Financial Stress, Economic Uncertainty and Transitions to First and Second Birth

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Introduction

Previous research has shown that at an aggregate level, population fertility (period total fertility rates) tend to decline in response to macro-level economic hardship (Sobotka et al. 2011; Livingston 2011; Cherlin et al. 2013; Goldstein et al. 2013). However, at the micro level, the relationship is less straightforward and fertility may actually increase in the context of individual-level economic difficulties (Schmitt 2012b; Rendall et al. 2013; Kreyenfeld and Andersson 2014) These contradictory findings relate to the fact that the impact of economic uncertainty on fertility behaviour can differ for different population subgroups e.g. by age, gender, parity, and educational level (Adsera 2011; Kreyenfeld and Andersson 2014). Much past micro-level research has focused on the role of individual's *employment* security. Fewer studies have considered wider measures of economic uncertainty for example which encompass partner characteristics or household level indicators of economic wellbeing or subjective measures of financial stress, (although see for example (Golsch 2003; Kreyenfeld 2010; Begall and Mills 2011; Begall 2013)). Furthermore, many research papers only consider entry into parenthood and do not examine the impact of economic uncertainty on subsequent parity progression (see for example (Kreyenfeld 2010; Schmitt 2012a)), or only consider fertility intentions and not outcomes (for example (Fiori et al. 2013)).

This paper exploits newly available data from a large UK household panel to extend existing research in a number of ways: First, we consider whether the concept of financial stress is more effective in understanding fertility behaviour than traditional objective measures of economic uncertainty such as employment security and household income. Second, we consider the experiences of both men and women and (eventually) partner characteristics; third, we examine the relationship between financial stress and the transition to both first and second birth.

We demonstrate that the association between economic uncertainty and fertility varies according to age, gender, parity and by the measure of uncertainty used. In particular, perceived financial difficulties appear to persistently exert a positive impact on fertility and does not necessarily follow the same patterns of association when compared with more objective measures.

Theoretical background and expectations

There is a significant body of literature, spanning more than a century, which theorises the relationship between economic uncertainty and family formation. For excellent recent reviews see (Sobotka et al. 2011; Kreyenfeld and Andersson 2014). Most of the literature relies upon economically rational models of fertility behaviour (e.g. (Becker 1981)) which theorises how economic uncertainty affects the direct and opportunity costs of childbearing. Economic uncertainty is assumed to have a negative impact on fertility for both men and women through its bearing on individuals' and couples' ability to plan for the direct costs of children, although the magnitude of this impact will depend on other factors such as the cushioning effect of savings. The effect of increased economic uncertainty on the opportunity costs of childbearing are less straightforward since being unemployed or in part-time work increases the time available for childcare. For men, stable full time employment, and higher incomes will be associated with secure economic foundations for family formation and thus faster progression to first and second birth. For women however, the expected direction of impact is less obvious since it depends on the extent to which women are expected to provide income to the family home, or the extent to which establishing themselves in the labour market is important for future career progression (Adsera 2011; Schmitt 2012b; Kreyenfeld and Andersson 2014). For women especially, since they are the main caregivers, part-time work and unemployment may increase the transition to first or second birth, as has been found previously for the UK (Schmitt 2012b). Little past research has investigated the relationship between subjective financial status (financial stress) on childbearing. Subjective financial status is clearly related to more objective measures of economic uncertainty. However, as noted by (Skeggs 2011) if financial hardship is the prevailing and usual state among individuals and their peers, as is for many low-paid workers in the UK, such respondents may not describe themselves as being under the most financial strain. However, perceived financial strain may pick up other indicators of precariousness, not obviously captured by an individuals' economic activity status – for example, whether they are struggling to meet their housing costs, or there

precarious position *vis a vis* uncertainties as to whether they will be able to continue receiving welfare payments in the context of welfare retrenchment. There is very little evidence from the demographic literature, although research in the field of social epidemiology suggests that objective and subjective measures reflect different experiences of uncertainty (Angel et al. 2003; Arber et al. 2014). Nevertheless, we would expect that, irrespective of economic activity status, those reporting themselves to be finding it difficult to cope financially would be less likely to progress to first or second birth.

The increased complexity of individual-level associations really becomes apparent when we think about how employment uncertainty might affect fertility in different subgroups of the population (Pailhé and Solaz 2012; Schmitt 2012b; Kreyenfeld and Andersson 2014) example, by age, parity and level of education. Most evidence suggests first birth is more important, in particular in relation to educational level (Kreyenfeld 2010; Adsera 2011). Women with high levels of education may perceive leaving the labour market for childbearing to be a risky strategy in the context of economic uncertainty, with increased opportunity costs if employment instability constrains their likelihood of returning to work, and may therefore postpone the transition to parenthood (Sobotka et al. 2011). On the other hand, more educated women may have access to savings or a similarly educated partner's income that shelters them from economic shocks, thereby attenuating the impact of economic uncertainty on their fertility behaviour (Adsera 2011).

Family formation 'decisions' are not only affected by the individual's own personal characteristics but the wider situation e.g. in terms of their partner's level of economic uncertainty or household income. Evidence from the UK and Germany suggests that partner's employment situation may modify the association between employment insecurity and fertility, and household income may also play a role (Kreyenfeld 2005; Schmitt 2012b).

The UK Context

Specifically in the UK, the relationship between economic uncertainty and fertility must be considered in the context of strong polarisation in the timing of entry to parenthood. Men and women in less advantaged circumstances tend to make earlier transitions to adulthood (Stone et al. 2011; Berrington and Pattaro 2014), including early transitions to parenthood. In contrast, those with, for example, high levels of education are more likely to postpone childbearing to later ages. The UK is also characterised by a flexible labour market that promotes less stable employment patterns and consequent exposure to economic uncertainties. In addition, the means-tested structure of family policy that is a feature of liberal regimes such as the UK may mediate or modify fertility response to economic uncertainty, particularly via welfare benefits that are linked to parenthood. Therefore, the overall aim of this paper is to investigate how economic uncertainty is related to the transition to parenthood and subsequent parity progression among men and women in the UK.

In view of the context described above, we have a number of expectations for our UK study. First, we anticipate that the association between unemployment and insecure employment and childbearing will be greater for men, than for women. Second, we expect that the impact of economic uncertainty may be reduced lower at younger ages in part due to the strong social polarisation of births, but also because the meaning of unemployment is likely to be conditional age or stage of the life course. For example, being unemployed immediately on finishing full-time education is likely to be experienced somewhat differently to becoming unexpectedly unemployed after many years in the labour market. We further propose that household income and partner's characteristics will mediate the relationship between an individual's economic uncertainty and fertility outcomes.

We hypothesise that subjective measures of economic uncertainty, as an indicator of actual available resources/disposable income as well as perceptions of uncertainty, will show a stronger and more consistent association with transition to first and second birth than objective measures.

Finally, we expect the relationship between economic uncertainty and childbearing will be more pronounced for first births than for second births. This is in part because the transition to parenthood will tend to be a more significant 'turning point' in the life course than subsequent parity progression but may also relate to the 'two-child norm' that persists in the UK (Berrington and Pattaro 2014). Having made the transition to parenthood, we might expect that men and women will be highly likely to progress to a second child, regardless of their circumstances.

Data and methods

We use panel data from waves 1-3 (2009-2012) of *Understanding Society*, the UK Household Longitudinal Study. Using the panel allows a prospective approach that facilitates investigation of the time ordering of events – so, we can examine indicators of economic uncertainty prior to childbearing. For the analysis of first births, we have a sample of 7,445 women and 7,030 men aged 16-44 years who were childless and non-pregnant at interview and contribute at least two consecutive waves of data. For the analysis of second births we use data for 3,740 women and 2,773 men who have one child at t0. In both analyses, the outcome is pregnancy leading to a live birth between t0 and t1.

We use three measures of economic uncertainty at t0. We define individual economic activity based on labour market activity and contract type: 1. Employed full-time, permanent contract; 2. Employed part-time/temporary contract; 3.Inactive/in education; 4.Unemployed. We measure household income in percentiles (high – mid – low), weighted for household composition using the OECD equivalence scale. Finally, we use a measure of subjective financial status, where respondents are asked the question "*How well would you say you yourself are managing financially these days?"*. The possible responses are: 1. Living comfortably; 2.Doing alright; 3.Just about getting by; 4.Finding it difficult/very difficult. We also include a number of fixed and time-varying covariates: Age group, marital status, educational attainment and country of birth.

We model the transition to first and second birth separately for men and women using discrete-time event history analysis. We test whether the impact of economic uncertainty on fertility differs according to current age by including two-way interactions between age group and each covariate.

Results

The results for the transition to first birth are shown in Table 1, models 1-4. When economic activity is entered into the model without the other measures of economic uncertainty (models 1 and 2), we see a strong interaction with age for both men and women. In the younger age group (16-24), men and women who are unemployed at t0 have the highest odds for having a first pregnancy leading to a live birth in the subsequent year. However, in the older age group, the association is reversed and those in full-term, permanent employed are the most likely to make the transition to parenthood. When household income is added into the model the associations are attenuated and are no longer significant among women. However, the association between unemployment and increased odds for making the transition to parenthood remains statistically significant in young men. Those classified as students or inactive are the least likely to have a birth, largely because of an enrolment effect (the majority of this group are in education).

For household income (model 3), young women in the high income band are significantly less likely to have a first birth than those in the lower income bands. For older women, the picture is less clear, with women in the middle band of household income most likely to have a birth. We can speculate that those in the high income group might be a particularly career-oriented group of women who are less likely to have children than those in the middle group. For men, we see similar associations in the younger age group, but little difference according to household income among older men.

Model 4 including subjective financial status shows that reporting to be 'finding it difficult' is consistently associated with fertility for women of both age groups. This differs slightly from the other indicators, where there was generally a negative association between uncertainty and the transition to first birth among older women. For men, the relationships are very similar to those for the other indicators.

Models 5 and 6 in Table 2 show the results for the analysis of progression to second birth. Additional interactions with age were tested but showed no significant effects and so are not presented here. For women in the younger age group, there is a strong association between unemployment at t0 and increased odds for having a second birth during the subsequent year. Young women classified as students or inactive also have increased odds for a second birth – this differs from the first birth analysis because the majority (75%) of this group are looking after the home/family rather than enrolled in education. No significant associations are observed for the older age group. Among men in the younger age group, those classified as unemployed at t0 are also the group most likely to have a second birth but this does not reach statistical significance. However, we do observe a significant association between subjective financial status and the odds

for a second birth in men, with those reporting that they are "finding it difficult" significantly more likely that those who are 'living comfortably' to have a second birth during the subsequent year.

Summary of findings

In terms of gender differences, we expected that the impact of unemployment would be great for men than women, but in fact we found that the associations were similar by gender, particularly in relation to the direction of associations. Nevertheless, the association between unemployment and the transition to first birth did appear to be particularly robust among young men. There were also gender differences according to parity, with unemployment showing a stronger association with second births among women and with first births among men. We found that, as anticipated, household income reduced the impact of individual-level uncertainty (unemployment) on first births but only for women.

We confirm that social polarisation is an important driver of age differences in the impact of economic uncertainty on the transition to parenthood and that this relationship appears to persist during the period of recession that was the focus of this study. For example, we showed that at ages under 25, economic uncertainty has a positive association with transition to first birth, while at ages 25 plus there is a negative association.

The subjective measure of uncertainty did not appear to be more important than the objective measures in terms of the magnitude of associations, but it did appear to provide different insights into the relationship between economic uncertainty and fertility. In particular, the perception of struggling financially seems to be associated with lower odds for a first birth even for older women. Finding things difficult financially was also one of the only significant predictors of second birth among men. As expected, the associations between economic uncertainty and fertility were less marked for second births as compared with first births.

Conclusions

In seeking to explain higher rates of childbearing among young adults in insecure positions in the UK, the cushioning effect of social policies and the welfare state may be an important factor. Means-tested benefits linked to childbearing will highest for those on low incomes, for whom the direct costs of childbearing will represent a large proportion of their income (McDonald and Moyle 2010). However, there is also the possibility that childbearing provides a mechanism to reduce uncertainty (eg.(McDonald and Moyle 2010)), so that young men and women who have insecure positions in the labour market can gain an outlet for their ambitions and aspirations via the role of parent. Third, the importance of unplanned childbearing and a predisposition to risk-taking behaviour must also be taken into account. In other words, young people whose experience of economic and employment uncertainty means they perceive that they have little to lose may be less risk-averse than those with a more favourable and stable economic position. This is supported by our findings in relation to subjective financial status, where individuals who perceived that they were experiencing financial hardship were more likely to have a birth across age and gender subgroups.

Returning to the divergent findings from macro- and micro-level studies, this may be in part explained by the fact that micro-level models reflect an impact of economic uncertainty on both the timing and quantum of fertility (Sobotka et al. 2011; Pailhé and Solaz 2012). In addition, micro-level studies can capture the heterogeneous relation between economic uncertainty and childbearing e.g. by age, parity and SES (Kreyenfeld and Andersson 2014). The impact of economic uncertainty may be also be mediated by the ability to form partnerships and marry (Oppenheimer 1994) and the importance of being in a stable partnership / marriage for childbearing may differ by SES. These patterns may not remain in the future if recent dramatic decline in teenage childbearing in the UK persists and it is possible that we may see narrowing of social polarisation in timing of childbearing in the future.

Future work

In addition to the work presented here, we are taking advantage of the household-level structure of the *Understanding Society* survey to undertake couple-level analysis of objective and subjective measures of economic uncertainty in relation to fertility. We plan to investigate further interactions between variables such as education and economic activity and to extend the analyses to additional parity progressions.

Table 1: Odds ratios for first birth in women and men aged 16-44 years at t0.

	WOMEN				MEN			
	OR for first birth				*OR for first birth*			
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 1**	**Model 2**	**Model 3**	**Model 4**
Ageband (ref 16-24)								
25-44	0.83	1.00	3.96*	2.54*	0.68*	0.93	1.92	2.62+
Economic activity (ref Employed F/T, permanent)								
Employed P/T or temporary contract	0.90	1.13	1.03	1.02	1.01	1.56	1.35	1.27
Inactive/Student	0.36***	0.44*	0.35*	0.37*	0.35*	0.49	0.40+	0.45
Unemployed	1.16	1.86+	1.23	1.04	1.54*	3.14*	2.41*	2.29*
Marital Status (ref married)								
Cohabiting	0.45***	0.45***	0.44***	0.44***	0.51***	0.53***	0.53***	0.52***
Unpartnered	0.18***	0.18***	0.17***	0.18***	0.06***	0.06***	0.06***	0.06***
Country of birth (ref UK)								
Outside UK	0.61*	0.62*	0.61*	0.60*	1.10	1.11	1.11	1.11
Educational attainment (ref High)								
Low	1.33+	1.32	2.23*	2.41***	1.28	1.27	1.18	1.19
Ageband X economic activity								
25-44 X employed part-time		0.72	0.92	0.86		0.56	0.65	0.69
25-44 X inactive/student		0.67	1.04	0.90		0.59	0.74	0.65
25-44 X unemployed		0.32*	0.66	0.59		0.29*	0.39+	0.41+
Ageband X Education								
25-44 X Low			0.28*	0.28*			1.06	1.06
Household income percentile (ref high)								
Mid			4.94*				2.43+	
Low			5.09*				3.00*	
Ageband by HH income								
25-44 X Mid			0.36+				0.43	
25-44 X Low			0.14*				0.31*	
Subjective financial status (ref living comfortably)								
Doing alright				1.61				3.20*
Just about getting by				2.49*				3.92*
Finding it very/quite difficult				3.80*				4.95*
Unknown/missing				8.72*				0.82
Ageband X subjective financial status								
25-44 X Doing alright				0.60				0.30*
25-44 X Just about getting by				0.37*				0.28*
25-44 X Finding it very/quite difficult				0.36+				0.15*
25-44 X Unknown/missing				0.12				1.82
N	7445	7445	7445	7445	7030	7030	7030	7030

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.001$, *** $p < 0.001$

Table 2: Odds ratios for second birth in women and men aged 20-44 at t0.

	WOMEN		MEN	
	OR for second birth		*OR for second birth*	
	Model 5	**Model 6**	**Model 5**	**Model 6**
Age of first child (ref 0-2)				
3-5	0.72+	0.69*	0.53*	0.52*
6-10	0.31***	0.30***	0.079***	0.075***
11+	0.14***	0.13***	0.27***	0.27***
Ageband (ref 20-29)				
30-44	0.80	0.81	0.86	0.86
Economic activity (ref Employed F/T, permanent)				
Employed P/T or temporary contract	1.51	1.45	0.98	0.95
Inactive/Student	1.82*	1.61+	1.29	1.12
Unemployed	2.59*	2.24*	1.73	1.17
Marital Status (ref married)				
Cohabiting	0.98	0.98	0.78	0.74
Unpartnered	0.59*	0.55*	0.61	0.54+
Country of birth (ref UK)				
Outside UK	0.82	0.81	0.73	0.66+
Educational attainment (ref High)				
Low	0.98	0.96	1.00	0.97
Ageband X economic activity				
25-44 X employed part-time	1.00	1.02	0.95	1.01
25-44 X inactive/student	0.76	0.79	0.20	0.17
25-44 X unemployed	0.68	0.71	0.90	1.02
Household income percentile (ref high)				
Mid	0.93		1.14	
Low	0.80		0.78	
Subjective financial status (ref living comfortably)				
Doing alright		0.90		1.15
Just about getting by		0.78		0.80
Finding it very/quite difficult		1.31		1.81+
Unknown/missing		0.75		0.12*
N	3740	3740	2773	2773

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.001$, *** $p < 0.001$

References

1. Adsera A (2011) The interplay of employment uncertainty and education in explaining second births in Europe. Demographic Research 25(16):513

2. Angel RJ, Frisco M, Angel JL, Chiriboga DA (2003) Financial strain and health among elderly Mexican-origin individuals. Journal of health and Social Behavior536-551

3. Arber S, Fenn K, Meadows R (2014) Subjective financial well-being, income and health inequalities in mid and later life in Britain. Social Science & Medicine 10012-20

4. Becker, G.S. 1981. *A treatise on the family.* Cambridge MA, Harvard University Press.

5. Begall K (2013) How do educational and occupational resources relate to the timing of family formation? A couple analysis of the Netherlands. Demographic Research 29(34):907-936

6. Begall K, Mills M (2011) The impact of subjective work control, job strain and work - family conflict on fertility intentions: a European comparison. European Journal of Population 27(4):433-456

7. Berrington A, Pattaro S (2014) Educational differences in fertility desires, intentions and behaviour: A life course perspective. Advances in Life Course Research

8. Cherlin A, Cumberworth E, Morgan SP, Wimer C (2013) The Effects of the Great Recession on Family Structure and Fertility. The ANNALS of the American Academy of Political and Social Science 650(1):214-231

9. Fiori F, Rinesi F, Pinnelli A, Prati S (2013) Economic insecurity and the fertility intentions of Italian women with one child. Population Research and Policy Review1-41

10. Goldstein J, Kreyenfeld M, Jasilioniene A, Karaman Orsal DD (2013) Fertility Reactions to the "Great Recession" in Europe: Recent Evidence from Order-Specific Data. Demographic Research 29(4):85-104

11. Golsch K (2003) Employment flexibility in Spain and its impact on transitions to adulthood. Work, Employment & Society 17(4):691-718

12. Kreyenfeld M (2005) Economic uncertainty and fertility postponement: Evidence from German panel data. Max Planck Institute for Demographic Research, Rostock.

13. Kreyenfeld M (2010) Uncertainties in Female Employment Careers and the Postponement of Parenthood in Germany. European Sociological Review 26(3):351-366

14. Kreyenfeld M, Andersson G (2014) Socioeconomic Differences in the Unemployment and Fertility Nexus: Evidence from Denmark and Germany. Advances in Life Course Research(0):

15. Livingston G (2011) In a down economy, fewer births. Pew Research Center Social and Demographic Trends

16. McDonald P, Moyle H (2010) Why do English-speaking countries have relatively high fertility? Journal of Population Research 27(4):247-273

17. Oppenheimer VK (1994) Womens Rising Employment and the Future of the Family in Industrial-Societies. Population and Development Review 20(2):293-342

18. Pailhé A, Solaz A (2012) The influence of employment uncertainty on childbearing in France: A tempo or quantum effect? Demographic Research 26(1):1-40

19. Rendall MS, DeRose A, Kreute F, Lappegard T, Reeder L, Ronsen M, Toulemon L (2013) Employment Impacts on Entry to Parenthood in Different Family-Policy Regimes. Conference Paper: PAA 2013

20. Schmitt C (2012a) A cross-national perspective on unemployment and first births. European Journal of Population 28(3):303-335

21. Schmitt C (2012b) Labour market integration, occupational uncertainty, and fertility choices in Germany and the UK. Demographic Research 26(12):253-292

22. Skeggs B (2011) Imagining personhood differently: person value and autonomist workingΓÇÉclass value practices. The Sociological Review 59(3):496-513

23. Sobotka T, Skirbekk V, Philipov D (2011) Economic Recession and Fertility in the Developed World. Population and Development Review 37(2):267-306

24. Stone J, Berrington A, Falkingham J (2011) The changing determinants of UK young adults' living arrangements. Demographic Research 25(20):629-666