De facto and de iure: how costly moving out makes for more stable couples.

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Motivation

- Forming and dissolving a household are some the biggest choices we are ever faced with
- They influence every aspect of our life: investments, fertility, consumption,...
- Both have changed dramatically: $\uparrow$ cohabitations, $\downarrow$ marriages, $\uparrow$ divorces
- However, the lack of relevant exogenous shocks has made applied research hard

Motivation

- Since Becker (1993) debate has been focusing on unilateral divorce
- While the diverse legislative responses of governments to the wave of cohabitations have been mostly ignored
- However, understanding cohabitation might be the key to understand more in general how the law can influence relationships
- And it can help understanding why do people get married

Question(s)

- What would happen if terminating a cohabitation was the same as getting divorced?
- In other words, what if the **exist costs** were the **same**?
- Would it affect the stability of cohabitations? and the probability for cohabitors to get married? Why?
- Would this policy affect:
  i. the **composition** (quality) of the **new** relationships? → **selection** channel
  ii. the **behaviour** of the **existing** relationships? → **incentive** channel

Theory

- No consensus has been reached on how to model marriage
- Matouscheck & Rasul (2008) models marriage as (i) commitment device, (ii) signalling device and (iii) as social benefit
- Modelling marriage as (ii) or (iii) implies that $\uparrow$ divorce cost $\Rightarrow \uparrow$ mean match quality in new couples
- Generalising to cohabitations, $\uparrow$ exit costs lead to better unions
- Union $\equiv$ cohabiting $\vee$ married $\vee$ both in part
- The predicted period-specific effects on existing couples are more ambiguous

What I do

- This paper is first in studying:
  1. the effect of **equalling exit costs of cohabitation and marriage**
     - Via the 2008's Amendment to the Family Law Act (Australia)
     - This **exogenous change in law** over time is the source of **identification**
  2. how changes in cohabitation legislation affect marriage through premarital cohabitation
- It also improves on the identification of the **incentive** and **selection** channels (M&R, 2008)

What I find

1. New unions are more stable & more likely to transition into marriage

   → in line with *signalling* and *social benefit* models of marriage

2. Higher share of married, lower share of cohabitors

3. Existing cohabitors "surprised" by the reform in year 3 are more likely to split

2008's Amendment to the Family Law Act

- Family Law Act 1975 until No 115, 2008
- Extended the NSW De Facto Relationship Act (1984) to the rest of AUS
- De facto $\equiv$ "a couple living together on a genuine domestic basis"
- Criteria include duration, existence of a sexual relationship, offspring and shared ownership
- The more a cohabitation lasts, the more likely to be a de facto
- The reform applies to those cohabitations ending after it is enacted

HILDA DATASET

- Household, Income and Labour Dynamics in Australia
- following lives of more than 17,000 Australians each year
- 17 years (2001-2017), 17 waves
- Sample representative of the country's population
- Variables on economics, psychology and family dynamics
- NSW dropped as already having identical legislation & SUTVA not credible

Descriptives

	Mean	S.D.
Unions	0.59	0.49
Ever-partnered who are married	0.77	0.42
Ever-married with premarital cohabitation	0.46	0.50
Covariates		
Birth cohort	1962.70	12.42
Remoteness of area	0.50	0.78
Relative disadvantage	5.79	2.79
Highest education	5.31	2.64
Parents divorced	.13	.34
No. unions	4,534	
No. individuals	7,321	

Identification strategies: Selection

- Compare unions formed just before the reform with unions formed just after
- The two groups form under different legal regimes but continue under the same one (the new one)
- Equivalently, they only differ in their starting conditions

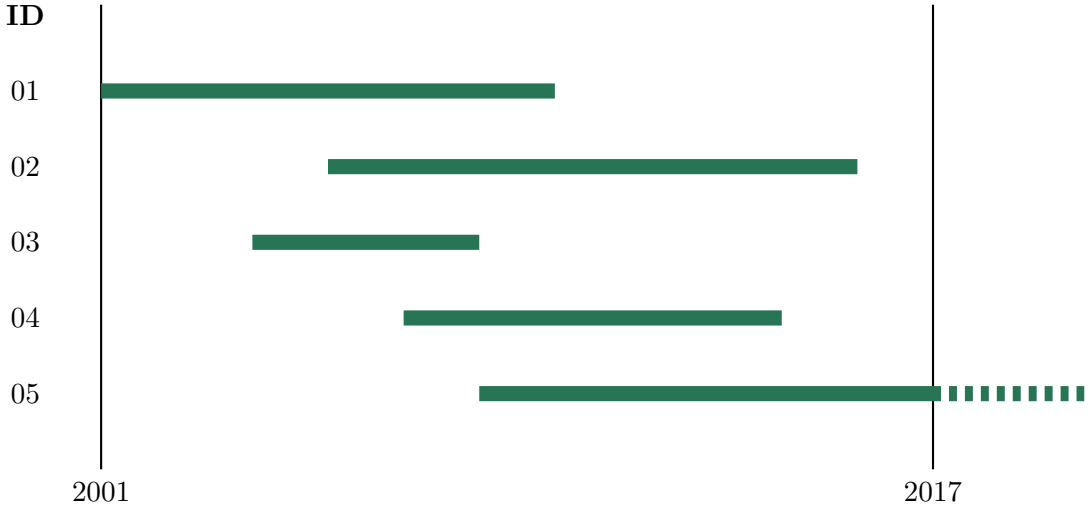
$\Rightarrow$ **any Δ in their Pr(Separation) can be attributed to a Δ in their match quality**

Identification strategies: Selection

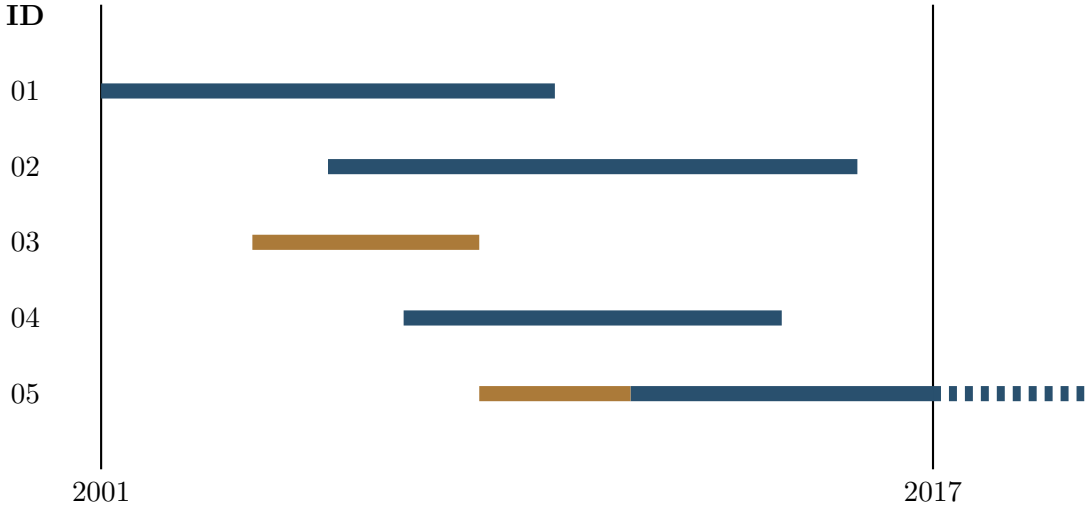
- Individuals are forward-looking
- In the baseline, moving in is not a big deal
- In the new regime, moving in will lead to *de facto* marriage (and "divorce" risk)
- Knowing this, the lower quality couples will not move in
- They might re-match instead

$\Rightarrow$ **average match quality increases**

Selection: Sample Construction

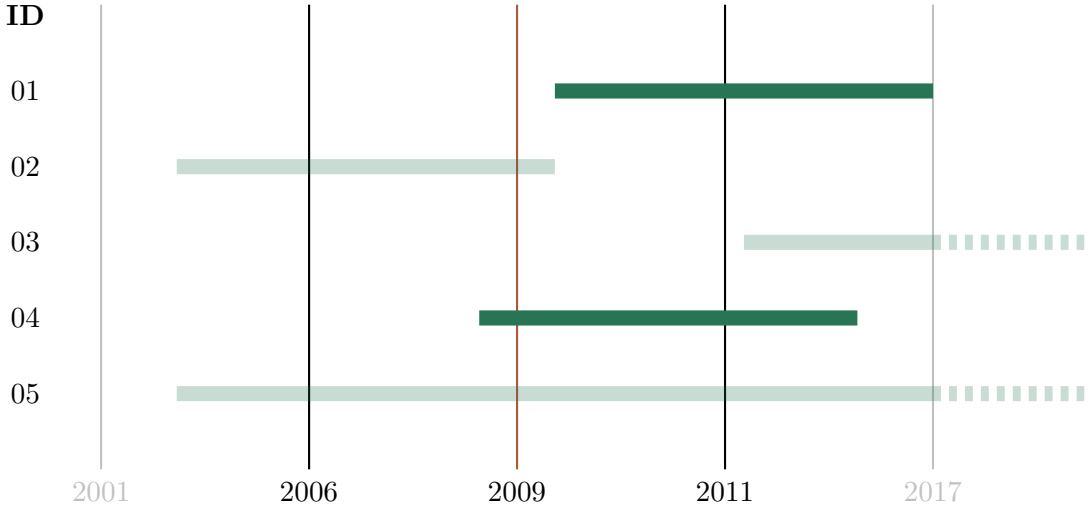


Selection: Sample Construction



Selection: Sample Construction

Selection: Sample Construction: restricting the sample

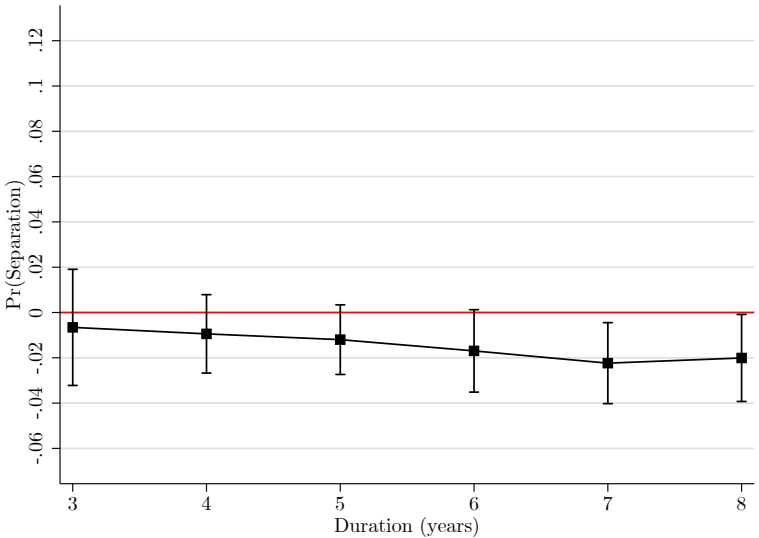


Selection Channel: empirical model

$$logit \;\; Pr[S_{j+1} = 1 | S_j = 0, \boldsymbol{X}] = \alpha_0(j) + \alpha_1(j)D + \boldsymbol{\beta X} \tag{1}$$

- $S = 1$ if the union ended in a separation at time j
- Flexible specification: $\alpha_i(j) \equiv \gamma_{0i} + \gamma_{1i} j + \gamma_{2i} j^2 + \gamma_{3i} j^3$
- $D = 1$ if the union started after 2008, 0 otherwise
- S.e. clustered at union level
- $\boldsymbol{X}$ is a vector of birth cohort dummies (one per decade)
- The sample includes cohabitations which turn into marriage & excludes couples getting married directly

Difference between hazard curves (2006-2011)

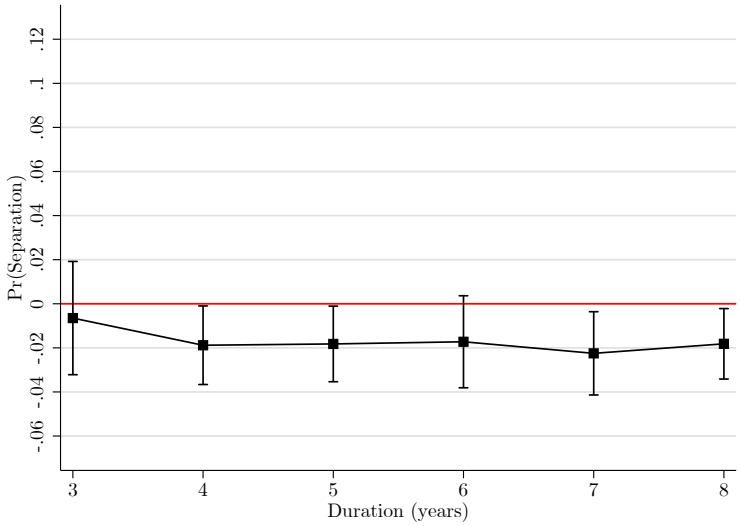


Hazard curves with covariates

The following categorical covariates are included:

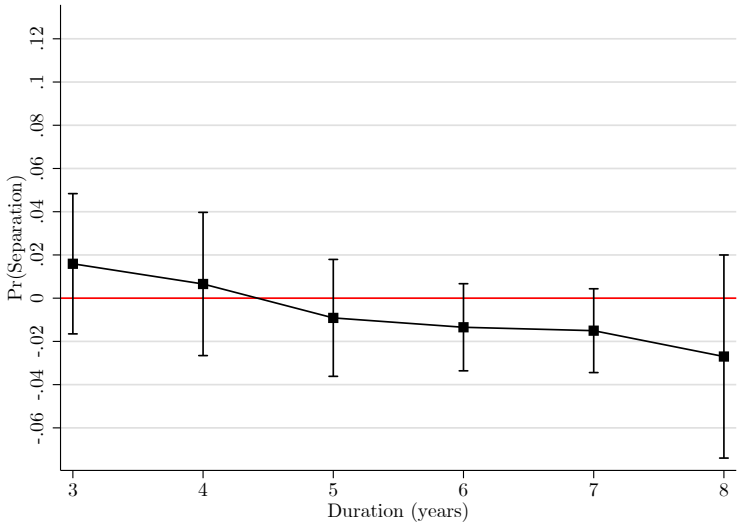
- Remoteness of Area (ASGS 2011)
- Country of birth (brief)
- Decile of Index of relative socio-economic disadvantage (SEIFA 2001)
- Highest education level achieved
- Parents divorced

Difference between hazard curves with covariates

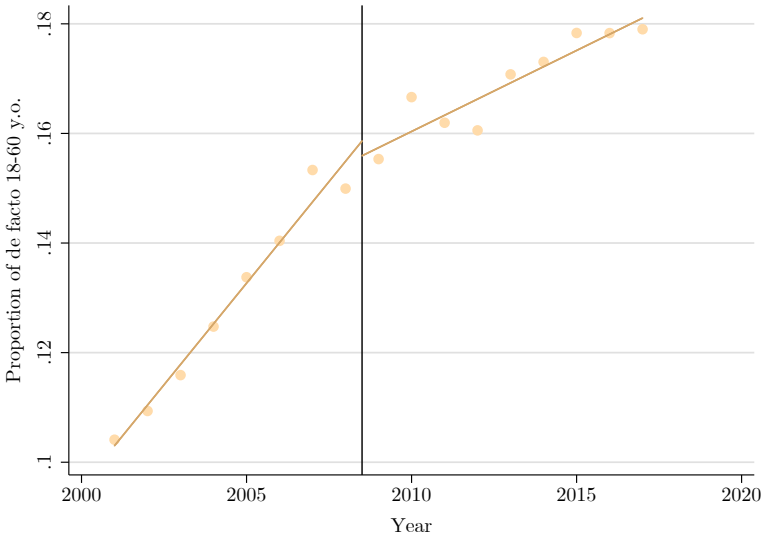


Estimates for couples married straight

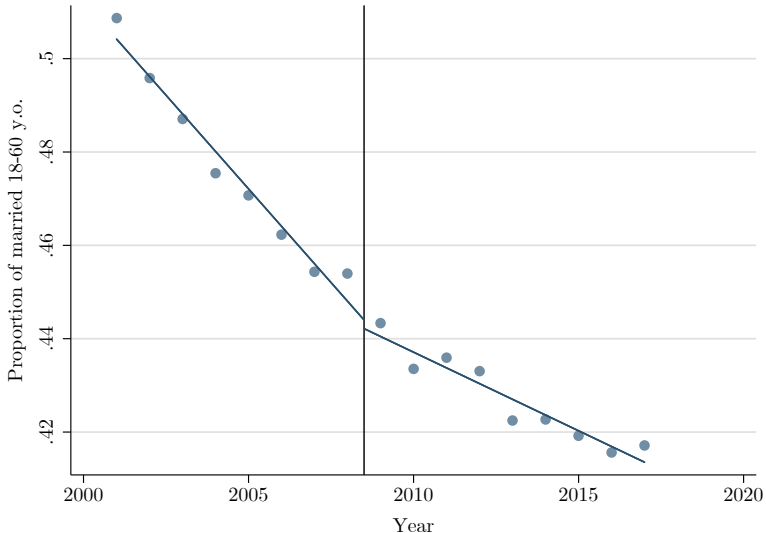
▸ More robustness



Is the composition of unions affected?



It seems to be the case



Econometric model: Prob(Y)

$$Y_{u,t} = \theta_0 + \theta_1 T_t + \theta_2 D_t + \theta_3 (D_t \times T_t) + \theta_4 X_{u,t} + \epsilon_{u,t} \quad (2)$$

- $Y := \{married, defacto, union\} \rightarrow$ binary variables
- $Y_u = 1$ if individual u's marital status is married/defacto/union at time t, 0 otherwise
- Sample of of individuals 18-60 years old
- S.e. clustered at union level

Probability of being in a cohabiting relationship

	DeFacto
T	0.003***
	(0.001)
D	-0.003
	(0.006)
$\tilde{D} \times$ T	-0.005^{**}
	(0.002)
Birth cohort	0.005***
	(0.000)
Constant	-9.125***
	(0.439)
No. of Obs.	138329

t-statistics in parentheses

*** p<0.01; ** p<0.05; * p<0.10.

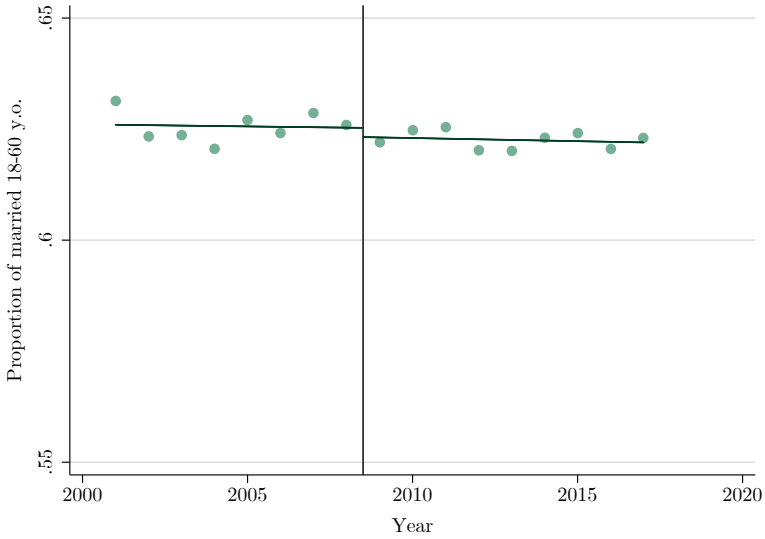
Probability of being in a marital relationship

	Married
T	0.005***
	(0.001)
D	0.011**
	(0.005)
$\tilde{D} \times$ T	0.005**
	(0.002)
Birth cohort	-0.014***
	(0.000)
Constant	27.879***
	(0.558)
No. of Obs.	138329

t-statistics in parentheses

*** p<0.01; ** p<0.05; * p<0.10.

These effects cancel out



Identification strategies: Incentive

- Imagine an experiment on cohabiting couples
  1. All couples start cohabiting under a low-exit-cost regime (baseline)
  2. After j years, a random group (treatment) is assigned to a high-exit-cost regime
- In other words, the incentive structure changes *during* the cohabitation period
- This means that couples treated in **their** j^{th} year are compared with those not treated in **their** j^{th} year

$\Rightarrow$ **any Δ in their Pr(Separation) can be attributed to a response to the regime change**

Incentive: Sample Construction

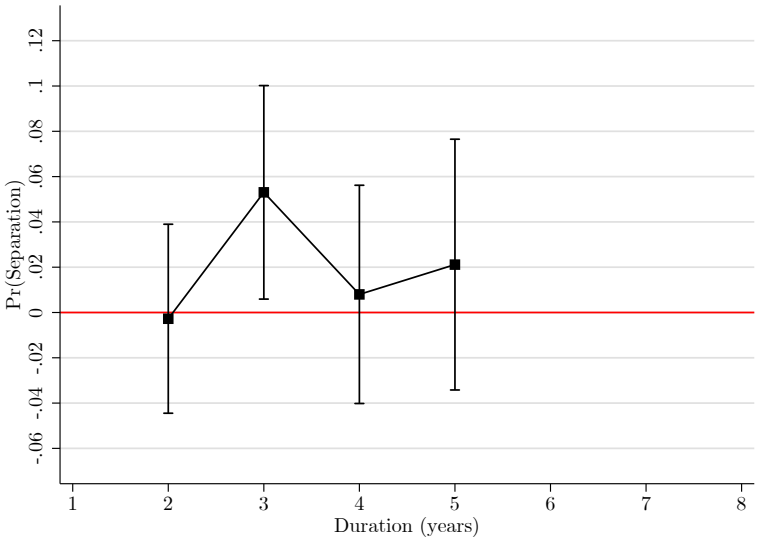
year of start \ duration	2	3	4	5	6
2001	2003	2004	2005	2006	2007
2002	2004	2005	2006	2007	2008
2003	2005	2006	2007	2008	2009
2004	2006	2007	2008	2009	2010
2005	2007	2008	2009	2010	2011
2006	2008	2009	2010	2011	2012
2007	2009	2010	2011	2012	2013
2008	2010	2011	2012	2013	2014
2009	2011	2012	2013	2014	2015
2010	2012	2013	2014	2015	2016

Incentive Channel: empirical model

$$logit \;\; Pr[S_{j+1} = 1 | S_j = 0, \boldsymbol{X}] = \beta_0 + \boldsymbol{\beta_1 J} + \beta_2 D + \boldsymbol{\delta} D \cdot \boldsymbol{J} + \boldsymbol{\beta_3 X} \tag{3}$$

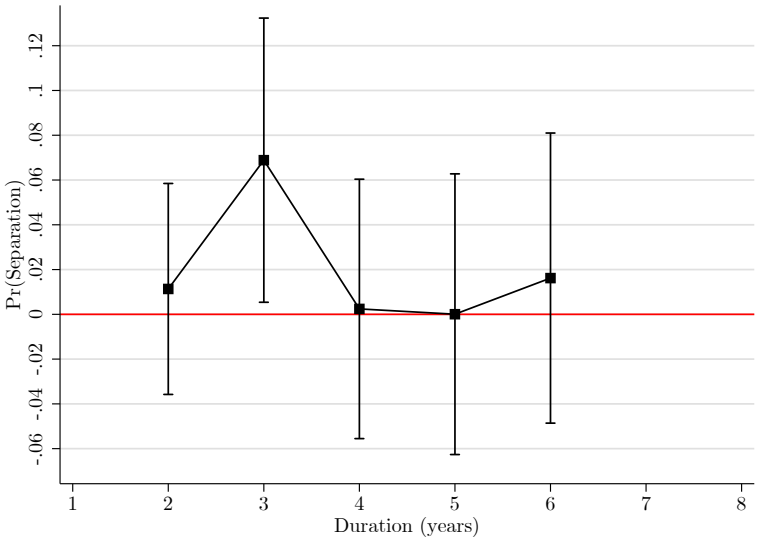
- $S = 1$ if the union ended in a separation at time j
- $\boldsymbol{J}$ is a vector of duration-specific dummies ($j = 1, 2, 3, ..., 8$)
- $D = 1$ if the union started after 2008, 0 otherwise
- $\boldsymbol{\delta}$ is the vector of duration-specific treatment effects
- $\boldsymbol{X}$ is a vector of birth cohort dummies (one per decade)
- 2- & 3-years rolling window
- S.e. clustered at union level

Incentive Effect: 3-years Rolling Window



Incentive Effect: 2-years Rolling Window

More robustness



Incentive Effect: Results

- It's hard to fit this result in the theoretical literature
- It is probably a product of this particular reform
- Not knowing exactly when one is considered de facto, year 3 might have been seen as the threshold year
- Anecdotal evidence points to year 2 (link to ABC article) as threshold
- This is possible since data do not give the exact date of start of the relationship

Conclusion

- Economists do not agree over a single model of marriage, let alone of cohabitation
- This paper provides evidence in support of theories of marriage as a signal and as providing social benefits
- It suggests that policies increasing the cost of terminating a cohabitation increase the quality of new unions

Selection: least parametric specification

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$$Pr[S_{j+1} = 1 | S_j = 0, X] = \beta_0 + \boldsymbol{\beta_1 J} + \beta_2 D + \boldsymbol{\delta} D \cdot \boldsymbol{J} + \boldsymbol{\beta_3} X \quad (4)$$

- $S = 1$ if the union ended in a separation at time j
- $\boldsymbol{J}$ is a vector of duration-specific dummies ($j = 1, 2, 3, ..., 8$)
- $D = 1$ if the union started after 2008, 0 otherwise
- $\boldsymbol{\delta}$ is the vector of duration-specific treatment effects
- $\boldsymbol{X}$ includes birth cohort dummies (one per decade) only
- S.e. clustered at union level

LPM 3-year Window

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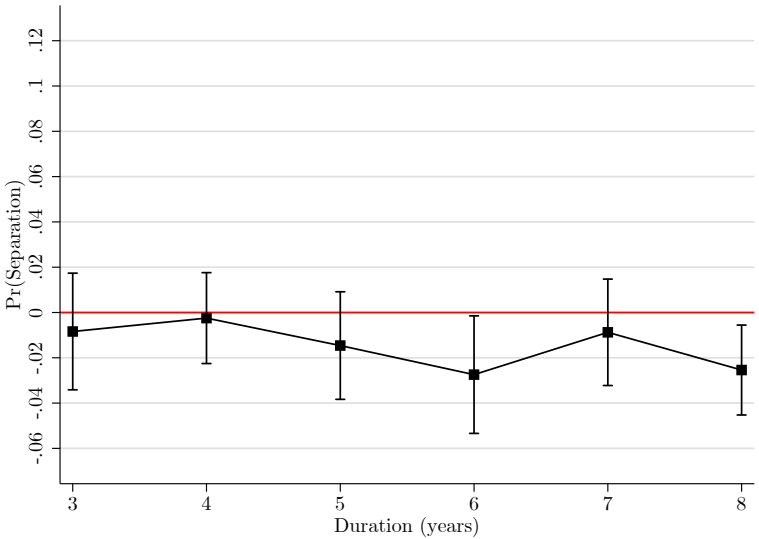

LPM 2-year Window

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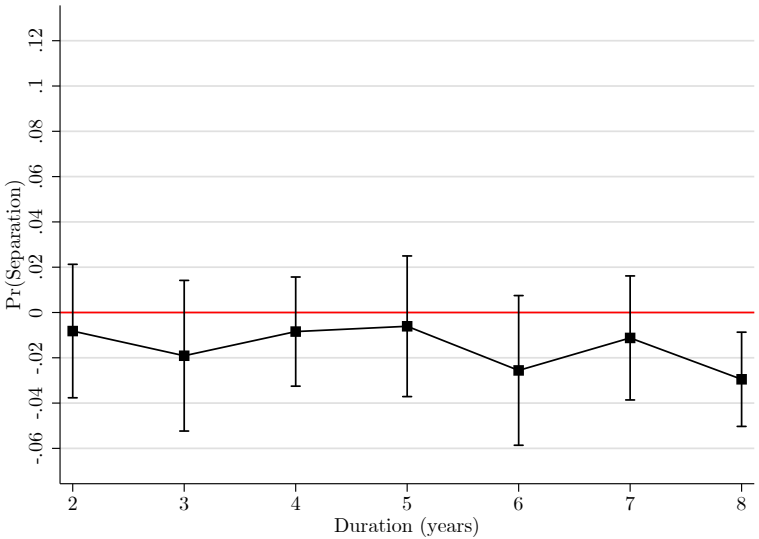

Logit 3-year Window

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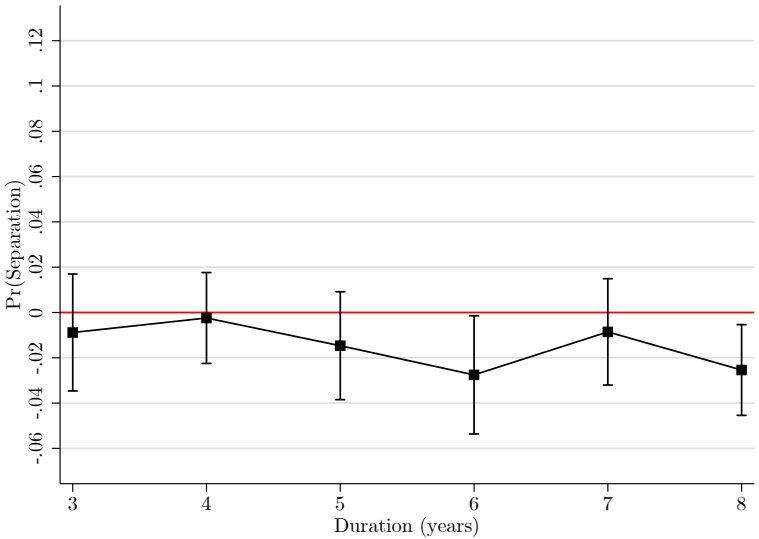

Placebo Policies

- I use the years prior to the reform (2003, 2004, 2005, 2006) as placebo policies
- The regression specification is identical to the main one
- A failure to find a statistically significant policy effect for the placebo policies is interpretable as evidence supporting the main results
- It is evidence that the results do not simply capture some noise or a trend not related to the policy of interest

Logit Placebo 2003 3-years Window

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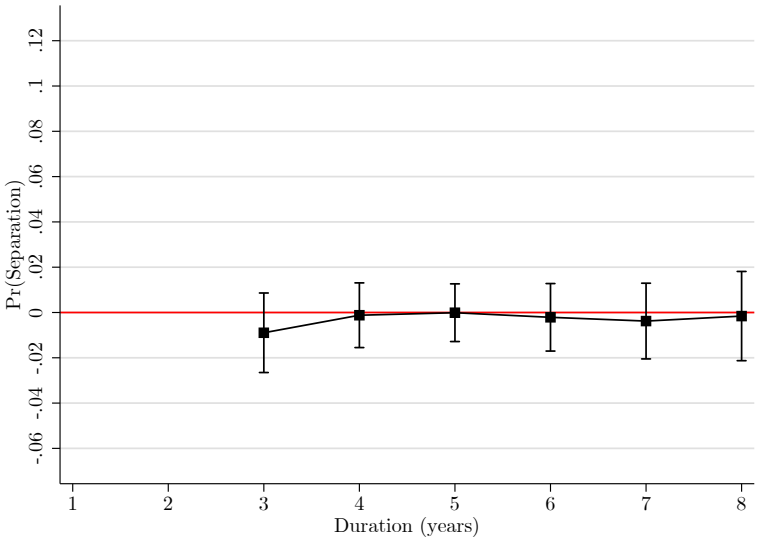

Logit Placebo 2004 3-years Window

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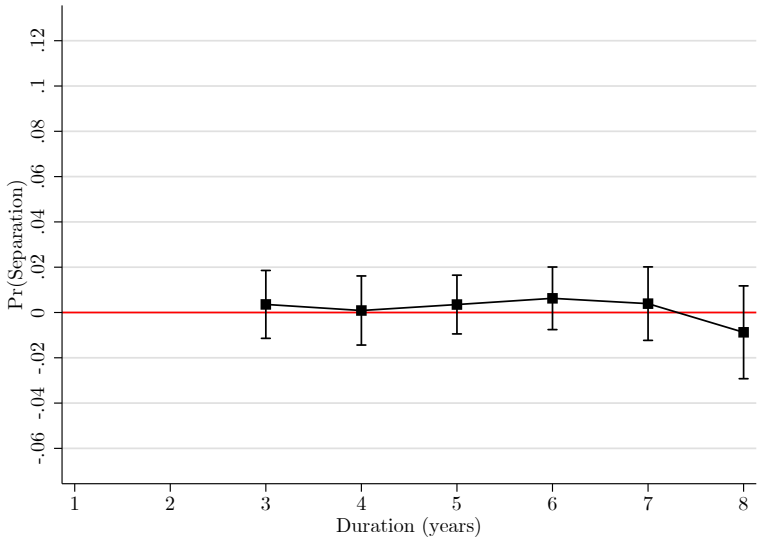

Logit Placebo 2005 3-years Window

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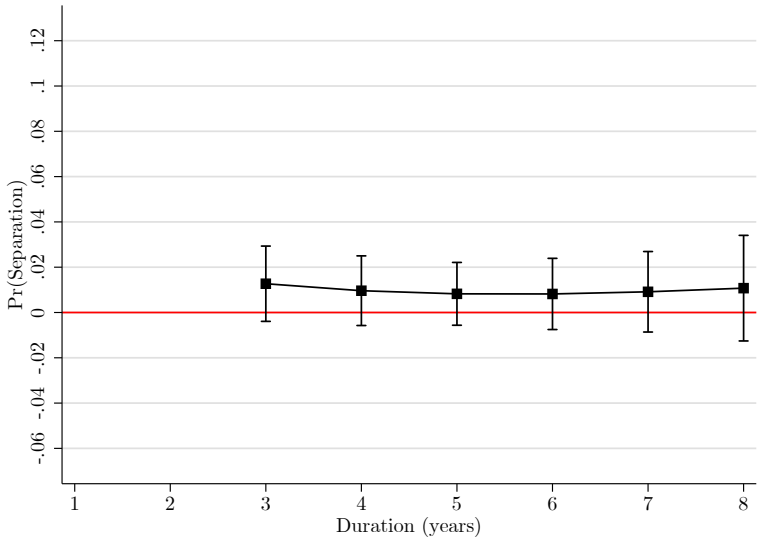

Logit Placebo 2006 3-years Window

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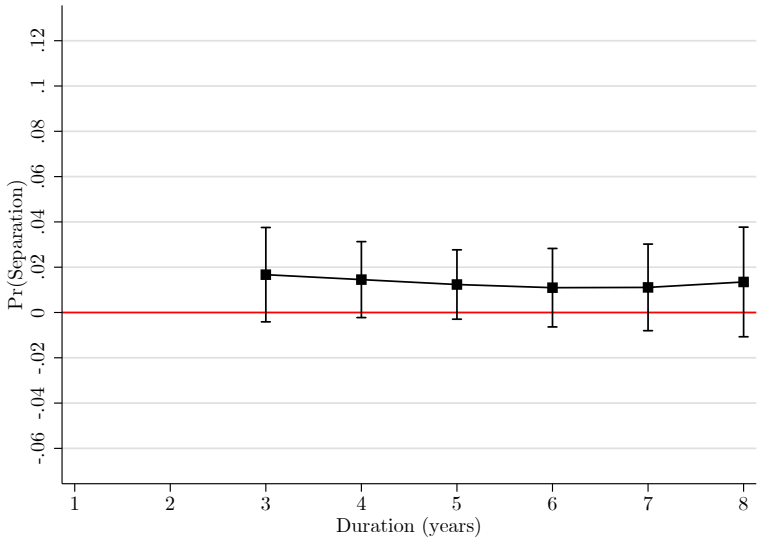

Selection Effect: Numerousness

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	j							
window size	1	2	3	4	5	6	7	8
2	-	1,585	1,447	1,326	1,238	1,133	1,060	724
3	-	-	2,097	1,919	1,783	1,635	1,311	956

Placebos

Go Back

The following are placebos and robustness checks for the incentive effect

LPM Marriages 3-years Rolling Window

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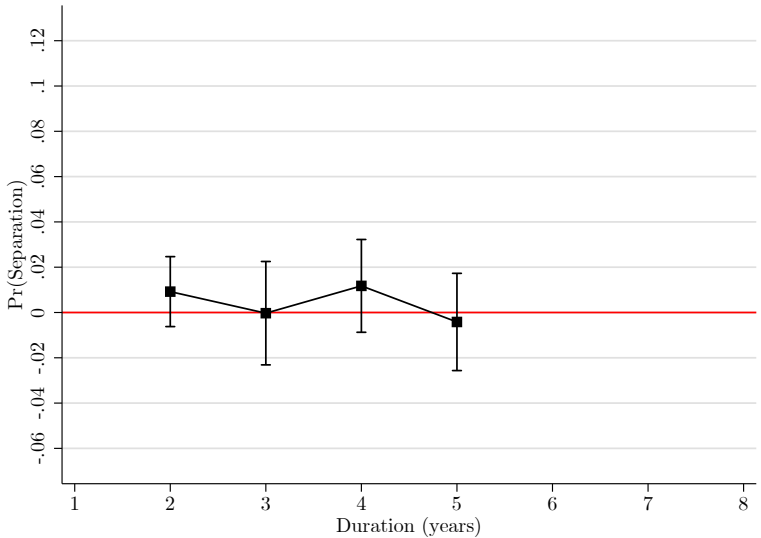

LPM Marriages 2-years Rolling Window

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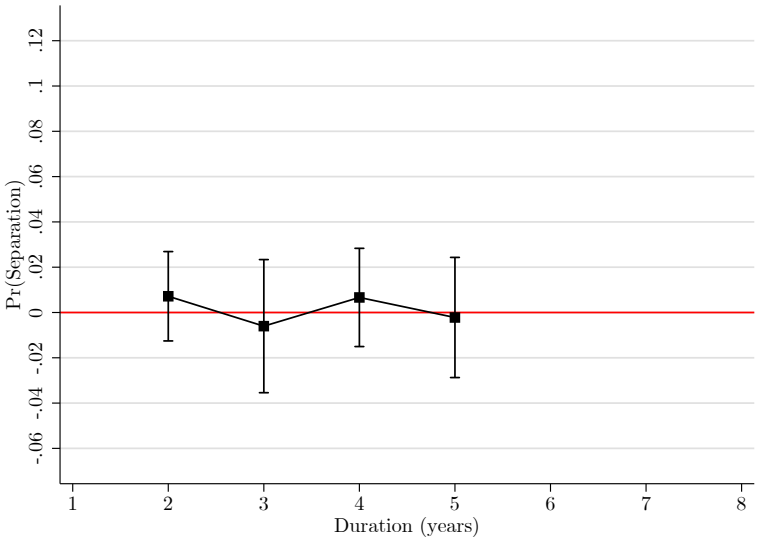

Logit Marriages 3-years Rolling Window

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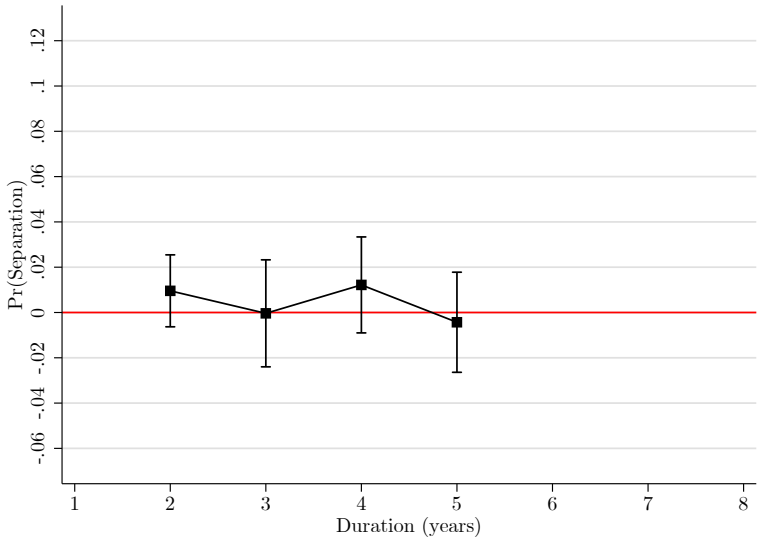

Logit Marriages 2-years Rolling Window

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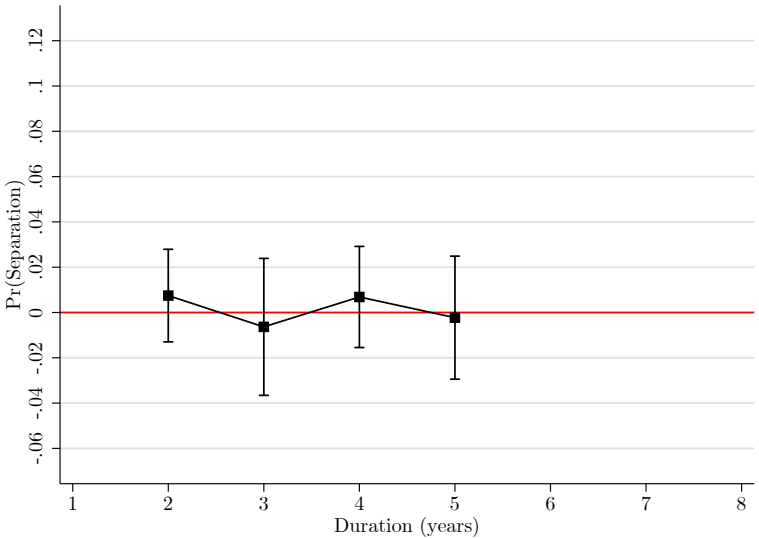

Incentive Effect: Numerousness

Go Back

	j							
window size	1	2	3	4	5	6	7	8
2	-	585	448	345	287	236	-	-
3	-	-	674	498	427	-	-	-