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Research Article

Union formation under conditions of uncertainty: The objective and subjective sides of employment uncertainty

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Union formation under conditions of uncertainty: The objective and subjective sides of employment uncertainty

Danilo Bolano¹

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Abstract

BACKGROUND

The link between economic forces and family dynamics has received renewed attention in the present era of heightened uncertainty. Economic uncertainty has usually been linked to unfavorable labor market circumstances, such as unemployment and short-term contracts. Nonetheless, union formation may also be affected by subjective appraisals of employment conditions, including employment security and – acknowledging the prospective nature of uncertainty itself – expectations of future employment.

OBJECTIVE

This study seeks to empirically disentangle the effects of the objective and subjective sides of individual employment uncertainty on the entry into union.

METHODS

We apply event history techniques to longitudinal data taken from the Household, Income and Labour Dynamics in Australia (HILDA) survey to examine whether and how objective measures of employment uncertainty (labor market status and contract type) and subjective measures (employment security and employment expectations) are associated with entry into a first union.

RESULTS

Our results show that objective markers of employment uncertainty – unemployment or temporary (casual) jobs – inhibit entry into a union for both men and women. Furthermore, different appraisals of employment uncertainty affect union formation across employment conditions. When individuals face objective employment uncertainty while still expecting their employment situation to improve, either by exiting unemployment (in particular among men) or retaining their jobs (among both sexes), union formation is not necessarily postponed.

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CONTRIBUTION

We stress the importance of considering how different future expectations influence family formation across different levels of objective uncertainty. The sole use of objective markers of employment uncertainty provides only a partial, and possibly inaccurate, perspective on union formation: the specter of the future also matters.

1. Introduction

The link between family dynamics and economic conditions has received renewed attention in the era of uncertainty. Kohler, Billari, and Ortega (2002) were among the first to argue that individual-level economic uncertainty contributes to delayed union formation and childbearing in early adulthood in favor of prolonged residence in the parental home so as to better pursue either higher education or job stability (see also Blossfeld et al. 2005). Globalization outcomes and the exponential rate of technological change are increasingly hindering the ability to form independent families (Mills and Blossfeld 2005, 2013). Comolli et al. (2021) suggested that the recent rise in uncertainty stems from increased global interconnectivity. We contribute to the growing literature in this field by analyzing the entry into a first union – a crucial step in the family formation process. We argue that previous research has given insufficient credit to the subjective side of uncertainty, especially regarding the role of the future, in the study of family behavior under conditions of uncertainty.

Economic uncertainty has usually been considered an individual risk factor primarily associated with unfavorable labor market conditions, such as unemployment and short-term contracts (Kreyenfeld, Andersson, and Pailhé 2012, Mills and Blossfeld 2013; Vignoli, Tocchioni, and Mattei 2020). In this view, spells of precarious employment translate into feelings of economic uncertainty due to the financial consequences for one's current and future earnings, as well as the uncertain futures associated with them (Scherer 2009; Standing 2011). In the realm of fertility research, increasing attention has been paid to subjective measures of employment conditions, such as the security of one's job or, more broadly, personal economic concerns (Kreyenfeld 2010; Bhaumik and Nugent 2011; Hofmann and Hohmeyer 2013; Fahlén and Oláh 2018). Aside from one's perception of the one's own employment security, economic uncertainty is primarily defined as a lack of clarity regarding future economic prospects (Beckert 1996; Bloom 2014; Vignoli et al. 2020a). In a context in which (bounded) rational calculations of opportunities and constraints concerning family decisions are obfuscated by mounting uncertainty, recent advances in family demography suggest that actors' choices are influenced by

the “shadow of the future” (Huinink and Kholi 2014; Bernardi, Huinink, and Settersten 2019), which is to say uncertain expectations of the future (Vignoli et al. 2020a).

We continue this debate by empirically disentangling the effects of the objective and subjective sides of individuals’ employment uncertainties, the latter including perceived uncertainties about the future, on the entry into a union. We outline this approach by focusing on the entry into first union (both legal marriage and de facto relationship) in Australia using longitudinal data from the Household, Income and Labour Dynamics in Australia survey (hereafter referred to as the HILDA survey). The objective side of uncertainty is operationalized through the respondent’s labor market position, distinguishing between being unemployed or outside of the labor force, having a permanent contract, a fixed-term contract, or working on a casual basis, and being self-employed. The subjective side of uncertainty is operationalized through the level of satisfaction over current job security, and two forward-looking measures of uncertainty about employment prospects: the perceived chance of losing one’s job if employed, and the perceived chance of finding a job if currently unemployed. Australia is a somewhat unique context for this analysis in that it has a relatively stable macroeconomic situation, while also having a comparatively high rate of nonstandard employment contracts. These factors will facilitate our investigation into the micro-level foundations of employment uncertainty in isolation from macrolevel fluctuations.

2. Employment uncertainty and union formation

2.1 The objective side of uncertainty: Employment status and characteristics

The objective side of employment uncertainty – i.e., career instability related to unemployment and/or temporary employment – may hinder or delay family formation. Patterns of union formation represent adaptations to factors as accelerated globalization, rapid economic restructuring (e.g., the gig economy and the decline in stable jobs), and growing wealth disparities (Sassler and Lichter 2020). The implications of the Great Recession (and its recovery) for union formation have received a great deal of scholarly attention in recent years (Cherlin et al. 2013; Schneider and Hastings 2015). In line with the globalization perspective (Blossfeld et al. 2005; Mills and Blossfeld 2013), marriage – a resource-intensive and long-term commitment – is likely to be postponed when people face employment constraints until their outlook on life becomes more optimistic (Golsh 2003; Vignoli, Tocchioni, and Salvini 2016). Furthermore, the rise in job precariousness jeopardizes financial

resources, thereby potentially acting as a barrier to marriage or to a (often costly) wedding ceremony (Livi Bacci 2008).

American research supports the argument that poor economic prospects are associated with delaying union formation (see Sassler and Lichter 2020). A handful of studies have focused on employment's role in union formation in European contexts by exploring the role of objective markers of employment uncertainty (e.g., Kurz, Steinhage, and Golsch 2005; Liefbroer 2005; Noguera, Castro Martin, and Bonmati 2005; Piotrowski, Kalleberg, and Rindfuss 2015; Vignoli, Tocchioni, and Salvini 2016). These studies suggest that fixed-term jobs, or only finding employment on a temporary basis, significantly reduce the likelihood of entering into a union. For example, Bukodi (2012) showed that job instability, or downward career trajectories, depress union formation in the United Kingdom. Studies of Australia have reported results in line with those found further afield: individuals with unstable employment conditions, in particular unemployed males and/or those with lower levels of education, are more likely to postpone union formation (e.g., Evans 2015; Heard 2011).

A stable source of income is an important precondition for family formation (Kohler, Billari, and Ortega 2002). Individuals are increasingly experiencing (at the very least) short spells of unemployment and must accept unstable, fixed-term contracts in order to make ends meet. This career instability affects one's capacity to cover household expenses, or reliably predict being able to do so in the future, and generates uncertainty about one's future earning opportunities. Career instability may thus discourage individuals from making long-term commitments and force them to postpone leaving the parental home and establishing their own households (Billari 2005). A recent study of Dutch employees using a large-scale survey linked to register data shows that low levels of income most clearly explain time-limited employment's negative association with family formation (van Wijk, de Valk, and Liefbroer 2021). This finding accords with the literature which states that low-income parents avoid marriage because they have not met its so-called "economic bar." Gibson-Davis, Gassman-Pines, and Lehrman (2018), for instance, suggest that, in the United States, meeting this bar increases the likelihood of marriage.

The effects of objective states of employment uncertainty on union formation may differ by sex. The male-breadwinner hypothesis posits that men are considered less attractive husbands (or fathers) when they are unable to fulfill the role of the family's provider (Kalmijn 2011) – after all, establishing and maintaining a household is certainly not inexpensive. In her uncertainty hypothesis, Oppenheimer (1988) adds that uncertainty is embodied by (especially men's) unstable careers, as indicated by low-status jobs, unemployment, and irregular or temporary forms of employment. These employment circumstances foster uncertainty about the future; not only as to

whether the husband will be able to provide for it, but also regarding the lifestyle habits he would be likely to develop. These objective states of employment uncertainty may impede assortative mating and therefore delay marriage. From another perspective, according to the sociopsychological uncertainty-reduction framework proposed by Friedman, Hechter, and Kanazawa (1994), getting married may serve as a strategy for women to reduce uncertainty. Women may respond to unfavorable employment prospects by choosing the “alternative career” paths of wives and homemakers so as to lend structure to an otherwise uncertain life course.

The negative effects of time-limited employment on union formation are notably clear among men in a variety of contexts, such as Italy (Vignoli, Tocchioni, and Salvini 2016), Japan (Piotrowski, Kalleberg, and Rindfuss 2015), and the Netherlands (de Lange et al. 2014). Among women, the literature reports somewhat conflicting results, ranging from the negative effects of time-limited employment on union formation in Italy (Vignoli, Tocchioni and Salvini 2016), Japan (Piotrowski, Kalleberg, and Rindfuss 2015), to no effect in Germany (Kurz, Steinhage, and Golsch 2005) and the Netherlands (de Lange et al. 2014). In his detailed comparative study, Kalmijn (2011) provided strong support for both the male-breadwinner hypothesis and for Oppenheimer’s “career-uncertainty” hypothesis. However, the relative importance of these hypotheses depends on a society’s levels of gender equality. When women are the main caregivers and men the primary breadwinners, the economic well-being of the household is more heavily dependent on the latter’s market performance. Even when women achieve higher levels of education and increase their earnings through high-quality jobs, their value in the marriage market tends to depend only in part on their economic contributions to the family. Accordingly, a detailed empirical test of the effects of employment uncertainty on the entry into a union should ideally employ fine-tuned measurements of the labor market status and gendered characteristics. As such, it is imperative to segment empirical analyses of the effects of objective employment uncertainty on union formation by gender.

2.2 The subjective side of uncertainty: The role of the future

The studies reviewed so far have examined the role of uncertainty on family dynamics by focusing on individuals’ labor market conditions. A recent stream of literature has introduced subjective perceptions of current experiences – such as insecurity regarding one’s current job or financial situation – as a way to account for different reactions to the same objective condition (Kreyenfeld 2010, 2015). In fertility research, individuals’ perceptions have been found to play an independent role

regardless of objective indicators of their past and current labor market situation (e.g., Bhaumik and Nugent 2011; Fahlén and Oláh 2018), thus moderating their impact on fertility intentions (Vignoli, Mencarini, and Alderotti 2020) and behavior (Kreyenfeld 2015).

However, operationalizations of uncertainty with objective states of employment and their perceptions tend to rarely acknowledge the very nature of uncertainty itself, which primarily refers to a lack of clarity about one's future prospects (Ranjan 1999; Beckert 2016). The existence of uncertainty is one of the salient characteristics of a capitalist society, and hinders the ability to make rational calculations concerning future events (Beckert 2016; Beckert and Bronk 2018). Recent advances in family demography posit that actors' choices are influenced by the "shadow of the future" (Huinink and Kholi 2014; Bernardi, Huinink, and Settersten 2019), and the so-called "narrative framework" (see Vignoli et al. 2020a, 2020b) provides the concepts necessary for operationalizing its influence in family dynamics. When people face uncertain situations, they tend to consider not only past experiences (the "shadow of the past") and present status, but also future expectations, which represent what people expect will happen based on the available information. The shadows of the past and future find their synthesis in the narratives of one's own future, which reflect contingent plans for reaching certain goals in life.

When survey data provide information about individuals' expectations, they may be used as a proxy to grasp the effects of personal narratives of the future (Vignoli et al. 2020b). For example, uncertain labor conditions may not be considered obstacles to entry into a union in light of expected employment stability or an ease of recovery from negative events. Alternatively, they may inhibit union formation in light of expected employment *instability* or an expected *inability* to recover from negative shocks. Following this framework, the present study contributes to the literature by recognizing employment uncertainty as a prospective notion. A recent study illustrates that, besides objective employment uncertainty and subjective perceptions of individuals' regarding their actual employment situation, actors' family formation behavior is also influenced by future expectations (Guetto, Vignoli, and Bazzani 2020).

The relationship between subjective uncertainty and union formation may be nonlinear. Bhaumik and Nugent (2011) suggested a nonlinear relation between subjective uncertainty and fertility, meaning that a moderate increase in one's personal perception of uncertainty would increase the chances of postponing, or even avoiding, pregnancy. However, beyond a certain threshold, further increases in uncertainty are less significant when individuals feel they have little to lose and may instead even increase the probability of having children. Similar considerations may be advanced for union formation. For instance, van Wijk, de Valk, and Liefbroer

(2021) found higher marriage rates among women who perceived job insecurity, thereby providing support for Friedman, Hechter, and Kanazawa's (1994) uncertainty reduction framework. A nonlinear pattern of this sort may emerge from examining the subjective sides of employment in isolation or by scrutinizing how subjective appraisals of employment uncertainty affect union formation across different objective employment conditions. After all, it seems highly probable that the objective and subjective sides of employment uncertainty interact with one another. Within the same objective employment conditions, individuals' subjective appraisals of employment security and future expectations can prove pivotal in driving union formation.

3. Australia: A case study

Australia provides an informative case study for a number of reasons. The country is characterized by a stable economy. Indeed, the Great Recession of 2008 barely affected its economy and labor market participation – for instance, unemployment rates hovered at roughly 6% (against approximately 4% before the financial crisis). From 2000 to 2016, female labor force participation rose from 65% to 72%, while male participation in the labor market remained at approximately 82% (data from the Australian Bureau of Statistics – Labor Force 2000–2016). Studying a relatively stable labor market only slightly affected by macrolevel economic and financial fluctuations allows us to acquire new insights into whether, and how, individual-level objective and subjective markers of employment uncertainty influence family-building processes.

Due to Australia's high incidence of nonstandard employment contracts (Buddelmeyer, McVicar, and Wooden 2015), this study transcends the simple dichotomy between permanent or nonpermanent employment by considering different forms of nonstandard contracts. We consider two forms of contingent (Polivka and Nardone 1989) employment: casual employment and fixed-term contracts. The former is relatively common in Australia: in 2019, there were 2.6 million casual workers, constituting 24.4% of total employees (data from the ABS – Australian Bureau of Statistics). This contract type is especially prevalent among young workers: in 2016, almost 80% of employees aged 15–19, and 40% of those aged 20–24, were engaged in casual employment. Casual jobs are seen as insecure, low paid, and resulting only in poor employment prospects (Buddelmeyer and Wooden 2011; Watson 2013). These views are held despite the eligibility of casual employees for wage premiums to compensate for irregular hours worked, the absence of entitlements to various employment benefits, and the large-scale presence of

individuals with a long history of supposedly “stable” casual employment (ACTU 2012). Casual workers are likely to experience earning fluctuations due to irregular and insufficient work hours, suffer from poor mental health, and have lower levels of job satisfaction (Buddelmeyer, McVicar, and Wooden 2015). Moreover, they are not entitled to paid leave, including maternity leave. Conversely, fixed-term workers are eligible for welfare-protection measures similar to those on permanent contracts, but must face the uncertainty of possible redundancy at the end of each term.

Finally, due to the Australian legal system and the familial behavior of Australian young adults, this paper focuses on both legal marriages (hereafter, ‘marriage’) and de facto relationships (‘de facto’). In Australia, these two union types are similar both in terms of the law and how they are regarded socially. De facto relationships, as defined by Australia’s Family Law Act of 1975–4AA, refers to a couple cohabiting on a genuine domestic basis without being legally married. While certain Australian states and territories ask couples to register a de facto relationship, this is a request rather than a compulsory requirement. In practice, couples in de facto relationships and legal marriages have equal rights before the law. In Australia, de facto relationships are often a prestep toward marriage. In 2017, almost 80% of married couples cohabited before marriage, a figure that was closer to 16% in the mid-1970s (ABS data). McDonald and Evans (2003) found a similar pattern between marriage and de facto relationships when comparing several Australian cohorts. A de facto relationship can thus be seen as a “try before you buy” phase (Perelli-Harris et al. 2014). For this reason, and since we are studying the transition to a first union (which is likely to be de facto), we consider first union to be either a de facto relationship or a legal marriage, whichever occurs first.

4. Research questions

Based on the literature review outlined so far, we pose three main research questions to be separately tested for men and women:

- 1) How do objective conditions of employment uncertainty matter for union formation?

We hypothesize that there is a greater chance of union formation among those with more stable employment conditions, i.e., those with lower objective uncertainty (Hp 1.a). Among workers in nonstandard employment, we expect a reduced chance of union formation for workers in casual employment compared to those with fixed-term contracts due to the differences in available safety nets (Hp 1.b).

- 2) Do objective conditions of employment uncertainty still matter once subjective appraisals of individual employment uncertainty, including future employment expectations, are taken into account?

We hypothesize that the objective markers of employment uncertainty will matter net of any markers of subjective uncertainty (Hp 2.a). At the same time, we expect those facing high levels of subjective uncertainty – especially when operationalized through forward-looking measures – to have fewer chances of union formation (Hp 2.b).

- 3) How do subjective appraisals of individual employment uncertainty, including future employment expectations, matter for union formation across different objective employment conditions?

We hypothesize that different appraisals of subjective employment uncertainty affect union formation across employment conditions. In particular, we expect the probability of union formation to decline among those who may face low (or, indeed, no) objective employment uncertainty, but experience high subjective uncertainty compared to those facing low or no objective and subjective uncertainty (Hp 3.a). Conversely, we expect a rise in the chance of union formation among respondents facing high objective employment uncertainty – in terms of having fixed-term jobs, casual employment, or being unemployed – but low subjective uncertainty compared to those facing high objective and subjective uncertainty (Hp 3.b). Finally, we expect a gendered effect when the respondent faces both high objective and subjective employment uncertainty: women might tend to invest their resources in family life, while men likely focus on the labor market. Hence, we hypothesize that there will be an increasing chance of union formation in the case of high objective and subjective uncertainties among women only (Hp 3.c).

5. Data and analytical sample

This paper draws on longitudinal data from the first seventeen waves of the HILDA survey. HILDA is a nationally representative household-based panel study that began in 2001. As the sampling unit, the household is broadly defined as “a group of people who usually reside and eat together” (Watson and Wooden 2002). Each year, the study collects information on economic, health, work, and family conditions from each household member aged 15 and above. The data are collected primarily through Computer-Assisted Personal Interviews (CAPI). As a baseline (2001), 13,969 people

from 7,682 households were interviewed. In 2011, a top-up sample of 2,153 households was added. Foreign diplomatic personnel, overseas residents intending to stay in Australia for less than a year, and residents of institutions and other nonprivate dwellings are excluded from the sample.³

We considered individuals aged between 15–35 as being able to enter into their first unions (9,459 individuals who had never before been in a legal marriage or de facto relationship). We started at the age of 15 as, by law, 16 is the minimum age at which a person can legally marry in Australia.

We further excluded those who would have been in education throughout the entire observation period (449). Hence, we selected individuals who were, at least potentially, active in the labor market ($n = 9,010$).

Our interest lies in both subjective and objective measures of uncertainty, and their combined effect. In order to retain the same set of individuals for the entire analysis, we discarded cases in which either the objective or subjective measure(s) was absent (less than 5% of cases). Since we lagged the measures of one wave in order to avoid reverse causality issues, we restricted the analysis to those with valid information in at least two consecutive waves. Our final analytical sample contained 5,855 individuals (2,727 women and 3,128 men) for a total of 24,775 respondent-wave observations.⁴ On average, each respondent has been observed for over six years (for women: mean = 6.38, sd = 3.57; for men: mean = 6.78, sd = 3.78).

6. Measures

Outcome variable. Due to our focus on the transition into first union, we coded the outcome variable as 0 (being single) or 1 (being in a union⁵).

Uncertainty measures. To test the effect of objective and subjective employment uncertainty on union formation, we employed the following measures:

³ For more information on the sampling strategy, see Watson and Wooden (2002).

⁴ The reduction in the number of respondents in our analytical sample is consistent with HILDA's average sample attrition. For example, of almost 14,000 individuals interviewed in the first wave, 9,245 (66%) were interviewed again in Wave 9 (Watson and Wooden 2010). These figures refer to the entire sample (those aged 15 and over) while the present study focuses on young adults, a group more likely to be mobile than the general population (e.g., due to relocation and/or going overseas for work for instance), potentially increasing the average sample attrition. It is also worth mentioning that, in our case, the analytical sample includes only those who reported valid information on all key variables of interest (namely subjective and objective uncertainty measures) in two consecutive waves. The reduction in the number of cases is thus due not only to sample attrition, but also to nonresponses to given questions. We performed a robustness check for attrition bias, which provided confidence in the reliability of our estimates (see section on robustness checks).

⁵ As discussed above, we refer to a 'union' as both legal marriage and de facto relationship.

- a) *Objective employment uncertainty.* We considered whether the respondent was unemployed or outside the labor force. Additionally, HILDA differentiates between permanent or ongoing contracts, fixed-term contracts, casual work, and being self-employed. Due to the prevalence of young workers in casual employment and the peculiarities of this type of nonstandard working contract, we classified fixed-term and casual contracts as two separate forms of contingent employment. Similarly, as being either self-employed or an employee represent distinct employment conditions, we kept self-employment as a separate category.⁶
- b) *Subjective employment uncertainty.* We explored three possible subjective measures: satisfaction over current job security, and two forward-looking measures of employment uncertainty with respect to future employment prospects.⁷
 - 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 question was put to those currently employed. Since the distribution of the responses is highly skewed (available upon request), we have discretized the variable around its median value into low satisfaction with job security (0–7) and high satisfaction (8–10).
 - 2) Chance of losing one’s job (ranging from 0 to 100). 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.” The question was to employees only (i.e., the self-employed were excluded).
 - 3) Chance of finding a job (ranging from 0 to 100). 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 question was put only to those unemployed and actively seeking employment.

⁶ Following HILDA’s distinction between employer and self-employed, we consider as self-employed both a “person who operates their own unincorporated business” and “employees of their own business” (the so-called “own account worker”). In contrast, we consider an employee “a person who works for a public or private employer and receives remuneration in wages, salary, a retainer fee from their employer while working on a commission basis, tips, piece-rates or payment in kind” (<https://melbourneinstitute.unimelb.edu.au/hilda/for-data-users/frequently-asked-questions>).

⁷ Respondents were surveyed according to their employment status: the subjective measures referring to the actual employment were put to those in employment, and the subjective measures referring to the chance of finding a job were put to the unemployed.

After considering the distribution of responses – highly skewed with peaks around round numbers (available upon request) – and for ease of interpretation, we discretized the expectation of losing one’s job into three categories: 0% chance, below 50%, and 50% and over).⁸ The expectation of finding a job was discretized into four categories: “heavily discouraged at finding a job” (expectation of finding a job between 0%–10%); “discouraged” (11%–50%); “optimistic” (51%–80%); and “very optimistic” (over 80%).⁹

Sociodemographic characteristics. In the multivariate model, we controlled for a native indicator (having been born in either Australia or New Zealand),¹⁰ age (in its linear and quadratic form), parity (three levels: no child, one child, two or more children), and the socioeconomic status of the respondent. Each respondent’s educational level was coded at three levels (compulsory or below, diploma, bachelor’s degree or above) and parental occupational level (highest level between parents) using the ISCO-based classification mentioned below. We further controlled for the most recent occupational level using the ISCO-88 one-digit level code for the current (at $t-1$) or most recent type of occupation. We made a distinction 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), and low-skilled blue-collar jobs (ISCO codes 8 and 9). In an additional model specification, we also controlled for disposable personal income. Except for the native indicator, all variables were time varying. In our analytical sample, 35% of women entered their first union during our observation period at the average age of 22.5 years – approximately 65% of whom already had one child. Among men, 30% of the respondents had entered a union before the age of 35 (mean age of 24.02) and, on average, 55% were fathers by the age of 24. Table 1

⁸ With respect to the actual distribution of the perceived chance of losing one’s job (0–100 scale): 0% chance corresponds to the median level; over 75% of the responses were between 0–10; and a 50% chance of losing one’s job corresponds to the 95th percentile. We observed no relevant differences in the perceived chances of losing one’s job when distinguishing by contract type.

⁹ 50% and 80% chance of finding a job next year correspond, respectively, to the first and second quartile of the actual distribution of the reported chances of finding a job (0–100 scale). No relevant differences by contract type were observed.

¹⁰ Since there might be an association between not being native to Australia and the contract type (selection effect) – in particular among young people with a temporary visa – we examined the share of nonnative respondents by type of contract. We found that non-Australians accounted for 8.8% of casual workers and 10.4% of those with a permanent job. Moreover, as we considered only those who replied to at least two consecutive waves of HILDA, we could only include those who had been living in Australia for at least two years. This makes us confident that our results are not biased by a selection effect due to migration status.

reports the sample characteristics and the distribution of objective¹¹ and subjective measures of uncertainty by gender.

Table 1: Subjective and objective uncertainty measure (pooled data), sociodemographics, and share of individuals who entered in first union by gender

	Female	Male
Objective measure: type of contract		
Not in Labor Force (LF)	8.38%	6.79%
Unemployed	14.43%	17.06%
Casual Basis	41.47%	30.28%
Fixed-term	6.24%	7.51%
Permanent	27.93%	35.25%
Self-employed	1.55%	3.11%
Subjective measures		
Satisfaction of job security (0–10)*	8.06 (1.9)	8.05 (SD 1.88)
Percent chance of losing a job (0–100)*	11.17 (SD 38.00)	12.30 (SD 37.63)
Percent chance of finding a job (0–100)**	72.67(SD 26.61)	73.53 (SD 25.5)
Subjective measure recoded		
<i>Satisfaction Job security</i>		
Not in Labor Force (LF)	8.38%	6.79%
Unemployed	14.43%	17.06%
Low satisfied: 0–7	21.07%	20.70%
High satisfied 8+	54.57%	52.34%
Self-employed	1.55%	3.11%
<i>Percent chance of losing job</i>		
Not in Labor Force (LF)	8.38%	6.79%
Unemployed	14.43%	17.06%
Self-employed	1.55%	3.11%
No chance (0%)	40.80%	34.85%
Low chance (1–49%)	28.74%	31.49%
High chance (50%+)	6.10%	6.70%
<i>Percent chance of finding a job</i>		
Employed	77.19%	76.15%
Not working, not looking for job	6.49%	5.24%
Heavily Discouraged (0–10%)	0.75%	0.73%
Discouraged (11–50%)	4.02%	4.16%
Optimistic (51–80%)	5.29%	6.92%
Very optimistic (80%+)	6.26%	6.80%

¹¹ Pooling the data together, as we expected, casual workers are slightly younger than the average. Between fixed and permanent workers, we observed no relevant age differences. Among women, for example, the mean age of a permanent worker is 23.2, 23.0 among fixed-term, and 20 among casual workers.

Table 1: (Continued)

	Female	Male
Sociodemographics		
Age (mean value)	21.46	22.11
<i>Level of education</i>		
Compulsory or below	63.00%	67.56%
Diploma	17.68%	18.85%
Bachelor or above	19.32%	13.59%
<i>Parental background</i>		
Low-skilled blue collar	7.20%	6.71%
High-skilled blue collar	5.45%	7.05%
Low-skilled white collar	20.22%	20.97%
High-skilled white collar	62.78%	59.98%
No information	4.35%	5.29%
<i>Occupational level (current or most recent)</i>		
Low-skilled blue collar	7.99%	21.74%
High-skilled blue collar	1.33%	20.89%
Low-skilled white collar	62.17%	30.81%
High-skilled blue collar	28.51%	26.56%
<i>Born in Australia or New Zealand</i>	90.87%	90.51%
<i>Parity</i>		
Childless	96.56%	98.87%
One child	2.31%	0.92%
Two or more children	1.13%	0.21%
<i>Share of respondents who started a union</i>	29.83%	35.39%

Note: The percentage refers to the lagged value as used in the multivariate model. * refers only to employees; ** the respondent is a job seeker.

7. Methods

We used a discrete-time event history model to analyze the effects of employment uncertainty on the likelihood of entering into a first union. We defined entering into a first union either starting one's (first) de facto relationship or legally marrying one's partner, whichever came first.

We estimated the following models:

$$\Pr(\text{First Union}_{i,t}) = \alpha + u_i + \beta \text{Contract}_{i,t-1} + \gamma \mathbf{X}_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

$$\begin{aligned} \Pr(\text{First Union}_{i,t}) & \quad (2) \\ &= \alpha + u_i + \delta \text{Perception}_{i,t-1} + \vartheta \text{Contract}_{i,t-1} \\ &+ \gamma \mathbf{X}_{i,t-1} + \varepsilon_{i,t} \end{aligned}$$

$$\begin{aligned} \Pr(\text{First Union}_{i,t}) & & (3) \\ &= \alpha + u_i + \theta \text{Contract}_{i,t-1} * \text{Perception}_{i,t-1} \\ &+ \gamma \mathbf{X}_{i,t-1} + \varepsilon_{i,t} \end{aligned}$$

In these models, u represents the random effects, while \mathbf{X} is the aforementioned set of time-varying and time-invariant sociodemographic characteristics.¹²

We began by estimating the effect of actual employment conditions (i.e., objective measure of uncertainty) on the likelihood of first union formation (Model 1) so as to answer the first research question. We addressed the second question by examining the expectations around the employment sphere (e.g., the subjective measure) while controlling for employment conditions (Model 2). Lastly, to answer the third question, we estimated the final model (Model 3) with both objective and subjective measures using an interaction term to examine the role of subjective appraisals of individual uncertainty across different objective employment conditions.¹³ The three models refer to the same set of observations. Since we considered three measures of perceived uncertainty, we ran models 2 and 3 separately for each perception measure. As we suspected the effect would be strongly gendered, we stratified the analysis by gender.

We computed the average marginal effects (AMEs) to interpret any 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 continuous covariate increases by one unit, averaged across the values of the other covariates introduced in the model. The AME results of the multivariate model are available in Tables A-1–A-3 of the Appendix. For ease of interpretation, the results are reported graphically in terms of predicted probabilities with 95% confidence intervals.

8. Results

8.1 Descriptive results on subjective and objective employment uncertainty

The data's longitudinal perspective allowed us to verify whether the subjective measures could be viewed as reliable indicators of employment positioning. Table 2 compares the response at time ($t-1$) with the employment condition in the following wave by gender. As a reference, we also reported the transition probabilities between employment conditions (i.e., being employed or not). We observed similar patterns

¹² The analyses were conducted using Stata's "xtlogit" command.

¹³ Since the questions about forward-looking uncertainty measures were not put to self-employed respondents, we considered self-employment a separated category in all model specifications.

for men and women. Nonstandard employment (casual and fixed-term) is by definition uncertain (Polivka and Nardone 1989) and characterized by a lack of any guarantee regarding its permanency. Indeed, roughly 15% of those in casual employment are not employed the following year, against 10% of fixed-term workers and 8% of those with permanent positions. The results for all three subjective indicators show that respondents were able to correctly evaluate their condition. For instance, increased optimism about the likelihood of finding a job was linked to a higher probability of actually gaining employment. Of course, we cannot discard the possibility that a respondent who feels secure about finding a job may actually have some preliminary information about a job opening. However, feeling secure in one's position (perceived high job security satisfaction or low/zero chances of losing one's job) does not completely protect against actual job loss (which occurred in roughly 11% of all cases). We conclude that there is a sense in which subjective measures are linked to the actual employment perspective, and that they are representative of a realistic fear of the future. Prospective measures in particular (employment expectations) seem strongly based on actual employment conditions, but they also identify a distinct construct compared to objective measures.¹⁴

Table 2: Perceived uncertainty at previous wave and current employment condition. Pooled data. Percentage by row and by gender

a) Female respondents	Current employment condition	
	Unemployed/Outside Labor Force	Employed
Satisfaction of job security (t-1)		
Low satisfied (0–7)	15.90	84.10
High satisfied (8–10)	11.31	88.69
Percent chance of losing a job (t-1)		
No chance of losing job (0%)	11.37	88.63
1–50% chance of losing job	11.19	88.81
More than 50% chance of losing job	17.32	82.68
Percent chance of finding a job (t-1)		
Heavily Discouraged (0–10%)	66.67	33.33
Discouraged (11–50%)	48.23	51.77
Optimistic (51–80%)	42.35	57.65
Very optimistic (80%+)	31.06	68.94
Employment condition (t-1)		
Casual basis	14.72	85.28
Fixed terms	10.11	89.89
Permanent	7.79	92.21
Self-employed	16.67	83.33
Not employed	42.77	57.23

¹⁴ For a general discussion on the validity of subjective measures of employment insecurity, see Dickerson and Green (2012).

Table 2: (Continued)

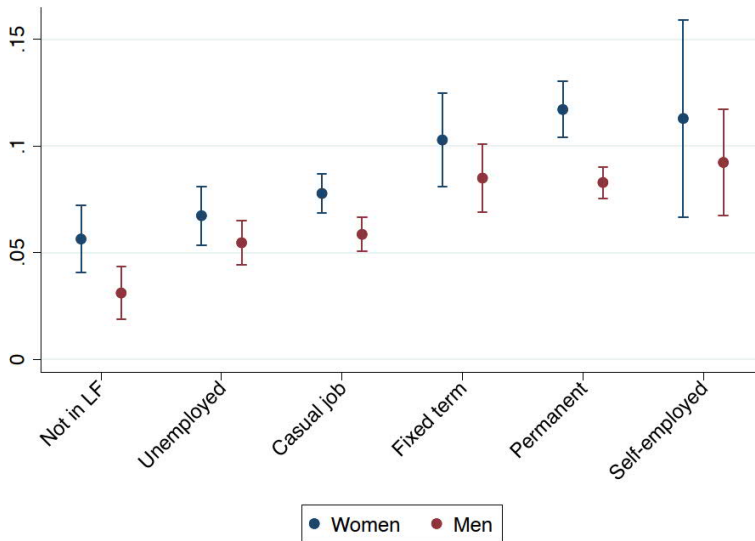
b) Male respondents	Current employment condition	
	Unemployed/Outside Labor Force	Employed
Satisfaction of job security (t-1)		
Low satisfied (0-7)	18.34	81.66
High satisfied (8-10)	11.53	88.47
Percent chance of losing a job (t-1)		
No chance of losing job (0%)	11.20	88.80
1-50% chance of losing job	11.91	88.09
More than 50% chance of losing job	19.09	80.91
Percent chance of finding a job (t-1)		
Heavily Discouraged (0-10%)	62.63	37.37
Discouraged (11-50%)	55.52	44.48
Optimistic (51-80%)	46.10	53.90
Very optimistic (80%+)	32.39	67.61
Employment condition (t-1)		
Casual basis	16.18	83.82
Fixed terms	10.43	89.57
Permanent	7.79	92.21
Self-employed	15.44	84.56
Not employed	44.05	55.95

Note: The question regarding percent chance of finding a job was asked to those currently unemployed and active in the labor market. The questions on chance of losing employment and job security satisfaction were asked to those currently working.

8.2 Objective employment uncertainty

The first model specification considers the link between objective measures of uncertainty (i.e., the employment position and type of contract) and the likelihood of union formation. Figure 1 depicts the predicted probabilities of objective labor market positioning on union formation (AMEs are available in Table A-1). As hypothesized in Hp1.a, the higher the level of objective uncertainty, the lower the chance of union formation. Unemployment and being outside the labor force are associated with lower chances of entering a first union for both men and women. In particular, among those outside the labor force, the predicted probability of entering into a first union is 5.6% among men and 3.1% for women, compared with 12% and 8.3%, respectively, for workers with a permanent position.

Figure 1: Probability of entering into a first union by employment condition. Predicted probabilities



Note. Not in LF stands for "Not in Labor Force." Results refer to Model 1. 95% CI are reported. Model controlling for origin, age (quadratic form), parity, level of education, occupational level, and parental background. Results for the full model in terms of AMEs are available in Table A-1.

The type of nonstandard employment is also relevant: the negative association between individuals in temporary (casual) jobs and union formation is especially notable. The difference in the probability of first union among casual and fixed-term workers is approximately three points and is statistically significant for both genders (8.5% among fixed-term male workers versus 5.9% among casual workers, and 10.3% versus 7.8%, respectively, among women). We found no statistically significant differences in the chances of entering a first union between permanent workers and those with fixed-term contracts – a highly substantial finding. Moreover, it supports hypothesis Hp1.b as it evidences the importance of recognizing that there is no simple dichotomy between holding a permanent position or not. The two types of contingent contracts (casual and fixed-term) are indeed different. Casual employees have no right to paid leave and tend to work more hours. Conversely, fixed-term workers have similar employment protection as permanent workers and have the right to ask for a permanent position after a certain number of years of fixed-term employment with the same employer. We observed similar behavior amongst

self-employed workers and those with permanent contracts, as well as noting no statistically significant differences between unemployment and casual contracts.

The effects of the control covariates accord with previous studies (e.g., Evans 2015), thereby providing us with an indirect validation of the statistical model itself. Age has a positive and nonlinear effect on the probability of starting a first union. Being native, more highly educated, and having highly skilled jobs (ISCO codes 1, 2, and 3) facilitate entry into a first union. Similarly, having a child encourages union formation. The full results for the multivariate model can be found in the Appendix.

8.3 Subjective employment uncertainty: Satisfaction with job security

In support of Hp2.a, employment conditions remain strongly associated with the chances of union formation after controlling for the level of satisfaction regarding one's current job security (see Appendix Table A-1 – Model 2). On the other hand, satisfaction with job security seems unassociated with the transition into first union for both genders. Consequently, Hp.2b is unsupported regarding the role of employment security.

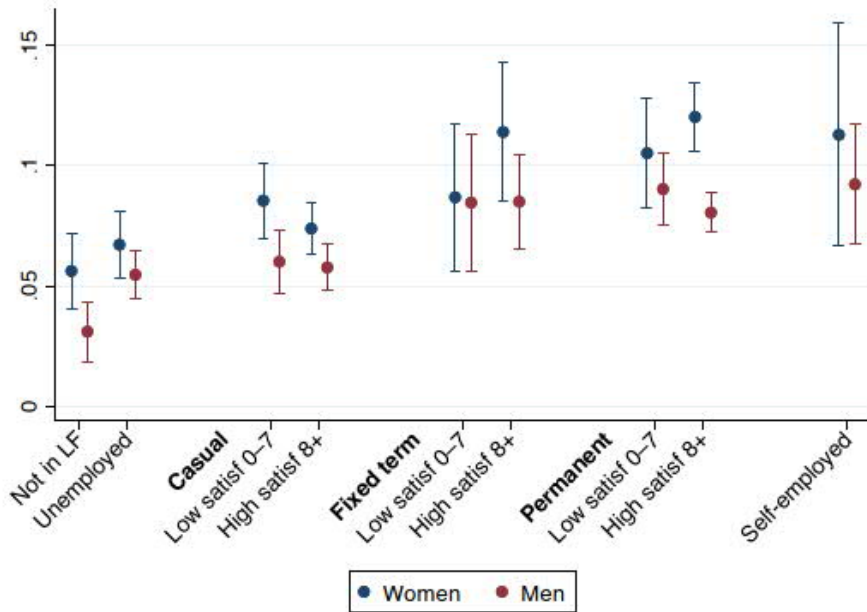
However, the role of subjective appraisals of job security appears important when combined with the employment condition among women, although the estimates were not always statistically significant at the conventional 5% level (see Appendix Table A-1 – Model 3 for complete results). Women in permanent positions with low levels of job security (score below 8) postpone entering into a first union (AME of -0.012) as compared to their counterparts with highly secure permanent positions – a finding which supports Hp3.a. In terms of predicted probabilities, the chances of first union formation decline from 12% to 10.5% (Figure 2). Consistent with the results discussed above – i.e., workers with fixed-term or permanent positions have similar chances of union formation – having a fixed-term job that is considered secure (job security satisfaction 8 or above) is not, statistically speaking, different from holding a permanent position. When the fixed-term position is instead considered insecure (below 8), the probability of union formation declines from 11.4% to 8.7%, thereby supporting Hp3.b. The subjective appraisals of job security are therefore relevant for union formation among these nonpermanent workers.

Among female workers facing relatively high objective uncertainty (i.e., those with casual contracts), the chance of union formation seems to increase when uncertainty rises (the probability rose from 7.4% among highly satisfied casual workers to 8.6% among less satisfied ones), even if said difference is not statistically significant (p-value of equality constraint test of 0.20). Although statistically imprecise, these results seem to support hypothesis Hp3.c in relation to the

uncertainty reduction narrative (Friedman et al. 1994). This narrative states that, in times of high uncertainty regarding one’s career path, individuals may instead seek “certainty” in family formation.

Among men, we observed no statistically significant differences according to the level of job satisfaction when comparing those with the same contract type. Hypotheses Hp3.a/b are thus unsupported for men when we examined the role of job security as a marker of subjective uncertainty.

Figure 2: Probability of entering into a first union by objective employment uncertainty and perceived satisfaction of job security. Predicted probabilities



Note. Not in LF stands for “Not in Labor Force.” Low satisf stands for “low satisfied of job security.” High satisf stands for “high satisfied of job security.” Results from Model 3 controlling for origin, age (quadratic form), parity, level of education, occupational level, and parental background. Results for the full model are available in the Appendix.

8.4 Subjective employment uncertainty: Expectations of losing one's job

The relevance of employment conditions holds after controlling for the expectation of job loss, included as a forward-looking measure of uncertainty (see Table A-2 – Model 2). This supports hypothesis Hp2.a. The estimations of perceived uncertainty on union formation *per se* only partly support Hp2.b, and rather suggest the presence of a nonlinear relationship with a U-shaped pattern despite the differences in the estimated associations being rather small. With respect to someone with a 0% expectation of losing their job, having a medium level of uncertainty (less than 50% chance of becoming unemployed) is associated with the postponement of union formation (AME of approximately -0.01 in Model 2 for both genders). Conversely, those with high expectations of job loss do not statistically differ in entering a first union than those with no chance of losing their job. Simply put, once the expectation of finding employment becomes increasingly unfavorable, unions are postponed. However, after a certain level (50% in our case), this negative association disappears (AME tends toward 0).

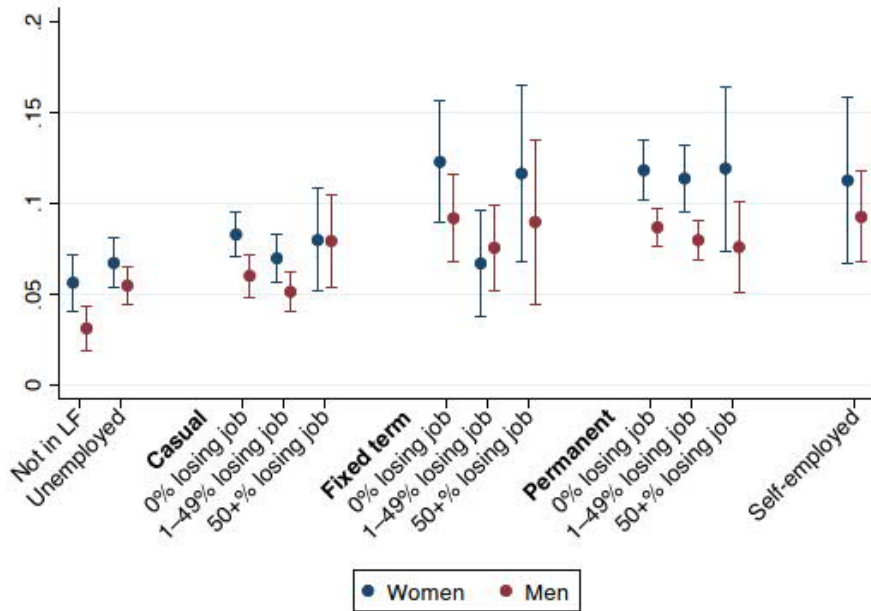
Model 3 examines both objective and perceived uncertainties with an interaction term (see Table A-2 for complete results) in order to investigate the importance of forward-looking subjective appraisals of uncertainty for union formation across different employment conditions.¹⁵ The predicted probabilities (shown in Figure 3) seem to suggest a non-monotonic association between perceived uncertainty and entry into a first union for both casual and fixed-term workers of both genders. However, it should be noted that the estimates are not always statistically significant at the conventional 5% level.

Among fixed-term female workers, the probability of union formation varies by 5 points across levels of subjective uncertainty. For those with a 0% expectation of job loss, the predicted probability of union formation is 12.3%. This figure declined to 6.7% for mid-level uncertainty (i.e., 1%–49% perceived chance of job loss) and rose to 11.7% for high-level uncertainty (i.e., over 50%). Such differences across uncertainty levels were also statistically significant at 5% (p-value of 0.018) contrasting low and medium levels of uncertainty, and at 10% (p-value of 0.07) contrasting medium and high job uncertainty. We observed a similar pattern – although with lower predicted probabilities and no statistically significant differences – among female casual workers: the predicted probability of union formation declined from 8.3% among those with low uncertainty, to 7.0% for mid-level uncertainty, and

¹⁵ Pooling the data, the interaction terms with relatively few cases (i.e., less than 2% of data points) refer to women with fixed-term contracts or permanent positions with high perceived chances of job loss (1.17% and 1.59%, respectively), and men with fixed-term jobs with high chances of losing their jobs (0.9%). This may well explain the relatively larger confidence intervals estimated.

rose to 8.0% among those with high levels of uncertainty. These results support both hypotheses Hp3.b and Hp3.c, which proposed an increasing chance of union formation for females in case of, respectively, either very low or very high subjective uncertainty added to preexisting objective uncertainty.

Figure 3: Probability of entering into first union by expectations of job loss and objective employment uncertainty. Predicted probabilities



Note. Perceived chances of losing job. Not in LF stands for “Not in Labor Force”. Results from Model 3. Model controlling for origin, age (quadratic form), parity, level of education, occupational level, and parental background. Results for the full model are available in the Appendix.

Among casual male workers, we observed a decline in the probability of entering into a first union from 6% (for those with no chance of job loss) to 5.1% (mid-chance), and then an increase to 7.9% (high chance). The difference in probability between medium and high levels of uncertainty was also statistically significant (p-value of the equality constraint test equal to 0.029). These results support hypothesis Hp3.b, which posited an increasing chance of union formation under low subjective uncertainty while facing a certain degree of objective uncertainty. That said, they also contradict our gender hypothesis Hp3.c, namely that only among women would there

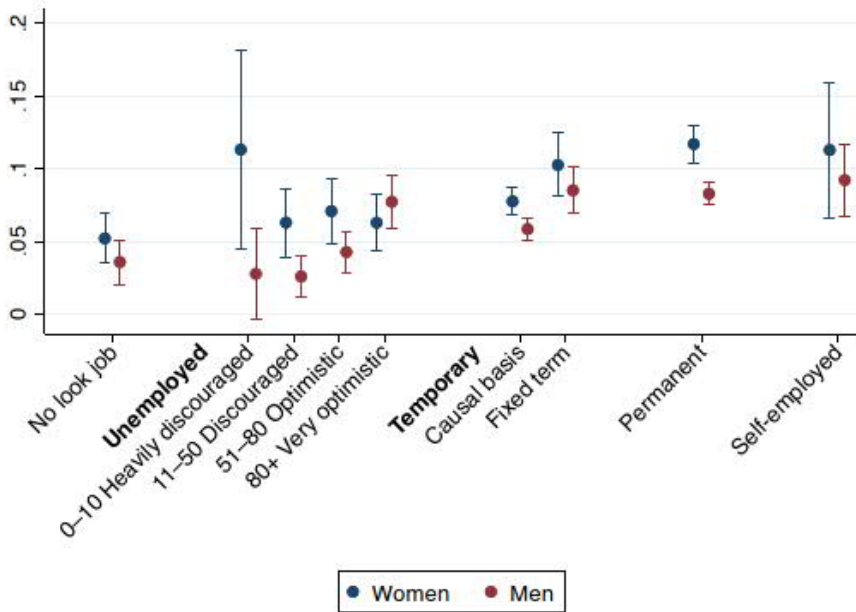
be an increasing chance of union formation in case of high objective and subjective uncertainty. This finding among men deserves future investigation with larger datasets. As it stands, we cannot here discard the possibility that this trend is due to the relatively small-scale sample.

As before, we observed no statistically significant differences by levels of perceived uncertainty among fixed-term and permanent male workers, although the non-monotonic pattern observed above seems to emerge for both genders.

8.5 Subjective employment uncertainty: Expectations of finding a job

Unemployment status is negatively associated with the probability of union formation. That said, the perceived chances of reemployment are important within this group (see Figure 4 for predicted probabilities or Table A-3 for the full AME results). Figure 4 clearly illustrates that reducing negative expectations about the future (i.e., increasing the perceived chances of finding employment) also reduces unemployment's negative impacts. This trend was particularly evident among men. Indeed, the probability of union formation increased from approximately 2.7% among (heavily) discouraged unemployed workers, to 5.3% among those somewhat optimistic of finding a job in the following year, to 7.7% among the highly optimistic. As such, these findings provide clear support for Hp3.b. Among those with high levels of both subjective and objective uncertainty – in our case the highly discouraged unemployed – we noted a relatively higher chance of union formation among women. However, the corresponding confidence interval was relatively large, thereby making the estimation imprecise possibly due to high levels of heterogeneity within this relatively small (in our sample at least) group. Regardless, this result partially supports the notion that there is a tendency towards family formation among women in cases of high uncertainty (Hp.3.c).

Figure 4: Probability of entering into a first union by expectation of finding a job and employment status. Predicted probabilities



Note: "No look job" stands for "Not looking for a job." Results from Model 3. Model controlling for origin, age (quadratic form), parity, level of education, occupational level, and parental background. Results for the full model are available in the Appendix.

8.6 The role of income

As discussed in the background section, the nexus between employment uncertainty and demographic behavior may not only stem from the fear of an uncertain future, but also from a lack of income. We did not include income in the main model specification as we believed this would have masked the direct effect of objective and subjective uncertainty on union formation (i.e., the effects we are most interested in). Nonetheless, we reran Model 3 to include the level of disposable personal income from any source as a mediator (in quartiles; see Tables A-4–A-7). This stepwise approach has been recommended by recent studies of the nexus between employment stability and family formation (e.g., van Wijk, de Valk, and Leifbroer 2021), and highlighted in a meta-analysis summarizing European research findings in the realm of fertility research (Alderotti et al. 2021). Among women, we observed a reduction

in AME among those outside the labor force (from -0.064 to -0.047) and the unemployed (from -0.049 to -0.033). Similarly, among men, the availability of economic resources reduces unemployment's negative estimations: the AMEs for those outside the labor force fell from -0.067 to -0.050 , and the negative impacts of unemployment decreased from -0.029 to -0.012 , thereby becoming not statistically significant. We also observed a slight reduction among casually employed men (from -0.024 to -0.016). Regarding subjective measures, the patterns described above remained similar when accounting for income levels.

9. Robustness checks

The results remained substantively unchanged after running several robustness checks (available upon request). We reran the analysis to include individuals up to the age of 50. Rather than only considering the condition from the previous wave, we further included the employment uncertainty from two previous years ($t-1$ and $t-2$). We also included those in education during the entire observational period in our analytical sample (449). Despite these additions, our findings remained unchanged.

This study considers three different subjective measures of uncertainty. In order to maintain the same analytical sample over the different specifications, we included only the cases (or waves) in which the information on all key measures was available. We reran the model without imposing this constraint either by using a different sample for each model or by imputing the missing values. Once again, there was no change to our results. We also separately ran the models on the employed or unemployed. While the models were not fully comparable with those presented here, the direction of the effects did not change. Moreover, we tested different cut-off points for the subjective measures of uncertainty. For example, we recoded the chance of finding a job as 0–20, 21–40, 41–60, 61–80, 81% and above. We further differentiated between those satisfied with their level of job security into two categories: medium satisfied (5–7) and highly satisfied (8+). Alternatively, while keeping two categories, we changed the cut-off point to 5. We also split perception of job loss into six categories instead of three: no chance, 1–20%, 21–40%, 41–60%, 61–80%, 81% and above. Again, the results remained unchanged. We also tested the potential cohort effects in the propensity of union formation, including the cohort as a moderator, and yet the key variables of interest did not change. The low number of cases prevented a triple interaction between objective and subjective markers of uncertainty and cohorts. A different propensity toward risk could also have driven different reactions to uncertainty. In the HILDA survey, a risk-aversion measure is available for only one wave (wave 14). We reran Model 3 with a focus only on those who reported such

information, and compared the model with and without risk aversion. We found no statistically significant effects. Nevertheless, the role of person-specific predispositions would be worth further investigation.

Furthermore, we performed an analysis of participants who withdrew from the survey to check for potential attrition bias. We found that the main determinants behind withdrawal were inactivity and not having children. Since our model specifications already controlled for this, we can be reasonably confident about the validity of our estimates.

As an analytical approach, we used a discrete-time event history analysis, which is equivalent to a logit random effect model. As an alternative model specification, we tested a fixed effect (FE) model. Since an FE logit model would have been estimated only on those who entered into a union (i.e., only cases with a within-individual change in the outcome variable), we ran an FE model with a linear specification as a sensitivity analysis. The results were mostly unchanged in terms of the direction of the effects, with just a slightly reduction in the estimated coefficients.

A final issue requires clarification. Entering into either a legal marriage or a de facto relationship could be considered two competing events since the former might imply a stronger commitment than the latter (Baxter, Hewitt, and Rose 2015). However, both within our sample and elsewhere (e.g., Perelli-Harris et al. 2014; Evans 2015), entry into a de facto union is often a first step toward marriage. In several cases, the transition from single to de facto is followed (in a relatively short amount of time) by the transition to marriage. Since the two events appear not to compete with one another, and as both sets of couples have the same legal rights, we decided to refer to both as a (first) union formation event. Nevertheless, for robustness checks, we opted to run both a competing risk model for the two union types, and to consider only legal marriage as entry into a first union. The results showed no specific pattern suggesting different attitudes towards legal marriage and de facto unions. Moreover, since our data showed that legal marriage often followed a de facto relationship (i.e., we saw few cases in which the first union was directly a legal marriage), we considered beginning both to be entry into first union so as to have more robust estimates in our empirical strategy.

10. Conclusions

The present study is one of the first attempts to examine the effects of individual uncertainty on family formation in a dynamic and prospective manner. We have used detailed information on (un)employment states (or, markers of objective uncertainty), along with job security and personal future employment expectations (or, markers of

subjective uncertainty). This enabled us to open the black box, as it were, of the heterogeneous effects of employment uncertainty on union formation behavior in Australia. Several insights emerged in response to our research questions.

Our first key finding was that, among those experiencing objective career uncertainty, union formation is typically postponed by temporary (casual) jobs and unemployment. This could be due to an inability to predict the nature and quality of life while living with a partner in a *de facto* relationship or marriage, and whether he/she would be able to sufficiently contribute to it financially. In other words, those with better economic prospects are, as expected, facilitated in the process of union formation. We also found that nonstandard employment workers should not be seen as a unique group of workers – at least in Australia – and that there is no simple dichotomy between having a permanent contract or not. The results clearly show that those with nonstandard employment, but with a relatively low level of uncertainty due to the structure of the labor market and the welfare system (i.e., fixed-term workers), display similar family formation behaviors to those with permanent contracts.

Our results suggest another key finding: subjective measures of uncertainty, especially forward-looking measures that acknowledge the prospective character of uncertainty, matter across the different employment conditions. Those facing objective states of employment uncertainty should not be regarded as a monolith; rather, we observed selection into union according to the level of individual uncertainty faced. In situations of potential uncertainty, such as having a fixed-term contract, change occurs according to the subjective appraisals of uncertainty. For example, we found evidence of a significant delay in union formation among fixed-term female workers with a degree of fear regarding job losses with respect to those who have no expectations of job losses. On the other hand, when individuals face some objective employment uncertainty, but still expect their employment conditions to improve, such as by either exiting unemployment or retaining their jobs, union formation is not necessarily postponed.

Conversely, those with relatively high levels of uncertainty tend to invest their resources in family formation – a trend particularly visible among women. Our empirical results highlight this while considering the relatively higher probability of union formation among unemployed women with no expectations of finding a job in the next 12 months – a condition resulting in a type of “double disadvantage.” Similarly, we observed an increasing chance of union formation among female workers with nonstandard contracts who are simultaneously dissatisfied with their job security, as compared to their more satisfied counterparts. These results seem to align with an uncertainty reduction narrative (Friedman, Hecthter, and Kanazawa 1994), according to which some women have a tendency to ‘focus’ primarily on family life

if employment uncertainty reaches too high a level (see also McDonald 2000). The effects we observed among men seem to favor an interpretation of family formation in which the male plays the role of the breadwinner. What seems to matter most among men is having a job to support the family. For instance, among the unemployed, there is an increasing probability of union formation if the respondent perceives a greater chance of finding employment in the following 12 months. Among the employed, by contrast, increasing the chances of losing one's job reduces the chances of union formation.

In a nutshell, we advance that in Australia entry into a union (legal marriage or *de facto* relationship) is a step more likely taken by those with strong economic prospects, or an option envisaged by those with very poor employment prospects as a sign of stability in an otherwise insecure life situation. This nonlinear path dependency between union formation and employment uncertainty is suggestive and presents an interesting position from which to understand the nexus between economic uncertainty and family formation.

Our study is not without limitations. First, despite the fact that subjective evaluations were backdated by one year, perceptions of uncertainty might still be endogenous with respect to the probability of union formation. A person in a stable relationship – a condition that may well accelerate the likelihood of starting a union – could well underestimate their level of labor market uncertainty. Vice-versa, those in either an unstable or no relationship (or those “uncertain” of their family life) may tend to project their unfavorable life circumstances by overestimate their uncertainty onto the labor market. Random effects panel models only partly account for time-constant unobserved heterogeneity. Selection issues may have been present due to such latent traits as personality or risk propensity, which may have been associated with ‘success’ in both the marriage and labor markets. Similarly, the selection into part-time jobs might affect the nexus between uncertainty and demographic behavior, which itself would be worth a separate investigation. While examining the interplay between part-time jobs and employment uncertainty would go beyond the scope of this paper, we believe that a deeper understanding of the role of part-time work may provide further insights into our knowledge of family decision-making under conditions of uncertainty, especially from a gender perspective (Laß 2020). Second, due to the small-scale sample size, we could not further distinguish workers by, for instance, the respective prestige of their job roles. However, we would expect that, among the heterogeneous group of temporary workers, those with highly skilled and top-level professions may be more materially and immaterially wealthy, thereby increasing their desirability in the union market. In any event, our multivariate model controlled for education level and the ISCO classification of current/recent jobs as a proxy for skills levels. Finally, the effect sizes we observed were relatively small and,

in some cases, not statistically significant. Again, this could be ascribed to the sample size and the length of the observational period.

Notwithstanding these limitations, our study advances the importance of considering not only structural and objective employment conditions, but also how perceptions of job security and different future employment-related expectations influence union formation. In sociological and demographic studies, ‘economic uncertainty’ remains an elusive and highly debated notion, often operationalized by unfavorable labor market conditions. In economics, it is defined as the inability to assign probabilities to the outcomes that influence one’s own economic situation (Beckert 1996; Knight 1921), resulting in unreliable predictions of future economic prospects (Bloom 2014). Yet the need to make decisions for the future remains, regardless of whether uncertainty hinders this process (Beckert and Bronk 2018). Our results suggest that narratives of the future (Vignoli et al 2020a, 2020b) – here proxied by employment expectations – play an important role in union formation. We therefore conclude that the sole use of objective measures provides only a partial, and possibly inaccurate, perspective. The specter of the future appears central to union formation behavior, at least in Australia. The use of prospective measures of uncertainty thus offers a promising path of inquiry for the study of family life courses in the era of uncertainty.

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those of the authors and should not be attributed to either DSS or the Melbourne Institute.

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Appendix

Table A-1: Probability of entering a first union. Subjective measure: Satisfaction of job security. Average marginal effects. Stratified by gender

VARIABLES	Men			Women		
	(1) Objective condition – Type of contract	(2) Subjective measure – Satisfaction job security	(3) Type of contract and subjective measure	(1) Objective condition – Type of contract	(2) Subjective measure – Satisfaction job security	(3) Type of contract and subjective measure
Type of contract (t-1)						
Ref. Permanent						
Not in labor force	-0.067*** (0.014)	-0.065*** (0.014)		-0.064*** (0.013)	-0.065*** (0.013)	
Unemployed	-0.029*** (0.007)	-0.028*** (0.008)		-0.049*** (0.010)	-0.049*** (0.010)	
Casual basis	-0.024*** (0.006)	-0.025*** (0.006)		-0.037*** (0.007)	-0.036*** (0.007)	
Fixed-term	0.002 (0.007)	0.001 (0.008)		-0.012 (0.010)	-0.011 (0.010)	
Self-employed	0.008 (0.010)	0.009 (0.010)		-0.003 (0.019)	-0.004 (0.019)	
Satisfaction of job security (t-1)						
Ref. High satisfaction (8+)						
Low satisfied (0–7)		0.006 (0.006)			-0.002 (0.007)	
Type of contract and satisfaction job security (t-1)						
Ref. Permanent position and high satisfaction						
Not in labor force			-0.065*** (0.014)			-0.067*** (0.013)
Unemployed			-0.027*** (0.008)			-0.052*** (0.010)
Self-employed			0.01 (0.010)			-0.006 (0.019)
Casual: Low satisfied (0–7)			-0.020** (0.009)			-0.031*** (0.009)
Casual: High satisfied (8+)			-0.023*** (0.007)			-0.043*** (0.008)
Fixed-term: Low satisfied (0–7)			0.004 (0.013)			-0.029* (0.016)
Fixed-term: High satisfied (8+)			0.004 (0.009)			-0.005 (0.013)
Permanent: Low satisfied (0–7)			0.008 (0.007)			-0.012 (0.011)
DEMOGRAPHICS						
Age	0.044*** (0.006)	0.044*** (0.006)	0.044*** (0.006)	0.056*** (0.008)	0.056*** (0.008)	0.056*** (0.008)
Age squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Origin	0.023*** (0.008)	0.023*** (0.008)	0.024*** (0.008)	0.016 (0.010)	0.016 (0.010)	0.016 (0.010)

Table A-1: (Continued)

VARIABLES	Men			Women		
	(1) Objective condition – Type of contract	(2) Subjective measure – Satisfaction job security	(3) Type of contract and subjective measure	(1) Objective condition – Type of contract	(2) Subjective measure – Satisfaction job security	(3) Type of contract and subjective measure
Parity						
Ref. no child						
1 child	0.277*** (0.040)	0.277*** (0.040)	0.277*** (0.040)	0.103*** (0.026)	0.103*** (0.026)	0.102*** (0.026)
2 or more children	0.050 (0.055)	0.050 (0.055)	0.050 (0.055)	0.049 (0.032)	0.049 (0.032)	0.049 (0.032)
Level of education						
Ref. Compulsory or below						
Diploma	0.009 (0.006)	0.009 (0.006)	0.009 (0.006)	0.024*** (0.007)	0.024*** (0.007)	0.023*** (0.007)
Bachelor or above	0.022*** (0.007)	0.021*** (0.007)	0.021*** (0.007)	0.017** (0.008)	0.017** (0.008)	0.017** (0.008)
Current or most recent job skill level						
Ref. High-skilled white collar						
Low skilled blue collar	-0.021*** (0.007)	-0.021*** (0.007)	-0.021*** (0.007)	-0.010 (0.012)	-0.009 (0.012)	-0.010 (0.012)
High-skilled blue collar	-0.008 (0.007)	(0.008)	-0.008 (0.007)	-0.045 (0.028)	-0.045 (0.028)	-0.046 (0.028)
Low-skilled white collar	-0.017*** (0.006)	-0.017*** (0.006)	-0.017*** (0.006)	-0.017** (0.007)	-0.017** (0.007)	-0.016** (0.007)
Parental background. Job skill level						
Ref. High-skilled white collar						
Low-skilled blue collar	0.022** (0.008)	0.022** (0.008)	0.022** (0.008)	0.021** (0.011)	0.021** (0.011)	0.021** (0.011)
High-skilled blue collar	0.015* (0.008)	0.015* (0.008)	0.015* (0.008)	0.041*** (0.011)	0.041*** (0.011)	0.040*** (0.011)
Low-skilled white collar	0.007 (0.006)	0.007 (0.006)	0.007 (0.006)	0.017** (0.007)	0.017** (0.007)	0.017** (0.007)
No info	0.014 (0.009)	0.014 (0.009)	0.014 (0.009)	-0.004 (0.014)	-0.004 (0.014)	-0.005 (0.014)
Number of individuals	3,128	3,128	3,128	2,727	2,727	2,727
Number of 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: Origin: born in Australia or New Zealand. Low-skilled blue collar: ISCO code 8 and 9; High-skilled blue collar: ISCO codes 6 and 7; Low-skilled white collar: ISCO codes 4 and 5.

Table A-2: Probability of entering a first union. Subjective Measure: Chance of losing a job. Average marginal effects. Stratified by gender

VARIABLES	Men			Women		
	(1)	(2)	(3)	(1)	(2)	(3)
	Objective condition – Type of contract	Subjective measure – Chance of losing a job	Type of contract * subjective measure	Objective condition – Type of contract	Subjective measure – Chance of losing job	Type of contract * subjective measure
Type of contract (t-1)						
Ref. Permanent						
Not in labor force	-0.067*** (0.014)	-0.070*** (0.014)		-0.064*** (0.013)	-0.069*** (0.013)	
Unemployed	-0.029*** (0.007)	-0.032*** (0.008)		-0.049*** (0.010)	-0.053*** (0.010)	
Casual basis	-0.024*** (0.006)	-0.024*** (0.006)		-0.037*** (0.007)	-0.036*** (0.007)	
Fixed-term	0.002 (0.007)	0.001 (0.008)		-0.012 (0.010)	-0.012 (0.010)	
Self-employed	0.008 (0.010)	0.005 (0.010)		-0.003 (0.019)	-0.008 (0.019)	
Chance of losing job if employed (t-1)						
Ref: No chance (0%) of losing job						
Low chances (1–49%)		-0.008* (0.005)			-0.012** (0.006)	
High chances (50%+)		0.003 (0.009)			0.001 (0.011)	
Type of contract and chance of losing job (t-1)						
Ref: Permanent position and 0% chance of losing job						
Not in labor force			-0.070*** (0.014)			-0.065*** (0.013)
Unemployed			-0.032*** (0.008)			-0.050*** (0.011)
Self-employed			0.005 (0.011)			-0.004 (0.020)
Casual: 0% chance of losing job			-0.026*** (0.008)			-0.032*** (0.009)
Casual: 1–49% chance of losing job			-0.037*** (0.009)			-0.047*** (0.010)
Casual: 50%+ chance of losing job			-0.006 (0.013)			-0.035** (0.017)
Fixed-term: 0% chance of losing job			0.004 (0.011)			0.004 (0.014)
Fixed-term: 1–49% chance of losing job			-0.010 (0.012)			-0.050** (0.020)
Fixed-term: 50%+ chance of losing job			0.002 (0.019)			-0.001 (0.020)
Permanent: 1–49% chance of losing job			-0.006 (0.006)			-0.004 (0.009)
Permanent: 50%+ chance of losing job			-0.010 (0.012)			0.001 (0.018)

Table A-2: (Continued)

VARIABLES	Men			Women		
	(1)	(2)	(3)	(1)	(2)	(3)
	Objective condition – Type of contract	Subjective measure – Chance of losing a job	Type of contract * subjective measure	Objective condition – Type of contract	Subjective measure – Chance of losing job	Type of contract * subjective measure
DEMOGRAPHICS						
Age	0.044*** (0.006)	0.044*** (0.006)	0.044*** (0.006)	0.056*** (0.008)	0.056*** (0.008)	0.056*** (0.008)
Age squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Origin	0.023** (0.008)	0.023*** (0.008)	0.023** (0.008)	0.016 (0.010)	0.016 (0.010)	0.016 (0.010)
Parity (Ref. No child)						
1 child	0.277*** (0.04)	0.276*** (0.040)	0.278*** (0.04)	0.103*** (0.026)	0.103*** (0.026)	0.102*** (0.026)
2 or more children	0.050 (0.055)	0.048 (0.054)	0.05 (0.055)	0.049 (0.032)	0.047 (0.032)	0.047 (0.032)
Level of education						
Ref. Compulsory or below						
Diploma	0.009 (0.006)	0.009 (0.006)	0.009 (0.006)	0.024*** (0.007)	0.024*** (0.007)	0.024*** (0.007)
Bachelor or above	0.022*** (0.007)	0.022*** (0.007)	0.022*** (0.007)	0.017** (0.008)	0.018** (0.008)	0.018** (0.008)
Current or most recent job skill level						
Ref. High-skilled white collar						
Low-skilled blue collar	-0.021*** (0.007)	-0.021*** (0.007)	-0.021*** (0.007)	-0.010 (0.012)	-0.009 (0.012)	-0.008 (0.012)
High-skilled blue collar	-0.008 (0.007)	-0.008 (0.007)	-0.009 (0.007)	-0.045 (0.028)	-0.045 (0.028)	-0.045 (0.028)
Low-skilled white collar	-0.017*** (0.006)	-0.017*** (0.006)	-0.017*** (0.006)	-0.017** (0.007)	-0.016** (0.007)	-0.016** (0.007)
Parental background. Job skill level						
Ref. High-skilled white collar						
Low-skilled blue collar	0.022** (0.008)	0.021** (0.008)	0.021** (0.008)	0.021** (0.011)	0.021* (0.011)	0.021* (0.011)
High-skilled blue collar	0.015* (0.008)	0.015* (0.008)	0.015* (0.008)	0.041*** (0.011)	0.039*** (0.011)	0.040*** (0.011)
Low-skilled white collar	0.007 (0.006)	0.007 (0.006)	0.007 (0.006)	0.017** (0.007)	0.017** (0.007)	0.017** (0.007)
No info	0.014 (0.009)	0.013 (0.009)	0.013 (0.009)	-0.004 (0.014)	-0.005 (0.014)	-0.005 (0.014)
Number of individuals	3,128	3,128	3,128	2,727	2,727	2,727
Number of 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: Origin: born in Australia or New Zealand. Low-skilled blue collar: ISCO code 8 and 9; High-skilled blue collar: ISCO codes 6 and 7; Low-skilled white collar: ISCO codes 4 and 5.

**Table A-3: Probability of entering a first union. Subjective measure:
Probability of finding a job. Average marginal effects.
Stratified by gender**

VARIABLES	Men		Women	
	(1) Objective condition – Type of contract	(2–3) Type of contract – Subjective measure	(1) Objective condition – Type of contract	(2–3) Type of contract – Subjective measure
Type of contract (t-1)				
Ref. Permanent				
Not in labor force	-0.067*** (0.014)		-0.064*** (0.013)	
Unemployed	-0.029*** (0.007)		-0.049*** (0.010)	
Casual basis	-0.024*** (0.006)		-0.037*** (0.007)	
Fixed-term	0.002 (0.007)		-0.012 (0.010)	
Self-employed	0.008 (0.010)		-0.003 (0.019)	
Type of contract and perception of chances of finding a job if unemployed (t-1)				
Ref: Very optimistic of finding a job (more than 80%)				
Not working, not looking for a job		-0.052*** (0.018)		-0.016 (0.019)
Heavily discouraged (0–10%)		-0.069* (0.040)		0.052* (0.031)
Discouraged (11–50%)		-0.074*** (0.022)		0.000 (0.021)
Optimistic (51–80%)		-0.041*** (0.015)		0.010 (0.019)
Casual basis		-0.019* (0.010)		0.018 (0.014)
Fixed-term		0.007 (0.011)		0.043*** (0.016)
Permanent		0.005 (0.009)		0.055*** (0.014)
Self-employed		0.013 (0.013)		0.051** (0.023)
DEMOGRAPHICS				
Age	0.044*** (0.006)	0.044*** (0.008)	0.056*** (0.008)	0.056*** (0.008)
Age squared	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)	-0.001*** (0.000)
Origin (Born in Australia or New Zealand)	0.023*** (0.008)	0.023*** (0.008)	0.016 (0.010)	0.016 (0.010)
Parity (Ref. no child)				
1 child	0.277*** (0.040)	0.287*** (0.041)	0.103*** (0.026)	0.102*** (0.026)
2 or more children	0.050 (0.055)	0.047 (0.054)	0.049 (0.032)	0.046 (0.032)

Table A-3: (Continued)

VARIABLES	Men		Women	
	(1) Objective condition – Type of contract	(2–3) Type of contract – Subjective measure	(1) Objective condition – Type of contract	(2–3) Type of contract – Subjective measure
Level of education				
Ref. Compulsory or below				
Diploma	0.009 (0.006)	0.008 (0.006)	0.024*** (0.007)	0.024*** (0.007)
Bachelor or above	0.022*** (0.007)	0.020*** (0.007)	0.017** (0.008)	0.018** (0.008)
Current or most recent job skill level				
Ref. High Skilled white collar				
Low-skilled blue collar	-0.021*** (0.007)	-0.020*** (0.007)	-0.010 (0.012)	-0.011 (0.012)
High-skilled blue collar	-0.008 (0.007)	-0.008 (0.007)	-0.045 (0.028)	-0.045 (0.028)
Low-skilled white collar	-0.017*** (0.006)	-0.017** (0.007)	-0.017** (0.007)	-0.017** (0.007)
Parental background. Job skill level				
Ref. High skilled white collar				
Parents. Low-skilled blue collar	0.022** (0.008)	0.024*** (0.009)	0.021** (0.011)	0.022** (0.011)
Parents. High-skilled blue collar	0.015* (0.008)	0.016* (0.008)	0.041*** (0.011)	0.041*** (0.011)
Parents. Low-skilled white collar	0.007 (0.006)	0.007 (0.006)	0.017** (0.007)	0.017** (0.007)
Parents. No info	0.014 (0.009)	0.014 (0.009)	-0.004 (0.014)	-0.005 (0.014)
Number of individuals	3,128	3,128	2,727	2,727
Number of observations	13,520	13,520	11,255	11,255

Standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

Note: Because the subjective measure is reported only for those unemployed, Model 2 and Model 3 are equivalent, since the question about perceived chances of finding a job has been asked to only those who are unemployed and looking for job. So an interaction term between this variable and type of contract is equivalent to include the subjective measure while controlling for type of contract. For readability purposes we report only one set of coefficients.

Table A-4: Probability of entering a first union including personal income. Average marginal effects. Stratified by gender

	Women		Men	
	Model 3	With income	Model 3	with income
Type of contract				
Reference: Permanent position				
Not in Labor Force	-0.064*** (0.013)	-0.047*** (0.013)	-0.067*** (0.014)	-0.050*** (0.015)
Unemployed	-0.049*** (0.010)	-0.033*** (0.010)	-0.029*** (0.007)	-0.012 (0.008)
Fixed term	-0.012 (0.010)	-0.010 (0.010)	0.002 (0.007)	0.003 (0.008)
Casual basis	-0.037*** (0.007)	-0.031*** (0.007)	-0.024*** (0.006)	-0.016** (0.006)
Self-employed	-0.003 (0.019)	0.005 (0.019)	0.008 (0.010)	0.015 (0.010)
Personal disposable income. (Ref. First quartile)				
Second quartile		0.034*** (0.007)		0.007 (0.007)
Third quartile		0.046*** (0.008)		0.029*** (0.008)
Fourth quartile		0.060*** (0.011)		0.045*** (0.011)
Demographics				
Number of individuals	✓ 2,727	✓ 2,727	✓ 3,128	✓ 3,128

Standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

Note: Models controlling for age, origin, level of education, parity, job skill level, parental background.

Table A-5: Probability of entering a first union. Subjective measure: Satisfaction of job security. Including personal income. Average marginal effects. Stratified by gender

	Women		Men	
	Model 3	with income	Model 3	with income
Type of contract and satisfaction of job security (Ref. Permanent and high satisfied of job security)				
Not in LF	-0.067*** (0.013)	-0.049*** (0.013)	-0.065*** (0.014)	-0.048*** (0.016)
Unemployed	-0.052*** (0.010)	-0.036*** (0.011)	-0.027*** (0.008)	-0.010 (0.008)
Self-employed	-0.006 (0.019)	0.003 (0.019)	0.010 (0.010)	0.017 (0.011)
Fixed Term: Low satisf 0-7	-0.029* (0.016)	-0.026* (0.016)	0.004 (0.013)	0.006 (0.013)
Fixed Term: High satisf 8+	-0.005 (0.013)	-0.003 (0.012)	0.004 (0.009)	0.005 (0.009)
Casual: Low satisf 0-7	-0.031*** (0.009)	-0.024** (0.010)	-0.020** (0.009)	-0.012 (0.009)
Casual: High satisf 8+	-0.043*** (0.008)	-0.038*** (0.008)	-0.023*** (0.007)	-0.014* (0.008)
Permanent: Low satisf 0-7	-0.012 (0.011)	-0.011 (0.011)	0.008 (0.007)	0.009 (0.007)
Personal disposable income. (Ref. First quartile)				
Second quartile		0.034*** (0.007)		0.007 (0.007)
Third quartile		0.046*** (0.008)		0.029*** (0.009)
Fourth quartile		0.060*** (0.011)		0.045*** (0.011)
Demographics	✓	✓	✓	✓
Number of individuals	2,727	2,727	3,128	3,128

Standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

Note: Models controlling for age, origin, level of education, parity, job skill level, parental background.

Table A-6: Probability of entering a first union. Subjective measure: Chance of losing job. Including personal income. Average marginal effects. Stratified by gender

	Women		Men	
	Model 3	with income	Model 3	with income
Type of contract and chance of losing job (Ref. Permanent position and 0% chance of losing job)				
Not in labor force	-0.065*** (0.013)	-0.048*** (0.014)	-0.070*** (0.014)	-0.053*** (0.016)
Unemployed	-0.050*** (0.011)	-0.034*** (0.011)	-0.032*** (0.008)	-0.015* (0.009)
Self Employed	-0.004 (0.020)	0.004 (0.019)	0.005 (0.011)	0.012 (0.011)
Fixed Term: 0% losing job	0.004 (0.014)	0.005 (0.014)	0.004 (0.011)	0.005 (0.011)
Fixed Term: 1–49% losing job	-0.050** (0.020)	-0.049** (0.020)	-0.010 (0.012)	-0.008 (0.012)
Fixed Term: 50+% losing job	-0.001 (0.020)	0.003 (0.020)	0.002 (0.019)	0.006 (0.019)
Casual: 0% losing job	-0.032*** (0.009)	-0.027*** (0.009)	-0.026*** (0.008)	-0.017** (0.009)
Casual: 1–49% losing job	-0.047*** (0.010)	-0.040*** (0.010)	-0.037*** (0.009)	-0.028*** (0.010)
Casual: 50+% losing job	-0.035** (0.017)	-0.030* (0.017)	-0.006 (0.013)	0.002 (0.013)
Permanent: 1–49% losing job	-0.004 (0.009)	-0.003 (0.009)	-0.006 (0.006)	-0.006 (0.006)
Permanent: 50+% losing job	0.001 (0.018)	0.002 (0.018)	-0.010 (0.012)	-0.008 (0.013)
Personal disposable income. (Ref. First quartile)				
Second quartile		0.034*** (0.007)		0.007 (0.007)
Third quartile		0.046*** (0.008)		0.029*** (0.008)
Fourth quartile		0.060*** (0.011)		0.045*** (0.011)
Demographics	✓	✓	✓	✓
Number of individuals	2,727	2,727	3,128	3,128

Standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

Note: Models controlling for age, origin, level of education, parity, job skill level, parental background.

Table A-7: Probability of entering a first union. Subjective measure: Chance of finding a job. Including personal income. Average marginal effects. Stratified by gender

	Woman		Man	
	base	with income	base	with income
Type of contract and chance of finding a job (Ref. Unemployed and very optimistic of finding job)				
No look for job	-0.016 (0.019)	-0.015 (0.019)	-0.052*** (0.018)	-0.049*** (0.018)
0-10 Heavily discourage	0.052* (0.031)	0.049 (0.031)	-0.069* (0.040)	-0.063 (0.039)
11-50 Discourage	0.000 (0.021)	0.000 (0.021)	-0.074*** (0.022)	-0.067*** (0.022)
51-80 Optimistic	0.010 (0.019)	0.013 (0.019)	-0.041*** (0.015)	-0.036** (0.015)
Fixed Term	0.043*** (0.016)	0.029* (0.016)	0.007 (0.011)	-0.005 (0.011)
Casual basis	0.018 (0.014)	0.008 (0.014)	-0.019* (0.010)	-0.024** (0.010)
Permanent	0.055*** (0.014)	0.039*** (0.014)	0.005 (0.009)	-0.008 (0.010)
Self-employed	0.051** (0.023)	0.044* (0.023)	0.013 (0.013)	0.006 (0.013)
Personal disposable income. (Ref. First quartile)				
Second quartile		0.034*** (0.007)		0.007 (0.007)
Third quartile		0.046*** (0.008)		0.028*** (0.009)
Fourth quartile		0.060*** (0.011)		0.042*** (0.011)
Demographics	✓	✓	✓	✓
Number of individuals	2,727	2,727	3,128	3,128

Standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

Note: Models controlling for age, origin, level of education, parity, job skill level, parental background.