Box A: An Alternative UK Economic Forecast

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The current economic environment in the United Kingdom is fraught with uncertainty, driven by a range of factors: from the geopolitical risks posed by the war in Ukraine, disruptive implications of a second Trump administration in the United States, an expansionary budget, and proposed changes to the planning system for housing and development.

These challenges have created an unpredictable economic landscape in the United Kingdom. Our new multi-recurrent neural network forecasts provide fresh insights into key economic variables, including inflation, GDP and UK 10-year gilt yields for the coming year. The models indicate that inflation will rise modestly in the near term before accelerating over the longer run. In addition, GDP is expected to contract slightly in the first quarter of the year, with growth remaining sluggish throughout the remainder of the period. Meanwhile, UK 10-year gilt yields are predicted to experience an initial spike, followed by a period of stabilization.

In this article, we present an economic outlook for the period from December 2024 to November 2025, highlighting the latest projections for inflation, GDP, and 10-year gilt yields. We can think of this as an alternative to the NIESR forecasts presented elsewhere in this UK Economic Outlook. We then review our past forecasting performance through a retrospective analysis of our CPI inflation forecasts since May 2024.

Economic Outlook

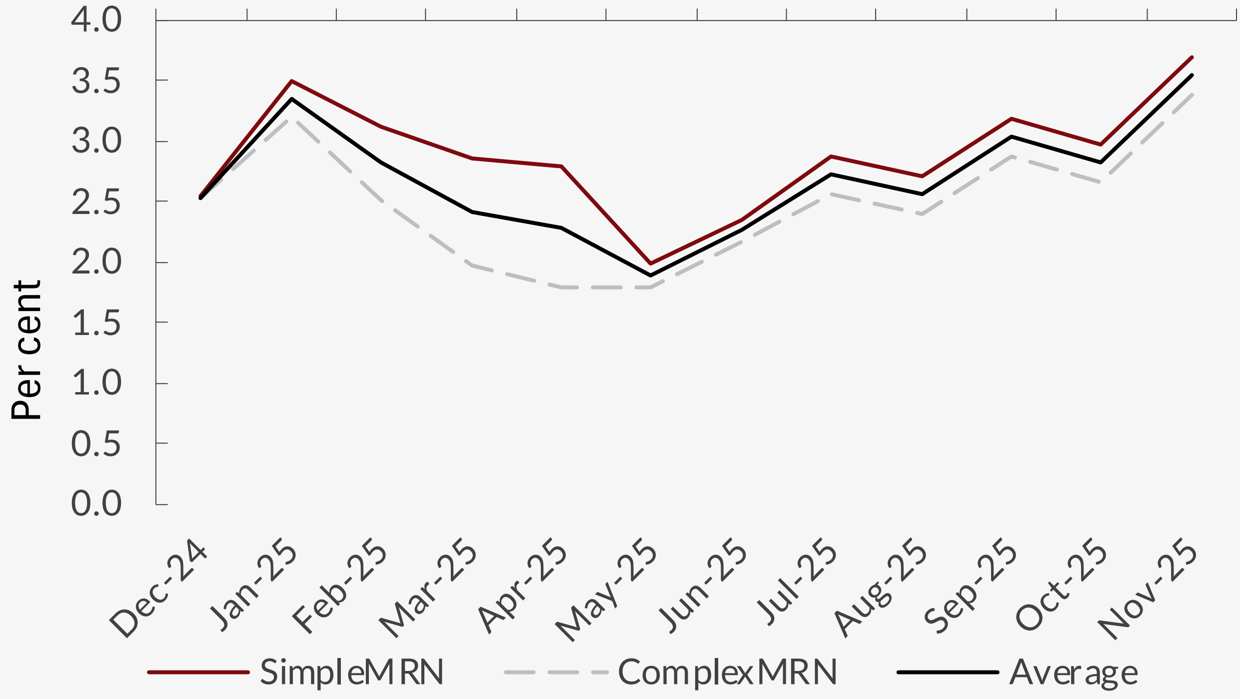
Inflation Forecasts

Looking ahead from January 2025 through November 2025, projections suggest a modest yet persistent upward trend in inflation, influenced by seasonal fluctuations and anticipated policy measures. Our forecasts are generated using three multi-recurrent neural network (MRN) models as described in Binner et al. (2024):

- Simple MRN Model: This model uses a minimal set of variables to capture key dynamics. It forecasts a 0.3 per cent month-on-month rise in January 2025, leading to an annualized rate of 3.5 per cent. Over 12 months, it predicts a monthly increase of 0.8 per cent and an annual rate of 3.7 per cent, effectively capturing short-term trends.
- Complex MRN Model: Incorporating a broader array of indicators, this model captures subtler economic shifts. For January 2025, it projects only a 0.1 per cent increase, with an annual rate of 3.2 per cent, providing a more tempered view of inflation.
- Average MRN Model: By combining predictions from the Simple and Complex models, this approach delivers a balanced forecast. It projects a 0.2 per cent increase in January 2025 with an annual rate of 3.4 per cent, smoothing out extremes from the other models.

Together, these models offer a comprehensive view: the Simple model responds quickly to near-term changes, the Complex model provides a deeper, slower-moving perspective, and the Average model strikes a balance between them. Figure A1 summarises the CPI inflation forecasts for January 2025 through November 2025.

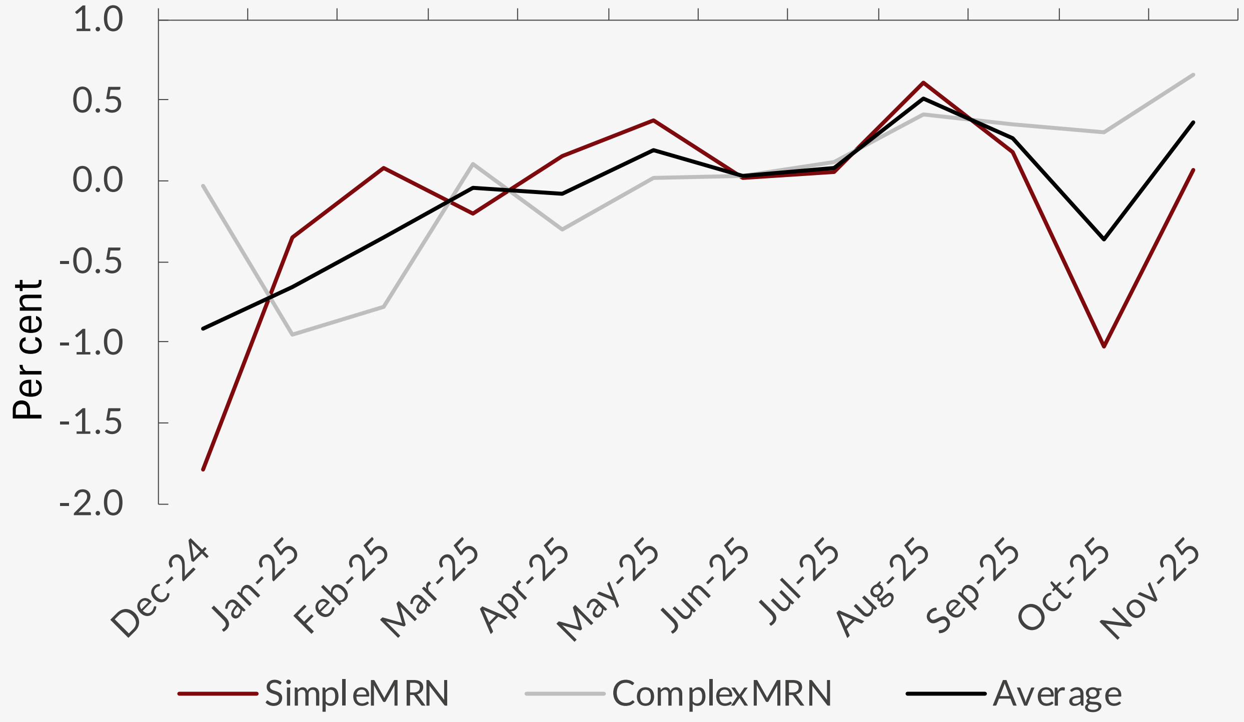
Figure A1 CPI inflation forecasts, December 2024 – November 2025



GDP Projections

Forecasting GDP provides another key view of the economic outlook. According to the latest projections, the Simple model expects a minor decline of 0.4 per cent for January 2025. The Complex model is slightly more pessimistic, projecting a 1.0 per cent contraction, while the Average model forecasts a more moderate decline of 0.7 per cent. Over the next 12 months, the Simple model indicates sluggish growth, a trend echoed by both the Complex and Average models. Figure A2 summarises the MRN forecasts for GDP from December 2024 through November 2025.

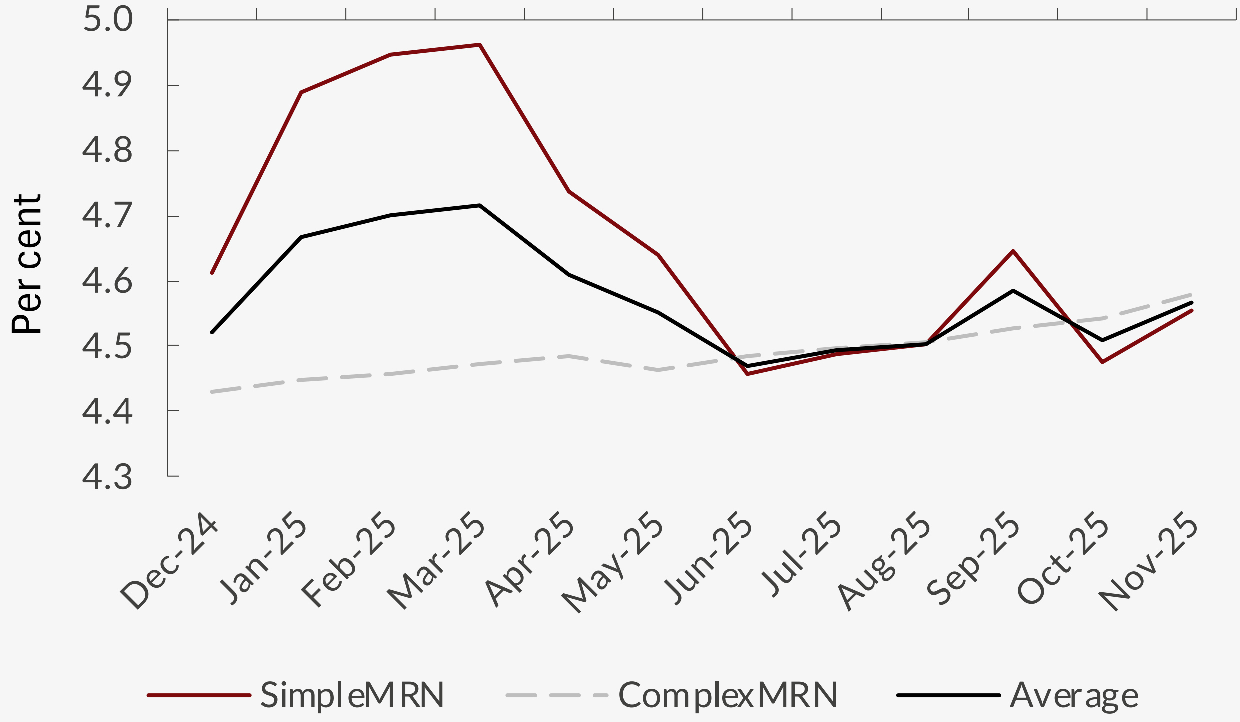
Figure A2 GDP growth forecasts, December 2024 – November 2025



UK 10-Year Gilt Yield Projections

Forecasts for UK 10-year gilt yields indicate near-term increases followed by stabilisation. In January 2025, the Simple model projects gilt yields to rise to 4.9 per cent, while the Complex model shows a more modest increase, and the Average model predicts yields between 4.4 per cent and 4.7 per cent. Over the 12-month horizon, these changes moderate considerably. For instance, the Simple model forecasts that by November 2025 the monthly rate of change will decline, with yields converging to around 4.6 per cent—a trend also seen in the Complex and Average models, suggesting that early volatility gives way to a steadier yield environment. Figure A3 details the MRN forecasts for UK 10-year gilt yields.

Figure A3 UK 10-year gilt yield forecasts, December 2024 – November 2025



Retrospective Analysis of CPI Inflation Forecasts

In contrast to our forward-looking projections, our retrospective analysis of CPI inflation forecasts examines the insights gleaned from forecasts issued between May and November 2024. This section focuses on horizons ranging from one to 12 months ahead and evaluates the performance of the Simple, Complex, and Average models using key error metrics: Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), Symmetrical Mean Absolute Percentage Error (SMAPE), and Theil's U.

For the one-month horizon, the results underscore the robust short-term performance of the Simple Model. This model recorded the lowest RMSE, indicating that its predictions deviate minimally from actual inflation figures. With a SMAPE of around six per cent, it exhibits a high degree of accuracy in capturing near-term movements in inflation. The Average Model performs in a similar fashion, reinforcing the reliability of blended approaches for short-term forecasting. Conversely, the Complex Model shows higher forecast errors, as evidenced by its elevated RMSE and SMAPE, making it less effective for very short-term predictions. Table A1 summarises the results for the one-month horizon:

Table A1 Forecast accuracy at the one-month horizon

Model	MAE	RMSE	SMAPE	Theil's U
Simple Model	0.1301449	0.2075899	5.995302	0.0999573
Complex Model	0.1980553	0.2610129	9.678996	0.1256812
Average Model	0.1539891	0.2037907	7.248017	0.0981279

Over the three-month horizon, a similar pattern emerges. The Simple Model continues to record relatively low error metrics, validating its use for capturing evolving inflation trends. The Average Model maintains acceptable accuracy with only slightly larger errors than the Simple Model. However, the Complex Model's errors nearly double, with its SMAPE nearing 19 per cent, clearly indicating its limitations in medium-term predictions. Table A2 summarises the results for the three-month horizon:

Table A2 Forecast accuracy at the three-month horizon

Model	MAE	RMSE	SMAPE	Theil's U
Simple Model	0.2252676	0.2415440	8.685885	0.1082778
Complex Model	0.4820971	0.5368905	18.956728	0.2406737
Average Model	0.3087564	0.3537185	11.968804	0.1585626

Lower values of MAE, RMSE, and SMAPE correspond to higher forecasting accuracy. Theil's U further contextualizes these errors relative to the scale of the actual inflation values. Overall, our retrospective findings confirm that the Simple and Average models are most reliable for near-term inflation predictions, a crucial consideration when making short-term policy decisions.

Key Takeaways

Combining our current economic outlook with a retrospective analysis conducted over 2024 offers a clear view of the UK economic trajectory and reveals the strengths and limitations of our forecasting models. Forward projections indicate a modest 0.3 per cent rise in inflation in January 2025, with the CPI increasing from 136.08 to approximately 140.14 over the year. GDP is expected to contract slightly at first, then recover by November 2025, while UK 10-year gilt yields are forecast to spike early and then stabilize.

Our retrospective review confirms that the Simple and Average models provide reliable short-term forecasts — evidenced by lower error metrics over one- and three-month horizons — making them essential for immediate policy actions. Although the Complex model shows higher short-term errors, it may offer insights for longer-term trends, pending further improvements.

For policymakers, these insights underscore the importance of using short-term models for understanding the conjuncture and long-term projections for strategic decisions. Investors benefit as well by aligning asset allocations with short-term volatility and medium-term stability. In terms of monetary policy, the latest commentary from the Monetary Policy Committee (MPC) indicates that the plan is to stick to its gradual approach to policy easing if the economy evolves broadly in line with their latest forecasts.

In summary, we demonstrate that integrating forward-looking projections with retrospective performance delivers a balanced perspective that supports sound policy formulation and informed investment decisions amid ongoing economic uncertainty.

References

Binner, J.M., Dixon, H., Jones, B.E., and Tepper, J.A. (2024). A Neural Network Approach to Forecasting Inflation. In UK Economic Outlook (Spring ed., Box A, pp. 8–11). NIESR.