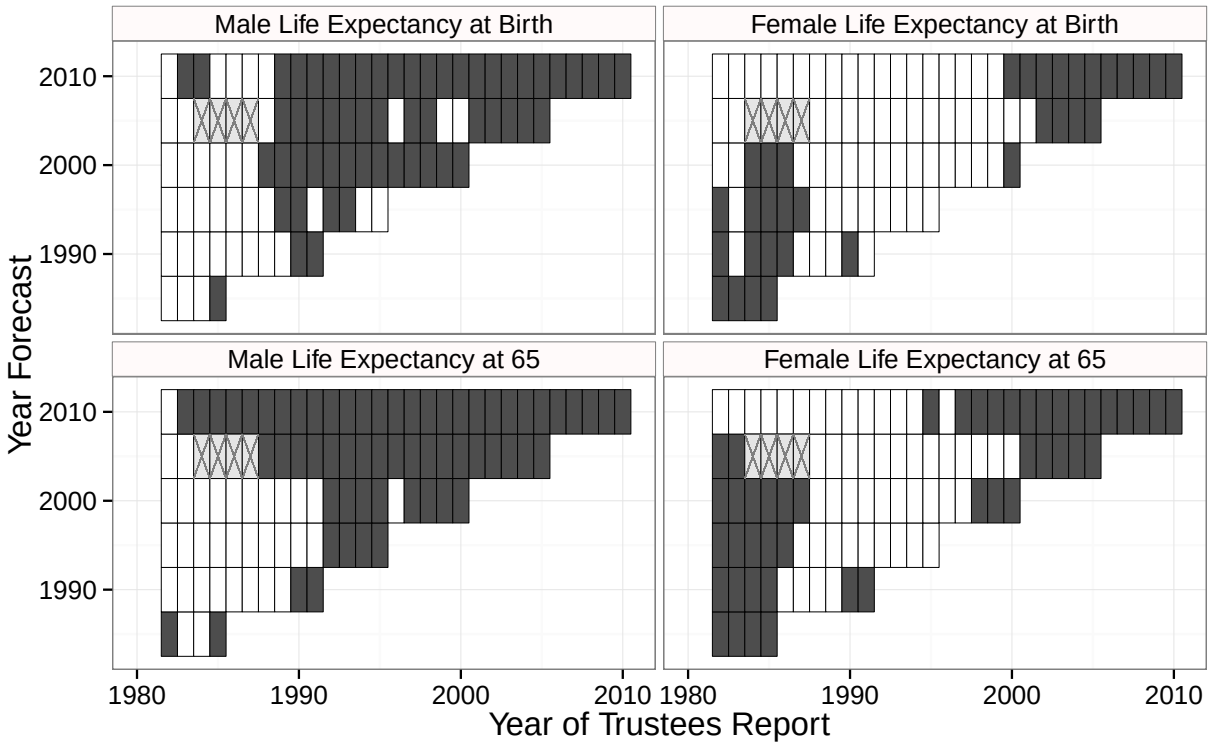


Figure 3: Forecast Error of Life Expectancy in 2005 by Year of Trustees Report. Circles (females) and triangles (males) colored white when truth falls within SSA uncertainty intervals and colored black when the truth falls outside SSA uncertainty intervals.



1.3 Uncertainty Intervals

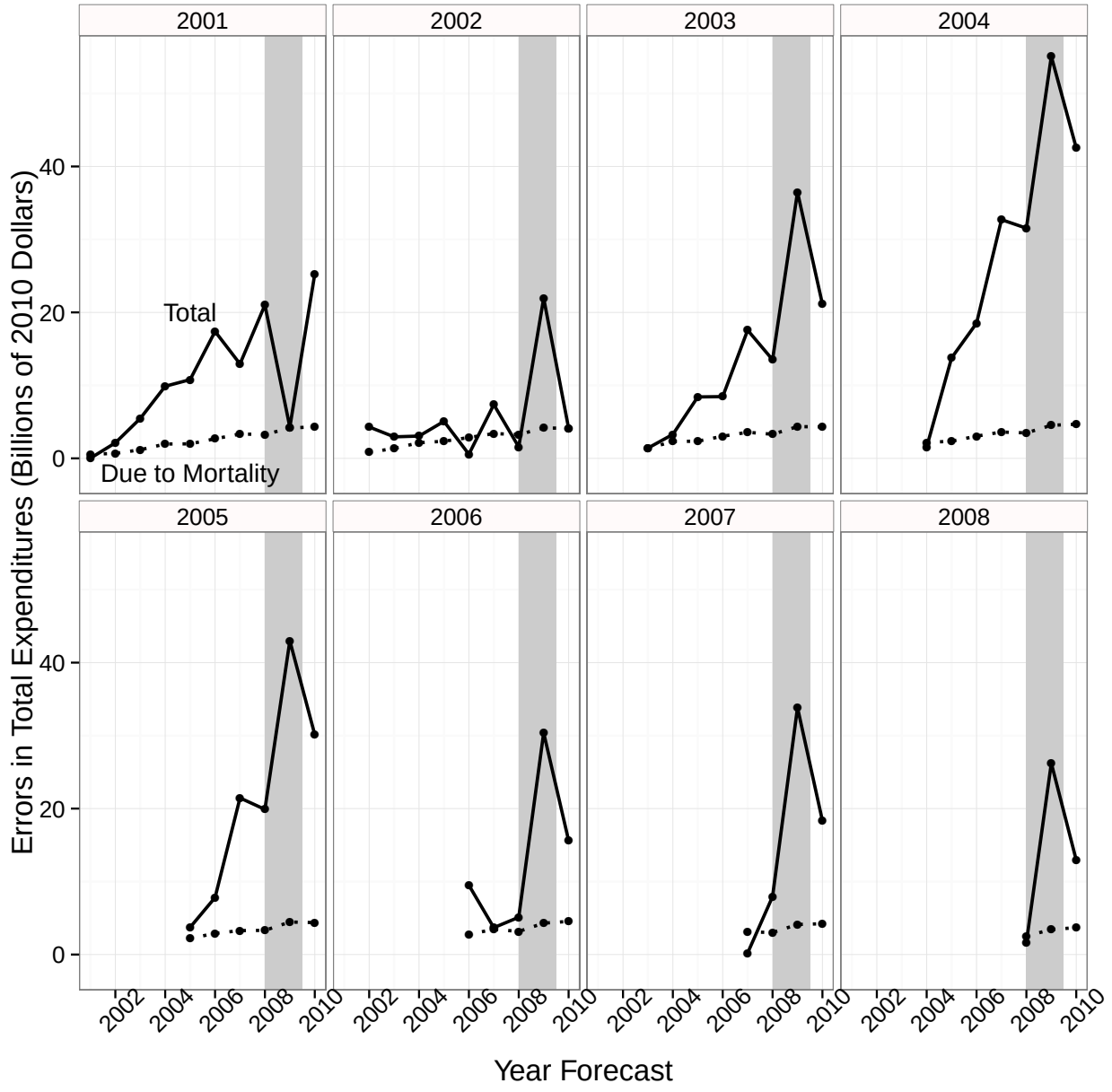
Figure 4: Uncertainty interval coverage by year of Trustees Report and year of forecast. Black indicates uncertainty interval covered the truth, white indicates that it did not, and gray "X" indicates that SSA did not provide an uncertainty interval. Contemporaneous forecast error is possible because of the time lag (typically three to four years) in finalizing mortality data.



2 Financial Forecasts

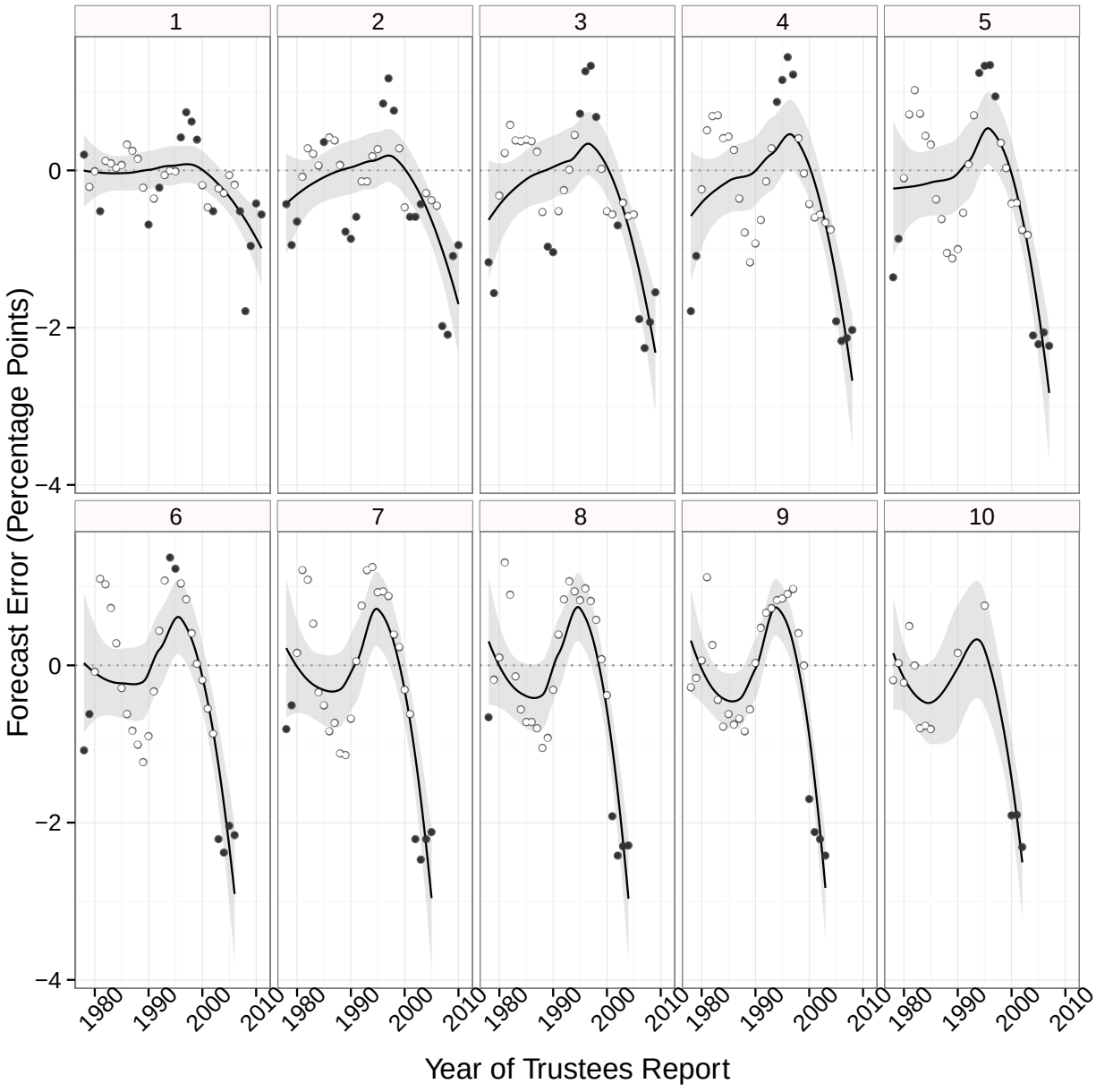
2.1 Cost of Mortality Forecasting Errors

Figure 5: Cost of Mortality Forecasting Errors (in billions of 2010 dollars). Each panel of the figure corresponds to a Trustees Report. Within each panel, we plot the forecast error in total Social Security expenditures (solid lines) and the forecast error in total Social Security expenditures due to mortality forecasting errors (dashed lines). Finally, we represent the Great Recession as a vertical grey region.



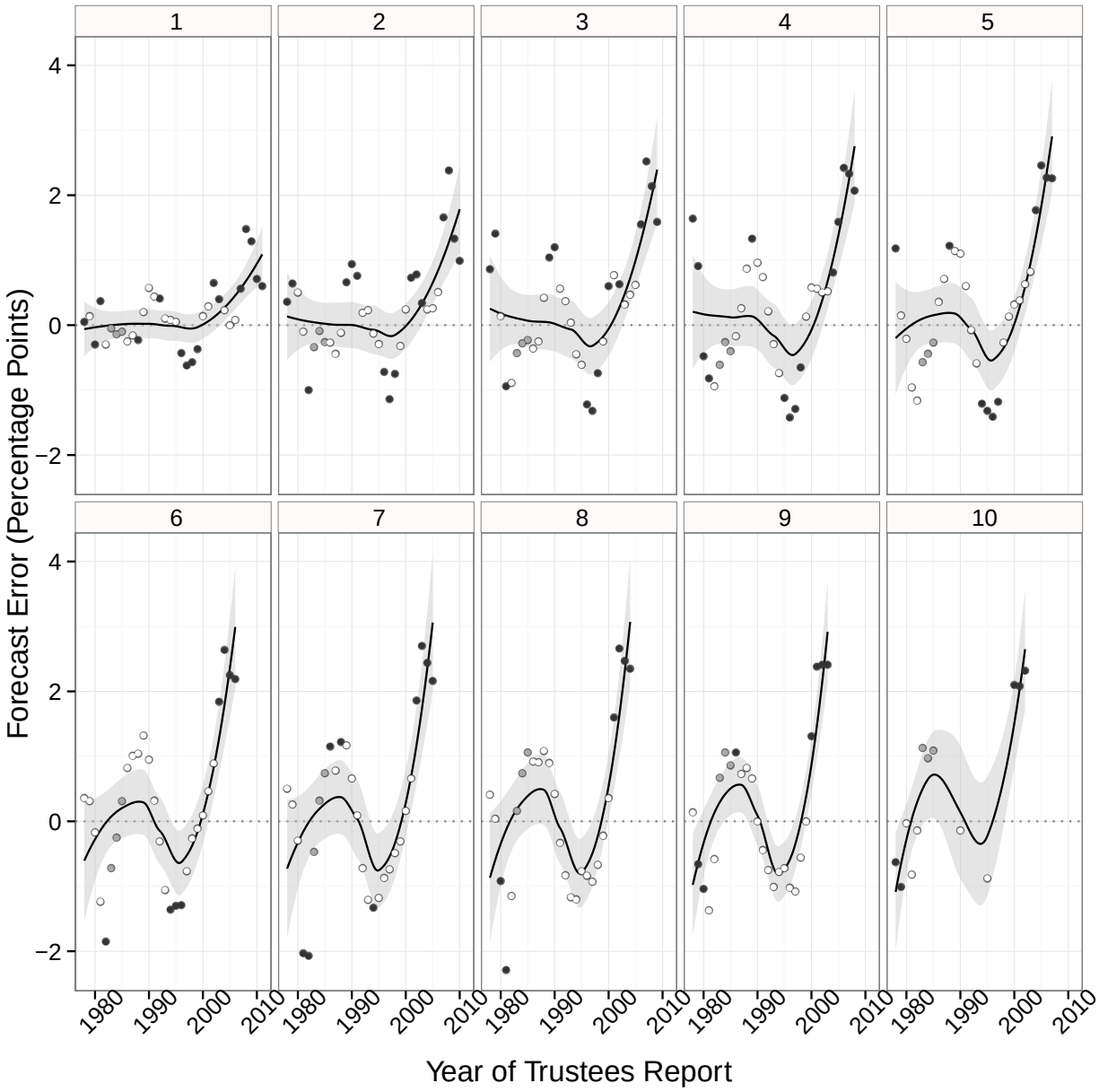
2.2 Cost Rate Forecasting Errors

Figure 6: Cost Rate Forecasting Errors. Forecast errors in the cost rate (vertically) by the year of the forecast (horizontally) by how many years into the future the forecast is made (in the title of each panel). Cost rate forecasting errors are overestimates if positive and underestimates if negative. Points are white if the error is within SSA's uncertainty interval and black otherwise.



2.3 Trust Fund Balance Forecasting Errors

Figure 7: Balance Forecasting Errors. Forecast errors in balance (vertically) by the year of the forecast (horizontally) by how many years into the future the forecast is made (in the title of each panel). Positive errors overestimate Trust Fund assets; negative errors underestimate them. Points are white if the error is within SSA's uncertainty interval and black otherwise.



2.4 Trust Fund Ratio Forecasting Errors

Figure 8: Trust Fund Ratio Forecasting Errors. Forecast errors in the trust fund ratio (vertically) by the year of the Trustees Report forecast (horizontally) by how many years into the future the forecast is made (in the title of each panel). Positive errors overestimate Trust Fund assets; negative errors underestimate them. Points are white if 3the error is within SSA's uncertainty interval and black otherwise.