



Yearning, Learning and Conceding

(some of) the reasons people change their childbearing intentions

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Motivation

Facts:

- Women (and men) consistently end up with fewer children than they say they want at the start of their reproductive years.
- This in the context of below-replacement fertility levels
- Often conceptualised as an “unmet need for children”

Possible reasons:

- (a) underlying ideal remains constant but is unfulfilled due to constraints
- (b) individuals adapt their concept of desire/ideal when it appears that they will be unsuccessful
- (c) individuals adapt their ideas about desired family size because they change their minds

Question:

To the extent that expectations change, what are the determinants of those changes?



Background

Literature

- Large literature relating to mismatch between intentions and outcomes
- Much less on revision of intentions
- Berrington (2004) uses BHPS, examines changes between 1992 and 1998
- Liefbroer (2008) Longitudinal cohort data over 18 years in Netherlands, random slopes model of family size intentions.
- Heiland et al. (2008) West German longitudinal survey, fixed effects model of desired family size.

This paper

- Uses BHPS – but with a larger sample than Berrington
- Analyses increases in expectations separately from decreases – important!
- Model events explicitly – model finding a partner separately from losing a partner
- Incorporate analysis of partner characteristics and expectations
- **Note: this paper is about *expectations*.**
 - Do you think you will have any [more] children?
 - How many [more] children do you think you will have? (cf Morgan 2001)



Hypotheses

- Informed by TPB (Ajzen 1985, 1991)
- Lag between formation and realisation of intention means individuals may gain new information which causes them to revise their intentions (Ajzen 2005)
- Attitudes/perceptions
 - Probability of both downward and upward revisions falls with increasing age
 - Birth of a child associated with changes to intentions – in both directions
 - Birth of first child will have greater effect than subsequent births
 - Greater effect for women
- Social norms
 - Regression toward mean
- Constraints
 - Partner's attitudes
 - Lack of partner and losing partner associated with revisions downward – particularly at later ages, and for women.
 - Lack of economic resources associated with downward revisions
 - Childbearing “window”

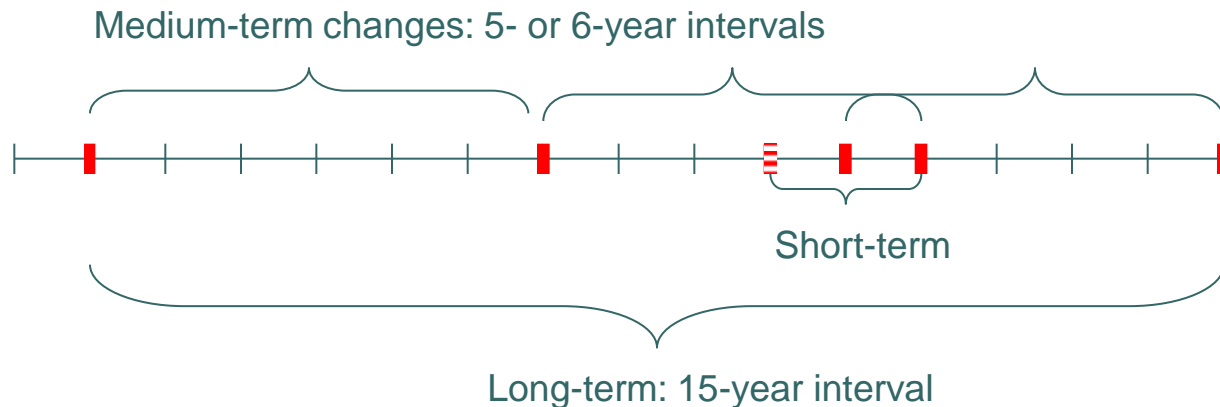


Data: the BHPS

- About 10,000 interviewed individuals in 5500 households
- 1st Wave in 1991, wave 17 in 2007
- Will continue as part of *Understanding Society*
- Wave 2 (1992): fertility module
 - Info on every child ever born to (or fathered by) sample members – including those who died, were adopted, etc.
- Household grid
 - Age, sex, relationship to other household members
 - Can merge birth histories file with household grid to get complete picture of births to each person at each wave

Measuring desired fertility

- Wave 2:
- Do you think you will have any (more) children?
- How many (more) children do you think you will have?
- Slightly unclear in respect of pregnant women
- Repeated at waves 8, 11, 12, 13, 17
- Wave 11: only for Scottish and Welsh booster samples
- Data are very under-used (really, only Berrington 2004 for this purpose)



Motivation: changes in expectations over 6 years

Expected fertility at first observation

Men

Expected fertility at second observation

	None	1	2	3	4+
None	85.0	4.6	8.4	2.0	0.0
1	9.0	61.7	23.2	6.2	0.0
2	6.3	9.9	75.8	6.6	1.4
3	1.9	4.9	31.5	57.6	4.2
4+	1.9	2.3	14.5	21.2	60.2

Motivation: changes in expectations over 6 years

Expected fertility at first observation		Expected fertility at second observation									
		Whole sample					Those who have not yet achieved expected fertility				
		None	1	2	3	4+	None	1	2	3	4+
Men	None	85.0	4.6	8.4	2.0	0.0	-	-	-	-	-
	1	9.0	61.7	23.2	6.2	0.0	24.3	29.1	36.4	10.2	0.0
	2	6.3	9.9	75.8	6.6	1.4	10.1	16.0	64.8	7.2	1.9
	3	1.9	4.9	31.5	57.6	4.2	3.3	8.4	54.1	29.5	4.8
	4+	1.9	2.3	14.5	21.2	60.2	3.1	3.8	24.2	35.4	33.5
Women	None	85.9	7.7	5.6	0.8	0.0	-	-	-	-	-
	1	7.2	72.6	15.9	3.8	0.5	32.1	32.3	30.1	3.4	2.1
	2	3.5	7.2	77.9	10.3	1.1	7.1	14.6	64.4	12.4	1.6
	3	0.3	2.9	25.2	66.6	5.1	0.6	6.3	54.9	32.9	5.4
	4+	0.8	1.8	14.6	21.6	61.2	1.6	3.6	28.9	42.8	23.1



Revisions both up & down less likely with increasing age

		Revise down	Stay the same	Revise up	Revise down by 2 or more	Revise up by 2 or more
Men	18-24	33.0	54.5	12.5	11.3	3.7
	25-29	25.5	55.8	18.7	7.1	4.5
	30-34	19.9	70.3	9.9	5.2	2.2
	35-39	7.8	87.9	4.4	2.4	0.7
Women	18-24	27.5	50.5	22.0	9.5	3.9
	25-29	21.6	63.4	15.0	4.9	1.8
	30-34	14.6	76.5	8.9	2.5	1.3
	35-39	4.8	92.4	2.8	1.0	0.2



Determinants of updating

- I. Background covariates
 - Quadratic in age, plus other specifications
 - Youngest child aged 4 or over
 - Partnership (stay with same partner; get a different one; get one; lose one).
 - Has a job
 - Earnings
- - tried and omitted
 - education, ethnicity, complicated specification on partnership, info on family of origin (size and birth order), Big Five personality traits, sex of children, hourly wage,
- II. Add partner characteristics
 - Code age as “>7 yrs older” and “>7 years younger
 - Include whether partner wants more or fewer children
- IV. Age interactions
- III. Add new births
 - Reference group: no new births
 - Exclude: Anyone who had a birth bringing them over previous expectation
 - Control for: had first child and reached expected total of 1
 - Had first child, still short of target
 - Had 2nd or subsequent birth, reached expected total
 - Had 2nd or subsequent birth, still short of expected total



Model – revising expectations

- Liefbroer (2009) uses random slopes model
- Heiland et al. (2008) uses fixed effects model

- We:
- Use multinomial logit looking at changes over 6-year intervals
- Big difference: upward revisions are not equal and opposite to downward revisions
- Create a variable taking the following values:
 - -1 for revising expectations downwards
 - 0 if expectations stay the same
 - 1 if expectations increase

- Age: 18-39 for women, 18-45 for men.

**DECREASE EXPECTATIONS****INCREASE EXCPECTATIONS****WOMEN**

	I	II	III	IV	I	II	III	IV
Age	0.325**				0.317*			
Age squared	-0.008***				0.008***			
Youngest child is aged 4+								
Gets a different partner	-0.032				0.816**			
Gets a partner	-0.193				0.340			
No partner	0.157				0.010			
Loses a partner	-0.088				-0.404			
Monthly Income x 100	0.049***				0.027			
Has a job	-0.447**				-0.652***			
Partner wants more children								
Partner wants fewer children								
Partner > 7 yrs younger								
Partner > 7 years older								
Partner has job								
Partner monthly inc. x 100								
Constant	-3.705*				-3.767*			
N	2291							
Pseudo R-squared	0.107							



WOMEN	DECREASE EXPECTATIONS				INCREASE EXCPECTATIONS			
	I	II	III	IV	I	II	III	IV
Age	0.325**	0.321**			0.317*	0.324*		
Age squared	-0.008***	-0.008***			0.008***	-0.008**		
Youngest child is aged 4+		-0.946***				-0.506*		
Gets a different partner	-0.032	-0.008			0.816**	0.833**		
Gets a partner	-0.193	-0.131			0.340	0.382		
No partner	0.157	-0.207			0.010	0.045		
Loses a partner	-0.088	-0.069			-0.404	-0.393		
Monthly Income x 100	0.049***	0.030*			0.027	0.015		
Has a job	-0.447**	-0.331			-0.652***	-0.579**		
Partner wants more children								
Partner wants fewer children								
Partner > 7 yrs younger								
Partner > 7 years older								
Partner has job								
Partner monthly inc. x 100								
Constant	-3.705*	-3.925*			-3.767*	-4.023*		
N	2291							
Pseudo R-squared	0.107	0.114						



WOMEN	DECREASE EXPECTATIONS				INCREASE EXCPECTATIONS			
	I	II	III	IV	I	II	III	IV
Age	0.325**	0.321**	0.284*		0.317*	0.324*	0.342*	
Age squared	-0.008***	-0.008***	-0.007**		0.008***	-0.008**	-0.008**	
Youngest child is aged 4+		-0.946***	-0.980***			-0.506*	-0.500*	
Gets a different partner	-0.032	-0.008	-0.018		0.816**	0.833**	0.824**	
Gets a partner	-0.193	-0.131	0.677*		0.340	0.382	0.525	
No partner	0.157	-0.207	1.003**		0.010	0.045	0.182	
Loses a partner	-0.088	-0.069	-0.054		-0.404	-0.393	-0.366	
Monthly Income x 100	0.049***	0.030*	0.032*		0.027	0.015	0.015	
Has a job	-0.447**	-0.331	-0.357*		-0.652***	-0.579**	-0.574**	
Partner wants more children			0.131				0.683*	
Partner wants fewer children			1.463***				0.279	
Partner > 7 yrs younger			0.040				1.300	
Partner > 7 years older			-0.142				-0.245	
Partner has job			0.608*				0.047	
Partner monthly inc. x 100			-0.016				-0.001	
Constant	-3.705*	-3.925*	-4.078*		-3.767*	-4.023*	-4.388*	
N	2291							
Pseudo R-squared	0.107	0.114	0.134					

Are determinants of upward and downward revisions equal and opposite? Ticks indicate rejection of this hypothesis

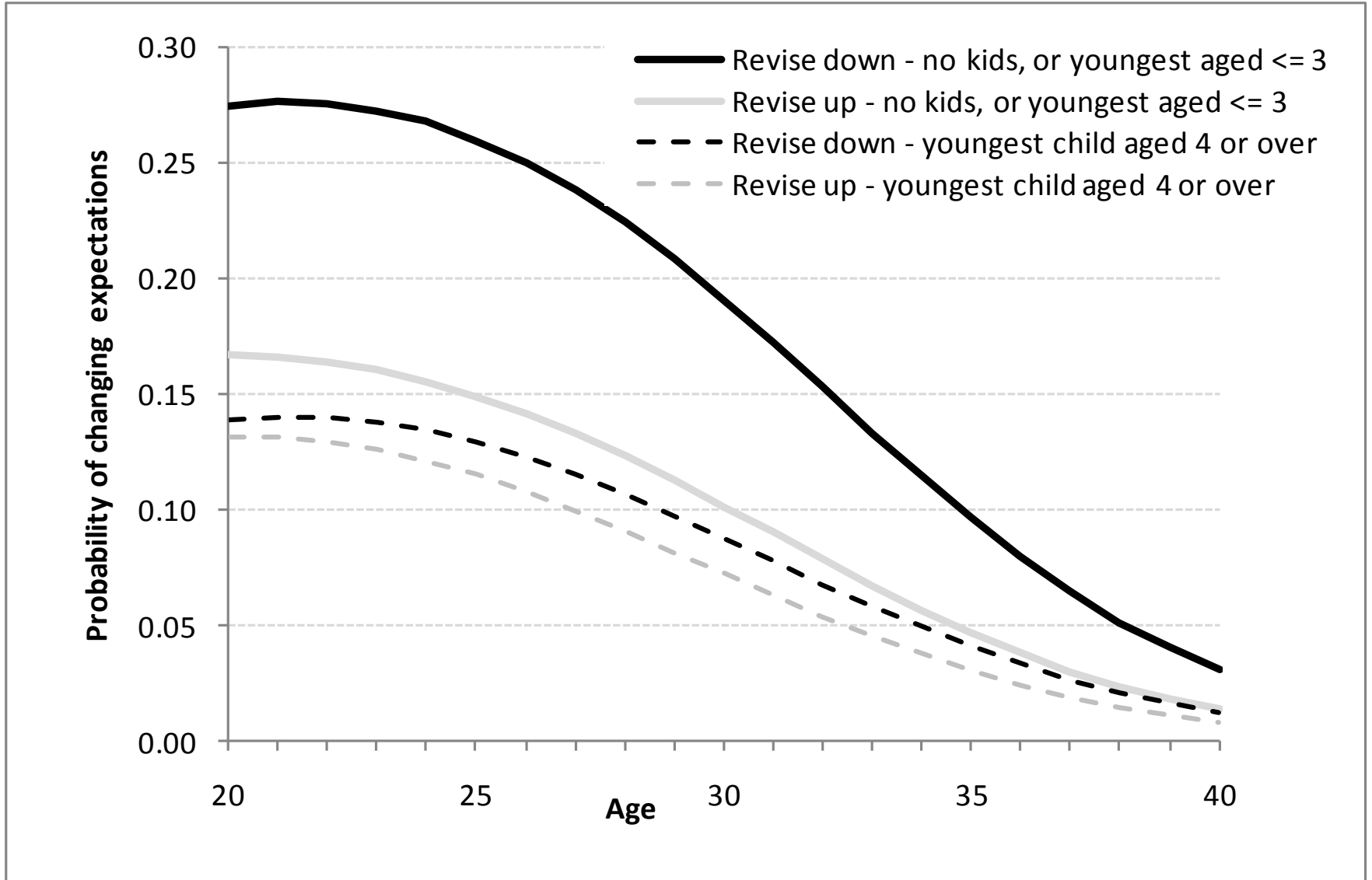
WOMEN	DECREASE EXPECTATIONS				INCREASE EXCPECTATIONS				
	I	II	III	IV	I	II	III	IV	
Age	0.325**	0.321**	0.284*		0.317*	0.324*	0.342*		✓✓✓✓
Age squared	-0.008***	-0.008***	-0.007**		0.008***	-0.008**	-0.008**		✓✓✓✓
Youngest child is aged 4+		-0.946***	-0.980***			-0.506*	-0.500*		- ✓✓✓
Gets a different partner	-0.032	-0.008	-0.018		0.816**	0.833**	0.824**		xxxx
Gets a partner	-0.193	-0.131	0.677*		0.340	0.382	0.525		xx✓✓
No partner	0.157	-0.207	1.003**		0.010	0.045	0.182		xx✓✓
Loses a partner	-0.088	-0.069	-0.054		-0.404	-0.393	-0.366		xxxx
Monthly Income x 100	0.049***	0.030*	0.032*		0.027	0.015	0.015		✓✓✓✓
Has a job	-0.447**	-0.331	-0.357*		-0.652***	-0.579**	-0.574**		✓✓✓✓
Partner wants more children			0.131				0.683*		-- x✓
Partner wants fewer children			1.463***				0.279		-- ✓✓
Partner > 7 yrs younger			0.040				1.300		-- xx
Partner > 7 years older			-0.142				-0.245		-- xx
Partner has job			0.608*				0.047		-- xx
Partner monthly inc. x 100			-0.016				-0.001		-- xx
Constant	-3.705*	-3.925*	-4.078*		-3.767*	-4.023*	-4.388*		
N	2291								
Pseudo R-squared	0.107	0.114	0.134						



In summary:

- Men and women are less likely to revise upwards and downwards with increasing age
- Evidence for childbearing “window” as well as chronological age [see next slide]
- Change of partner is associated with increased likelihood of increasing expectations
- For women, own income / employment is positively associated with lowering expectations and negatively associated with raising expectations – partner’s income or employment is unimportant
- For men, the opposite holds – partner’s employment / income is key
- People adjust their expectations in line with partner’s expectations
- Evidence of regression toward mean – social norms.

How important is childbearing “window”?



● ● ● Exploring age in more detail

- Steeper decline as people (women?) approach end of fertile years?
- Age dummies; flexible spline; quadratic plus dummies
- Very modest additional decrease after age 30
- Doesn't mean biological clock has no effect – but response is gradual

- Changes in effects of other variables after a particular age? (eg, interaction between age and partnership status?)
- Model interactions in two ways:
 - Continuous age variable
 - Dichotomous variable capturing the effect of the biological clock
- No interaction effects whatsoever

Births in between observation points

- By definition, a birth to a woman who already had all the children she wanted has the effect of raising expectations
- Drop these from the sample
- Reference group: people who had no births

	MEN		WOMEN	
	Decrease	Increase	Decrease	Increase
Had first child - Hit Target	-	2.331***	-	2.007***
Had first child - Still Short	1.062***	1.625***	0.884***	0.726*
Had 2nd/subs child – Hit Target	-	-0.026	-	0.230
Had 2nd/subs child – Still Short	5.789***	5.068***	5.576***	3.138**



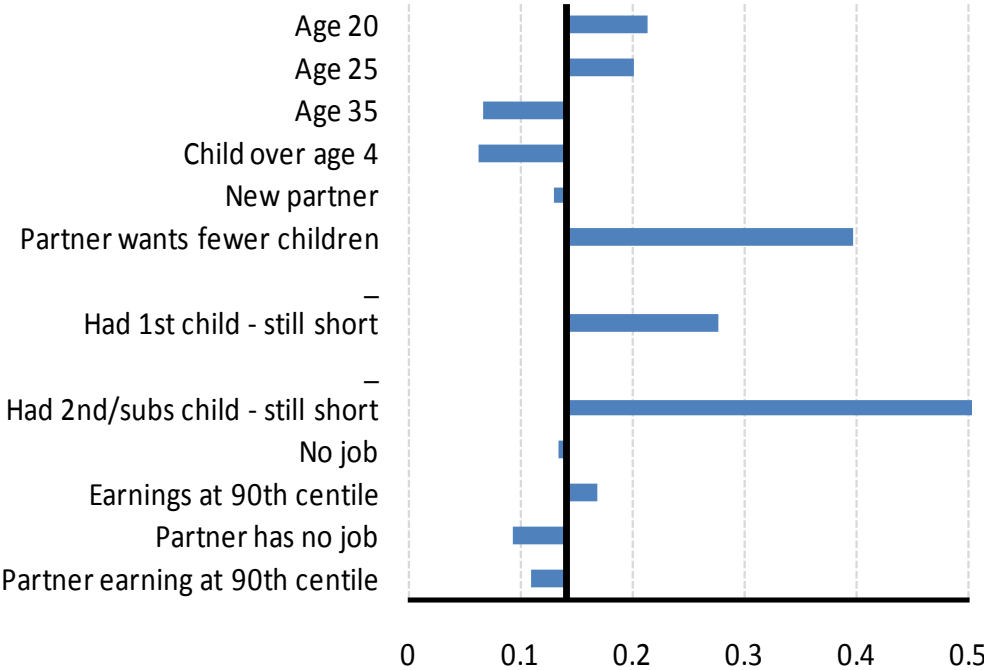
Meaning?

- Evidence that births are planned sequentially
- New information leads to revisions in both directions
- Probably wrong to think in terms of an initial “decision” which people then either achieve or fail to achieve.

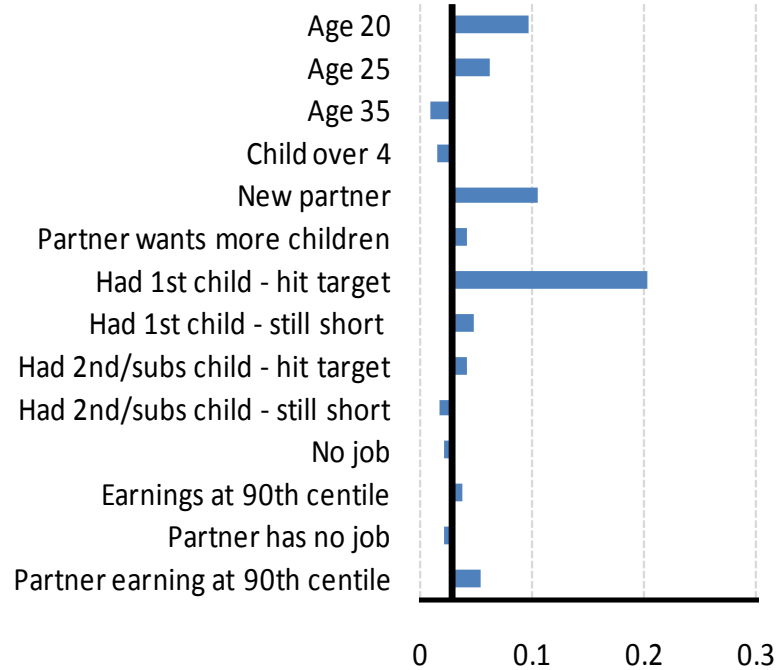


Effect sizes

Probability of downward revisions



Probability of upward revisions



Base case: woman aged 30, same partner at successive interviews, no children aged 4 or over, job with earnings at 50th centile, did not give birth during the observation period.

Partner not older or younger, wants the same number of children, job with earnings at 50th centile.



Do other coefficients differ....

- By parity?
- By desired number of children?

- Answer: no (although this may be to do with rather small sample sizes)



Results

- More volatility at younger ages
- Adjustment to biological clock is gradual rather than sudden
- Re-partnering is important
- Both men and women are responsive to partner's expectations
 - Revisions downwards outweigh upward revisions
- New births: affect both upward and downward revisions
 - Evidence that people refine their plans sequentially after each birth

Conclusions:

- Unmet need for children isn't the whole story
- Evidence for revisions in expectations
- Important to model upward and downward revisions separately
- Implications both for research and for policy



Returning to Hypotheses

○ Attitudes/perceptions

- Probability of both downward and upward revisions falls with increasing age YES
- Birth of a child associated with changes to intentions – in both directions YES
- Birth of first child will have greater effect than subsequent births PARTLY
- Greater effect for women NO

○ Social norms

- Regression toward mean YES

○ Constraints

- Biological clock – after age 30
- Lack of partner and losing partner associated with revisions downward – particularly at later ages NO
- Lack of economic resources associated with downward revisions NO

