Research Paper

Addressing fiscal uncertainty: Proposing policy pathways for enhancing economic growth and fertility rates in South Korea

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ABSTRACT

This study investigates the critical role of fiscal uncertainty in driving economic growth in South Korea and explores the potential implications for the nation's long-standing low fertility challenge. Utilizing country-year data and advanced measures disaggregating economic policy uncertainty into dimensions like fiscal, monetary, and trade uncertainty, the analysis reveals a strong negative association between fiscal uncertainty and GDP growth rates over the past three decades. Periods of heightened fiscal volatility, characterized by unpredictable government spending, tax policies, and overall economic instability, consistently preceded declines in economic growth. Moreover, the findings indicate that fiscal uncertainty moderates the relationship between economic expansion and fertility rates. While GDP growth generally improves conditions favorable for childbearing by raising living standards, the positive impact on fertility diminishes as fiscal uncertainty increases. Strikingly, at sufficiently high levels of uncertainty, economic growth fails to boost fertility rates, underscoring the crucial role of fiscal stability in reaping the full benefits of growth. These insights highlight the importance of reducing fiscal uncertainty through strategies like implementing tax and spending "calendarization" systems and adopting long-term policy planning horizons. By promoting fiscal predictability and fostering an environment conducive to sustained economic expansion, policymakers can indirectly create conditions that support higher fertility rates by alleviating household aversion to uncertainty. While focused on economic factors, this research acknowledges the multifaceted nature of fertility decisions and calls for a holistic policy approach combined with further causal investigations using micro-level data and experimental designs. Ultimately, prioritizing fiscal stability and addressing fiscal uncertainty present a critical pathway towards stimulating economic growth and potentially revitalizing fertility rates in South Korea and similar developed nations confronting demographic challenges.

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1. Introduction and context

Fiscal uncertainty, characterized by volatile government spending, unpredictable tax policies, and overall economic instability, has emerged as a significant impediment to sustained economic growth and development. The aversion to uncertainty is well-documented among individuals and organizations (Bloom, 2014), as entities seek stability and predictability in their decision-making processes (Grote 2009; Andersen et al., 2009; Mushtaq et al. 2011; Ballesteros and Kunreuther 2018). When faced with fiscal uncertainty, households may adopt a more cautious approach, postponing or forgoing major investments and expenditures due to concerns about future economic prospects (Aassve et al., 2020; Matysiak et al., 2021). Similarly, firms may delay investments, expansions, and hiring, further constraining economic growth and exacerbating the negative impact (Bloom et al., 2018).

The case of South Korea is particularly salient for this research. Despite being a developed nation with a highly educated population and a robust industrial base, the country has experienced a prolonged decline in its fertility rate, which has remained below the replacement level of 2.1 births per woman for decades (Lee and Choi, 2015). While the roots of this fertility decline are multifaceted, stemming from cultural shifts, increasing female educational attainment, and changing societal norms (Eun, 2003; Lee, 2018; Chung, 2010; Brinton and Oh, 2019), economic factors have played a pivotal role in shaping fertility decisions. Economic growth is often viewed as a catalyst for improved living standards, increased household income, and expanded business opportunities – factors that can positively influence fertility rates (Willis, 1973; Brander and Dowrick 1993; Luci and Thévenon 2010; Day 2012; Luci-Greulich and Thévenon 2014). However, this relationship is not always linear or certain, as fiscal uncertainty can undermine the potential benefits of growth and deter long-term commitments, such as starting or expanding families (Doepke et al., 2022; Gozgor et al., 2021).

This study aims to examine the impact of fiscal uncertainty on economic growth in South Korea and explore the potential implications for addressing the nation's long-standing fertility challenge. By highlighting the critical role of fiscal uncertainty in moderating economic growth, and consequently fertility rates, this research underscores the importance of promoting fiscal predictability and stability. A key contribution lies in the novel approach to measuring economic policy uncertainty in South Korea, disaggregating the various dimensions of uncertainty, specifically fiscal, monetary, trade, and foreign exchange policy uncertainty (Cho and Kim, 2023). This granular approach, based on computational linguistics techniques and analysis of media narratives, provides a more accurate and contextual representation of perceived uncertainty compared to traditional survey-based or proxy measures.

The findings of this study have profound implications for policymakers in South Korea and other developed nations facing similar challenges. By addressing fiscal uncertainty and fostering an environment conducive to economic growth, governments can create conditions that may indirectly support higher fertility rates, as economic stability and improved living standards could positively influence childbearing decisions. However, it is crucial to note that while addressing fiscal uncertainty can create a more favorable economic environment, a holistic approach that combines economic policies with initiatives targeting sociocultural determinants of fertility is necessary to effectively address the multifaceted challenges surrounding low fertility rates.

2. Data and Methods

We assembled a country-year dataset for Korea using different sources (Table A1). The fertility and GDP growth variables were obtained from the World Bank and PENN World Table (World Bank 2017; Feenstra et al. 2015), while the (South Korean) Economic and Policy Uncertainty data comes from Cho and Kim (2023). Rather than relying on a single index, such as the Economic Policy Uncertainty (EPU) index, we focused on each dimension of the index: Fiscal Uncertainty, Monetary Uncertainty, Trade Policy Uncertainty, and Foreign Exchange Policy Uncertainty. Fig. A1 shows the correlation between economic policy uncertain indicators. This index was specially constructed for South Korea following a more advanced and precise methodology than the standard EPU index developed by Baker et al. (2016). To facilitate the integration of our fiscal and monetary policy uncertainty indicators with the World Bank dataset containing GDP growth and fertility variables, we have aggregated the quarterly data into annual averages. This allows us to align the time frames and merge the variables effectively for our analysis. Our fiscal and monetary policy uncertainty indicators were originally measured on a quarterly basis spanning from 1990 to 2020. However, for consistency and compatibility with the World Bank dataset, we collapsed this information into annual averages. This annual aggregation ensures that our analysis captures the long-term trends and relationships between policy uncertainty and economic outcomes over the specified time period. In the appendix section of this study, we provide a more detailed description of the economic policy uncertainty index and its components, offering readers a comprehensive understanding of the methodology and construction of the indicators used in our analysis (Table A2).

The GDP growth (annual%) variable from the World Bank measures the annual percentage growth rate of a country's Gross Domestic Product (GDP) at market prices, based on constant local currency. GDP is the sum of the gross value added by all resident producers in the economy, plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The original data for this variable is sourced from the World Bank national accounts data and the OECD National Accounts data files. The aggregates are based on constant 2015 prices, expressed in U.S. dollars. To calculate regional and income group growth rates, constant U.S. dollar series are used, where local currency series are converted to constant U.S. dollars using an exchange rate in the common reference year. The growth rates are calculated using the least squares method and constant price data in the local currency.

The total fertility rate (TFR), defined as the average number of children a woman is expected to have over her reproductive lifetime, served as our primary fertility indicator. TFR is a widely adopted and standardized measure in demographic studies due to its ability to summarize overall fertility levels within a population. By considering the collective fertility experiences across all age groups, TFR offers valuable insights into overarching fertility patterns and trends. This measure enables us to assess how changes in fertility rates impact population dynamics, including growth rates, age structure, and dependency ratios.

In addition to the TFR, we incorporated crude fertility rates by specific age groups: 20–24, 25–29, 30–34, and 35–39 years old. These age-specific rates allow us to examine variations in childbearing behavior across different reproductive life stages. Disaggregating fertility by age sheds light on the timing and pacing of childbirth, as well as shifts in fertility preferences over time. Understanding age patterns reveals how fertility decisions evolve as women transition through different life phases. Moreover, analyzing age-specific rates facilitates assessing fertility differentials based on factors like education, employment, and marital status, which can influence childbearing intentions and outcomes. By employing both the TFR and age-specific rates, our study offers a nuanced analysis of fertility dynamics. We capture not only aggregate fertility levels but also age-based variations in childbearing patterns.

When studying fertility decline, economic growth, and economic uncertainty, several covariates play crucial roles in shaping demographic and economic trends. The Human Capital Index (HCI) is essential as it reflects the level of education and skills within a population, influencing individuals' decision-making regarding fertility, labor force participation, and migration. Life expectancy of women is a key determinant of fertility decline, as longer life expectancy can lead to delayed childbearing and smaller family sizes due to increased opportunities for education and career advancement. The Mortality Rate Neonatal is significant as it reflects the health infrastructure and maternal care services in a country, impacting fertility decisions by reducing the risk associated with childbirth. The Labour Force Woman/Man Share provides insights into gender equality in employment opportunities, affecting fertility choices and economic growth through workforce participation. Mortality rate among women is important to consider as it reflects the overall health status and access to healthcare services for women, influencing fertility and maternal outcomes. Net migration affects both fertility decline and economic growth by altering population composition and labor market dynamics, contributing to changes in fertility patterns and economic productivity.

In our analysis, we first descriptively explored the association between economic growth, fiscal, economic, and policy uncertainty, and fertility rates. We then ran a series of regression models, together with a Shapley decomposition (Shapley 1953; Chavez-Juarez, 2015), to understand the contribution of these uncertainty measures to GDP growth in Korea. This approach overcomes the limitations of traditional regression output metrics like p-values and standardized coefficients, which can be misleading when evaluating relative importance in the presence of multicollinearity or differing scales among regressors. By decomposing R^2 into additive components, the Shapley value method allows us to assess the marginal contribution of adding or removing a particular regressor from the model. This technique is especially useful when examining the drivers of economic growth, where multiple factors like fiscal uncertainty, trade openness, human capital, etc. may be interrelated and their individual impacts difficult to disentangle using standard methods. The Shapley decomposition provides a more nuanced understanding of how each factor uniquely contributes to explaining variations in GDP growth rates, both independently and through interactions with other variables in the model specification. Applying this method
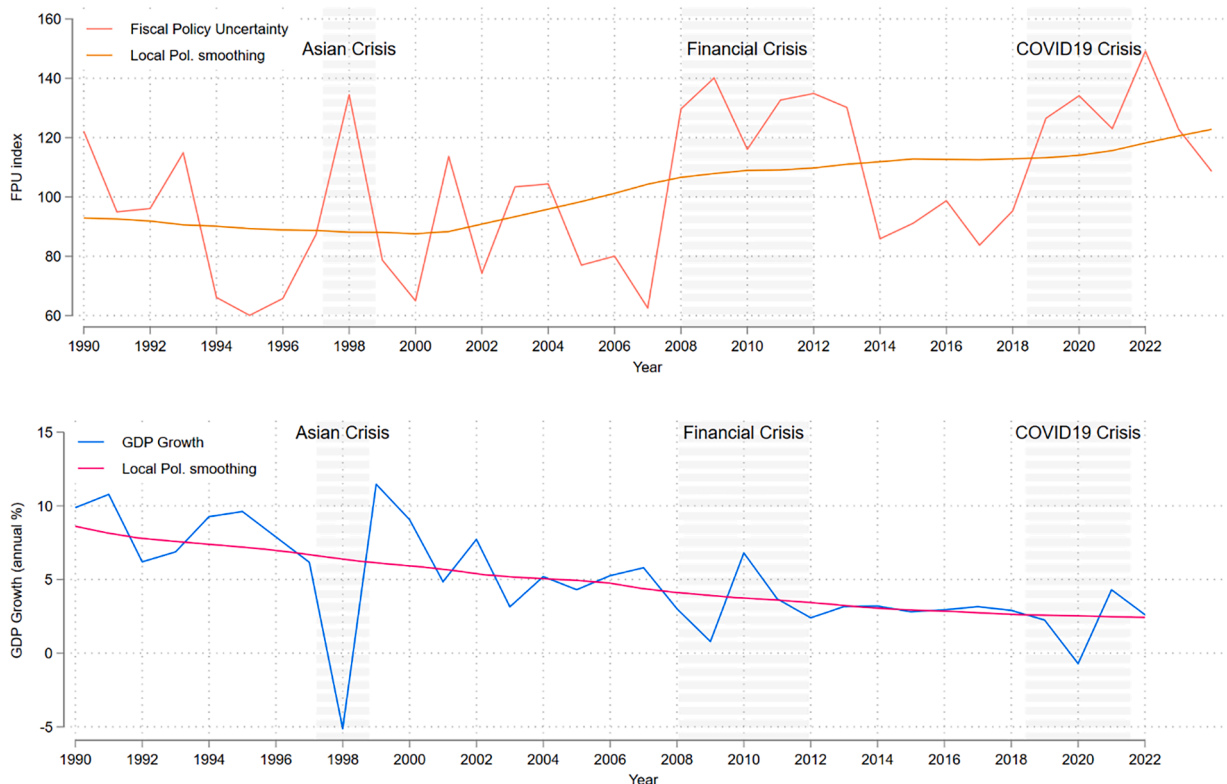

Fig. 1. Trends over time, fiscal uncertainty and GDP growth, Korea 1990–2020.

allows us to parse out the distinct role played by fiscal uncertainty in driving or hindering economic growth in Korea over the sample period. Subsequently, we employed a series of linear regression models to examine the impact of these factors on fertility rates, paying particular attention to the interaction between GDP growth and fiscal uncertainty.

3. Results

We begin by describing the key trends in the fiscal uncertainty and economic growth data. As shown in Fig. 1, Korea has experienced a steady upward trajectory in fiscal uncertainty over the past three decades, with the fiscal uncertainty index consistently trending higher since the early 1990s.

This increase in fiscal uncertainty, characterized by volatile government spending, unpredictable tax policies, and overall economic instability, appears to have coincided with a moderation in GDP growth rates during the same period (also shown in Fig. 1). Moreover, peaks in the fiscal uncertainty index closely correspond to subsequent declines in GDP growth rates in the following years.

For instance, the fiscal uncertainty index reached elevated levels around 1998 during the Asian financial crisis, which was followed by a sharp contraction in GDP growth in 1998 and 1999. Similarly, spikes in fiscal uncertainty are evident in 2003 during tensions with North Korea, in 2008 coinciding with the global financial crisis, and in 2016–2017 amidst heightened geopolitical tensions. In each of these instances, GDP growth rates experienced notable declines in the subsequent periods.

This pattern suggests that high levels of fiscal uncertainty can act as a drag on economic growth, as businesses and households may adopt a more cautious approach, postponing investments and major spending decisions when fiscal policies are perceived as uncertain, which can collectively dampen economic activity and hinder growth.

At a descriptive level, we also observe a negative correlation between GDP growth and fiscal uncertainty for Korea over the 1990–2020 period (shown in Fig. 2).

Turning to fertility trends, Fig. 3 depicts Korea's drastic decline in fertility rates since the early 1990s. This decline was particularly pronounced among younger women aged 20–24 and 25–29, while there was a slight increase for older women aged 30–34 and 35–39. This observation suggests a clear delay in childbearing in more recent years, with women tending to postpone having children until later in life.

We observe a positive correlation between fertility rates and GDP growth (Fig. 4), which aligns with the general expectation that economic growth and improved living standards can encourage higher fertility rates by providing a more stable and prosperous environment for family planning.

However, it is important to note that this positive relationship between GDP growth and fertility appears to be moderated by the level of fiscal uncertainty present in the economy, based on the negative correlation observed between GDP growth and fiscal uncertainty.

After describing the key variables and trends over time, we further tested the contribution of each indicator to GDP growth through linear regression analysis and Shapley decomposition of the R2. As mentioned earlier, the Shapley value decomposition quantifies how much each regressor contributes to the total explained variance (R2) of a linear model, accounting for both individual effects and interactions between variables. This approach overcomes limitations of standard regression metrics when evaluating relative
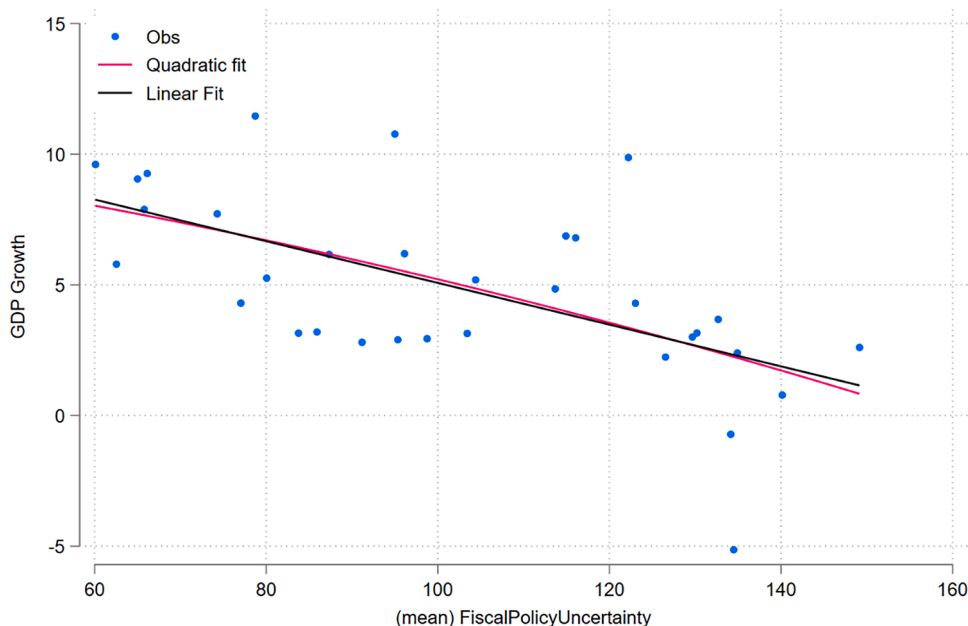

Fig. 2. Correlation between GDP growth and Fiscal Uncertainty, Korea 1990–2020.
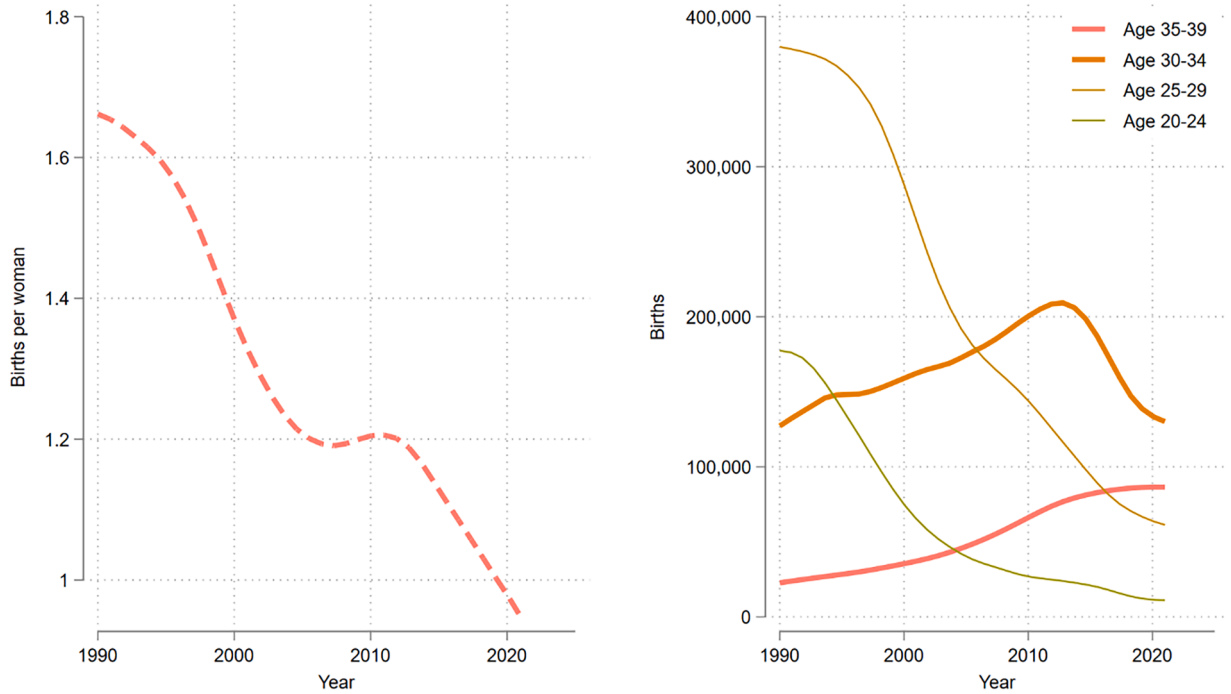
Fig. 3. Trends in fertility, Korea 1990–2020.
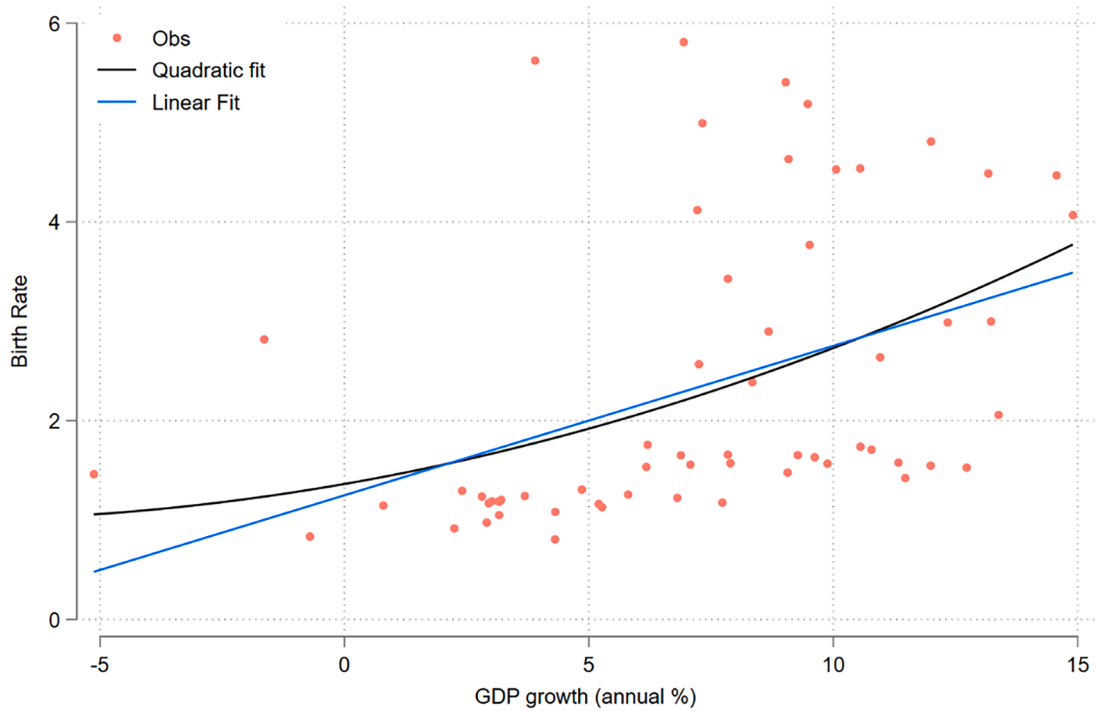
Fig. 4. Correlation between Fertility (children per woman) and GDP growth, Korea 1990–2020.

importance in the presence of multicollinearity. Applying the Shapley method allows us to parse out the distinct role played by fiscal uncertainty in driving or hindering economic growth.

Table 1, presents the results of an OLS regression model that examines the impact of various Economic Policy Uncertainty indicators on GDP growth in Korea. The model specification includes Fiscal Policy Uncertainty, Monetary Policy Uncertainty, Trade

Table 1
OLS regression GDP growth on economic policy indicators.

	(1) GDP growth	(2) Shapley value	(3) Per cent (estimate)
Fiscal Policy Uncertainty	−0.089***	0.1855	27.31 %
	(0.032)		
Monetary Policy Uncertainty	0.061**	0.0525	7.74 %
	(0.029)		
Trade Policy Uncertainty	0.003	0.0087	1.28 %
	(0.007)		
Foreign Exchange Policy Uncertainty	−0.028	0.0724	10.67 %
	(0.017)		
Time-trend	Yes	-	-
Asian (1998), Financial (2008), Covid-19 (2020) crisis FE	Yes	-	-
N	30	-	-
R^2	0.679	-	-

Heteroskedastic robust Standard errors in parentheses.
*$p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.

Policy Uncertainty, Foreign Exchange Policy Uncertainty, a time trend, and fixed effects for major crises (Asian financial crisis in 1998, global financial crisis in 2008, and the COVID-19 pandemic in 2020).

The coefficients in column (1) indicate that Fiscal Policy Uncertainty has a statistically significant negative effect on GDP growth (-0.089, $p < 0.01$), meaning that higher levels of fiscal uncertainty are associated with lower economic growth rates. Monetary Policy Uncertainty, on the other hand, has a small positive effect (0.061, $p < 0.05$), suggesting that some degree of monetary policy uncertainty may have a positive effect for growtw. However, it's important to note that this positive effect should be interpreted cautiously and may warrant further investigation. While a certain level of uncertainty in monetary policy may signal adaptability and flexibility in response to changing economic conditions, excessive uncertainty could potentially disrupt financial markets and undermine investor confidence.

Moreover, the Shapley values in column (2) represent the contribution of each independent variable to the overall R-squared (0.679) of the model. The Shapley decomposition is a technique that attributes the explanatory power of a model to its individual predictors in a fair and consistent manner. It provides a way to assess the relative importance of each variable in explaining the variation in the dependent variable (GDP growth, in this case).

According to the Shapley values, Fiscal Policy Uncertainty has the largest contribution (0.1855) to the model's R-squared, accounting for approximately 27.31 % of the total explanatory power, as shown in column (3). This highlights the importance of fiscal uncertainty as a key factor influencing GDP growth in Korea.

To investigate the interplay between GDP growth, fiscal uncertainty, and fertility rates more rigorously, we conducted a series of linear regression analyses that we discuss below.

Moving on to Table 2, we have an OLS regression model that examines the impact of GDP growth, Fiscal Policy Uncertainty, and their interaction on the birth rate (births per woman) in Korea. The model includes a time trend, economic crisis fixed effects, and control variables associated with fertility and growth: Human Capital Index; Life expectancy Woman; Mortality rate neonatal; Labour force Woman/Man share; Mortality rate woman; Net migration.

Table 2
OLS regression Birth rate on GDP growth and Fiscal Policy Uncertainty.

	(1) Birth rate (Births per woman)
GDP growth (% annual)	0.0665**
	(0.026)
Fiscal Policy Uncertainty	0.0018
	(0.002)
GDPg#FiscalPolicyUncertainty	−0.0007***
	(0.000)
Time-trend	Yes
Asian (1998), Financial (2008), Covid-19 (2020) crisis FE	Yes
Controls	Yes
N	30
R^2	0.940

Heteroskedastic robust Standard errors in parentheses.
*$p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.

The coefficient for GDP growth (0.0665, $p < 0.05$) indicates a positive relationship between economic growth and fertility rates, as expected. However, the negative coefficient for the interaction term (GDPg#FiscalPolicyUncertainty = -0.0007, $p < 0.01$) suggests that the positive effect of GDP growth on fertility is diminished as fiscal uncertainty increases.

Therefore, our findings reveal a negative interaction effect between GDP growth and fiscal uncertainty on fertility rates. Specifically, higher levels of fiscal uncertainty diminish the positive impact of GDP growth on fertility, to the point where the effect becomes negative when uncertainty is sufficiently high.

This interaction effect is illustrated in Fig. 5, which shows the marginal effect of GDP growth on fertility rates at different levels of fiscal uncertainty. At low levels of uncertainty (e.g., 25th percentile), the effect of GDP growth on fertility is positive, as expected. However, as fiscal uncertainty increases (e.g., 75th percentile), the positive effect of GDP growth on fertility is substantially reduced. At very high levels of uncertainty (e.g., 90th percentile), the effect of GDP growth on fertility becomes negative, suggesting that economic growth may fail to boost fertility rates in an environment of extreme fiscal uncertainty.

These findings highlight the critical role that fiscal uncertainty plays in moderating the relationship between economic growth and fertility rates. While economic growth is generally expected to create favorable conditions for family planning and childbearing, the benefits of growth may be undermined or even reversed if fiscal policies and economic stability are perceived as highly uncertain.

As a last exercise we also investigated with the same model speciation whether there could be similar effects in the fertility rates by age groups. As expected, we also found a similar pattern when we investigated the fertility groups by age groups.

Table 3 extends the analysis to birth rates by age groups (20–24, 25–29, and 30–34), following a similar model specification. The results consistently show a positive effect of GDP growth and a negative interaction effect between GDP growth and fiscal uncertainty across all age groups, albeit with varying magnitudes.

Overall, these findings highlight the critical role of fiscal uncertainty in moderating the relationship between economic growth and fertility rates in Korea. While economic growth generally creates favorable conditions for family planning and childbearing, the benefits of growth may be undermined or even reversed if fiscal policies and economic stability are perceived as highly uncertain.

4. Conclusion and policy implications

This study examined the critical role of fiscal uncertainty in driving economic growth in South Korea and explored the potential implications for the nation's long-standing fertility challenge. The findings underscore the importance of promoting fiscal predictability and stability as a catalyst for sustained economic expansion.

Our analysis revealed a strong negative correlation between fiscal uncertainty and GDP growth rates in Korea over the past three decades. Periods of heightened fiscal uncertainty, characterized by volatile government spending, unpredictable tax policies, and overall economic instability, were consistently followed by declines in GDP growth in subsequent years. This pattern suggests that when faced with an uncertain fiscal environment, businesses and households tend to adopt a more cautious approach, postponing
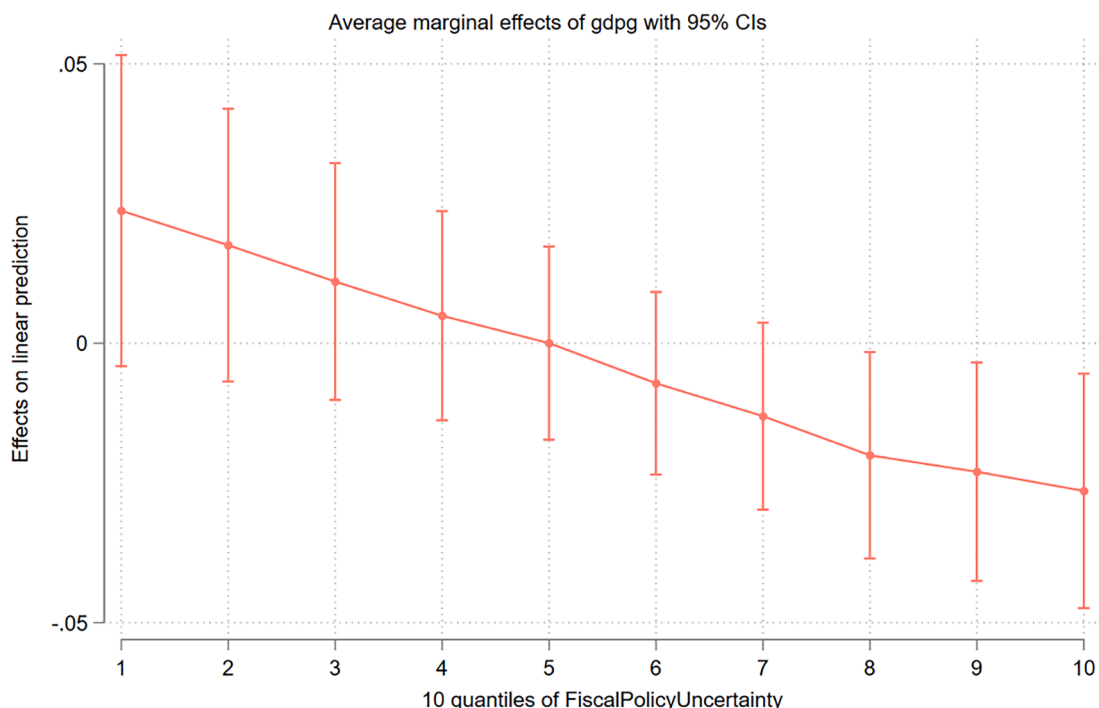

Fig. 5. Interaction effect, GDP growth and fiscal uncertainty, Korea 1990–2020.

Table 3
OLS regression on birth rates by age groups.

	(1) Births all age 20–24	(2) Births sex all age 25–29	(3) Births sex all age 30–34
GDP growth (% annul)	3501.9*	15,676.0***	5392.0*
	(1923.8)	(5010.8)	(2789.6)
Fiscal Policy Uncertainty	109.6	663.3*	146.9
	(121.8)	(357.8)	(231.7)
GDPg#FiscalPolicyUncertainty	−40.5**	−144.6***	−53.0*
	(14.2)	(38.9)	(24.7)
Time-trend	Yes	Yes	Yes
Asian (1998), Financial (2008), Covid-19 (2020) crisis FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
N	30	30	30
R^2	0.996	0.993	0.960

Heteroskedastic robust Standard errors in parentheses;.

* $p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.

investments and major spending decisions, which can collectively dampen economic activity and hinder growth.

Moreover, the findings indicate that fiscal uncertainty appears to moderate the relationship between economic growth and fertility rates. While economic growth generally creates favorable conditions for family planning by improving living standards and household income prospects, our results show that the positive impact of GDP growth on fertility diminishes as fiscal uncertainty increases. At sufficiently high levels of uncertainty, economic expansion may fail to boost fertility rates, underscoring the crucial role of fiscal stability in reaping the full benefits of growth.

The study's novel approach of disaggregating economic policy uncertainty into its various dimensions – fiscal, monetary, trade, and foreign exchange policy uncertainty – further underscored the primacy of fiscal uncertainty as a key driver of economic growth. While all forms of policy uncertainty can potentially impact growth prospects, our analysis indicated that fiscal uncertainty exhibited the strongest negative association with GDP growth rates in South Korea. This finding highlights the pivotal role of stable and predictable fiscal policies in fostering an environment conducive to economic expansion. Uncertainties surrounding government spending, taxation, and public debt appear to weigh more heavily on the decision-making processes of businesses and households compared to other forms of policy uncertainty. As such, prioritizing the reduction of fiscal uncertainty should be a central focus for policymakers aiming to stimulate economic growth and create conditions that can indirectly support higher fertility rates.

These insights have profound policy implications for governments aiming to stimulate economic growth and potentially address demographic challenges associated with low fertility rates. Policymakers should prioritize reducing fiscal uncertainty through measures such as implementing a "calendarization" system for taxes and government spending. By announcing changes in fiscal policies well in advance and following a predictable schedule, governments can provide economic agents with a clear roadmap, allowing firms and households to plan accordingly and mitigate the detrimental effects of uncertainty.

Additionally, adopting a long-term perspective and ensuring transparent communication of any anticipated changes in fiscal policies can further promote confidence and stability in the economic landscape. While addressing fiscal uncertainty alone may not directly resolve fertility challenges, fostering an environment of economic growth and stability can indirectly support higher fertility rates by improving living standards and encouraging greater confidence in long-term family planning decisions.

It is crucial to acknowledge that while this study focused on the economic determinants of fertility, cultural norms, societal expectations, and work-life balance considerations also play significant roles. A holistic approach that combines economic policies aimed at reducing uncertainty with initiatives targeting sociocultural factors is necessary to effectively address the multifaceted challenges surrounding low fertility rates.

Future research could employ micro-level data and experimental designs, such as randomized controlled trials, to investigate the causal relationships between fiscal uncertainty, economic growth, and fertility decisions more rigorously. For instance, researchers could randomly assign firms to either a "calendarized" fiscal system or a traditional system and observe the economic performance and fertility patterns of employees across these two groups. Such experimental approaches could provide valuable insights into the direct impact of reducing fiscal uncertainty on economic outcomes and family planning decisions.

By prioritizing fiscal stability and promoting an environment conducive to sustained economic growth, policymakers can create conditions that may indirectly support higher fertility rates, ultimately contributing to efforts in mitigating the fertility challenges faced by South Korea and other developed nations worldwide.

CRediT authorship contribution statement

Francesco Moscone: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Joan E. Madia:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Catia Nicodemo:** Conceptualization, Data curation, Formal analysis, Methodology, Writing – review & editing. **Jong-Chol An:** Conceptualization, Validation, Writing – original draft, Writing – review & editing. **Changkeun**

Lee: Conceptualization, Methodology, Writing – original draft.

Declaration of competing interest

There are no conflicts of interest to declare

Appendix

Table A.1
Summary statistics covariates.

Variable	Obs	Mean	Std. dev.	Min	Max
GDP growth (% Annual)	30	5.183402	3.462873	−5.12945	11.46694
Fiscal Policy Uncertainty	30	98.86247	24.96743	60.08239	140.1229
Monetary Policy Uncertainty	30	100.3562	21.53176	61.9225	163.0196
Trade Policy Uncertainty	30	100.8164	46.951	44.02639	252.1916
Foreign Policy Uncertainty	30	101.4715	48.20599	41.93639	250.9098
Human Capital Index	30	3.308635	0.271267	2.846608	3.765123
Life expectancy Woman	30	81.38667	3.190582	75.9	86.3
Mortality rate neonatal	30	3.126667	1.720051	1.5	7.3
Labour force Woman/Man share	30	66.16176	5.11688	47.71462	73.1532
Mortality rate woman	30	54.50207	24.37689	22.07	99.804
Net migration	30	−2278.53	169,275	−279,446	296,280
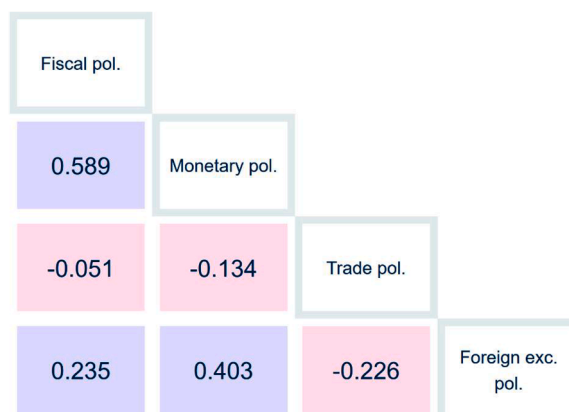
Fig. A.1. Correlation between economic policy uncertainty indicators.

Table A.2
Term sets for the fiscal policy uncertainty index extracted from Dooyeon Cho and Husang Kim (2023, page 10).

English term	Korean term
fiscal policy	재정정책
government budget	정부 예산
"supplementary budget" or "government budget"	추가경정예산, 추경
General Account	일반 회계
Special Account	특별 계정
government deficit	재정적자
primary balance	재정수지
tax, taxation	세금, 조세
government spending/expenditure	정부지출, 재정지출
social security expenditures	사회보장비 지출
pension insurance premium	국민연금 보험료
health insurance premium	국민건강 보험료
"healthcare expenditures" or "medical care expenditures"	의료비 지출
nursing care expenditures	간병비 지출
public medical fee schedule	의료보험수가, 의료수가
salaries of government employees	공무원급여
Official Development Assistance (ODA)	공적개발원조, ODA

Table A.2 (*continued*)

English term	Korean term
defense spending	국방비
military spending	군비
outstanding government debt	국채 발행 잔액
public debt	공공부문 부채, 공공부채
Korean government bonds	국채
government debt	정부부채
local government debt	지방채
fiscal stimulus	경기부양, 경기부양책

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