Employment Uncertainty and Family Formation over the Life Course

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Abstract

Empirical evidence on the nexus between economic uncertainty and family formation remains inconclusive. We look at the effect of job uncertainty on two phases of family formation: entrance in a union and childbearing. Using longitudinal detailed information on type of contract (structural objective measure of uncertainty) and perceive uncertainty (subjective measures) about the future we are able to look in details at the heterogeneous group of precarious workers. Preliminary results support the hypothesis that objective measures alone give only a partial and perhaps inaccurate perspective. Selection into union is observed according to the level of subjective uncertainty. The relationship between uncertainty and family formation seems to be nonlinear. In case of very low or very high uncertainty, individuals tend to invest their resources in family formation, probably discouraged by the situation in the labor market. While there is an ambiguous position on the labor market, the union formation is postponed.

Introduction

Empirical studies have shown a strong link between family dynamics and economic condition. At macro level, countries with increasing unemployment rate show often a decline in total fertility (Sobotka, Skirbekk, & Philipov, 2011). According to Kohler, Billari & Ortega (2002) limited childbearing in lowest low fertility countries is due to economic uncertainty. Goldstein et al (2013) first and Comolli (2017) later on, showed the negative effect of the Great Recession on fertility rates in western economies.

In micro-level demographic analyses, economic uncertainty have been customarily conceived as an individual risk factor, mainly related to spells of labour market uncertainty (e.g. unemployment, short-term contract jobs or a combination of these; Kreyenfeld, Andersson, & Pailhe, 2012; Mills & Blossfeld, 2013). Life-course circumstances characterized by precarious employment spells translate into a feeling of economic uncertainty because these jobs often bring with them economic penalties and uncertain futures (Scherer, 2009; Standing, 2011).

Employment uncertainty may hinder or delay family formation (Ranjan 1999). In the era of uncertainty, it is relatively straightforward to suppose that marriage, a resource-intensive and long-term commitment, will be postponed when people face employment uncertainty until their outlook on life is more optimistic (Golsh 2003; Vignoli et al. 2016). Various studies have also showed that youth unemployment, term-limited working contracts, and unstable employment postpone childbearing (Barbieri et al., 2015; Kreyenfeld & Andersson, 2014; Özcan et al., 2010; Pailhé & Solaz,

2012; Vignoli et al., 2012, 2019). Hofmann & Hohmeyer (2013) show a causal effect of perceived employment uncertainty (in terms of an announced changed in unemployment benefit in Germany) on fertility. Blossfeld and Hofmeister (2007) argue that employment uncertainty may delay childbearing weakening the intention of having a child and not only the actual behavior.

Previous works have focused either on specific groups (e.g., only women), or on one life event at the time (e.g., the effect of losing the job on the propensity of having a child) and often using a single indicator of either subjective or objective job insecurity. Empirical evidence on the nexus between economic uncertainty and family formation (fertility) remains inconclusive. The aim of this work is to improve understanding of the link between employment uncertainty and family formation using an integrative life course approach.

In addition, we advance the research on the linkages between employment uncertainty and fertility by (i) recognizing that employment uncertainty is a prospective and multidimensional notion; (ii) distinguishing the notion of stability and resilience of employment prospects; and (ii) acknowledging that the relation between employment uncertainty and family formation might be non-linear.

First, economic uncertainty means a lack of clarity about future economic prospects (Bloom, 2014), which – in economic terms – means unknown probability distributions to possible outcomes (Beckert, 1996). In sociological and demographic research, the forces of uncertainty are often operationalized through objective indicators of individuals' labor market situation and – at best – through their subjective perception. However, (cumulative) employment conditions identify just the "shadow of the past" and tell us little about uncertain future. Previous research has failed to recognize that individuals, depending on the extent to which they feel and tolerate uncertainty, might differ with respect to how they react and take decisions in uncertain economic situations (Bernardi et al. 2009; Kreyenfeld 2010). Beckert and Bronk (2018) recognize that the presence of uncertainty is one of the salient characteristics of the capitalistic society. Still individuals need to take decisions even if uncertainty hinders the possibility of a rational calculation with regards to future events. Imagination and the ability to devise different scenarios play a major role for planning the future. In this framework, assessing the degree of perceived employment uncertainty means evaluating the narratives that are attached to different aspects of economic life and understanding how individuals project them in the future. Following Beckert and Bronk (2018), we view employment uncertainty as a set of narratives related to the labor-market meant to make sense of the future. We test the difference between a subjective (i.e. perceived) employment uncertainty and objective job insecurity. We expect that it is not only having an insecure working condition, such as having a temporary work contract, that affects family formation but also the perception about future working opportunities matter. Using the longitudinal perspective of the data, we can also potentially compare cases where the perceived uncertainty---the person expected to lose his/her job for example--was actually followed by a job loss to cases in which the person did not lose the job afterwards (i.e., the negative perception was not realistic).

Second, we propose a conceptual and empirical distinction between perceived employment uncertainty related to the ability to keep the current situation stable as opposed to the uncertainty linked to the capacity of recovering in the face of adverse events. These two prospects may matter differently for fertility intentions, especially if we consider that childbearing decisions may not be driven by a reasonable likelihood of having an adequate level of income, but rather by the optimistic perception that, even if the worst possible scenario were to occur, remedies would be possible. This consideration uncovers a neglected, latent concept when discussing subjective perception of employment uncertainty and its impact on fertility: that of *resilience*. From a micro perspective,

resilience has been defined as "*a dynamic process encompassing positive adaptation within the context of significant adversity*'' (Luthar et al., 2000, p. 543).

Third, the strength of economic uncertainty is crucial. For instance, Bhaumik and Nugent (2006) conjectured that the "net effect of uncertainty" on the value of the option to postpone childbirth depends on the degree of uncertainty: a moderate increase in uncertainty would increase the chances of postponing or avoiding a pregnancy, but, beyond a certain threshold level, when individuals have little to lose, further increases do not matter much, and may even raise the probability of childbirth. According to the narrative inspired by the socio-psychological uncertainty reduction framework from Friedman et al. (1994), in fact, having children may serve as a strategy to reduce biographical uncertainty. From this perspective, women with limited options in the labour market may respond to unfavourable employment prospects by choosing the "alternative career" of mothers. These women are likely to perceive motherhood as a strategic choice to structure an otherwise uncertain life course. On this backdrop, while previous research has, at best, tested a monotonically positive or negative relationship between economic uncertainty and fertility, this paper will explicitly consider the possibility of a non-linear, and even non-monotonous, relation. This is an interesting alternative view to explain the economic uncertainty/fertility nexus. This potential, non-linear path dependency between fertility and economic uncertainty, if proved, could reconcile some contrasting empirical findings.

In a nutshell, the present study addresses three research questions: 1) Structural condition or perceived (future) uncertainty? What is the relative importance of perception of employment uncertainty on family formation? 2) Is the resilience on the labor market or the perceive stability of the working condition that matters? 3) Does the relationship between uncertainty and family formation follow a linear pattern?

We address the relationship between economic uncertainty and fertility and union formation recognizing that economic uncertainty is a prospective and multidimensional concept. Using longitudinal data from the Household, Income and Labour Dynamics in Australia (HILDA) survey, we aim to look at the effect of job uncertainty on two phases of family formation: entrance in a union and childbearing.

Context

We test the association of economic uncertainty and family formation in the context of Australia. The case of Australia is relevant since the country is characterized by a stable economy but poor work-family reconciliation policies. Australia economy has performed well over the last decades. The economic crisis of 2011 had little or no effect on Australian economy and labor market participation with an unemployment rate floating around 6%. In the period from 2000 to 2016, female labor force participation has risen from 65% to 72%. Male participation in the labor market is around 82% (data from the Australian Bureau of Statistics – Labour Force 2000-2016). Policies that support the reconciliation of work and family life are instead limited. For instance, a national parental leave scheme has been introduced only in 2011, and the cost for childcare for the families is higher than OECD average (OECD 2016).

Australia in an interesting case also in terms of different types of precarious working contracts available. Two types are considered in this study: casual employment and fixed-term contracts. Casual employment is a quite common type of working contract in Australia. In 2016, there were 2.5 million casual employees versus 7.4 million permanent employees (data from the ABS - Australian

Bureau of Statistics). Causal workers are likely to suffer fluctuation in the earnings. They are also not entitled to paid leaves including maternity leaves. However, their hourly salary is higher (up to 25% more than average salary) to provide financial compensation of risk of irregular and insufficient hours of work. This type of contract is prevalent among young workers. According to official data, in 2016 almost 80% of employees aged 15-19 and 40% of 20-24 years old workers had casual employment. Casual employment is not necessarily temporary employment. A report of the Australian Council of Trade Unions shows a large presence in the labor market of individual with a long history of stable casual works. What they called "permanent casuals" (ACTU 2012). Moreover, around 81 per cent of casual employees expected to be with their current employer in the next 12 months (2016 data from ABS Labour Force survey). Fixed terms workers are instead entitled to welfare protection measures similar to those with permanent contracts. If a fixed term worker has several fixed term contracts with the same employer, he/she is also entitled to ask for an ongoing position. Due to the prevalence of young workers with a casual employment and the peculiarities of this type of working contract, it will interesting to study the differences between causal and fixed terms workers in the transition to a first union and to parenthood of young adults.

Data

HILDA is a nationally representative household-based panel study started in 2011. The study collects information yearly on different aspects of life from each person aged 15 and older living in the household at the time of the interview. At the time of writing this abstract, wave 17 (2017 data) is the last wave available. The identical set of questions were addressed to both partners, which allows us to conduct a comparative analysis of the working uncertainty of both partners. At baseline (2001), 13,969 persons from 7,682 households have been interviewed. In 2011, a top-up sample of 2,153 households have been added (Watson, and Wooden 2002).

Measures

Outcome variables. We estimate two separate set of models for transition into first union (*either de facto* relationship or legal marriage) and transition into parenthood (i.e., probability of having first child). Both are coded as a dummy 0, 1 variable.

Uncertainty Measures. Unlike previous studies, we aim to test the relative importance of subjective and objective working uncertainty measures. The measures used in the present study are:

a) Employment status and characteristics (objective measure). We consider if the person was unemployed or outside the labour force. In addition, HILDA distinguishes among permanent or ongoing contracts, fixed term, and casual basis.

b) Subjective measures. We consider three possible subjective measures of job uncertainty. Two refers to stability of the current condition and one about "resilience".

1. Satisfaction of job security (*Q: I want you to pick a number between 0 and 10 to indicate how satisfied or dissatisfied you are with your job security*).

The variable ranges from 0 to 10. Since the distribution of the responses is highly skewed in this abstract we discretize the variable into low satisfaction (score 0 to 5) and high satisfaction (6 to 10).

Two measures of employment prospective:

2. Probability of losing a job *(*Q: *I would like you to think about your employment prospects over the next 12 months. What do you think is the percent chance that you will lose your job during the next 12 months? By loss of job, I mean getting fired, being laid off or retrenched, being made redundant, or having your contract not renewed*.;)
3. Probability of finding a job (Q: *I would like you to think about your employment prospects over the next 12 months. What do you think is the percent chance you will find a suitable job during the next 12 months*?).

The responses, ranging from 0 to 100, are highly skewed with peaks around round numbers (0, 5, 10, 20, 50 and so on). Looking at the distribution and for ease of interpretation, we discretize the probability of losing job into three categories (no chances of losing job, below 50%, 50% and over). The chance of finding a job has been discretized into four categories: "heavily discouraged of finding a job" (0 to 20% chance); "discouraged" (from 20 to 40%); " ni discouraged ni optimistic" (from 40 to 60%); "optimistic" (60 to 80%); "very optimistic" (80% and over).

Sociodemographic characteristics. In the multivariate model, we control for age (in its quadratic form), and socioeconomic status as (most recent) occupational level[1], level of education and parental occupational level (highest level between parents).

The Analytic Approach

We use random effect logit models to analyse the effect of experiencing uncertainty on the labor market on the propensity of entering in first union and transition to parenthood. In this abstract, we focus on preliminary results on the link between employment uncertainty and first union formation.

For the transition into first union, we estimate the following models

$$\Pr(First\ Union_{i,t}) = \alpha + u_i + \boldsymbol{\beta} * Contract_{i,t-1} + \boldsymbol{\gamma} * \boldsymbol{X}_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

$$\Pr(First\ Union_{i,t}) = \alpha + u_i + \boldsymbol{\beta} * Perception_{i,t-1} + \boldsymbol{\gamma} * \boldsymbol{X}_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

$$\Pr(First\ Union_{i,t}) = \alpha + u_i + \boldsymbol{\beta} * Contract * Perception_{i,t-1} + \boldsymbol{\gamma} * \boldsymbol{X}_{i,t-1} + \varepsilon_{i,t} \quad (3)$$

Where u represents time-invariant person-specific unobserved heterogeneity, and **X** is set of time varying and time invariant socio demographic characteristics. All time varying covariates are lagged to avoid possible issues of reverse causality.

In the first step, we estimate the effect of structural condition (type of contract) on likelihood of first union. In the second step, we look at the perception of job uncertainty. Finally, we estimate the final model with both objective and subjective measures. Since we have three measures of perceived uncertainty, model 2 and 3 have been run separately for each perceived measure. In all models, we control for age (linear and quadratic specification), level of education, parental background and most recent job qualification. Since we expect the effect to be strongly gendered, we perform the analysis stratified by gender.

For childbearing we will use a couple level approach. HILDA collects the same set of information on both partners, then focusing on stable couples (i.e., individuals co-resident either married or in a de

[1] Using ISCO-88 1 digit level code for the current (at *t-1*) or most recent type of occupation, we distinguish between high skilled white collar (ISCO codes 1, 2 or 3); low skilled white collar (ISCO codes 4 and 5); high skilled blue collar (ISCO codes 6 and 7); low skilled blue collar (ISCO codes 8 and 9).

facto relationship), we could distinguish the magnitude of the effect of job insecurity experienced by each partner on having a child (Hanappi et al 2017).

We computed the average marginal effects (AMEs) to interpret changes across groups (Mood, 2010). AME expresses the effect on P (Y = 1) as a categorical covariate changes from one category to another or as a continuous covariate increases of 1 unit, averaged across the values of the other covariates introduced in the model.

Analytic sample

We will focus here on union formation.

We consider individuals aged 15 to 35 at risk of entering in the first union (9,459 individuals who were never in couple before). We further exclude those who are in education during the entire observational period (449) since we are interesting in looking at the effect of employment uncertainty and working condition on family formation then we need individuals who are at least potentially active on the labour market.

In order to have the same set of individuals for all the analysis and since we are interested in both subjective and objectives measures of uncertainty, we keep the record only when the respondent report both measures.

We then restrict the analysis to only those with valid information on at least two consecutive waves. We ended up with an analytic sample of 5,855 individuals (2727 women and 3128 men). Descriptive statistics of subjective and objective measures of uncertainty are available in Appendix.

Preliminary Results on Forming First Union

Thanks to the longitudinal perspective of the data, we can first of all verify whether the subjective measures are somehow reliable indicators of employment positioning. Pooling together all the waves, Table 1 compares the response at time *t-1* with the employment condition in the following wave. As reference, we also report the transition probabilities between employment conditions (being employed or not).

Table 1. Perceived uncertainty at previous wave and current employment condition. Pooled data. Percentage by row

	Current employment condition	
	Unemployed/Outside Labor Force	**Employed**
Percent Chance of Finding a Job (t-1)		
Not working and not looking for a job	68.10	31.90
Heavily Discouraged (0-20%)	83.91	16.09
Discouraged (20-40%)	79.9	20.10
Ni discouraged ni optimistic (40-60%)	70.04	29.96
Optimistic (60-80%)	63.29	36.71
Very optimistic (80%+)	43.81	56.19
Percent Chance of Losing a Job (t-1)		
No chance of losing job (0%)	11.29	88.71
1-50% chance of losing job	11.60	88.40
50%+	18.33	81.67
Satisfaction of job security (t-1)		
Low satisfied (0-5)	17.22	82.78
High satisfied (6-10)	11.43	88.57
Employment condition (t-1)		
Employed	12.14	87.86
Not in LF/Unemployed	61.49	38.51

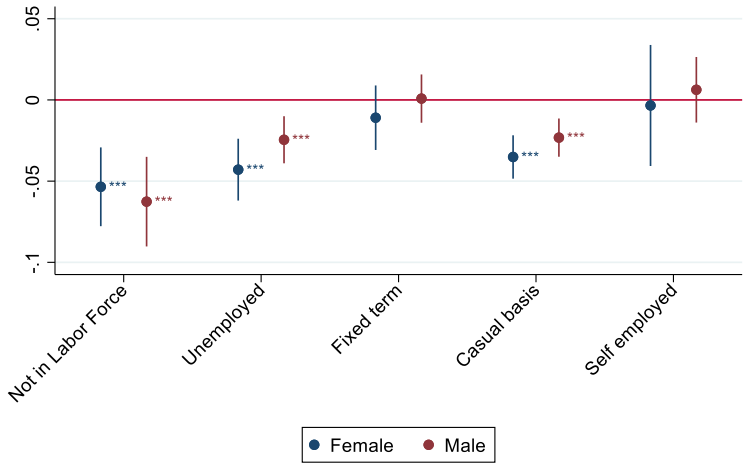
Note: the question about percent chance of finding a job has been asked to those who are currently unemployed and active in the labor market. The question on chance of losing job and satisfaction of job security have been asked to those who are currently working.

The results for all three subjective indicators show that respondents are able to correctly evaluate their condition. For instance, increasing the level of optimism about the chance of finding a job, also the percentage of those who actually found a job in the following assessment increase. Thinking of being secure in the position (perceived high job security satisfaction or low/zero chances of losing the job) does not completely protect against an actual job loss (around 11% of cases).

Figures 1-4 show the average marginal effects for the variables of interest on subjective and objective labor market positioning (Model 3). Complete results for the multivariate models are reported in Appendix.

As expected, being outside the labor force or not having a job hinder the transition to first union for both men and women (Figure 1). Self-employed workers and those with an ongoing contract have a similar behavior. The type of precarious contract plays a role. With respect to a worker with an ongoing permanent contract, a precarious worker with a casual job seems to postpone the entrance in the union. We found instead no statistically significant differences in the propensity to start a union between a permanent worker and those with a fixed term contract. This finding is substantial, as it points to the importance of recognizing that temporary workers do constitute a heterogeneous group. The two types of precarious contracts are indeed different. Casual employees have no right to paid leave and are likely to work more hours. Fixed term workers have instead similar employment protections to permanent workers and they have also the right to ask to be hired in an ongoing position after a certain number of years of fixed term employment with the same employer.

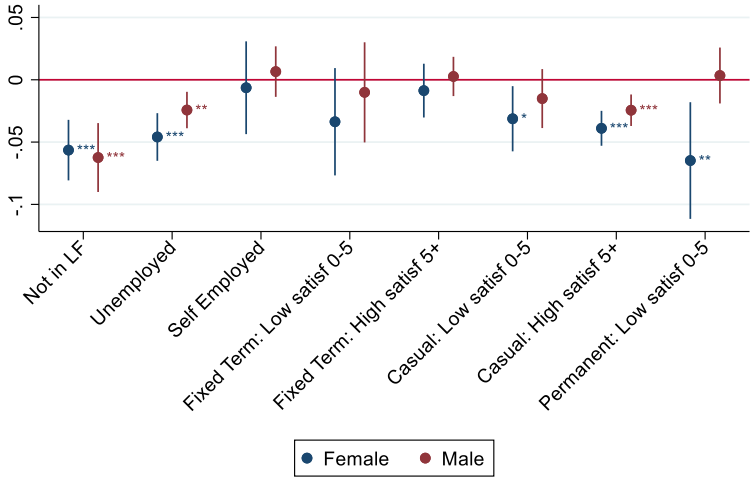
Figure 1. Probability of First Union by type of contract. Average Marginal Effects. Selected Results



Ref: Permanent position.
Average Marginal Effects
Model controlling for age, level of education, occupational level, parental background

The perceived stability of current job seems to do not have a relevant impact on transition to first union (Figure 2). It is interesting the effect for those with a permanent contract. Women despite having an ongoing position, if low satisfied in their job security (score below 5), tend to postpone entering in the union. Due to distribution of the responses (average satisfaction level around point), we cannot further distinguish among those with lower level of satisfaction. The results do not chance significantly if we divide the group of satisfied worker into mid level (5-8) and very satisfied (8+).

Figure 2. Probability of First Union and Satisfaction of Job Security. Average Marginal Effects. Selected results.

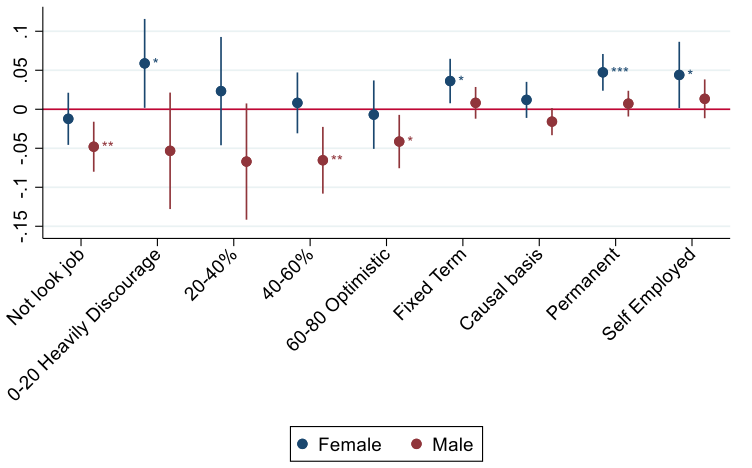


Ref: Permanent position. Highly satisfied
Average Marginal Effects
Selected results. Model controlling for age, level of education, type of work, parental background

Being unemployed is associated with lowest probability of starting a union in the following year, but the perceived chances of reemployment matter (Figure 3). Among women, highly discouraged workers (unemployed women who reported a probability below 10% of finding a job) are the more likely to start a union. Reducing the level of uncertainty (i.e., rising the probability of finding a job), the probability of starting a union declines almost linearly (the magnitude of coefficients tend towards zero). Among men, we observe almost a U shape pattern. Increasing the perceived chances

of finding a job, the negative effect of being unemployed reduces. This result seems to go in the direction of an uncertainty reduction behavior among women of "focusing" on the family life first if the uncertainty of the labor market is too high.

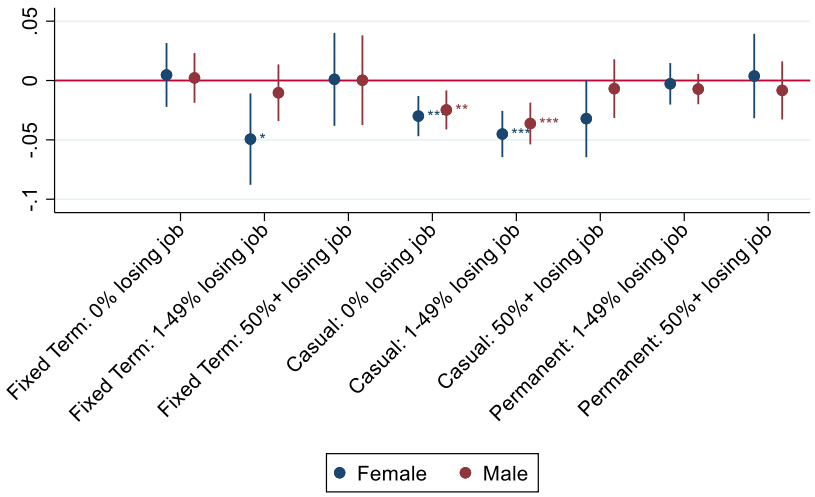
Figure 3. Probability of First Union and Chances of Finding a Job if Unemployed. Average Marginal Effects. Selected results



Ref: Very optimistic of finding a job
Average Marginal Effects
Selected results. Model controlling for age, level of education, occupational level, parental background

The other prospective measure of perceived working uncertainty refers to the probability of losing a job. The reference category is an individual with an ongoing position and who declares 0% chances of losing job in the next year. The results from the multivariate model (Figure 1) seems suggesting again the presence of a nonlinear relationship between uncertainty and union formation. Increasing the level of uncertainty in keeping the job next year, the likelihood of starting a union declines, but then the probability increases again after a certain level (50% in our case). This pattern is observed both for worker with a casual and with a fixed term contract and for both genders.

Figure 4. Probability of First Union and Chances of Losing job. Average Marginal Effect. Selected Results.



Ref: Permanent position. No chance of loosing job
Average Marginal Effects
Selected results. Results not shown if not employed.
Model controlling for age, level of education, type of work, parental background.

The effects of the control covariates go in the expected direction, providing us with an indirect validation of the statistical model itself. Unsurprisingly age has a positive and nonlinear effect on the probability of starting first union. Having a higher level of education or a high level skill jobs (ISCO code 1,2 and 3) facilitate the creation of a union.

Employment Uncertainty and transition to first child

Employment uncertainty is linked to fertility behaviors too. Using the same set of questions, we will investigate this link using a couple level approach. We identify more than 1,500 childless heterosexual couples who are either married or in a de facto relationship for whom we have valid information on employment uncertainty for both partners. Following them overtime, we investigate whatever the employment condition of the female or the male partner plays a role into the transition to parenthood. We use a stepwise approach. Controlling for a series of demographic information of both partners (age, level of education, parental background), we introduce first the employment uncertainty measure (lagged at two waves before) for the female partner and then we add those referred to the male partner. First results (not shown) seem suggesting that among women having a precarious job hinder the probability of having a child (casual work AME -0.039). Among men, being unemployed is associated with a decrease chances of becoming parent (-0.062). When the male partner is self-employed, the probability of having the first child instead increases (0.034). The (perceived) chance of losing job does not seem affecting the likelihood of parenthood if experienced by man, while instead among women with a precarious employment we observe a sort of U-shape relationship. With very low (0%) or very high (more than 50%) chances of losing job the probabilities of having a first baby are relatively higher than we have mid chances of losing job. In case of a precarious employment of the woman, we observe also slightly different behavior according to level of satisfaction in job security. Lower is the satisfaction, lower will be the chances of becoming a parent. The perceived chances of finding a job for those unemployed seem to do not have a significant impact.

[The couple-level fertility analysis is in progress and it will be available in the complete version of the manuscript].

Robustness checks

We run several robustness checks and the results remain substantively unchanged (available upon request). To control that the effect is not only age related we have re-run the analysis including individuals up to age of 50. Instead of looking only at the condition at previous wave, we use the employment uncertainty in the two previous years (*t-1 and t-2).* We tested different cut-off points of the subjective measures of uncertainty. For example, we recoded the chance of finding job as 0-10, 10-50, 50-80, 80% and more. We tried to distinguish further among those who were satisfied in job security into two categories: mid satisfied (5-7), high satisfied (8+). The perception of losing job has been split into 5 categories instead of three: no chance, 1-20% chance, 20-40%, 40-60%, 60-80%, 80% and more. Due to the distribution of the responses and the fact that questions have been asked only to those who were concerned[2], we cannot simply use the numeric scale available in the survey.

[2] The question around chance of finding a job have been asked only to unemployed/active job seekers; and

In this study, we consider entrance in a union as either starting the (first) de facto relationship or legal marriage whichever occurs first. Legal marriage and entrance in a de facto relationship might be considered as two competing events. In our sample however, being in a de facto seems to be a pre-step before marriage. In several cases, the transition from being single to in a de-facto relationship is followed in few years by the transition from de-facto to marriage. Since the two events do not seems to be actually competing, we decided to refer to both as a union formation event.

Abridged conclusions

The present work is one of the first attempts to look at the effect of uncertainty on family formation in a dynamic, prospective, and multidimensional way. Using detailed information on type of contract (structural objective measure of uncertainty) and perceive uncertainty (subjective measure) about the future we are able to look in details at the heterogeneous group of precarious workers.

Preliminary results support the hypothesis that objective measures (structural constraints) alone give only a partial and perhaps inaccurate perspective. The group of temporary workers is not a monolith, and selection into union is observed according to the level of uncertainty. The relationship between uncertainty and family formation seems to be nonlinear. In case of very low or very high uncertainty, individuals tend to invest their resources in family formation, probably discouraged by the situation in the labor market. While there is an ambiguous position on the labor market, the union formation is postponed. In the final version of this manuscript, we will test different thresholds of these uncertainty measures for a better understanding on how uncertainty reduction mechanisms work. Furthermore, it seems that resilience in terms of ability of going back to employment is more relevant than the perceived job stability.

satisfaction of job security and chance of losing job only to employees.

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APPENDIX

Table 2. Subjective and Objective Uncertainty Measure by Gender – Pooled data

	Female	**Male**
Objective measure: type of contract		
Not in Labor Force	12.34%	10.34%
Unemployed	18.25%	20.88%
Permanent	25.12%	31.83%
Fixed Term	5.61%	6.79%
Casual Basis	37.29%	27.35%
Self employed	1.39%	2.81%
Subjective measures°		
Satisfaction of job security (0-10)*	8.06 (1.9)	8.03 (SD 1.91)
Percent chance of finding a job (0-100)**	66 (SD 27.98)	67.05 (SD 27.3)
Percent chance of losing a job (0-100)*	10.96 (SD 35.48)	12.63 (SD 39.66)
Subjective measure recoded		
Satisfaction Job security		
Not in LF/Unemployed	30.60%	31.21%
Low satisfied: 0-5	6.93%	6.85%
High satisfied 5+	61.08%	59.13%
Self Employed	1.39%	2.81%
Percent chance of finding a job		
Employed	69.4%	58.79%
Not working, not looking for job	9.51%	8.16%
0-20	1.61%	1.56%
20-40	1.21%	1.58%
40-60	5.21%	4.68%
60-80	3.99%	5.18%
80-100	9.07%	10.05%
Percent chance of losing job		
Not in LF/Unemployed	30.60%	31.21%
Self Employed	1.39%	2.81%
No chance (0%)	36.68%	31.48%
Low chance (1-49%)	25.84%	28.44%
High chance (50%+)	5.49%	6.04%

Note: °the original value of the subjective measures; * It refers only to employees; **if the respondent is job seeker.

Table 3. Probability of First Union. Subjective Measure: Probability of Finding a job. Average Marginal Effects. Stratified by gender

	Men			Women		
VARIABLES	(1) Type of contract	(2) Subjective measure – Finding job	(3) Type of contract – Subjective measure	(1) Type of contract	(2) Subjective measure – Finding job	(3) Type of contract – Subjective measure
Type of contract (t-1)						
Ref. Permanent						
Not in Labor Force	-0.063***			-0.053***		
	(0.014)			(0.012)		
Unemployed	-0.025***			-0.043***		
	(0.007)			(0.010)		
Fixed term	0.001			-0.011		
	(0.008)			(0.010)		
Casual basis	-0.023***			-0.035***		
	(0.006)			(0.007)		
Self employed	0.006			-0.003		
	(0.010)			(0.019)		
Chances of finding a job if unemployed (t-1)						
Ref: Very optimistic (80% or more)						
Employed		-0.001			0.028**	
		(0.008)			(0.011)	
Not Working and no looking		-0.048***			-0.013	
		(0.016)			(0.017)	
Heavily discouraged (0-20%)		-0.054			0.057*	
		(0.038)			(0.029)	
Discouraged (20-40%)		-0.068*			0.023	
		(0.038)			(0.035)	
Ni Discouraged, Ni optimisitc (40-60%)		-0.066***			0.008	
		(0.022)			(0.020)	
Optimistic (60-80%)		-0.041**			-0.006	
		(0.017)			(0.022)	
Type of contract and perception of chances of finding a job if unemployed (t-1)						
Ref: Very optimistic of finding a job (80%+)						
Not working, no looking job			-0.048***			-0.012
			(0.016)			(0.017)
0-20 Heavily Discourage			-0.053			0.059**
			(0.038)			(0.029)
20-40			-0.067*			0.023
			(0.038)			(0.035)
40-60			-0.065***			0.008
			(0.022)			(0.020)
60-80			-0.041**			-0.007
			(0.017)			(0.022)
Fixed Term			0.008			0.036**
			(0.010)			(0.015)
Causal basis			-0.016*			0.012
			(0.009)			(0.012)
Permanent			0.007			0.047***
			(0.008)			(0.012)
Self Employed			0.013			0.044**
			(0.013)			(0.022)
DEMOGRAPHICS						
Age	0.047***	0.050***	0.047***	0.056***	0.059***	0.056***
	(0.006)	(0.006)	(0.006)	(0.008)	(0.008)	(0.008)
Age squared	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Level of Education						
Ref. Compulsory or below						
Diploma	0.007	0.008	0.007	0.025***	0.027***	0.025***

VARIABLES	Men			Women		
	(1) Type of contract	(2) Subjective measure – Finding job	(3) Type of contract – Subjective measure	(1) Type of contract	(2) Subjective measure – Finding job	(3) Type of contract – Subjective measure
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)
Bechelor or above	0.017***	0.015**	0.016**	0.013	0.014*	0.014*
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)
Current or most recent job skill level						
Ref. High Skilled white collar						
Low skilled blue collar	-0.018***	-0.022***	-0.018**	-0.008	-0.015	-0.010
	(0.007)	(0.007)	(0.007)	(0.012)	(0.011)	(0.012)
High skilled blue collar	-0.003	-0.001	-0.003	-0.046	-0.048*	-0.046*
	(0.007)	(0.007)	(0.007)	(0.028)	(0.028)	(0.028)
Low skilled white collar	-0.016***	-0.021***	-0.017***	-0.016**	-0.020***	-0.016**
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)
Parental background. Job skill level						
Ref. High skilled white collar						
Parents. Low skilled blue collar	0.023***	0.026***	0.025***	0.028***	0.029***	0.028***
	(0.008)	(0.008)	(0.008)	(0.010)	(0.010)	(0.010)
Parents. High skilled blue collar	0.019**	0.019**	0.020**	0.041***	0.043***	0.041***
	(0.008)	(0.008)	(0.008)	(0.011)	(0.011)	(0.011)
Parents. Low skilled white collar	0.008	0.009*	0.008	0.018**	0.019***	0.018**
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)
Parents. No info	0.011	0.012	0.011	-0.004	-0.005	-0.005
	(0.009)	(0.009)	(0.009)	(0.014)	(0.014)	(0.014)
N of individuals	3,128	3,128	3,128	2,727	2,727	2,727
Observations	13,520	13,520	13,520	11,255	11,255	11,255

Standard errors in parentheses

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

Note : since the subjective measure is reported only for those who are unemployed, we added two additional categories in Model 2 to account if the individual was employed (any type of employment) or inactive.

Table 4. Probability of First Union. Subjective Measure: Probability of Losing a job. Average Marginal Effects. Stratified by gender.

	Men			Women		
VARIABLES	(1) Type of contract	(2) Subjective measure – Chance of losing a job	(3) Type of contract and subjective measure	(1) Type of contract	(2) Subjective measure – Chance losing job	(3) Type of contract, subjective measure
Type of contract (t-1)						
Ref. Permanent						
Not in Labor Force	-0.063***			-0.053***		
	(0.014)			(0.012)		
Unemployed	-0.025***			-0.043***		
	(0.007)			(0.010)		
Fixed term	0.001			-0.011		
	(0.008)			(0.010)		
Casual basis	-0.023***			-0.035***		
	(0.006)			(0.007)		
Self employed	0.006			-0.003		
	(0.010)			(0.019)		
Chances of losing the job if employed (t-1)						
Ref: No chances (0%) of losing job						
Not employed (Not in LF/Unemployed)		-0.028***			-0.032***	
		(0.007)			(0.008)	
Self employed		0.007			0.007	
		(0.010)			(0.019)	
Low chances (1-49%)		-0.009*			-0.013**	
		(0.005)			(0.006)	
High chances (50%+)		0.000			-0.001	
		(0.008)			(0.011)	
Type of contract and chances of losing job (t-1)						
Ref: Permanent position and 0% chances of losing job						
Not in Labor Force			-0.066***			-0.054***
			(0.014)			(0.013)
Unemployed			-0.028***			-0.044***
			(0.008)			(0.010)
Self Employed			0.003			-0.004
			(0.011)			(0.019)
Fixed Term: 0% chances loosing job			0.002			0.005
			(0.011)			(0.014)
Fixed Term: 1-49% chances loosing job			-0.010			-0.049**
			(0.012)			(0.020)
Fixed Term: 50+% chances loosing job			0.000			0.001
			(0.019)			(0.020)
Casual: 0% chances loosing job			-0.025***			-0.030***
			(0.008)			(0.009)
Casual: 1-49% chances loosing job			-0.036***			-0.045***
			(0.009)			(0.010)
Casual: 50+% chances loosing job			-0.007			-0.032*
			(0.013)			(0.017)
Permanent: 1-49% chances loosing job			-0.007			-0.003
			(0.007)			(0.009)
Permanent: 50+% chances loosing job			-0.008			0.004
			(0.012)			(0.018)
DEMOGRAPHICS						
Age	0.047***	0.049***	0.047***	0.056***	0.059***	0.056***
	(0.006)	(0.006)	(0.006)	(0.008)	(0.008)	(0.008)
Age squared	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Level of Education						
Ref. Compulsory or below						

VARIABLES	Men			Women		
	(1) Type of contract	(2) Subjective measure – Chance of losing a job	(3) Type of contract and subjective measure	(1) Type of contract	(2) Subjective measure – Chance losing job	(3) Type of contract, subjective measure
Diploma	0.007	0.008	0.007	0.025***	0.026***	0.024***
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)
Bechelor or above	0.017***	0.017***	0.018***	0.013	0.014*	0.014*
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)
Current or most recent job skill level						
Ref. High Skilled white collar						
Low skilled blue collar (ISCO codes 8 and 9)	-0.018***	-0.022***	-0.019***	-0.008	-0.012	-0.007
	(0.007)	(0.007)	(0.007)	(0.012)	(0.011)	(0.012)
High skilled blue collar (ISCO codes 6 and 7)	-0.003	-0.002	-0.004	-0.046	-0.047*	-0.046
	(0.007)	(0.007)	(0.007)	(0.028)	(0.028)	(0.028)
Low skilled white collar (ISCO codes 4 and 5)	-0.016***	-0.020***	-0.016***	-0.016**	-0.019***	-0.015**
	(0.006)	(0.006)	(0.006)	(0.007)	(0.006)	(0.007)
Parental background. Job skill level						
Ref. High skilled white collar						
Parents. Low skilled blue collar	0.023***	0.024***	0.023***	0.028***	0.028***	0.027***
	(0.008)	(0.008)	(0.008)	(0.010)	(0.010)	(0.010)
Parents. High skilled blue collar	0.019**	0.018**	0.018**	0.041***	0.042***	0.040***
	(0.008)	(0.008)	(0.008)	(0.011)	(0.011)	(0.011)
Parents. Low skilled white collar	0.008	0.009	0.007	0.018**	0.019***	0.018**
	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)
Parents. No info	0.011	0.011	0.010	-0.004	-0.004	-0.004
	(0.009)	(0.009)	(0.009)	(0.014)	(0.014)	(0.014)
N of individuals	3,128	3,128	3,128	2,727	2,727	2,727
Observations	13,520	13,520	13,520	11,255	11,255	11,255

Standard errors in parentheses

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

Note : since the subjective measure is reported only for those who are employees, we added two additional categories in Model 2 to account if the individual was self employed or not employed.

Table 5. Probability of First Union. Subjective Measure: Satisfaction of job security. Average Marginal Effects. Stratified by gender

	Men			Women		
VARIABLES	(1) Type of contract	(2) Subjective measure – Satisfaction job security	(3) Type of contract and subjective measure	(1) Type of contract	(2) Subjective measure – Satisfaction job security	(3) Type of contract, subjective measure
Type of contract (t-1)						
Ref. Permanent						
Not in Labor Force	-0.063***			-0.053***		
	(0.014)			(0.012)		
Unemployed	-0.025***			-0.043***		
	(0.007)			(0.010)		
Fixed term	0.001			-0.011		
	(0.008)			(0.010)		
Casual basis	-0.023***			-0.035***		
	(0.006)			(0.007)		
Self employed	0.006			-0.003		
	(0.010)			(0.019)		
Satisfaction of job security (t-1)						
Ref. High satisfaction (5+)						
Not employed (Not LF/Unemployed)		-0.024***			-0.029***	
		(0.006)			(0.008)	
Self Employed		0.011			0.009	
		(0.010)			(0.019)	
Low Satisfied (0-5)		0.000			-0.022**	
		(0.008)			(0.010)	
Type of Contract and Satisfaction Job Security (t-1)						
Ref. Permanent position and high satisfaction						
Not in LF			-0.062***			-0.056***
			(0.014)			(0.012)
Unemployed			-0.024***			-0.046***
			(0.007)			(0.010)
Self Employed			0.007			-0.006
			(0.010)			(0.019)
Fixed Term: Low satisf 0-5			-0.010			-0.034
			(0.020)			(0.022)
Fixed Term: High satisf 5+			0.003			-0.009
			(0.008)			(0.011)
Casual: Low satisf 0-5			-0.015			-0.031**
			(0.012)			(0.013)
Casual: High satisf 5+			-0.024***			-0.039***
			(0.006)			(0.007)
Permanent: Low satisf 0-5			0.003			-0.065***
			(0.011)			(0.024)
DEMOGRAPHICS						
Age	0.047***	0.034***	0.032***	0.056***	0.059***	0.056***
	(0.006)	(0.003)	(0.003)	(0.008)	(0.008)	(0.008)
Age squared	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Level of Education						
Ref. Compulsory or below						
Diploma	0.007	0.009*	0.008	0.025***	0.027***	0.024***
	(0.006)	(0.005)	(0.005)	(0.007)	(0.007)	(0.007)
Bechelor or above	0.017***	0.019***	0.019***	0.013	0.014*	0.013
	(0.007)	(0.006)	(0.006)	(0.008)	(0.008)	(0.008)
Current or most recent job skill level						
Ref. High Skilled white collar						
Low skilled blue collar (ISCO codes 8 and 9)	-0.018***	-0.022***	-0.019***	-0.008	(0.014)	-0.003
	(0.007)	(0.006)	(0.007)	(0.012)	-0.012	(0.014)
High skilled blue collar (ISCO codes 6 and 7)	-0.003	0.000	-0.002	-0.046	(0.011)	-0.008
	(0.007)	(0.006)	(0.006)	(0.028)	-0.048*	(0.012)
Low skilled white collar (ISCO codes 4 and 5)	-0.016***	-0.019***	-0.015**	-0.016**	(0.028)	-0.047*

VARIABLES	Men			Women		
	(1) Type of contract	(2) Subjective measure – Satisfaction job security	(3) Type of contract and subjective measure	(1) Type of contract	(2) Subjective measure – Satisfaction job security	(3) Type of contract, subjective measure
	(0.006)	(0.006)	(0.006)	(0.007)	-0.019***	(0.028)
Parental background. Job skill level						
Ref. High skilled white collar						
Parents. Low skilled blue collar	0.023***	0.018**	0.017**	0.028***	0.030***	0.029***
	(0.008)	(0.008)	(0.008)	(0.010)	(0.010)	(0.010)
Parents. High skilled blue collar	0.019**	0.017**	0.017**	0.041***	0.043***	0.041***
	(0.008)	(0.008)	(0.008)	(0.011)	(0.011)	(0.011)
Parents. Low skilled white collar	0.008	0.007	0.006	0.018**	0.019***	0.018**
	(0.006)	(0.005)	(0.005)	(0.007)	(0.007)	(0.007)
Parents. No info	0.011	0.013	0.012	-0.004	-0.003	0.029***
	(0.009)	(0.008)	(0.008)	(0.014)	0.030***	(0.010)
N of individuals	3,128	3,128	3,128	2,727	2,727	2,727
Observations	13,520	13,520	13,520	11,255	11,255	11,255

Standard errors in parentheses

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

Note: Since satisfaction of job security has been asked only to those who are employee, we added two additional categories to account if the respondent was not employed or self employed