

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Optimal Forecasts</b>	<b>4</b>
2.1	The Covariances of Squared Forecast Errors . . . . .	5
2.2	The Data Structure of Recent Forecast Errors . . . . .	7
<b>3</b>	<b>Efficient Estimation of Forecast Uncertainty</b>	<b>8</b>
<b>4</b>	<b>SUR Estimation of Forecast Uncertainty</b>	<b>13</b>
<b>5</b>	<b>Properties of the GLS and SUR Estimator</b>	<b>16</b>
5.1	The Parameter-(In)dependence of the GLS and SUR Estimator . .	18
5.2	The Recursiveness of the GLS and SUR Estimator . . . . .	20
<b>6</b>	<b>Problems in Practice</b>	<b>24</b>
6.1	Unknown Covariance Matrix . . . . .	24
6.2	Non-Optimal Forecasts . . . . .	26
6.2.1	Bias . . . . .	27
6.2.2	AR(1)-Processes . . . . .	29
6.2.3	AR(2)-Processes . . . . .	30
6.2.4	Structural Breaks . . . . .	31
<b>7</b>	<b>Applications to the Bank of England’s Inflation Forecasts</b>	<b>32</b>
7.1	The Uncertainty About the 2- to 3-Year-Ahead Forecasts . . . . .	32
7.2	The Width of the RPIX Inflation Fan Charts . . . . .	34
<b>8</b>	<b>Conclusion</b>	<b>36</b>
<b>A</b>	<b>Appendix</b>	<b>41</b>
A.1	Covariance of Squared Forecast Errors . . . . .	41
A.2	Parameter Independence of the SUR Estimator . . . . .	45
A.3	FGLS Estimation . . . . .	47