Priceless Kids? Examining the Impact of Economic Circumstances on Childbearing Intentions of Young Men and Women in Germany

Claudia Geist

University of Utah

Sarah Brauner-Otto

McGill University

Draft. Please do not cite.

Priceless Kids? Examining the Impact of Economic Circumstances on Childbearing Intentions of Young Men and Women in Germany

Abstract

Examining predictors of fertility intentions is a crucial part of understanding the demographic future of low fertility countries, especially as they deal with global and regional economic crises. Using data from three waves of German panel data (PAIRFAM), we examine how economic context affects fertility intentions in German men and women. We focus on the way in which education, labor market status, and income shape the ideal and realistically expected number of children in gendered ways. We also examine what predicts whether young adults compromise their fertility plans and expect to have fewer children than they consider ideal. Our results indicate that fertility ideals and expectations are boosted by economic resources and potential, rather than curtailed as suggested by the opportunity cost approach. There is some evidence that those with greater earnings are also less likely to report expected family sizes smaller than their ideal. Our paper makes three contributions: First, we show that there are persistent regional differences between East and West Germany in fertility intentions. Second, we show that ideal and realistically expected number of children is limited by economic resources. We do not find evidence for an effect of opportunity cost on fertility intentions. Third, we show that women are more likely to expect to have smaller than ideal family sizes, and comprising seems to be more likely among the jobless, and less likely among those with higher income.

Priceless Kids? Examining the Impact of Economic Circumstances on Childbearing Intentions of Young Men and Women in Germany

Introduction

Examining the demographic and economic context of fertility intentions among young adults in advanced post industrial countries is crucial to understanding both current and future fertility patterns, given global and regional economic crises. Demographic theories and empirical research link fertility intentions to behavior (Barber 2001; Bongaarts 2001, 2002; Hayford 2009; Liefbroer 2009; Speder and Kapitang 2009) and low fertility levels have been of wide social concern.

While research on the determinants of intentions has lagged behind that of the determinants of behavior, theory and empirical research give us reason to believe that economic circumstances will be particularly influential. Intentions are often solidifying during the years when young adults are making the complicated transition from school to work (Rindfuss and Brauner-Otto 2008, Liefbroer 2009). Recent research has shown that, at the macro level, higher levels of female labor force participation are associated with higher levels of fertility (Brewster and Rindfuss 2000; Del Boca 2002; Rindfuss et al. 2003). At the individual level, women who experience employment instability may shy away from motherhood based on a lack of resources, or they may postpone or abandon parenthood to attach themselves more firmly to an increasingly unstable job market. We know even less about how individuals distinguish between different aspects of their fertility intentions, such as their ideals and their more realistic actual "goals." Nevertheless, the opportunity cost approach based on Becker's New Home Economics (Becker

1981) suggests that (women's) increased economic resources are associated with lowered fertility due to the decreased earnings opportunities associated with children.

Germany is an important case to study for several reasons. First, it has extremely low fertility (total fertility rate <1.3 [PRB 2010]) and there is growing economic uncertainty among younger adults making this relationship particularly salient. Furthermore, there are strong notions about traditional gender roles, which adds an additional layer of complexity to this social issue. Moreover, there is regional variation within Germany, notably between East and West Germany, with respect to economic uncertainty, historic fertility patterns, and the child care infrastructure.

In this paper, we explore two separate research questions: First, we ask how sensitive men's and women's fertility plans are to their economic and sociodemographic context, using three waves of data on young German adults. Second, we want to understand how these contexts shape men's and women's compromises regarding plans for children: what determines whether a young adult realizes that he or she will be unlikely to have his or her ideal number of children? In the following sections we will discuss the existing literature on the link between labor force participation and fertility, the role of financial strain in shaping family plans, and we will discuss the specific context of Germany, a very low fertility country. We then turn to a discussion of our data and methods, followed by results and conclusions.

Theoretical Background

Understanding the predictors of fertility intentions is important in part because they are a crucial component of ultimate fertility behavior (Bongaarts 2001, 2002). They are certainly not the only factor influencing completed family size, but a wide range of theoretical and empirical research has demonstrated that they are central to the process (see for example Quesnel-Vallee & Morgan 2003, Schoen et al. 1999, Westoff 1990).

A significant body of research has examined the link between fertility expectations and fertility behavior. While not perfect, fertility intentions have significant predictive power, even among teen women (Barber 2001). Especially in lower fertility contexts, Hayford (2009) argues that the number of children people have "is largely a product of how many children they want" (p. 765). A growing body of literature investigates what factors influence how well fertility intentions predict behavior and how stable those intentions are over the life course. In general, these studies reveal that intentions do change over the life course, and become stronger predictors of behavior at the same time (Liefbroer 2009; Speder and Kapitang 2009). Basic demographics such as age, marital status and gender, along with religion, employment status, and life satisfaction all influence their stability and connection to behavior.

Despite this acknowledgement, research on the predictors or correlates of intentions has been lacking. In this paper we attempt to fill this gap in the literature by explicitly exploring how economic and demographic characteristics are related to young people's fertility intentions and the observed discrepancies between realistically expected and ideal fertility plans.

Setting terms.

Before describing our theoretical framework we define some of the terms we use. We use the phrase fertility intentions in the broadest sense to describe professed statements regarding future family size. This includes ideal family size, childbearing desires, actual childbearing expectations, and childbearing plans. The ideal number of children, what we also refer to as fertility ideals or ideal family size, are desires that can be thought of as more hypothetical situations and are highly influenced by social norms. On the other hand, the realistically expected number of children, or fertility expectations or expected family, are more commonly viewed as a proximate determinant of fertility behavior (Bongaarts 2001, 2002). Expectations are also more

likely influenced by one's own circumstances (see Hagewen and Morgan 2005 for an excellent discussion of the differences between ideal desires and realistic plans). We use the term fertility compromising to refer to when young people believe they will have fewer children than they ideally would like. That is, when their realistic expectations are lower than their ideal we considering them to be foresee future compromises in their fertility.

It is true that there are differences between these dimensions of fertility intentions; however, we expect the theoretical mechanisms and processes to have the same general effect (i.e. the same direction). When theory predicts a different effect or a different magnitude of the effect we will explicitly discuss this.

Determinants of Fertility Intentions

There are several theoretical approaches one can take for framing a study of the predictors of fertility intentions. Childbearing intentions are neither a purely rational endeavor nor completely driven by ideology (Mason 1997). Social-psychological theories tend to focus on how motivations and attitudes influence intentions (Miller et al. 2004, 2010). Economic models of fertility behavior tend to view intentions as endogenous to behavior and fold them into the framework as part of the benefits of childbearing. In this paper, we rely on economic theories to guide our research, but treat intentions as an outcome in and of themselves, and not simply endogenous to behavior.

Economic context of fertility intentions

There are two broad theoretical arguments linking women's economic situation to their fertility intentions: opportunity costs and financial strain. The key theoretical foundation of the opportunity cost approach, the new home economics ideal (brought forward by Becker 1981), suggests that for women children mean decreased earnings opportunities. As a result, lower

earnings potential and economic instability, for example in the form of unemployment, are seen as leading to declining opportunity costs of children, which results in a negative association between economic potential and fertility for women, but not for men. Women in these more precarious or less financially rewarding economic situations have less to lose by exiting the labor market to give birth and maybe to care for the child. By extension, we expect lower opportunity costs to also have a negative relationship with realistic fertility expectations. Furthermore, when women are unemployed or otherwise experiencing economic uncertainty their realistic plans may coincide more closely with their ideal plans because of lower opportunity costs. One study looking at fertility intentions as an outcome did investigate the role of economic circumstances (Iocovou and Tavares 2011). They found that for women, having a job meant they were less likely to increase their expectations over time and having higher earnings meant they were more likely to decrease their expectations.

On the other hand, contrary to the expectations brought forth in the previous section, economic strain can be associated with reduced fertility expectations. Recent debates have pointed out the cost of rearing children (i.e. $176550 from birth to age 18 for a husband-wife family with an annual before tax income under $61,530, based on a USDA report by Lino 2014). Potential parents may perceive (additional) children too costly, and intentions, particularly realistic expectations, are shifted downward in response to financial strain. Bulgarian and Hungarian women in less stable forms of employment had lower odds of childbearing in the subsequent 2 years (Philipov et al. 2006), and higher levels of female unemployment are associated with downward trends in fertility (Ahs and Mira 20002). Kohler and Kohler (2002) find that economic uncertainty in Russia has been associated with fertility decline, and at the macro level, higher levels of female labor force participation are associated with *higher* levels of

fertility (Brewster and Rindfuss 2000; Del Boca 2002; Rindfuss et al. 2003). While most research on fertility intentions and economic context focuses on the two competing hypotheses of women's economic strain vs. opportunity costs, research on men has focused solely on financial strain. For men, declining earnings means declining household income, and lower levels of resources are seen as reducing the likelihood of becoming a father and by association (although rarely explicitly addressed in existing research) lower fertility intentions and expectations (Kreyenfeld 2004).

To the extent that opportunity cost is a key factor underlying fertility intentions, we expect that:

H1a: Economic resources and potential (i.e. higher level of education, being employed [compared to not working or being in school], and income) are <u>negatively</u> associated with fertility desires and expectations, especially for women.

To the extent that economic strain is a key factor underlying fertility intentions, we expect that:

H1b: Economic resources and potential are <u>positively</u> associated with fertility desires and expectations for both men and women.

Education and Social Class

Education takes a special role in shaping fertility intentions. Education is seen as a reasonable predictor of labor market participation patterns, and future earnings (Xie et al. 2003). Women with high levels of education may anticipate higher opportunity costs for childbearing and therefore adjust their fertility intentions downward and have realistic expectations lower than ideals. The combination of education and employment is also thought to give women an alternative source of satisfaction apart from parenthood: more highly educated mothers may find their careers as sources of identity, rather than relying on children for fulfillment (Friedman et al

1994). This would suggest that for women with lower levels of education children can be the main source of happiness and fulfillment, and as such, these women would have higher fertility intentions and be more likely to have their realistic expectations and ideal intentions match (Edin and Kefalas 2005).

Yet, for those who are currently pursuing educational degrees, parenthood may seem particularly far-fetched, as the parent role and the student role may be seen as being in direct conflict, as well as the limited earnings power that accompanies student status Blossfeld and Huinink 1991; Hogan 1978; Marini 1978; Thornton, Axinn, and Teachman 1995).

In addition to the actual financial strain that affects the availability of resources to raise children, there is also evidence that for both men and women social class can affect fertility intentions through expectations regarding parenting costs. The actual and the perceived costs of raising children are "upwardly mobile" along with the financial circumstances of the would-be parent(s). Middle class parenting may be "more demanding" in that they are following ideologies of high intensity parenting, have expectations about college costs and lessons during childhood, possibly even private schooling which means that middle class children are perceived and actually are "more costly" (Lareau 2011, see Pearson 2002, Warner 2005, Weiner 2005 for more detail). The findings presented by the US Department of Agriculture underline the positive relationship between household income and childrearing expenses indicating that parents with more resources spend more on their children (Lino 2014). As mentioned above, education is a marker of long term earnings and occupation, i.e. social class. When children are perceived as more expensive, something we would expect from those with more education, men and women may have lower fertility ideals and certainly lower realistic expectations. Theories about social class suggest that the middle class experiences a disconnect between their expectations and the

resources at their disposal. We expect U shaped relationship between social class and fertility expectation - higher expectations and intentions at the "top" and the "bottom." Of course, social class is a complex concept, and the definition of "middle class" is even more vague, we approximate class both through education and income. To the extent that social class shapes the perceived cost of children, we expect that:

H2: Economic resources and potential have a U shaped relationship with fertility expectations for both men and women.

German context

Germany is a very low fertility country with low levels of unplanned births, especially among those under the age of 25 (Feldhaus and Boehnke 2007). It also features interesting family policies that make examining childbearing intentions particularly interesting. In Germany a traditional division of paid labor among married couples (Cooke 2006), coexists with a growing prevalence of dual career couples especially among the more educated, and the relatively high mean age of 30 years at first birth (OECD 2014) mean age at first birth is and relatively low marriage rates and late marriage. Recent demographic work in low fertility countries has started to examine the role of policy context in shaping levels of fertility, and a link between policies that improve the affordability of having children and younger ages at first birth has been established (Rindfuss et al 2007). Based on these studies we hypothesize that in a low fertility context like Germany a lack of economic resources further decreases plans to enter parenthood. Because of the high value placed on the male breadwinner, men's financial strain may be particularly linked to lower fertility intentions.

On the surface, Germany's generous paid leave polices might seem like the perfect answer to issues women's labor force participation and fertility. However in the German context long parental leaves are found to destabilize careers (Aysenbrey et al 2009). This implies that the issue of opportunity costs is still applicable. Another interesting feature of Germany is that demographic and economic patterns continue to differ in East and West Germany. Using the example of East Germany, Adler (1997) illustrated that both economic and social uncertainty in the East can have a profound negative effect on fertility, despite the still-better child care infrastructure in the area of the former GDR.

Examining the role of household and individual level economic circumstances on fertility intention using the case of Germany may yield a fairly conservative estimate of the actual role of economic context since the German welfare state is fairly generous and economic setbacks, such as unemployment and loss of earnings, do not pose the same existential threat that they do in less generous welfare states like the United States. Germany is also a country with lower levels of unplanned pregnancies, so fertility intentions may be closer to actual fertility outcomes than in other contexts. Understanding how men's and women's economic circumstances affects fertility plans in the German context can give us important insights into how economic crises shape future fertility in a lower fertility context.

H3: We expect East German men and women to have lower fertility expectations compared to comparable West German respondents.

Demographic determinants of fertility intentions

Of course, one's economic context is not the only thing that shapes young people's fertility intentions. Previous research points to several key demographic characteristics that may

also be important predictors—age, relationship status, and family of origin. Fertility intentions and fertility compromising are highly sensitive to age—older people have had more time and experiences to figure out how many children they would like to have and how likely it is that they will have them (Hayford 2009). We focus our study on young people and do so for several reasons. First, examining the fertility intentions of young adults is slightly more straightforward than that of older adults because they are much less likely to be faced with biological limitations to fertility when they indicate both their ideal and realistically expected number of children. Second, early life intentions are important indicators of later life intentions and behaviors. Recent research has found that women fall into general intention trajectory groups—groups which are largely defined by their intentions early in life (less is known about men's trajectories) (Hayford 2009; Miller et al 2010; Hagewen and Morgan 2005; Schoen et al 1999). Knowing what predicts initial intentions can tell us something about later life intentions and behaviors. Young people with very low or high intentions early in adulthood are unlikely to have dramatic changes in intentions putting them at the other extreme by the end of their childbearing period. Third, young adulthood is a particularly salient time period regarding fertility intentions and economic circumstances, as they transition to lead independent lives. Similarly, exploring determinants of fertility intentions, particularly realistic intended childbearing, among young adults is important because that is the period when their fertility intentions are most likely to be changing or changeable.

There is solid evidence that family background and current family circumstances have an impact on fertility intentions. Regarding family background, sibship size is an important predictor (Westoff and Potvin 1967), and lack of exposure to large families is associated with a

preference for smaller families (Lutz, Skirbekk and Testa 2006). This argument is not without challenge (see Easterlin's 1980 work on the link between cohort size and fertility).

Relationship status is another key demographic characteristics identified in the literature. Childbearing is a couple level activity in most cases. Certainly the degree of partner involvement can vary tremendously, but for the vast majority both the individual and the partner have some influence on childbearing (Thomson et al. 1990). Being married is associated with higher fertility intentions for a variety of reason. Married individuals are usually more financially stable, and they experience more social support (both for their relationship and their childbearing plans) than other types of families (Rindfuss and Parnell 1989, Schoen et al 1997). Those in stable relationships also may not worry as much about access to and custody of potential children than those who may plan on having children with more casual partners. There is little research that examines men's family plans over the life course.

Fertility Compromising

The literature on fertility intentions has often sought to compare and contrast intentions to actual fertility behavior. Researchers found that intentions predict actual demographic behaviors, albeit not perfectly. The reasons for differences between intentions and behavior is complex to study, especially since some pregnancies are intended, but cannot be carried to term, and yet others are unintended and result in the birth of a child. In our paper, we choose as different path. We compare a respondent's ideal number of children, to that of the realistically expected number of children. This offers insights into the extent to which young adults perceive their own life course bounded by constraints, or the extent to which they expect that they will be live out their ideal life paths. Little research has been done on this issue, but we base our hypotheses on the research that has studied fertility intentions and expectations respectively, but not the discrepancies

between the two. Overall, we expect that fertility expectations are more strongly affected by economic circumstances than fertility desires.

To the extent that women's fertility expectations and (to a lesser extent) intentions are affected by opportunity cost, we posit that

H4a: Economic resources and potential are associated with increased odds of fertility compromise for women.

To the extent that women's and men's fertility expectations and (to a lesser extent) intentions are shaped by economic constraint, we posit that

H4b: Economic resources and potential are associated with reduced odds of fertility compromise for women and men.

Base on the literature on social class we expect that:

H4c: Economic resources and potential have an inverse U shaped relationship with the odds of fertility compromise for both men and women.

Data

To examine these issues we use the first three waves of the Panel Analysis of Intimate Relationships and Family Dynamics (PAIRFAM), which were collected in 2008/2009, 2009/2010, and 2010/11. We limit our sample to non-parents, excluding respondents who have children at the time of interview, and further excluded pregnant respondents and those who had partners with children. To reduce the issue of selectivity, we examine respondents aged 18 to 30 (the mean age at first birth for women in German is 30 years (OECD 2014). 90 respondents were dropped because they indicated to be on parental leave, even though they had no recorded

pregnancies or children. Our analytic analysis sample, after exclusion of all observations with missing data yields a sample of 4681 observations from 2458, in an unbalanced panel[1].

Dependent Variables

To investigate the determinants of fertility intentions we use measures of both ideal family size and realistic childbearing expectations or plans. Looking at these two different components of fertility intentions can help us understand this complex construct better. Our measure of ideal family size is based on the question: "Assuming ideal circumstances: How many children would you like to have altogether?" Realistic expectations were obtained by asking respondents the following question: "When you think realistically about having children, how many children do you think you will have?"[2] The ideal number of children was open ended, but the realistically expected number of children was limited to the option 0, 1, 2 3, 4 or more. Only 0.1% of responses (46) indicated an ideal number of children larger than 4, 32 of which were 5 children. For the results presented in this paper we top coded the ideal number of children at 4 or more to correspond to the realistically expected number of children.

To further explore the discrepancies between ideal and realistic family sizes we construct a measure of fertility compromises—whether the respondent's realistic childbearing expectations are lower than their ideal family size. We code a respondent as compromising if his or her realistically expected number of children is smaller than their ideal number of children.[3]

[1] About 30% of respondents participated in 3 waves, 30.6% participated in two waves, and 39.5 % participated in one wave only. This is mostly due to the fact that with wave 3 data, two of three birth cohorts of the Pairfam data are in included in our sample age range of 18-30, resulting in an increased sample size.

[2] Those who already have children were asked how many more children they realistically expect to have. Since we only include childless respondents this is not relevant to our study.

[3] Respondents who report a greater realistically expected number of children than they consider "ideal" are assigned a value of zero for the compromise variable.

Table 1: Key Characteristics

Dependent Variables	Men	Women	All	Range
Ideal # Children	2.10	2.16	2.13	0-4
Realistic # of Children	1.82	1.84	1.83	0-4
Fertility Compromise	0.26 *	0.31	0.28	0-1
Economic Context				
In School	0.37	0.39	0.38	0-1
Not Working	0.08*	0.06	0.07	0-1
Working	0.55	0.55	0.55	0-1
Years of Education	11.73*	12.3	12.01	8-20
Zero Individual Earnings	0.45	0.46	0.45	0-1
1st quintile Ind. Earnings	0.15	0.15	0.15	0-1
2nd	0.13	0.13	0.13	0-1
3rd	0.09	0.11	0.10	0-1
4th	0.10	0.09	0.10	0-1
5th Quintile Ind. Earnings	0.08*	0.05	0.07	0-1
1st Quintile Household Inc.	0.21	0.22	0.21	0-1
2nd	0.22	0.23	0.22	0-1
3rd	0.19	0.21	0.20	0-1
4th	0.20	0.18	0.19	0-1
5th Quintile Household Inc.	0.17	0.16	0.17	0-1
East	0.19	0.20	0.20	0-1
Controls				
Age	22.46	22.26	22.37	18-30
Lives with parent	0.62	0.54	0.58	0-1
Number of siblings	1.36	1.33	1.34	0-1
Relationship status				
Single	0.54	0.42	0.49	0-1
LAT	0.29	0.32	0.31	0-1
Cohabiting	0.13	0.20	0.15	0-1
Married	0.04	0.06	0.05	0-1
N (first observation only)	1367	1153	2520	
Person Year Obs. (all waves)	2566	2190	4756	

Note: Numbers in table represent first observation for each respondent.* indicates that gender differences are significant at $p<.05$ level. Proportions may not add up to 1 due to rounding.

Descriptive statistics for the intentions measures are shown in Table 1. Overall we found that ideal and realistic family sizes are both very similar at about 2. We find that men's ideal family sizes are smaller than women's, but there are no significant differences for realistically expected number of children. In about 28% of responses (representing about 37.5% of respondents) we observe a discrepancy between ideal and realistically expected family size. Women are more likely than men to indicate plans for fertility compromise.

Key Independent Variables

Economic context:

We examine four key dimensions of economic context: years of education, labor force status, income, as well as region of residence in Germany. Education reflects economic potential, broadly defined, and is measured in years and we include formal schooling, formal vocational training, as well as training at all forms of institutions of higher learning (universities, technical universities, teacher colleges, etc). Women had slightly more education than men on average (see Table 1 for details). Those who are currently enrolled and have not completed primary or secondary schooling are assigned the educational level they are working towards achieving, for those who are enrolled and have completed a degree the highest completed degree is used to assign years of education. For labor force status measures the extent of the respondent's labor market attachment. We distinguish between respondents who work for pay (includes all types of work), those who are currently enrolled in schooling, and those who are

currently unemployed, or not working (this includes homemakers, those who indicate that they are retired, and those who currently serve their compulsory military service).[4]

We examine two measures of income—one for the household and one for the respondent's own income. This allows us to examine how individual and household economic resources may shape attitudes towards family size in different ways. We divide respondents in 6 different groups based on their individual earnings: we group all of those who do not report individual earnings, and divide those who report labor earnings into quintiles. Our measure of household income is adjusted for household size (by dividing by the square root of the household size (Pairfam Data Manual 2012) to measure overall financial well-being. We then divide the sample into quintiles based on adjusted household income. The descriptive statistics (Table 1) show the range of earnings and household income for each of the quintiles. Region of residence distinguishes between East and West Germany, based on the area of the former Federal Republic of Germany (FRG) and the former German Democratic Republic (GDR), based on respondents' current state of residence.

Demographic Characteristics and Controls:

The key demographic characteristics we include are: partner and marital status, age, and number of siblings, and region of residence. Partner and marital status, shown in Table 1, distinguishes between single respondents who do not have a romantic partner (about 27% of the sample), those who do have a romantic partner but do not live with him or her (~20%), those who live with a romantic partner, but are not married (29%), and those who are married (24%).

[4]Among the 355 observations for those who are not currently working there are only 10 observations for homemakers, 12 are "retired" a, 21 are not working for "other reasons."

There are stark gender differences in partner status: women are much more likely to be married compared to men, and in turn, men are overrepresented among singles in this age group.

Respondents are on average 24 years old (descriptive statistics shown in Table 1). We include a measure of the number of siblings each respondent has had. Empirical research has consistently found that the respondent's family of origin has a strong, positive relationship to the stability of his/her fertility intentions. The average number of siblings in our sample is 1.48.

Methods and Analytic Strategy

Our analyses proceed in three steps. First, we examine the role of demographic characteristics and economic circumstances in shaping the ideal number of children for men and women. Second, we examine the role of demographic characteristics and economic circumstances in shaping the realistic number of children. Third, we examine the effect of demographic and economic context characteristics on the likelihood of compromising in family planning, having a smaller expected number of children than is considered ideal by the respondent. To test whether effects differ by gender we also estimate pooled, fully interactive models (not shown). Unless specifically noted otherwise, we show separate models for men and women to highlight the extent to which mechanisms of fertility intentions operate distinctly. We use random effect models with robust standard errors, to take advantage of the fact that large number of respondents have multiple observations.

Results

First, we look at the ideal number of children desired by young adults (Table 2). We find no overall differences between men and women in desired fertility. In supplemental analyses we explored to what extent these effects differ between men and women. We found that in a fully

interactive model none of the effects differ by gender, although we find a main effect of gender in the interactive model that suggests that women's ideal number of children is larger than men's (fully interactive results available upon request). The pooled model presented in Table 2 shows that economic resources and potential are, in fact, associated with desired fertility. The results do not support the opportunity cost hypothesis H1a. The effect of education (discussed in more detail below and in Figure 2) is positive, but weakens at higher levels of education providing partial support to the economic strain hypothesis H1b (which predicted a positive relationship). While significant, the effect of earnings is not very strong substantively. Figure 1 illustrates no clear positive linear effect that would support the opportunity cost approach (H1a), nor a negative effect that would provide support for the resource argument (H1b). Instead, we find that those in the middle or the individual earnings distribution have the lowest ideal number of children (difference is significant compared those with no earnings), which can be interpreted as supporting the social class hypothesis H2. Labor force status and household income are not associated with desired family size. In line with H3, we find that the ideal number of children is lower in East Germany compared to the West, even if we account for all other characteristics.

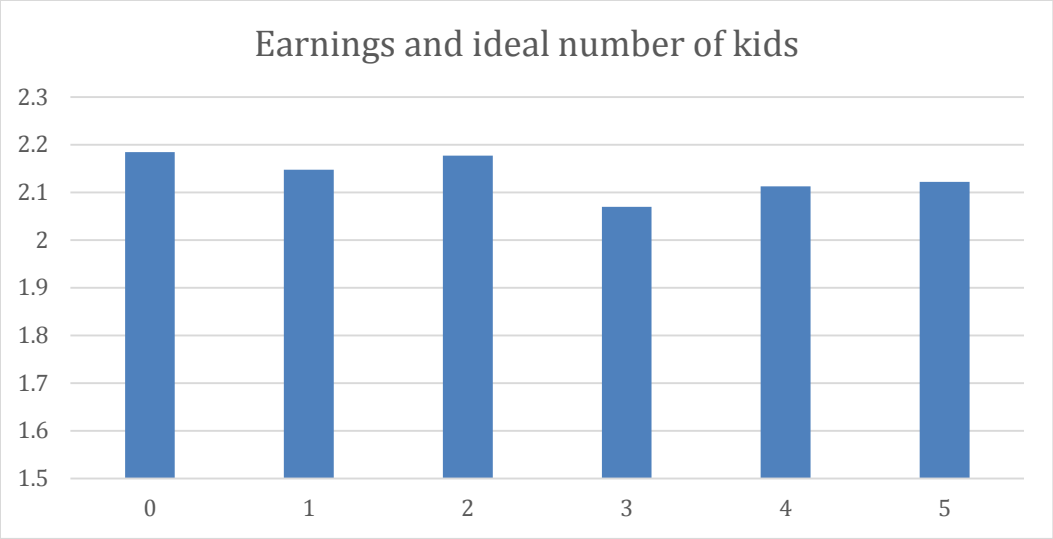
Table 2: Ideal number of children, pooled random effects model (random intercept not shown)

VARIABLES	(1)	(2)	(3)
Female	0.046	0.046	0.046
	(0.030)	(0.030)	(0.030)
Not working (vs. In School)	-0.047		
	(0.049)		
Working (vs. In school)	-0.044		
	(0.031)		
Years of Education	0.131***	0.136***	0.146***
	(0.041)	(0.040)	(0.039)
Years of Education (squared)	-0.003**	-0.004**	-0.004***
	(0.002)	(0.002)	(0.001)
Indiv. Earnings 1st quintile (vs. no earnings)		-0.037	
		(0.038)	
2nd quintile		-0.008	
		(0.038)	
3rd quintile		-0.109**	
		(0.044)	
4th quintile		-0.073*	
		(0.042)	
5th quintile		-0.064	
		(0.046)	
Household Income 2nd quintile (vs. 1st quintile)			-0.010
			(0.035)
3rd quintile			0.039
			(0.037)
4th quintile			-0.007
			(0.039)
5th quintile			0.023
			(0.041)
East Germany	-0.138***	-0.144***	-0.136***
	(0.034)	(0.034)	(0.035)
Constant	1.268***	1.206***	1.198***
	(0.278)	(0.276)	(0.271)
Observations	4,756	4,756	4,756
Number of id	2,520	2,520	2,520

Robust standard errors in parentheses. Models include additional controls for relationship status, age, number of siblings, and whether or not the respondent lives with a parent or other relative.

*** p<0.01, ** p<0.05, * p<0.1

Figure 1: Earnings quintiles and predicted ideal number of children (at sample means)



Note: 0: no individual earnings, 1-5 designates quintile of earnings among those with positive earnings.

Next, we move to examine the realistically expected number of children. A fully interactive model (not shown) indicates that a number of mechanisms differ between men and women, so we show the results separately by group, rather than as a pooled model (see Table 3). Similar to the findings for the ideal number of children, the realistically expected number of children is associated with economic circumstances, broadly defined. However, a different set of dimensions matter. In East Germany, expected family sizes are smaller; we find a positive association between education and the ideal number of children in line with the economic strain hypothesis H1b. Figure 2 illustrates the shape of the education effect and the differences between men and women in this relationship. The effect of education on ideal number of children is approximately inverse u-shaped, with the desired family size increasing until about 17 years of education and then slowly declining (see Figure 2). The association between education and expected family size differs for men and women: for men, the link is a flat inverse u shape, and

the expected number of children (everything else held at the mean) peaks around 13 years of schooling. For women, on the other hand, the effect is close to linear and the expected number of children increases as year of education increase supporting Hypothesis 1b.

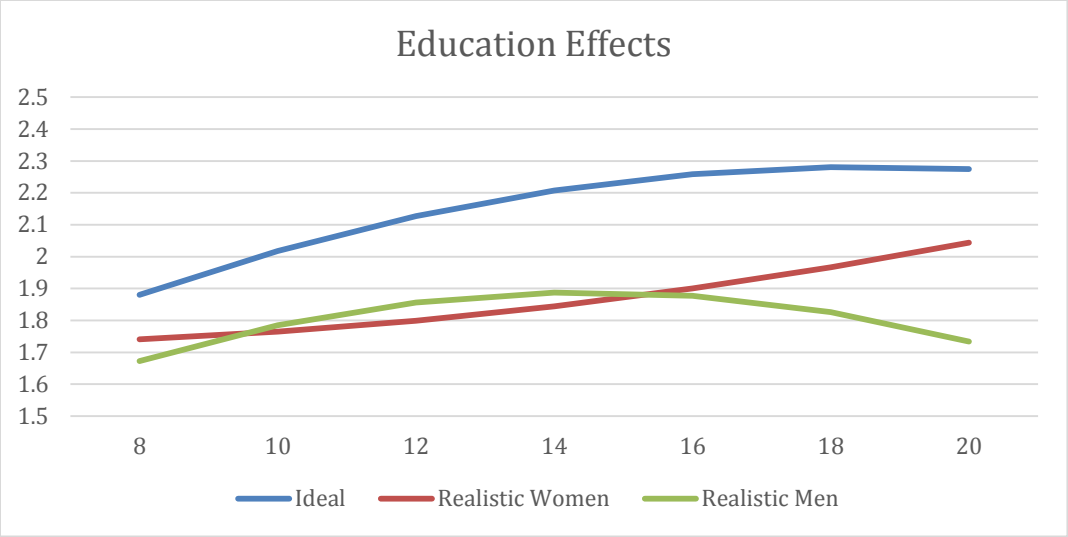
Unlike the findings for ideal number of children, individuals' income does not have an effect. Instead we find that a respondent's current labor force status is associated with the realistically expected number of children. Figure 3 shows the predicted number of expected children (predictions of the ideal number of children from the pooled model are included for comparison purposes). We find that those currently in school expect to have the largest family sizes, whereas those who currently working have the lowest expectations. There are slight differences between men and women, but those do not reach statistical significance. It is important to note that those who currently not working exclude those who are on parental leave, so it is most likely a state of intense economic insecurity in the form of unemployment or exit from the labor market. This is not clearly supporting any of the hypotheses. It could be that those who are still in education have relatively good economic potential, and those who are working include those with varying levels of economic resources. In conjunction with the results from the other models, the results may implicitly supporting the economic strain approach H2.

Table 3: Realistically expected number of children, pooled random effects model (random intercept not shown)

	(1)		(2)		(3)	
VARIABLES	Women	Men	Women	Men	Women	Men
Not working (vs. In School)	-0.236***	-0.197***				
	(0.082)	(0.061)				
Working (vs. In school)	-0.092**	-0.069*				
	(0.045)	(0.038)				
Years of Education	-0.003	0.148***	0.049	0.175***	0.040	0.180***
	(0.055)	(0.051)	(0.055)	(0.051)	(0.054)	(0.050)
Years of Education (squared)	0.001	-0.005***	-0.001	-0.006***	-0.001	-0.006***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Indiv. Earnings 1st quintile (vs. no earnings)			-0.087	0.005		
			(0.053)	(0.048)		
2nd quintile			0.008	-0.009		
			(0.059)	(0.046)		
3rd quintile			-0.044	-0.055		
			(0.064)	(0.057)		
4th quintile			-0.003	-0.048		
			(0.061)	(0.055)		
5th quintile			0.104	-0.040		
			(0.066)	(0.056)		
Household Income 2nd quintile (vs. 1st quintile)					0.040	0.009
					(0.049)	(0.050)
3rd quintile					0.075	-0.004
					(0.053)	(0.050)
4th quintile					0.052	0.025
					(0.060)	(0.053)
East Germany	-0.148***	-0.129***	-0.152***	-0.143***	-0.149***	-0.139***
	(0.049)	(0.045)	(0.050)	(0.045)	(0.050)	(0.045)
Constant	2.334***	0.876**	2.135***	0.683**	2.131***	0.695**
	(0.381)	(0.342)	(0.383)	(0.342)	(0.375)	(0.335)
Observations	2,190	2,566	2,190	2,566	2,190	2,566
Number of id	1,153	1,368	1,153	1,368	1,153	1,368

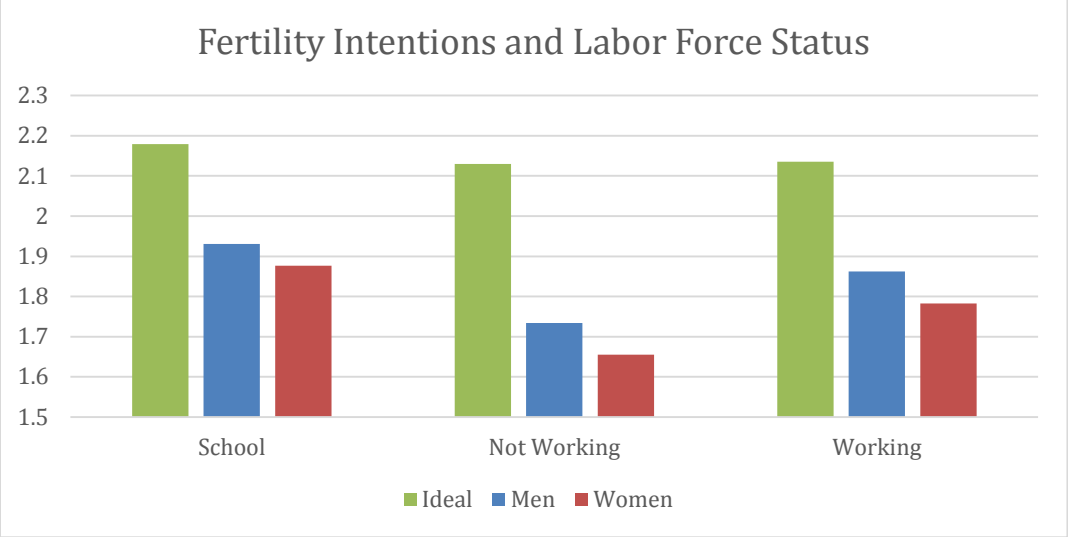
Note: Highlighted coefficients are significantly different between men and women (based on fully interactive models). Models include additional controls for relationship status, age, number of siblings, and whether or not the respondent lives with a parent or other relative

Figure 2: Ideal and Expected Number of Children by Education



Note: X axis shows years of education. All other variables held at sample mean.

Figure 3: Ideal and Expected Number of Children by Labor Force Status



Note: other measures held at sample mean.

The control variables also show effects in the expected directions for both desired and expected number of children. Older respondents both smaller desired and expected family sizes. Although relationship status is not associated with the ideal number of children, there are differences in the expected number of children by relationship status. Those who have a partner (regardless of whether or not they are living with them) expect to have more children compared to singles. This relationship seems more pronounced for men compared to women, but the differences between the two groups are not significant.

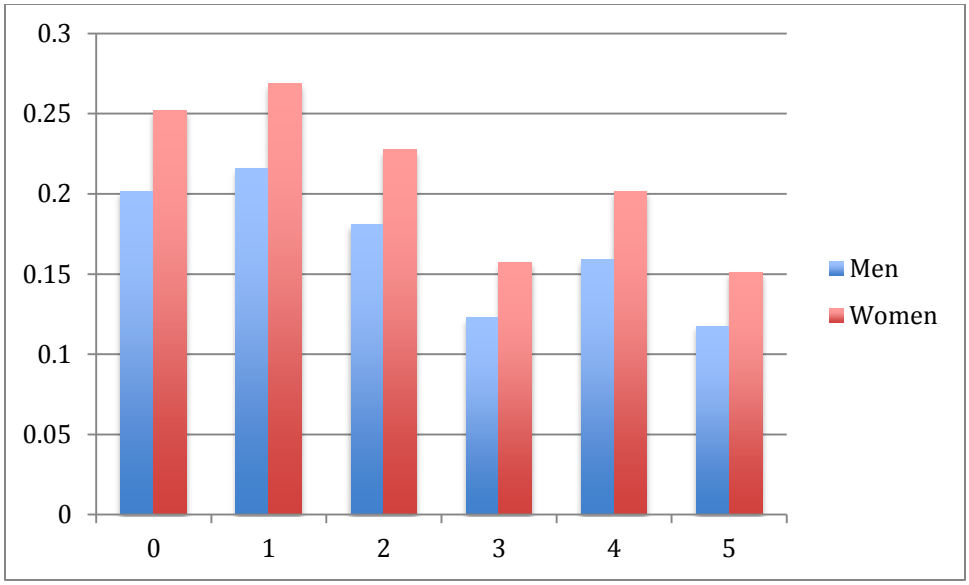
In a third analytic step, we explore the discrepancies between respondents' ideal and expected number of children. 28 percent of respondents report expected family sizes that are smaller than their self-reported ideal family size. A pooled model (not shown) indicates that women are more likely than men to compromise their fertility expectations, and that there are a number of gender differences in the predictors of compromising. Two of the dimensions, labor force status and individual income affect the odds of experiencing fertility compromise. However, education and household income, and region of residence do not have an effect of the odds of compromising. Those who are unemployed or not working are more likely to compromise, among both men and women, supporting H4b. The effects of individual income are shown in models 5 and 6. We find differences between those who have no earnings and those with the highest earnings, where those with the highest earnings are less likely to compromise. This provides partial support for Hypothesis H4b. Overall, women are always more likely to compromise, and this is particularly obvious among those who have partners with whom they do not live.

Table 7: Odds of Compromising for Men and Women

VARIABLES	(1)	(2)	(3)
Female	1.362***	1.335**	1.335**
	(0.161)	(0.156)	(0.156)
Not working (vs. In School)	1.934***		
	(0.404)		
Working (vs. In school)	1.015		
	(0.137)		
Years of Education	1.426*	1.255	1.374*
	(0.261)	(0.221)	(0.240)
Years of Education (squared)	0.990	0.994	0.991
	(0.007)	(0.007)	(0.007)
Indiv. Earnings 1st quintile (vs. no earnings)	1.090	1.074	1.077
	(0.153)	(0.151)	(0.153)
2nd quintile		1.092	
		(0.174)	
3rd quintile		0.875	
		(0.146)	
4th quintile		0.555***	
		(0.104)	
5th quintile		0.751	
		(0.135)	
Household Income 2nd quintile (vs. 1st quintile)		0.529***	
		(0.103)	
3rd quintile			1.239
			(0.224)
4th quintile			1.305
			(0.213)
5th quintile			1.108
			(0.180)
East Germany			0.930
			(0.147)
Constant	0.006***	0.009***	0.006***
	(0.008)	(0.011)	(0.007)
	3.327***	3.264***	3.272***
	(0.396)	(0.391)	(0.390)
Observations	4,756	4,756	4,756
Number of id	2,520	2,520	2,520

Note: Highlights indicate significant gender differences based on a fully interactive model. Numbers in parentheses are robust standard errors. Models include additional controls for relationship status, age, number of siblings, and whether or not the respondent lives with a parent or other relative

Figure 4: Fertility Compromising by Individual Earnings Quintiles



Note: 0 indicates 0 earnings, 1-5 represent earning quintiles. Other values held as sample mean.

Summary and Conclusions

To summarize, our analyses reveal that economic resources and potential are important predictors of fertility intentions but there are important differences when looking at ideal versus expected family size. In particular, relationship status has a much larger effect on expected versus ideal family size. Economic potential, in the form of education, has an overall positive association with fertility ideals and expectation. This relationship is close to linear and positive for women's fertility expectation, but inverse U shaped for men, suggesting that men may have class based fertility expectations. The odds of compromising do not vary across education al levels.

While individual earnings predict fertility ideals, neither individual nor household income is realistic fertility expectations. We do fine that those with higher individual earnings are less likely to compromise their fertility ideals, but this effect is not linear. Neither men's nor

women's ideal number of children is associated with their current labor force status, but for both men and women there variation in realistic expectations across statuses. Contrary to expectations, those who are currently in school expect to have the largest families. In line with expectations from economic strain hypotheses, those who are not working experience greater odds of fertility compromise.

Overall, our findings are mostly in line with hypothesis derived from the economic strain approach to fertility intentions. More economic resources and potential are positively associated the ideal and realistically expected number of children. Our analysis of fertility intention compromise suggests that women's fertility plans are based on compromise from early adulthood on. Research on forgone fertility due to fertility delays has addressed sub-ideal fertility among older women, but our results suggest that even young women who have not started to have children, foresee that their ideal family sizes are unlikely to be met. Our research also underlines the continued differences in ideal and realistic expectation between East and West Germans, the latter having preferring and expecting smaller families. As it stands, this is an important first step in understanding the fertility intention of young adults in Germany.

References

Adler, Marina A. "Social Change and Declines in Marriage and Fertility in Eastern Germany." *Journal of Marriage and Family* Vol. 59, No. 1 (Feb., 1997), pp. 37-49

Aisenbrey, Silke, Marie Evertsson and Daniela Grunow, 2009. "Is there a career penalty for mothers' time out? A comparison between the U.S., Germany and Sweden." *Social Forces* 88 (2).

Brewster, Karen, and Ronald R. Rindfuss. 2000. "Fertility and Women's Employment in Industrialized Countries." Annual Review of Sociology 26: 271-296.

Cooke, Lynne Prince. 2006. "Policy, Preferences, and Patriarchy: The Division of Domestic Labor in East Germany, West Germany, and the United States." *Social Politi*cs 13: 117-143.

Del Boca, Daniela. 2002. "The Effect of Child Care and Part-Time Opportunities on Participation and Fertility Decisions in Italy." Journal of Population Economics 15: 549-573.

Feldhaus, Michael und Boehnke, Mandy (2007): Ungeplante Schwangerschaften – Wider das Ideal der Naturbeherrschung. In: Rehberg, Karl-Siegbert (Hg.): Die NAtur der Gesellschaft. Verhandlungen des 33. Kongresses der Deutschen Gesellschaft für Soziologie in Kassel 2006. Frankfurt, S. 1680-1693.

Hagewen, Kellie J. and S. Philip Morgan. 2005. "Intended and Ideal Family Size in the United States, 1970-2002." Population and Development Review 31(3): 507-527.

Hayford, Sarah R. and S. Philip Morgan. 2008. "Religiosity and Fertility in the United States: The role of Fertility Intentions." Social Forces 86(3): 1163-1188.

Iacovou, Maria and Lara Patricio Tavares. 2011. "Yearning, Learning, and Conceding: Reasons Men and Women Change Their Childbearing Intentions." Population and Development Review 37(1): 89-123.

Lareau, Annette. 2011 Unequal Childhoods: Race, Class, and Family Life. Second Edition. A Decade Later. University of California Press. [2011/2003]

Liefbroer, Aart. 2009. "Changes in Family Size Intentions Across Young Adulthood: A Life-Course Perspective." European Journal of Population 25: 363-386.

Lino, Mark. 2014. Expenditures on Children by Families, 2013. U.S. Department of Agriculture,

Center for Nutrition Policy and Promotion. Miscellaneous Publication No. 1528-2013.

Miller, Warren B., Joseph Lee Rodgers, and David J. Pasta. 2010. "Fertility Motivations of Youth Predict Later Fertility Outcomes: A Prospective Analysis of National Longitudinal Survey of Youth Data." Biodemography and Social Biology 56: 1-23.

Miller, Warren B., Lawrence J. Severy, and David J. Pasta. 2004. "A framework for modeling fertility motivation in couples." Population Studies 58(2): 193-205.

OECD (2014), OECD Family Database, OECD, Paris (www.oecd.org/social/family/database)

Philipov, Dimiter, Zsolt Speder, and Francesco C. Billari. 2006. “Soon, later, or ever? The impact of anomie and social capital on fertility intentions in Bulgaria (2002) and Hungary (2001).” Population Studies 60(3): 289-308.

PRB (Population Reference Bureau). 2010. World Population Data Sheet 2010. http://www.prb.org/pdf10/10wpds_eng.pdf (accessed 8-13-2010).

Quesnel-Vallee, Amelie and S. Philip Morgan. 2003. “Missing the target? Correspondence of fertility intentions and behavior in the U.S.” Population Research and Policy Review 22: 497-525.

Rindfuss, Ronald R., Karen B. Guzzo and S. Philip Morgan. 2003. “The Changing Institutional Context of Low Fertility.” Population Research and Policy Review 22: 411-438.

Rindfuss, Ronald R., David Guilkey, S. Philip Morgan, ØysteinKravdal and Karen B. Guzzo. 2007. “Child Care Availability and First-Birth Timing in Norway.” Demography 44: 345-372.

Schoen, Robert, Nan Marie Astone, Young J. Kim, and Constance A. Nathanson. 1999. “Do Fertility Intentions Affect Fertility Behavior?” Journal of Marriage and Family 61: 790-799.

Speder, Zsolt and Balazs Kapitany. 2009. “How are Time-Dependent Childbearing Intentions Realized? Realization, Postponement, Abandonment, Bringing Forward.” European Journal of Population 25: 503-523.

Thomson, Elizabeth, Elaine McDonald and Larry L. Bumpass. 1990. “Fertility Desires and Fertility: Hers, His, and Theirs.” Demography 27(4): 579-588.

Westoff, Charles F. 1990 “Reproductive Intentions and Fertility Rates” International Family Planning Perspectives Vol. 16, No. 3: 84-89+96

Xie, Yu, James Raymo, Kimberly Goyette, and Arland Thornton. 2003. “Economic Potential and Entry Into Marriage and Cohabitation.” Demography 40(2):351-367.