This manuscript presents a statistically rigorous and highly valuable approach for forecasting the age structure of specialized workforces. The proposed methodology is robust, leveraging functional data models for age-specific rates and employing a global ARIMA model to enhance graduate forecast accuracy. A simulation-based approach captures comprehensive uncertainty. The manuscript is written well, organized clearly. This manuscript is suitable for the Australian & New Zealand Journal of Statistics due to its innovative extension of established functional data models and its direct application to critical national policy issues.

Major comments

1. Regarding the model assumptions, the main contribution of this study lies in a practical modification of the traditional population growth balance equation. As shown in equation (2), it is assumed that the mortality rate and retirement rate are uniform across all scientific disciplines (group i), and that the retirement rate is constant over time ($q_{i,x,t} = q_{x,t}$ and $r_{i,x,t} = r_x$). It is suggested that the potential implications of these assumptions be more explicitly discussed. For instance, are there no significant differences in the deaths or retirements in the group 'Chemical Sciences' compared to those in the group 'Mathematical Sciences'?

2. The authors mentioned that the age distribution of graduates entering the labor market (g_x) was estimated in the paper by averaging and smoothing the data across all available years (2006 to 2023). Does the assumption in this paper that g_x is fixed and time-invariant ($g_{x,t} = g_x$) potentially underestimate long-term dynamic changes? It is suggested that the impact of this assumption on the variability of young population forecasts be discussed either in the Methodology or Results section.

3. The authors mentioned that the remainder includes large positive and negative fluctuations caused by international students returning to their home countries after graduation, as well as complex economic behaviors involving career changes and international migration. Strictly speaking, are these macroeconomic and social trends ($E_{i,x,t}$) thought to be long-term stationary? It is recommended that the discussion take into account that the stationarity assumption will fail if major policy or global economic structural changes take place, and this is a significant factor in forecasting uncertainty.