CPC
CENTRE FOR POPULATION CHANGE

CONNECTING GENERATIONS

Economic uncertainty and intentions to remain childless: Macro-economic worries or individual-level economic uncertainty?

109 WORKING PAPER NOV 2024

Ann Berrington
Bernice Kuang
Brienna Perelli-Harris

Producing novel science
Informing policy
Improving knowledge on population change

cpc.ac.uk
ISSN 2042-4116

UKRI Economic and Social Research Council

ABSTRACT

England and Wales have experienced a decline in the total fertility rate from 1.94 in 2012 to 1.44 in 2023 (ONS, 2024). Much of the decline is due to reductions in first birth rates at ages below 30 (Berrington et al., 2023). This raises questions about whether those who have not yet had children, especially at younger ages, are still planning to have children, or have experienced a fundamental shift in their intentions to have children. This paper investigates fertility intentions among childless men and women in the UK. We consider whether economic uncertainty is associated with increased intentions to remain childless by examining the responses of participants to questions about their **current** financial situation, their **future** financial situation, and their financial situation in the **past** when they were growing up. Additionally, we examine whether individuals' worries about macro-economic issues are associated with their fertility intentions. Intentions to have a child decline with age, but even among those aged under 30, around half are either unsure whether they will have a child or intend to remain childless. Taken at face value, these responses suggest a significant increase in intended childlessness as compared with earlier birth cohorts at the same age. Even after controlling for well-established determinants of fertility intentions, economic uncertainty is associated with lower intentions to have a child. In terms of **current** circumstances, we find that intentions to have a child are lower for those who are economically inactive and those in low-income households. Perceptions of **future** economic uncertainty are also found to be important with intentions to have a child significantly lower among those who feel that they will be worse off, or much worse off in three years' time. We also find evidence of the importance of **past** experiences on fertility intentions. Those who felt that they were doing worse or much worse than their parents were at the same age were significantly less likely to intend to have a child. In contrast to these consistent findings for measures of individual-level uncertainty, we find no evidence in support of the argument that individuals' fertility behaviour is affected by worries about macro-level concerns such as the economic crisis/rising prices and rising unemployment.

KEYWORDS

Childbearing, economic uncertainty, fertility, global worries, relative income

EDITORIAL NOTE

Prof. Ann Berrington is a Professor of Demography and Social Statistics at the University of Southampton and jointly co-ordinates the fertility and family strand of the ESRC Centre for Population Change.

Dr Bernice Kuang is a Research Fellow at the University of Southampton, working on fertility and family change.

Prof. Brienna Perelli-Harris is Professor of Demography at the University of Southampton where she is also member of the ESRC Centre for Population Change.

Corresponding author: Ann Berrington, A.Berrington@soton.ac.uk

ACKNOWLEDGEMENTS

The work is supported by the UK Economic and Social Research Council (ESRC) Grant for the UK Generations and Gender Survey ES/V012770/1 and ESRC Centre Grant "Connecting Generations" ES/W002116/1. The UK Generations and Gender data are available from the UK Data Archive www.ukda.ac.uk and the GGP hub https://www.ggp-i.org/ for other academic researchers to access free of charge.

ESRC Centre for Population Change
Connecting Generations

The ESRC Centre for Population Change (CPC) is a joint initiative between the Universities of Southampton, St Andrews and Stirling, in partnership with the Office for National Statistics (ONS) and the National Records of Scotland (NRS).

Connecting Generations (CG) is a major strategic collaboration between CPC, the Leverhulme Centre for Demographic Research (LCDM) at the University of Oxford, and the Resolution Foundation.

The Centre is funded by the Economic and Social Research Council (ESRC) grant numbers RES-625-28-0001, ES/K007394/1, ES/R009139/1 and ES/W002116/1.

This working paper series publishes independent research, not always funded through the Centre. The views and opinions expressed by authors do not necessarily reflect those of the CPC, CG, ESRC, ONS or NRS.

The ESRC Centre for Population Change Working Paper Series is edited by Teresa McGowan; t.mcgowan@southampton.ac.uk

ECONOMIC UNCERTAINTY AND INTENTIONS TO REMAIN CHILDLESS: MACRO-ECONOMIC WORRIES OR INDIVIDUAL-LEVEL ECONOMIC UNCERTAINTY?

TABLE OF CONTENTS

1. INTRODUCTION

After decades of relatively high fertility, countries across Northern Europe and the English-speaking world have experienced surprising declines in period fertility rates, largely driven by declining first birth rates (Comolli et al., 2021; Ermisch, 2021; Hellstrand et al., 2021; Ohlsson-Wijk & Andersson, 2022; Seltzer 2019; van Wijk, 2024). Multiple explanations for these declines have been suggested, including economic and wider global uncertainties (Comolli et al., 2021; Matysiak et al., 2021; Vignoli et al., 2020); housing unaffordability (Tocchioni et al., 2021) and shifts in attitudes towards family life (Aassve et al., 2024). Consistent evidence is emerging as to the sub-groups most affected, with recent declines in first birth rates concentrated among women with lower levels of education in the UK (Ermisch, 2021) and Nordic countries (Comoli et al., 2021), Swedish men and women in weaker labour market positions (Ohlsson-Wijk & Andersson, 2022) and men and women with lower incomes in the Netherlands (van Wijk, 2024). This evidence, along with the fact that the current decline in fertility generally started just after the 2008 recession (Goldstein et al., 2013) suggests that economic factors are responsible. However, a puzzle remains as to why fertility rates continued to decline even once economic indicators, such as unemployment rates and wages, recovered from the 2008 recession (Schneider, 2015). This has led to a debate about the importance of other indices of economic uncertainty, including the role of past, current and future subjective feelings of economic insecurity (Lappegård et al., 2022; Vignoli et al, 2020; Van Wijk et al, 2022;2023). Recently, the role of non-economic worries, for example about climate change (Dillarstone et al., 2023) and conflict (Golovina & Jokela, 2024) and pessimism about the future (Ivanova & Balbo, 2024) have also been examined for their association with fertility intentions and behaviour. In this paper we contribute to the literature in two ways. Firstly, we compare the predictive power of different objective and subjective indicators of economic uncertainty based on past, current, and perceived future individual circumstances on intentions to become a parent. Secondly, we contrast these effects with the role of worries about the macro-economy.

Here we examine the case of the UK, which has experienced a decline in the total fertility rate in England and Wales from 1.94 in 2012 to 1.44 in 2023, the lowest since records began (ONS, 2024). Much of the recent decline in fertility in the UK is due to reductions in first birth rates at ages below 30 (Berrington et al., 2023), with teenage conception rates halving (Heap et al., 2021). Declines in childbearing rates at young ages have been fastest among those with less

education (Ermisch, 2021) resulting in a narrowing of educational gradients in the timing of entry into parenthood and the disappearance in the UK of the bimodal, polarised, pattern of first birth rates (Rendall et al., 2009; Berrington et al., 2023). This raises questions about whether those who have not yet had children, especially at younger ages, are still planning to have children, or have experienced a fundamental shift in their intentions to have children. This paper investigates fertility intentions among childless men and women in the UK. Unlike many studies of fertility intentions, we also interrogate the predictors of being uncertain in fertility intentions.

2. THEORETICAL BACKGROUND

According to early economic theories of fertility developed in the context of the male breadwinner family, higher income will be associated with higher rates of entry into parenthood as individuals are more able to afford the costs of childbearing (Becker, 1960). However, subsequent economic theorists highlighted the fact that increases in female earnings will tend to increase the indirect costs of childbearing, for example due to the increased economic opportunity costs associated with leaving the labour market to care for children (Willis, 1973). Thus, for women the effect of unemployment and low income on childbearing is ambiguous. Those with low potential earnings might take the opportunity to become a parent during a time when their earning capacity is limited due to high unemployment rates (Kreyenfeld, 2010). Indeed, empirical findings at the individual level as to the effect of employment and income on fertility intentions and behaviour are more mixed (Miettinen et al., 2020; Andersen & Özcan, 2021; Alderotti et al., 2021;) and vary according to institutional contexts, such as family policies (Hsu, 2023) and level of social protection (Alderotti et al., 2021). A number of studies suggest that the relationship between income and entry into parenthood has become more positive over historical time, for both men and women (van Wijk & Billari, 2024; van Wijk, 2024). This might be the result of increased costs of raising children, for example due to the rise in intensive parenting and investment in child quality (Gauthier & de Jong, 2021) or the increased compatibility of female employment and having children (van Wijk & Billari, 2024). An alternative suggestion is that there has been an increase in the economic standards that young adults wish to reach before becoming parents (van Wijk & Billari, 2024). A related idea is that childbearing, like marriage before it, is now becoming more of a capstone event, to be undertaken once other life goals have been completed (Stone, 2023). The postponement of childbearing relates to the desire to attain suitable life-style, housing and income prior to

childbearing, particularly in the context of cultural norms of intensive parenting (Wijk & Billari, 2024).

These economic theories raise the question as to how individuals perceive whether they have achieved sufficient economic advancement and stability in order to start family formation. Much of the extant demographic literature focuses on the relationship between **current** economic resources, as measured by employment status or income. However, traditional objective economic indicators such as current unemployment or income have not proved useful in understanding the continued declines in fertility in Europe and the US in the context of economic recovery after the 2008 recession. Whilst employment rates and wages have generally improved in recent years, there has not, in general, been a recuperation of fertility in high income countries (Vignoli et al., 2020; Seltzer, 2019). In response, recent theoretical development has looked beyond measures of current objective indicators, focusing on the role of increased economic uncertainty on fertility behaviour. First, attention has been paid to the effects of globalisation on the structure of the labour market. Job polarisation has meant a significant increase in insecure work that may include fixed-term contracts and involuntary part-time work, which mean that it is difficult for individuals to achieve the stability and security of income required for family formation (Blossfeld et al., 2006; Saltzer, 2019). These objective indicators of insecurity have often been found to be associated with reduced fertility (Alderotti et al., 2021; van Wijk et al., 2021).

However, objective indicators of current employment conditions, measured at a single time point, do not provide insight as to individuals' **past** experiences of economic uncertainty and their perceptions of current and **future** uncertainty. Both past experiences and future perceived circumstances will affect individuals' intentions to have children. Indeed, experimental studies have demonstrated that exposing individuals to descriptions of different economic scenarios affects their reported fertility intentions, suggesting that people link childbearing with their "narratives of the economic future" (Lappegård et al., 2022; Vignoli et al., 2020). In order to address these issues, recent studies have examined a broader array of indicators, both objective and subjective, and have taken a dynamic approach which incorporates past experience of economic uncertainty as well as current experience, and future prospects (Busetta et al., 2019; Matera et al., 2022; Scerer & Brini, 2023; van Wijk et al., 2022).

In this paper, we extend work for the UK by incorporating two different subjective indicators. First, we examine the role of perceived **future** financial wellbeing. We anticipate that those

who expect to be in a better financial position in three years' time will be more likely to intend to become a parent. Our second measure reflects individual's **past** experiences of economic wellbeing, more specifically material conditions when they were growing up. We argue that it may not be *absolute* measures of income, but *relative* affluence that are important in childbearing decisions. Individuals "make strategic decisions based on the evaluation of their own disposable socioeconomic resources relative to their aspirations or, at least, to their idea of an acceptable standard of living" (Comolli 2021, p. 2). According to Easterlin (1976), material aspirations develop via socialisation in childhood. Those with lower income, relative to that of their parents, will tend to postpone childbearing until a time when material aspirations can be met. The somewhat mixed empirical evidence testing Easterlin's theory is reviewed by Macunovich (1998). Given Easterlin's hypothesis, we expect the observed deterioration in life chances of younger UK cohorts relative to their parents' generation (Resolution Foundation, 2022) to result in postponed or foregone fertility. It is thus important to identify whether individuals feel that they have at least as good a standard of living as their parent(s) had at a similar age. We expect that those who feel that they are doing better than their parents at the same age will be more likely to intend to become a parent.

Individuals' narratives of the future are affected not only by their own experiences e.g. of unemployment, but also experiences of those around them and situations they read about in the media (Guetto et al., 2023). If macro-economic conditions are poor, then individuals who have a job might be concerned about being made redundant or being able to get a new job when the current one ends. As noted by Novelli and colleagues (2020, p. 260) "[m]acro and micro-level insecurities might reinforce each other, as individuals with an insecure employment position could feel discouraged from making long-term family commitments if economic prospects are poor". Individuals' perceptions of future income security will have been negatively affected by two recent events – the global Covid-19 epidemic, which caused job losses among those in sectors, e.g. hospitality, most affected and rapid rises in prices, caused by energy crisis due to conflict in Ukraine (ONS, 2023). The level of trust in institutions is also likely to moderate the role of perceived uncertainty on childbearing decisions, as those couples who feel that for example, welfare systems are robust, can expect to have future risks protected (Aassve et al., 2021; Comolli & Vignoli, 2021). It is important therefore to identify how worried individuals are about the broader economy. In this paper we examine whether individuals who are more worried about future macro-economic trends are less likely to intend to have a child.

In sum, previous demographic literature suggests that research needs to consider economic uncertainty as a multi-dimensional concept, incorporating both subjective and objective perspectives, including views from the past, present and the future. In this paper, we examine childless individuals' fertility intentions. We consider whether economic uncertainty is associated with increased intentions to remain childless by examining the responses of participants to questions about their **current** financial situation, their **future** financial situation, and their financial situation in the **past** when they were growing up. Additionally, we examine the importance of individuals worries about macro-economic issues – specifically economic crisis / rising prices, and unemployment rates, on their fertility intentions.

3. THE UK ECONOMIC CONTEXT

Economic uncertainty associated with globalisation and job flexibilisation had been rising for many decades in the UK but was accelerated by the 2008 financial crisis and economic recession. Although unemployment rates increased immediately after the 2008 recession, particularly for young adults (Schoon, 2020), employment rates recovered and increased in the period up to 2019, just prior to the Covid-19 pandemic (Bourquin, & Waters, 2022). However, whilst the quantity of jobs increased, job quality declined. The decade 2009-2019 saw wage stagnation, with the median wage falling slightly (Bourquin, & Waters, 2022). Moreover, a significant number of jobs, particularly among young, low-skilled workers, are based on either zero-hours contracts or have unpredictable working hours. Those working in jobs that provide insecure working hours are significantly more likely to be at risk of job loss, often at short notice (Felsted et al., 2020). Thus, disadvantaged young adults often experience particularly fractured work experiences, churning in and out of poorly paid work (Shildrick, & MacDonald, 2012). Perceptions of economic insecurity have increased as a result of both the Covid-19 pandemic, and more recently the cost-of-living crisis (ONS, 2022). The pandemic caused many of those in low skilled work, particularly young adults working in hospitality, to lose their job (Blundell et al., 2022). The cost-of-living crisis caused in part by the energy shocks resulting from the war in Ukraine, has severely eroded purchasing power. Inflation, (percentage change in consumer prices compared with one year before), rose from less than 1% in 2021 to a peak of over 10% in October 2022 in the UK (ONS, 2023). The findings of this study, based on the UK Generations and Gender Survey which took place at the height of the price increases, should be interpreted in this context.

4. DATA AND METHODS

4.1 THE UK GENERATIONS AND GENDER SURVEY

This paper uses data from the UK Generations and Gender Survey (GGS), carried out between Autumn 2022 and early 2023 using a push-to-web design (Howe et al., 2024). The Postcode Address File was used to sample 86,400 households to whom a written invitation to participate was sent. Only one person per household aged 18+ was asked to participate. 7,203 individuals completed the whole questionnaire – a response rate of 14%. The sample over represents women, childless individuals and those with higher levels of education. Our sample consists of 2,130 childless men and women aged 18-44 who are not currently pregnant/their partner is not currently pregnant. Weights are applied which account for the survey design and differential non-response.

4.2 DEPENDENT VARIABLE

Our outcome of interest is intention to have children. The GGS questionnaire asks respondents "*Do you intend to have (a)nother child during the next three years? Please take into account only biological children."* The possible answer categories are*: Definitely not; Probably not; Unsure; Probably yes; Definitely yes; Currently expecting a child/pregnant.* This is followed up with the question *"If you do not have (a)nother child during the next three years, do you intend to have any/more children at all? Answer categories include: Definitely not; Probably not; Unsure; Probably yes; Definitely yes.* The answers to these questions are used to create a variable indicating whether the respondent intends to ever have a child. Due to sample size limitations, we group those who say *"definitely not"* and "probably not" together into *"Not intend"*, and those who say they *"probably will"* and *"definitely will"* into *"Intend"*. The unsure group is sufficiently large to warrant its own category.

4.3 MEASURES OF INDIVIDUAL-LEVEL ECONOMIC UNCERTAINTY

Our two objective indicators of individual-level economic insecurity are economic activity status and household income (Table 1). Economic activity status is categorized as "employed", "unemployed", "student" and "other inactive". We note that much recent work in continental Europe has examined the role of temporary contracts on fertility behaviours (see for example Van Wijk and colleagues, 2021). However, the proportion of workers on fixed-term contracts is much lower in the UK than other European countries (Latner, 2022) and there are insufficient numbers of respondents employed on fixed-term contracts in the sample to differentiate them

from permanent contracts.[1] Respondents are presented with categories of household income level and asked to indicate which category they fall into. The three lowest income categories and the two highest categories have been grouped such that we compare those with a household income <£20,000; £20,000-£39,000; £40,000-59,000; £60,000-£79,000 and £80,000 plus. 17% of the sample did not provide an answer and are categorised as "not known".

Two subjective indicators of individual level economic uncertainty are examined. Firstly, individuals are asked *"Do you think your financial situation will get better or worse or be the same in 3 years?"* Response categories have been grouped: *1 "Better/much better" 2 "Neither better nor worse" 3 "Worse/much worse" 4 "Don't know and refuse".* The second subjective indicator relates to relative income and is based on the question: "*Compared to your parents when they were at your age, do you consider yourself better off than they were?".* Answer categories are: *1 "Better/Much Better" 2 Neither Better nor Worse" 3 "Worse / much worse" and 4 "Don't know and refuse".*

4.4 WORRIES ABOUT THE ECONOMY

The UK GGS fielded a new module capturing global uncertainties (Andersson et al., 2020). Respondents were asked *"Thinking about the future, how much does the following worry you?*". The issues presented in the questionnaire include two economic issues: "*Economic crisis/rising prices"; and "high unemployment".* Possible answer categories are: *Very worrying; Somewhat worrying; Not particularly worrying; Not at all worrying.* 'Very worrying' is assigned the value of 4, whilst 'not at all worrying' is given a value of 1. Answers to the two questions are summed to produce a score with mean 6.66 and standard error 0.03. Appendix A Figure A1 shows the distribution of the economic worries score. Most people are concerned about economic crisis and rising prices, reflecting the timing of the UK GGS fieldwork at the peak of inflation and energy crisis.

[1] In sensitivity analyses we disaggregated those employed into two groups according to whether the respondent reported that they perceived their job to be insecure. However, no difference in fertility intentions was found according to perceived job security and so the results are not included here.

Variables	Categories	Weighted %	Unweighted sample n
Indicators of economic uncertainty			
Economic activity	Employed	77.06	1649
	Unemployed	3.22	79
	Student	16.26	302
	Inactive	3.47	100
Household income	<£20,000	12.27	285
	£20,000-£39,000	21.6	537
	£40,000-£59,000	21.91	462
	£60,000 plus	25.73	499
	Not known	18.49	347
Future financial situation	Much better / better	50.83	1076
	Neither	24.3	539
	Much worse/Worse	16.66	351
	Not known	8.21	159
Situation compared to parents	Much better / better	47	940
	Neither	22.3	463
	Much worse/Worse	27	650
	Not known	3.7	77
Worries about the economy (score)			
	Mean	6.66	2130
	S.D.	0.03	
Controls			
Gender	Male	53.36	853
	Female	46.64	1277
Age group	18-29	60.85	1095
	30-44	39.15	1035
Partnership status	Married	12.05	259
	Cohabiting	26.6	529
	LAT	17.52	411
	No Partner	40.57	861
	Not known	3.26	70
Sibship size	0	9.26	214
	1	37.62	834
	2+	49.35	1014
	Not known	3.77	68
Education	Low	10.2	164
	Medium	36.69	685
	High	50.17	1208
	Not known	2.91	73
Religion	None	58.71	1320
	Protestant	9.2	186
	Catholic	7.53	172
	Other Christian	8.04	173
	Other	13.21	211
	Not known	3.32	68
General health	Very good	24.41	443
	Good	50.16	1057
	Fair	26.62	505
	Bad	4.81	125
Country of Birth	UK-born	81.3	1734
	Non UK-born	18.7	396

Table 1: Distribution of variables used in the analysis of childless men and women aged 18-44
Source: Authors analysis of UK Generations and Gender Survey Wave 1, 2022-2023
Note: Unweighted n = 2130.

4.5 CONTROL VARIABLES

Controls are included based on previous research on correlates of fertility intentions for the UK (Berrington & Pattaro, 2014; Berrington et al., 2023) and other high-income countries (Bein et al., 2023; Busetta et al., 2019; Hanappi & Buber-Ennser, 2017; Mattura et al., 2022; Sturm et al., 2023; Testa, 2014; Testa & Basten, 2014). *Age:* Respondents are categorised into two age groups broadly representing life course stage: 18-29 and 30-44. Given that the effect of other covariates is likely to depend upon life course stage, we test for two-way interactions between age and all the other covariates. *Gender:* Classified as a binary variable. *Partnership status:* The questionnaire first asks individuals whether they currently have an intimate partner. It then asks whether they are married to this partner and whether they are living in the same household.[2] *Number of siblings:* Respondents are asked how many brothers and sisters they have, including those who are deceased. We identify those who have no, one, or two or more siblings. *Education:* Respondents are categorised according to whether the level of the highest qualification they received was low; medium or high. *Country of Birth*: identifies whether the respondent was born inside or outside of the UK. *Religion* Identifies the respondent's religious affiliation as either: "Protestant", "Catholic", "Other Christian", "Muslim", "Hindu", "Other" and "No religion". *General Health*: Respondents are asked to report whether their health is "very good", "good", "fair" or "bad".

4.6 ANALYTICAL STRATEGY

First we examine childless men and women's intentions to ever have a child. Next, we use a multinomial logistic model to fit a series of nested regression models of fertility intention. "Not intend" to have a child is the reference outcome category. We included interactions to see whether the effect of each covariate was moderated by gender, or age. Estimated marginal probabilities are used to display the results, where other variables are held at their mean level. Relative risk ratios are shown in Appendix A Table A1. We did not find that gender moderates the effect of covariates, but current age does.

[2] A small minority of respondents refused to answer the initial question on whether they had an intimate partner. So as not to exclude these individuals from the analyses we include them in a 'not known' group.

5. RESULTS

5.1. DESCRIPTIVE RESULTS

Figure 1 shows the weighted percentage of childless men and women in the two age groups, 18-29 and 30-44, who intend to ever have a child. Responses are similar for men and women, with men in the younger age group slightly less likely to intend to become a parent. In the younger age group, just over half of the men and women say they definitely or probably intend to have a child. Whilst 20-25% say they are unsure and 20-25% say they definitely or probably do not intend to have children. Among men and women who remain childless at ages 30-44, fertility intentions are more negative with less than a third definitely or probably intending to have a child. These figures represent a marked uptick in intentions to remain childless compared to earlier cohorts in the UK (Ní Bhrolcháin et al., 2010; Berrington et al., 2023).

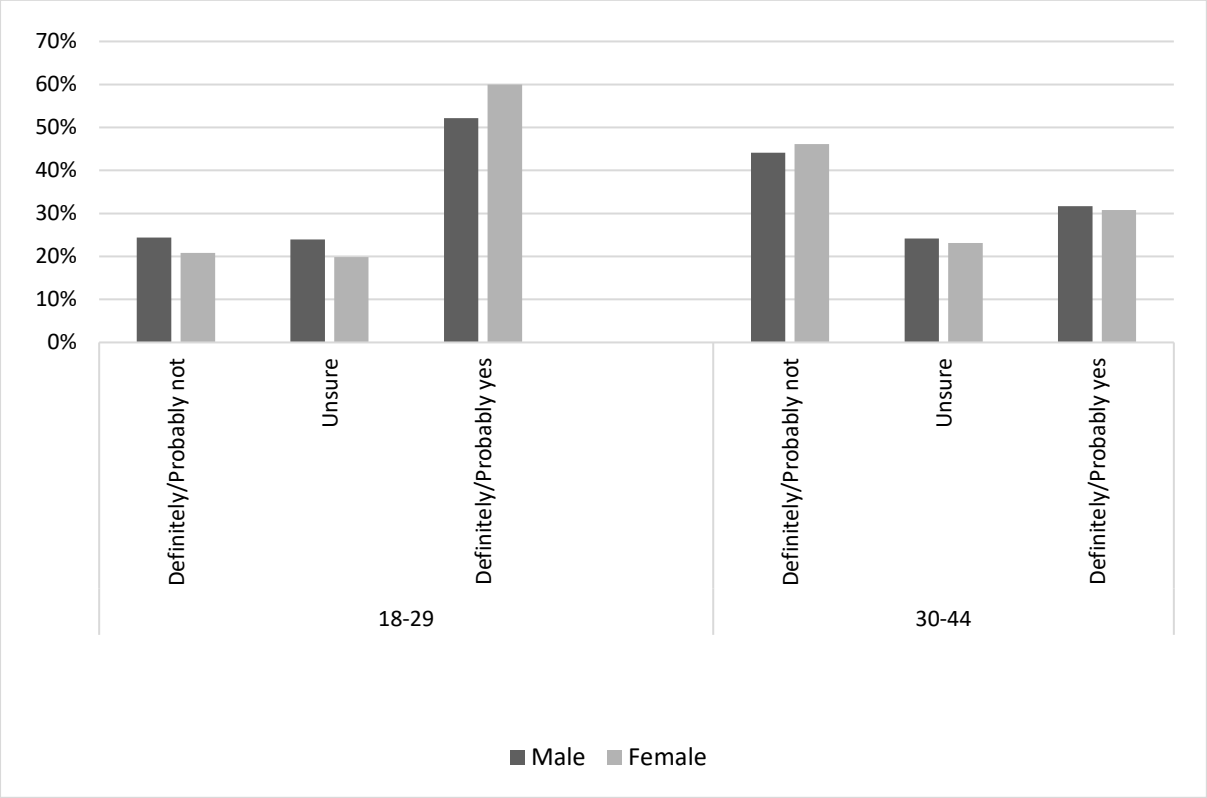

Figure 1: Intention to ever have a child. Childless men and women, UK 2022-23.
Source: Authors analysis of UK Generations and Gender Survey Wave 1, 2022-2023

5.2 MULTIVARIATE FINDINGS

Figures 2-5 show estimated probabilities of the three response outcomes from the multinomial model including all other variables (shown in Table 1) held at their mean value. Where a significant interaction with age group is seen we plot the probabilities for the two age groups separately. The relative risk ratios are shown in Appendix Table A1. None of the key independent variables were found to interact significantly with gender, suggesting that in the UK, economic uncertainty is operating in a similar way to affect childbearing intentions for men and women. Whilst both objective measures of individual economic uncertainty – economic activity status and household income – are found to be significant predictors of fertility intentions. The effect of these two indicators was similar according to age and gender. Whilst those unemployed do not have different intentions than those currently employed, those currently economically inactive are significantly less likely to intend to have a child and more likely to intend to remain childless (Figure 2).[3] Figure 3 shows the estimated probabilities of the three intention outcomes according to annual household income. The positive relationship between household income and intentions to have a child are much stronger for those in the younger age group, whereas the probability of definitely or probably intending to have a child doubles from less than 0.4 to 0.8 as income increases through the lowest to highest income group. For those aged 30-44 differences in intention according to income are small and not significant.

Intentions to remain childless are also associated with subjective measures of uncertainty. Those who perceive their future financial situation to be "much worse" or "worse" than currently are significantly less likely to intend to have a child (only one quarter have a positive intention), compared to those who think they will be "much better" or "better" in the future (among whom half intend to have a child) (Figure 4). The pattern is similar across both age groups. Moreover, even after controlling for all the other socio-economic covariates there is evidence, at least among the younger age group that financial position relative to the older generation is also important. Those who said that they thought they were "much better" or "better" off than their parents were at the same age were significantly more likely to intend to have a child as compared to those who thought they were "much worse" or "worse off" (Figure 5). Finally, we examined whether global economic worries were associated with intentions

[3] We also tested within the multinomial regression to see whether those who were employed but who perceived that they were at risk of losing their job were different than those who perceived they were securely employed. However, no difference in the fertility intentions of these two groups was observed.

(Figure 6). We find no significant association between the score (which ranges from 2 to 8) and the likelihood of intending to have a child.

The control variables have associations with fertility intentions in the expected directions: The likelihood of intending to have a child is higher among the younger age group, those who are married or cohabiting and those who report a religious affiliation. Most of the control variables were not found to differ in their effect across the age range. An exception was general health; older childless people aged 30-44 in poor health are significantly less likely to intend to have a child. Once all these variables are controlled, gender, sibship size, country of birth and level of education are not found to be significant (even when interacted with age group[4]).

[4] Appendix Table A1 shows coefficients from the model where the model includes covariates not found to be significant. The results remain very similar when the non-significant variables are removed.

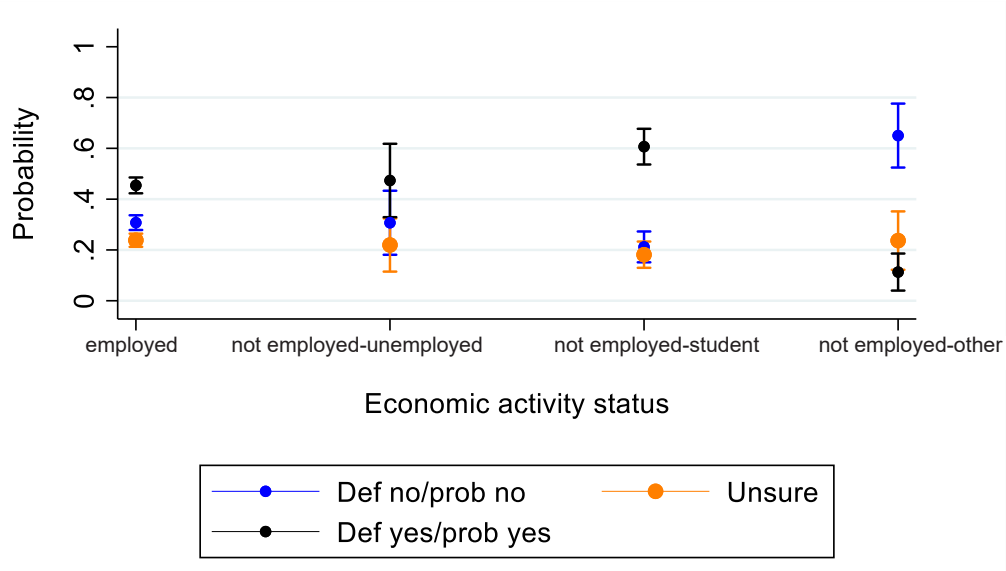

Figure 2. Predicted probabilities of fertility intention outcomes according to economic activity status. Childless men and women aged 18-44. UK 2022/23

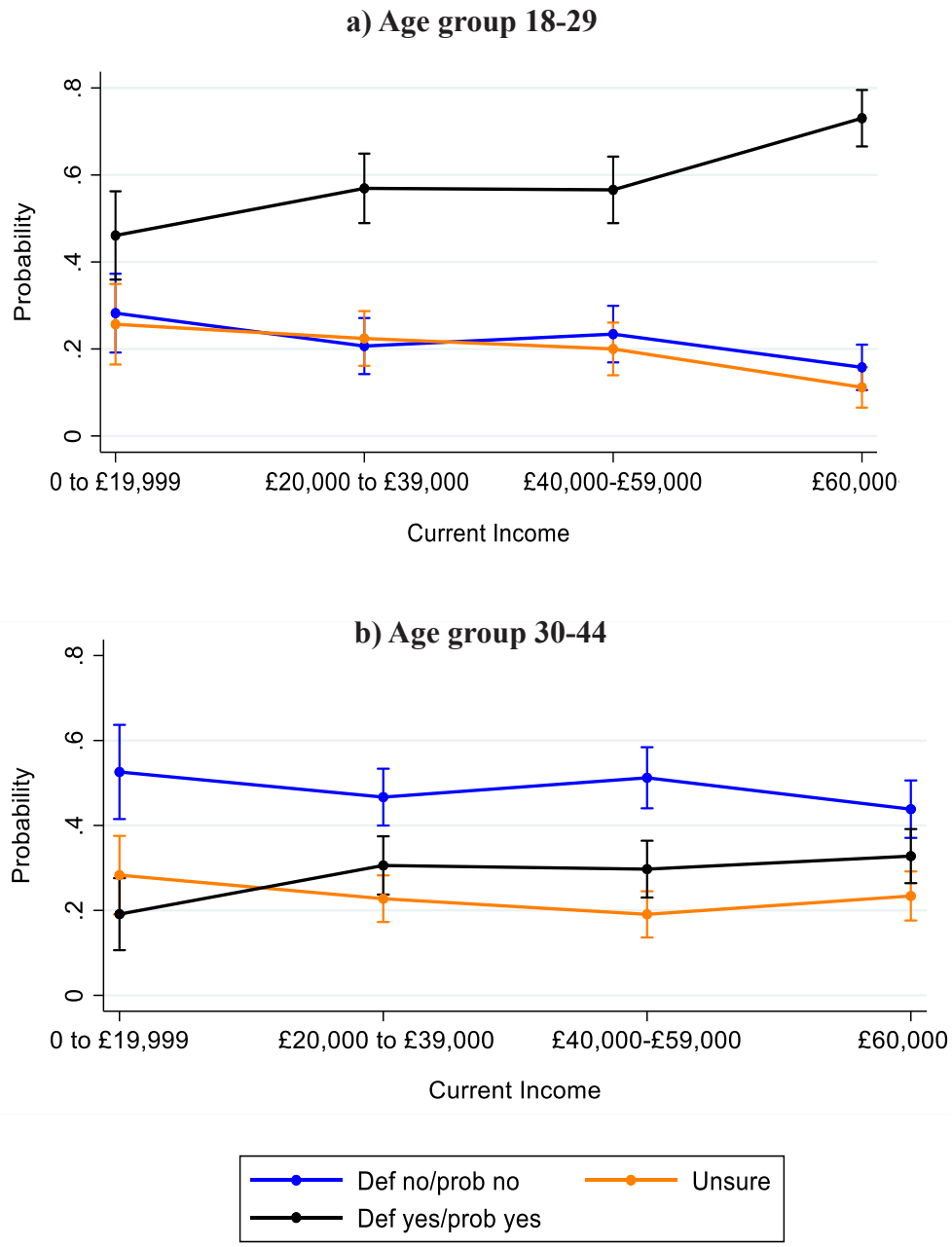

Figure 3. Predicted probabilities of fertility intention outcomes according to household income. Childless men and women. UK 2022/23

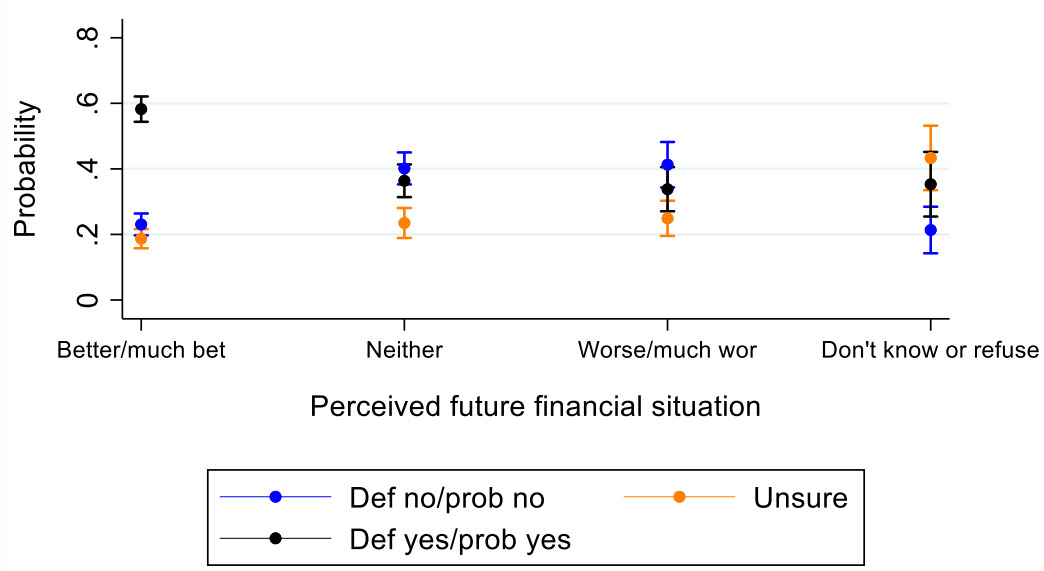

Figure 4. Predicted probabilities of fertility intention outcomes according to perceived future financial situation in three years. Childless men and women aged 18-44. UK 2022/23

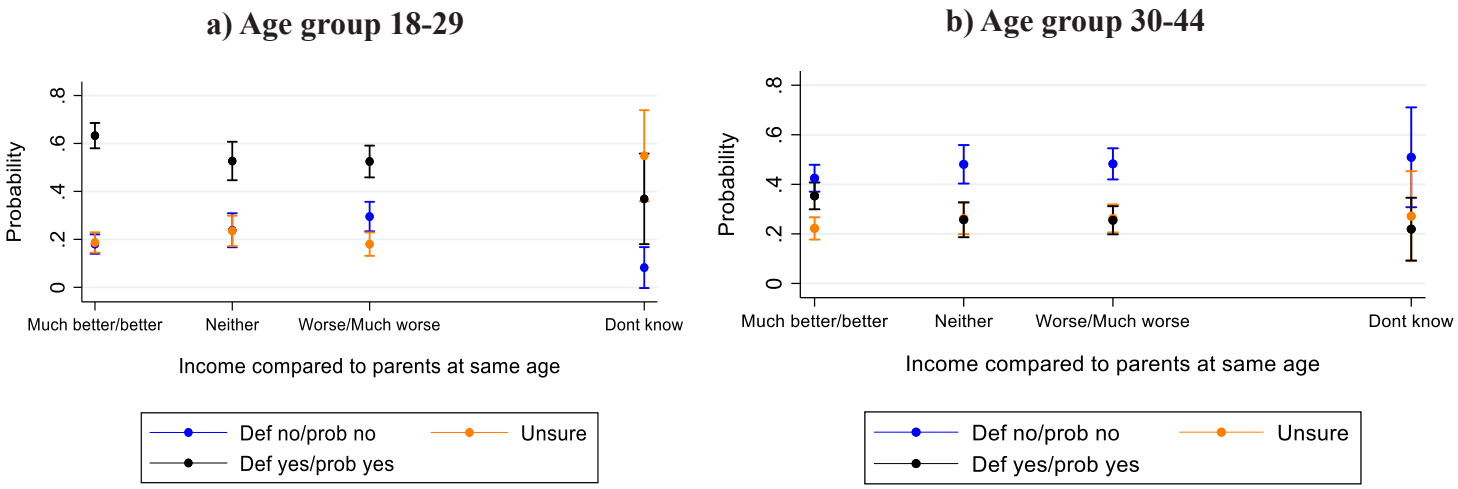

Figure 5. Predicted probabilities of fertility intention outcomes according to relative financial situation in comparison to parents. Childless men and women. UK 2022/23

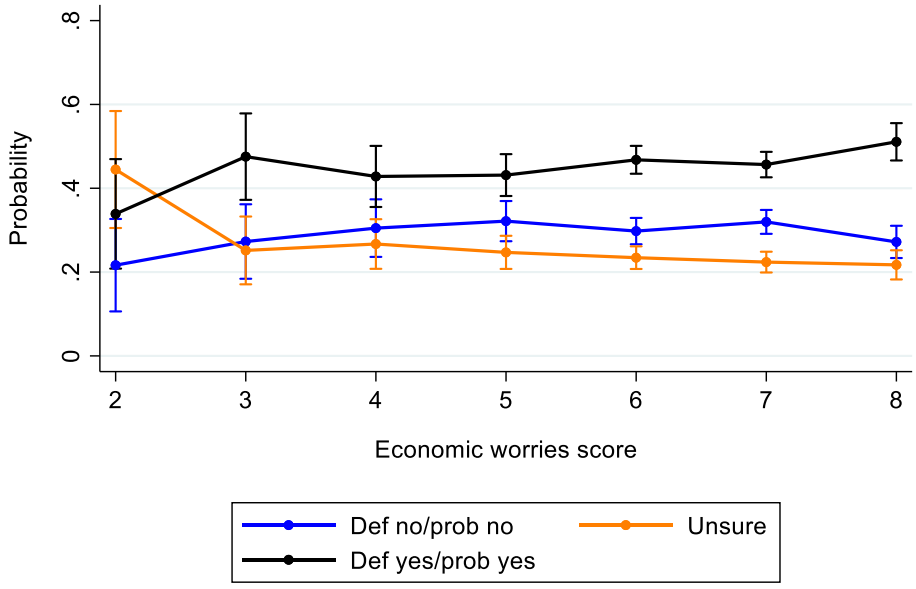

Figure 6. Predicted probabilities of fertility intention outcomes according to worries about the economy. Childless men and women aged 18-44. UK 2022/23

6. DISCUSSION

As childbearing is postponed to later ages, increasing proportions of men and women have not had a biological child. Intentions to have a child among this group decline with age, but even among those aged under 30, around half are either unsure whether they will have a child or intend to remain childless. Taken at face value, these responses suggest a significant increase in intended childlessness as compared with earlier birth cohorts at the same age (Ní Bhrolcháin et al., 2010; Berrington et al., 2023). Just as striking are the significant increases in the level of uncertainty in fertility intentions. Recognition of the importance of uncertainty in fertility intentions as a valid, meaningful response and as an important part of the fertility decision-making process has been steadily increasing (Ní Bhrolcháin & Beaujouan, 2019). It is possible that in answering the GGS questionnaire, even though the wording of the question asks about *ever having* a child, younger adults are reflecting on whether they intend to have a child now, rather than truly will ever have a child. As argued by Ni Bhrolcháin & Beaujouan (2019, P.27) "Preferences are constructed when they are not drawn from a stored memory but assembled on the spot from information accessible at the time; reports of such preferences can be very sensitive to context." Further work is needed to understand how individuals' intentions change across the life course and this can be done if the respondents are successfully followed up in a subsequent wave of data collection.

It is not possible to say whether the increased propensity to voice an intention to remain childless represents a real substantive change, or whether societal changes and increased acceptance of child-free lifestyles means that individuals feel more able to voice an intention to remain childless. It is important to note that fertility intentions are not the same as fertility desires, so the data are not telling us necessarily about changes in preferences. Increasing intentions to remain childless will result from both voluntary and involuntary childlessness (Berrington, 2017).

Those who remain childless in their thirties and early forties have more negative intentions, as do individuals without a partner, those in poor health, and those who report no religious affiliation. Even after controlling for these well-established determinants of fertility intentions (Berrington, 2004; 2017), economic uncertainty, as measured in multiple dimensions, is associated with lower intentions to have a child. Our analyses demonstrate the importance of considering economic uncertainty as a multi-dimensional concept with both objective and

subjective measures of individual-level economic uncertainty associated with lower intentions to have a child. Note that the relationships are similar when the indicators are considered either separately, or in combination as shown here, reflecting the fact that whilst uncertainty in one measure is associated with uncertainty in another they are not colinear. In terms of **current** circumstances, we find that intentions to have a child are lower for those who are economically inactive and those in low-income households. The relationship between current economic uncertainty and intentions appears to be particularly strong for those in the younger age group, consistent with the observation that first birth rates at young ages have been falling fastest among those with lower levels of education (Ermisch, 2021) and the suggestion that the income pre-requisite for childbearing has intensified (Van Wijk & Billari, 2024). Perceptions of **future** economic uncertainty are also found to be important with intentions to have a child significantly lower among those who feel that they will be worse off, or much worse off in three years' time. We also find evidence of the importance of **past** experiences on fertility intentions. Those who felt that they were doing worse or much worse than their parents were at the same age were significantly less likely to intend to have a child. Our findings are consistent with the arguments of Easterlin (1976), who argued that relative income was particularly important in the decision-making of young adults as younger people are able to postpone childbearing until they have amassed sufficient socio-economic resources. The importance of economic uncertainty in predicting childbearing intentions among this childless group is similar for men and women, contrary to historical research which has tended to find stronger effects for men than for women. Labour force participation of women is now expected, and dual income required, to meet material aspirations (Van Wijk & Billari, 2024). Thus, we should not be surprised that economic uncertainty works in a similar way for men as for women.

In contrast to these consistent findings for measures of individual-level uncertainty, we find no evidence in support of the argument that individuals' fertility behaviour is affected by worries about macro level concerns such as the economic crisis/rising prices and rising unemployment. Among the younger age group, those who reported that they were worried about these macro level issues events were not less likely to intend to have children. This null finding is possibly a result of the historical context with which the UK GGS was carried out, in the height of the cost-of-living crisis where inflationary pressures were at their peak. This is reflected in the fact that almost all of the sample said they were worried about macro-economic events. Of course, we need to be mindful when asking these questions about future worries as it may well be that

those who intend to remain childless are precisely those who are less concerned about the future, whereas those who do intend to have children may have more of an interest in the future state of economy in which they plan to bring up children.

In sum, our findings are consistent with recent research that highlights the role of economic uncertainty in causing recent declines in fertility at young ages. In the UK, among women born in the 1960s and 1970s there is a strong positive correlation between level of education and completed family size (Kuang et al., 2024). It seems plausible that, in the future, the UK could follow the patterns shown in Nordic countries where rates of childlessness have converged according to educational background (Jalovaara et al., 2019). The future behaviour of those currently aged under 30 is important for predicting future fertility levels in the UK. The decline in period fertility rates in the UK during the past decade largely result from the postponement of childbearing to later ages. If those currently in their twenties catch up their childbearing in their thirties then period fertility rates will start to increase once more in the UK. However, even if these younger cohorts go on to have children later in the life course, this postponement will likely cause a reduction in completed family size due to declines in fecundity at older ages (Beaujouan & Toulemon, 2021).

REFERENCES

Alderotti, G., Vignoli, D., Baccini, M., & Matysiak, A. (2021). Employment instability and fertility in Europe: A meta-analysis. *Demography*, 58(3), 871-900.

Andersen, S. H., & Özcan, B. (2021). The effects of unemployment on fertility. *Advances in Life Course Research*, 49, 100401.

Andersson, G., Dahlberg, J., & Neyer, G. (2020) New sub-module on Uncertainties and resilience in the Swedish GGS2020, *Generations and Gender Programme Technical working paper*. The Hague, Netherlands Interdisciplinary Demographic Institute.

Aassve, A., Adserà, A., Chang, P. Y., Mencarini, L., Park, H., Peng, C., ... & Jean Yeung, W. J. (2024). Family ideals in an era of low fertility. *Proceedings of the National Academy of Sciences*, *121*(6), e2311847121.

Aassve, A., Le Moglie, M., & Mencarini, L. (2021). Trust and fertility in uncertain times. *Population Studies*, 75(1), 19-36.

Bein, C., Passet-Wittig, J., Bujard, M., & Gauthier, A. H. (2023) Religiosity and Trajectories of Lifetime Fertility Intentions–Evidence from a German Panel Study. *Advances in Life Course Research*, 100578.

Beaujouan, É., & Toulemon, L. (2021). European countries with delayed childbearing are not those with lower fertility. *Genus*, 77(1), 1-15.

Berrington, A. (2004). Perpetual postponers? Women's, men's and couple's fertility intentions and subsequent fertility behaviour. *Population Trends*, 117, Autumn Issue, 9-19.

Berrington, A., & Pattaro, S. (2014). Educational differences in fertility desires, intentions and behaviour: A life course perspective. *Advances in Life Course Research*, 21, 10-27.

Berrington., A. (2017). Childlessness in the UK. Pp 57-76 in M. Kreyenfeld & D. Konietzka (eds.) *Childlessness in Europe: Contexts, Causes, and Consequences*. Springer.

Berrington, A., Kuang, B., Christison, S., & Kulu, H. (2023). Understanding fertility trends in Britain: Do fertility intentions differ across England, Wales and Scotland? Centre for Population Change Working Paper 105. WP_105_Berrington_et_al.pdf

Blundell, R., Costa Dias, M., Cribb, J., Joyce, R., Waters, T., Wernham, T., & Xu, X. (2022). Inequality and the COVID-19 Crisis in the United Kingdom. *Annual Review of Economics,* 14, 607-636.

Bourquin, P., & Waters, T. (2022). Jobs and job quality between the eve of the Great Recession and the eve of COVID-19. *Fiscal Studies*, 43(1), 63-78.

Busetta, A., Mendola, D., & Vignoli, D. (2019). Persistent joblessness and fertility intentions. *Demographic Research*, 40, 185-218.

Comolli, C. L., Neyer, G., Andersson, G., Dommermuth, L., Fallesen, P., Jalovaara, M., ... & Lappegård, T. (2021). Beyond the economic gaze: Childbearing during and after recessions in the Nordic countries. *European Journal of Population*, 37(2), 473-520.

Comolli, C. L., & Vignoli, D. (2021). Spreading uncertainty, shrinking birth rates: A natural experiment for Italy. *European Sociological Review*, 37(4), 555-570.

Dillarstone, H, Brown L.J., Flores, E.C. (2023). 'Climate Change, Mental Health, and Reproductive Decision-Making: A Systematic Review'. PLOS Climate 2 (11): e0000236.

Easterlin, R. A. (1976). The conflict between aspirations and resources. *Population and Development Review,* 2, 417-425.

Ermisch, J. (2021). English fertility heads south. *Demographic Research*, *45*, 903-916.

Gauthier, A. H., & de Jong, P. W. (2021). Costly children: the motivations for parental investment in children in a low fertility context. *Genus*, 77(1), 6.

Goldstein, J. R., Kreyenfeld, M., Jasilioniene, A., & Örsal, D. K. (2013). Fertility reactions to the "Great Recession" in Europe: Recent evidence from order-specific data. *Demographic Research*, 29, 85-104.

Guetto, R., Morabito, M. F., Vollbracht, M., & Vignoli, D. (2023). Fertility and Media Narratives of the Economy: Evidence From Italian News Coverage. *Demography*, 60(2), 607-630.

Heap, K. L., Berrington, A., & Ingham, R. (2020). Understanding the decline in under-18 conception rates throughout England's local authorities between 1998 and 2017. *Health & Place*, 66, 102467.

Hellstrand, J., Nisén, J., & Myrskylä, M. (2024). Educational field, economic uncertainty, and fertility decline in Finland in 2010–2019. *European Sociological Review*, jcae001.

Ivanova, K., & Balbo, N. (2024). Societal Pessimism and the Transition to Parenthood: A Future Too Bleak to Have Children? *Population and Development Review*.

Howe, S., Maatook, N. & Dyer, A. (2024). Generations and Gender Study UK Technical report. NATCEN. https://ggp.colectica.org/item/int.ggp/bb18b943-8290-4270-977d-d38193a3f064

Hsu, C. H. (2023). How women's employment instability affects birth transitions: the moderating role of family policies in 27 European countries. *European Sociological Review*, jcad037.

Jalovaara, M., Neyer, G., Andersson, G., Dahlberg, J., Dommermuth, L., Fallesen, P., & Lappegård, T. (2019). Education, gender, and cohort fertility in the Nordic countries. *European Journal of Population*, 35, 563-586.

Kreyenfeld, M. (2010). Uncertainties in female employment careers and the postponement of parenthood in Germany. *European Sociological Review*, 26(3), 351-366.

Kuang, B., Berrington, A., Christison, S., & Kulu, H. (2024). Educational trends in cohort fertility by birth order: A comparison of England and Wales, Scotland, and Northern Ireland. *Demographic Research*, *51*, 1125-1166.

Lappegård, T., Kristensen, A. P., Dommermuth, L., Minello, A., & Vignoli, D. (2022). The impact of narratives of the future on fertility intentions in Norway. *Journal of Marriage and Family*, 84(2), 476-493.

Latner, J. P. (2022). Temporary employment in Europe: stagnating rates and rising risks. European Societies, 24(4), 383-408.

Macunovich, D. J. (1998). Fertility and the Easterlin hypothesis: An assessment of the literature. *Journal of Population Economics*, 11, 53-111.

Matera, C., Dommermuth, L., Bacci, S., Bertaccini, B., Minello, A., & Vignoli, D. (2022) Perceived Economic Uncertainty and Fertility Intentions in Couples: A Dyadic Extension of the Theory of Planned Behaviour. *Journal of Family and Economic Issues*, 1-17.

Matysiak, A., Sobotka, T., & Vignoli, D. (2021). The Great Recession and fertility in Europe: A sub-national analysis. *European Journal of Population*, *37*(1), 29-64.

Blossfeld, H. P., Klijzing, E., Mills, M., & Kurz, K. (Eds.). (2006). *Globalization, uncertainty and youth in society: The losers in a globalizing world.* Routledge.

Miettinen, Anneli, and Marika Jalovaara. (2020). Unemployment Delays First Birth But Not For All. Life Stage and Educational Differences in the Effects of Employment Uncertainty on First Births. *Advances in Life Course Research* 43:100320.

Ní Bhrolcháin, M., Beaujouan, E., & Berrington, A. (2010). Stability and change in fertility intentions in Britain, 1991–2007. *Population Trends*, 141, 13-35.

Ní Bhrolcháin, M., & Beaujouan, É. (2019). Do people have reproductive goals? Constructive preferences and the discovery of desired family size. Pp 27-56 in R. Schoen (ed.) *Analytical Family Demography*. Springer.

Office for National Statistics (2023). Consumer price inflation, UK: August 2023. https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/consumerpriceinflation/august2023

Office for National Statistics (2024). Births in England and Wales: 2023. https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/bulletins/birthsummarytablesenglandandwales/2023

Resolution Foundation (2022) Intergenerational Audit. https://www.resolutionfoundation.org/app/uploads/2022/11/An-intergenerational-audit-for-the-UK.pdf

Rendall, M. S., Ekert-Jaffé, O., Joshi, H., Lynch, K., & Mougin, R. (2009). Universal versus economically polarized change in age at first birth: A French–British comparison. *Population and Development Review*, *35*(1), 89-115.

Scerer, S and Brini, E (2023). Employment stability and childbirth over the past 20 years in Italy. *European Journal of Population*, 39:31.

Schneider, D. (2015). The Great Recession, fertility, and uncertainty: Evidence from the United States. *Journal of Marriage and Family*, 77(5), 1144–1156

Schoon, I. (2020). Navigating an uncertain labor market in the UK: the role of structure and agency in the transition from school to work. The Annals of the *American Academy of Political and Social Science*, 688(1), 77-92.

Seltzer, N. (2019). Beyond the Great Recession: Labor market polarization and ongoing fertility decline in the United States. *Demography*, 56(4), 1463-1493.

Shildrick, T., & MacDonald, R. (2012). *Poverty and insecurity: Life in low-pay, no-pay Britain*. Policy Press.

Stone, L. (2023). She's not having a baby: Why Half of Canadian Women Are Falling Short of Their Fertility Desires. Cardus Report. She's (Not) Having a Baby | Cardus

Sturm, N., Koops, J. C., & Rutigliano, R. (2023). The influence of partnership status on fertility intentions of childless women and men across European countries. *European Journal of Population*, 39(1), 20.

Testa, M. R. (2014). On the positive correlation between education and fertility intentions in Europe: Individual-and country-level evidence. *Advances in Life Course Research*, 21, 28-42.

Testa, M. R., & Basten, S. (2014). Certainty of meeting fertility intentions declines in Europe during the 'Great Recession'. *Demographic Research*, 31, 687-734.

Tocchioni, V., Berrington, A., Vignoli, D., & Vitali, A. (2021). The changing association between homeownership and the transition to parenthood. *Demography*, 58(5), 1843-1865.

van Wijk, D. (2024). Higher incomes are increasingly associated with higher fertility: Evidence from the Netherlands, 2008–2022. *Demographic Research*, *51*, 809-822.

van Wijk, D., & Billari, F. C. (2024). Fertility postponement, economic uncertainty, and the increasing income prerequisites of parenthood. *Population and Development Review*.

van Wijk, D. C., de Valk, H. A., & Liefbroer, A. C. (2021). Temporary employment and family formation: an income or insecurity effect? *European Sociological Review*, 37, 641-658.

van Wijk, D. C., de Valk, H. A., & Liefbroer, A. C. (2022). Economic precariousness and the transition to parenthood: A dynamic and multidimensional approach. *European Journal of Population*, 38, 457-483.

Vignoli, D., Guetto, R., Bazzani, G., Pirani, E., & Minello, A. (2020). A reflection on economic uncertainty and fertility in Europe: The narrative framework. *Genus*, 76(28), 28.

Willis, R. J. (1973). A new approach to the economic theory of fertility behavior. *Journal of Political Economy*, *81*(2, Part 2), S14-S64.

APPENDIX A

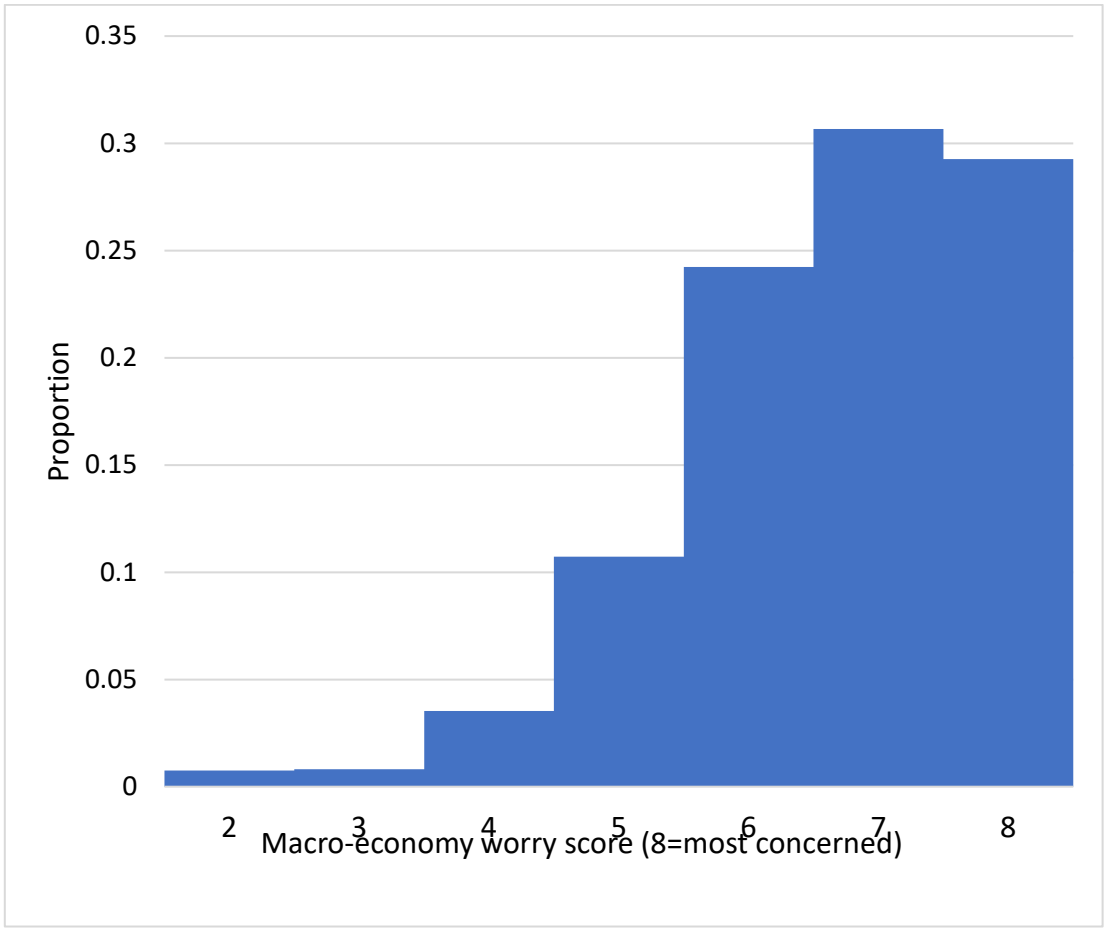

Figure A1: Distribution of score for future worries about the economy. Childless men and women aged 18-44, UK 2022-23.
Source: Authors analysis of UK Generations and Gender Survey Wave 1, 2022-2023

		Unsure		Definitely/Probably will have children	
Indicators of economic uncertainty					
Economic activity	Employed	1		1	
	Unemployed	0.765		1.292	
	Student	0.848		1.268	
	Inactive	0.407	**	0.201	***
Household income	<£20,000	1		1	
	£20,000-£39,000	1.066		1.809	
	£40,000-£59,000	0.849		1.341	
	£60,000+	0.691		2.220	**
	Not known	1.120		1.360	
Household income * 30-44					
	£20,000-£39,000	0.810		0.514	
	£40,000-£59,000	0.742		0.571	
	£60,000-£79,000	1.223		0.306	**
	Not known	1.682		1.292	
Future financial situation	Much better / better	1		1	
	Neither	0.792		0.548	***
	Much worse/Worse	0.904		0.510	***
	Not known	1.791	*	0.697	
Situation compared to parents	Much better / better	1		1	
	Neither	0.924		0.8443	
	Much worse/Worse	0.578	**	0.577	**
	Not known	5.20		2.033	
Situation compared to parents * 30-44					
	Neither	1.145		0.925	
	Much worse/Worse	2.129	**	1.588	
	Not known	0.130	**	0.339	
Worries about economy		0.979		1.08	*
Controls					
Gender	Male	1		1	
	Female	0.899		1.105	
Age group	18-29	1			
	30-44	0.601		0.264	***
Partnership status	Married	1		1	
	Cohabiting	1.000		0.770	
	LAT	1.059		0.681	
	No Partner	0.832		0.406	***
	Not known	1.380		0.377	**
Sibship size	0	1		1	
	1	0.928		1.271	
	2+	0.966		1.421	
	Not known	0.791		0.868	
Education	Low	1		1	
	Medium	1.039		0.869	
	High	1.449		1.494	
	Not known	1.589		1.647	
Religion	None	1		1	
	Protestant	1.545		2.218	***
	Catholic	.990		1.825	**
	Other Christian	1.470		1.489	
	Other	1.743	**	2.510	***
	Not known	1.385		1.590	
General health	Very good	1		1	
	Good	1.054		0.801	
	Fair	1.360		0.612	*
	Bad	2.091		1.422	
General health x 30-44					
	Good	0.811		0.930	
	Fair	0.560		0.954	
	Bad	0.299	*	0.230	**
Constant		1.035		1.555	

Table A1: Relative Risk Ratios and p-values for Multinomial Logistic Regression Model of Fertility Intentions. Childless men and women aged 18-44. UK 2022-23

Source: Authors analysis of UK Generations and Gender Survey Wave 1, 2022-2023

Notes: Baseline outcome is "Definitely/Probably not have children". Sample is 2130 childless men and women aged 18-44 from 2022/23 UK GGS. * p<0.10, ** p<0.05, *** P<0.01

CPC
CENTRE FOR POPULATION CHANGE

CONNECTING GENERATIONS

ESRC Centre for Population Change
Connecting Generations

Building 58
Faculty of Social Sciences
University of Southampton
SO17 1BJ

Tel: +44(0)2380592579
Email: cpc@southampton.ac.uk

To subscribe to the CPC newsletter and keep up-to-date with research activity, news and events, please register online:
www.cpc.ac.uk/news/newsletter

For our latest research updates you can also follow CPC and Connecting Generations on social media:

Twitter: @CPCpopulation @ConnectingGens

Facebook: /CPCpopulation

LinkedIn: /company/esrc-centre-for-population-change-and-connecting-generations

University of Southampton
University of St Andrews
UNIVERSITY of STIRLING

LEVERHULME CENTRE FOR DEMOGRAPHIC SCIENCE
Resolution Foundation
Office for National Statistics
National Records of Scotland

Producing novel science
Informing policy
Improving knowledge on population change

cpc.ac.uk

ISSN 2042-4116