

## -- WP3 --

# Inequalities in cause-specific mortality according to family arrangements and trajectories

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# Mortality and marital status in the literature

- Excess mortality of unmarried people
  - Mortality gradient are greater in men than in women
  - All ages seem affected but not to the same extent
  - There is an increase in these inequalities over time in Europe and the US



# Mortality and marital status in the literature

- Excess mortality of unmarried people
  - Mortality gradient are greater in men than in women
  - All ages seem affected but not to the same extent
  - There is an increase in these inequalities over time in Europe and the US
- Several explanations for these inequalities:
  - Marriage selection effect
  - Economic protection of marriage
  - Social protection of marriage
    - Social support, control and integration
  - Stress effect and psychological shock
  - Homogamy effect and « close » mortality (for widowers/widows)



## Research aim

- Do these inequalities exist in Belgium ?
- Do these inequalities differ according to gender ?
- Which age groups are these inequalities the largest ?
- Do these inequalities persist after controlling for socioeconomic status and region ?
- How have these inequalities evolved between the periods 1992-1996 and 2002-2006 ?



# Data and methods

- Linked census and register data
  - Census 1991 and 2001 linked to data on all-cause mortality for the period 1991-2012 (National Register)
- Methods
  - Biographic analysis
  - Poisson Regression



# Data and methods

- Indicators
  - Marital status
    - Married (including remarriage)
    - Single (never married people, including cohabitant)
    - Divorced
    - Widower



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  - Composite socioeconomic indicator based on the *DESTINY project*
    - Education level, socioprofessional status, housing and income
    - 4 categories : “Higher” to “Lower” + “not rated” category



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    - Education level, socioprofessional status, housing and income
    - 4 categories : “Higher” to “Lower” + “not rated” category
  - Region (Bruxelles/Vlaanderen/Wallonie)
  - Three age groups: 25-49 / 50-64 / 65+
  - Gender





# Contextualization of research

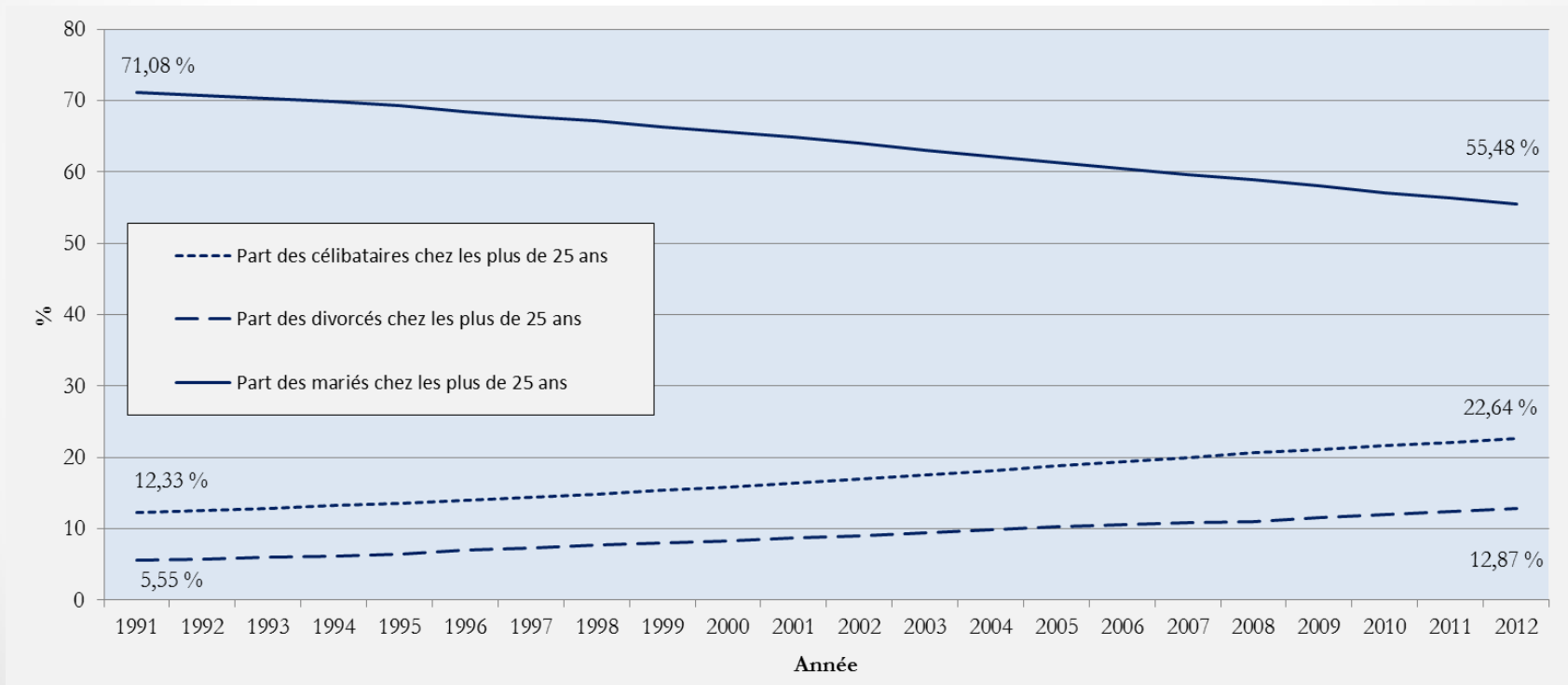
- De-standardization of family courses and family trajectories
  - Fewer marriage
  - Increasing age at marriage
  - Multiplication of alternative types of living arrangements while in marriage: cohabitation, living apart together, ...
  - Increased share of singles in the population
  - Increasing numbers of divorces

A note of caution: at this stage, we do not make any difference between unmarried cohabitants and lone singles...



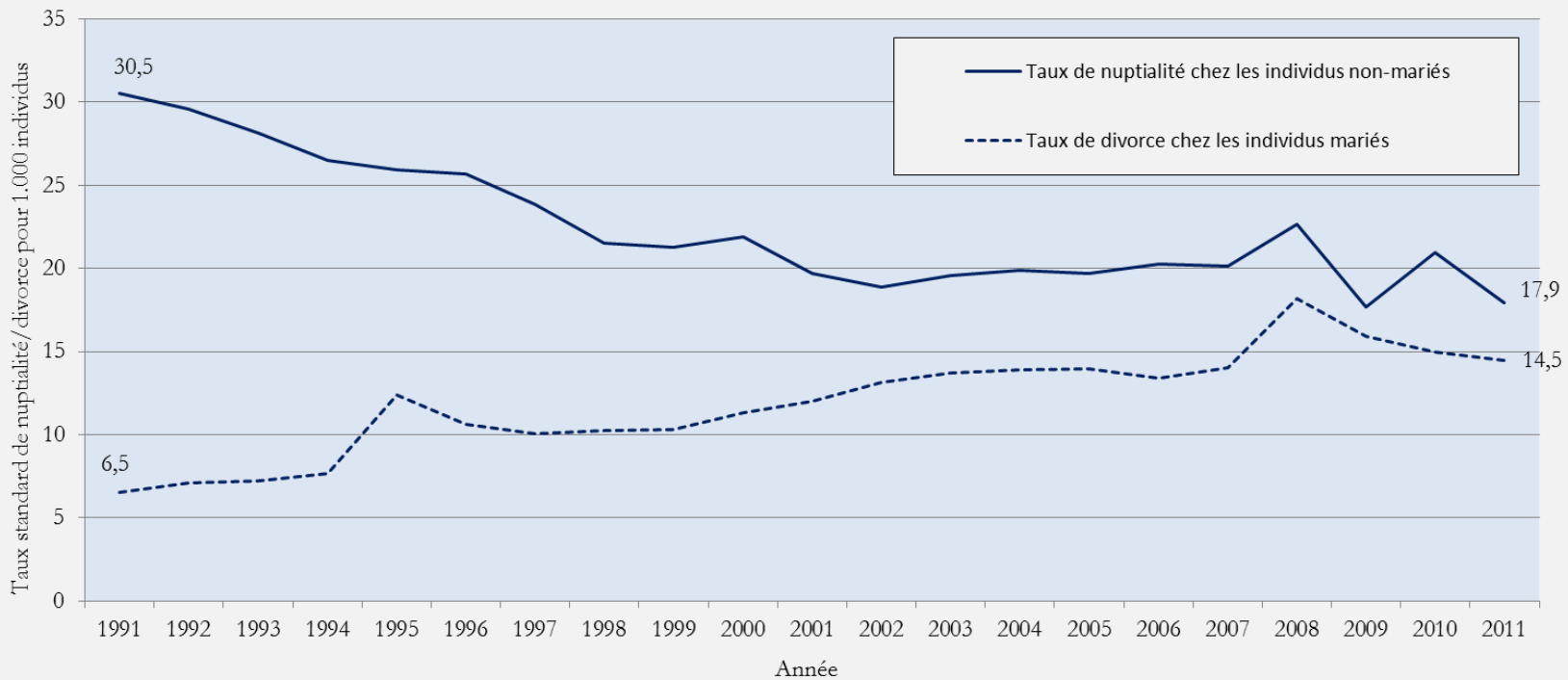
# Contextualization of research

- Increasing share of singles and divorced (and concomitant decline in the proportion of married) between 1991 and 2012



# Contextualization of research

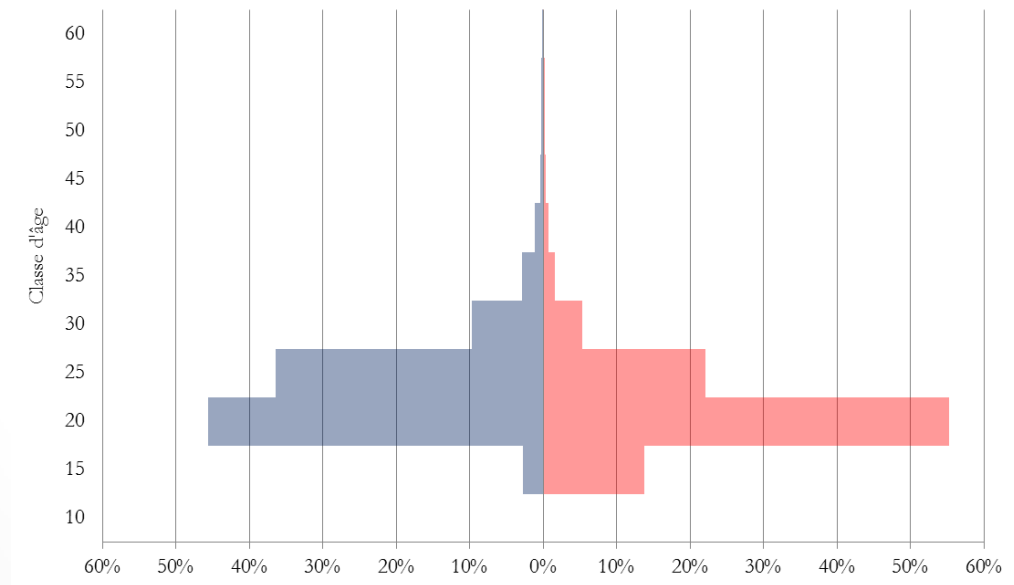
- Decrease in marriage rates and, simultaneously, increased rate of divorce



# Contextualization of research

- Increasing age at first marriage among both men and women
- Larger variance in the mean at first marriage

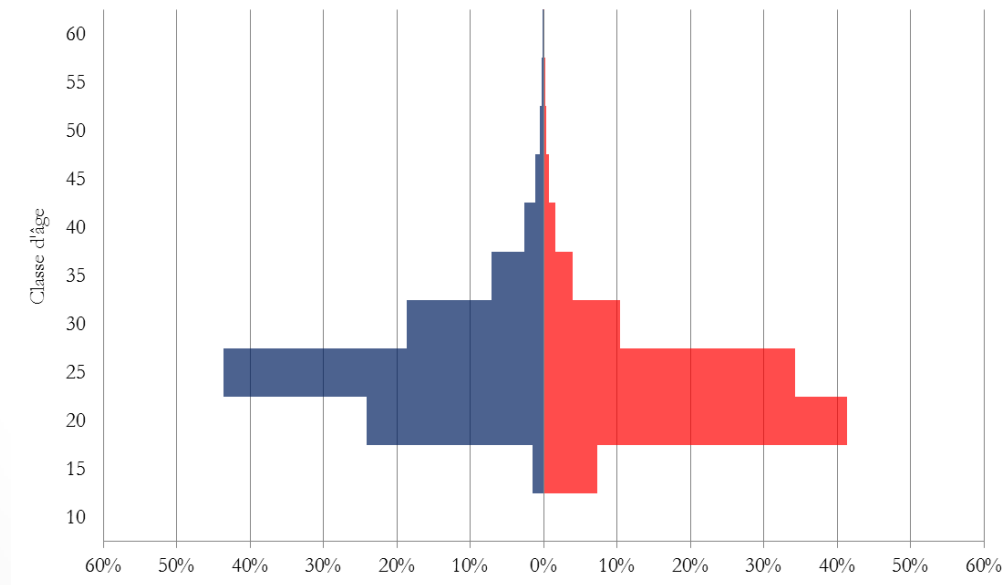
Répartition des premiers mariages par classes d'âges  
1991



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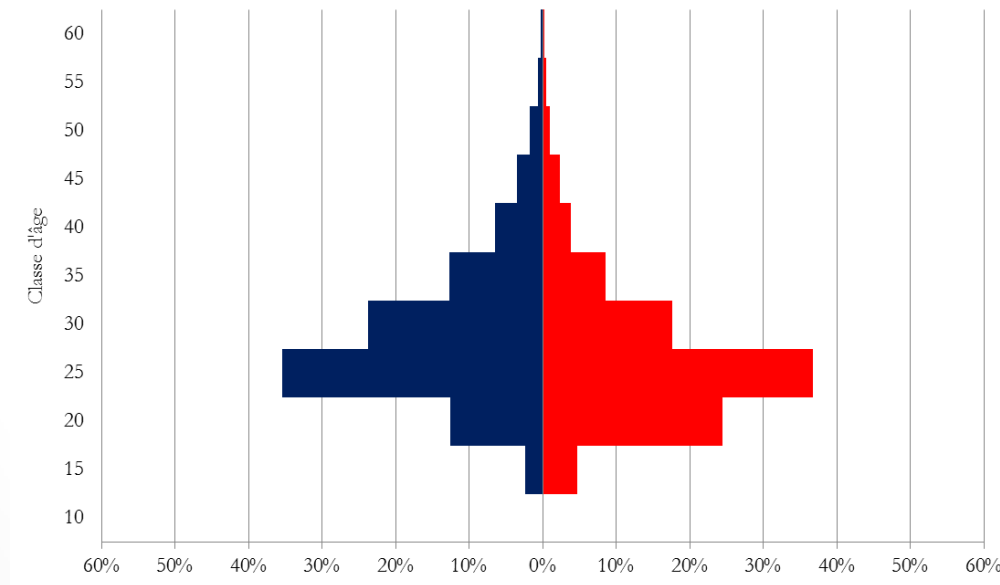
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Répartition des premiers mariages par classes d'âges  
2011



# Results: Mortality rate ratios (age group 25-39)

2002-2006		Men/Women aged between 25 and 39							
	M1		M2		M3		M4		
	Men	Women	Men	Women	Men	Women	Men	Women	
Age	1,06	1,09	1,06	1,09	1,05	1,09	1,05	1,04	
Married	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	
Single	2,15	1,99	2,12	1,97	2,01	1,99	1,99	2,00	
Divorced	2,23	1,83	2,21	1,82	1,97	1,70	1,96	1,69	
Widower	2,04	1,25	2,00	1,22	1,79	1,06	1,76	1,04	
Vlaanderen			1,00	1,00			1,00	1,00	
Bruxelles			0,90	1,01			0,76	0,82	
Wallonie			1,51	1,32			1,36	1,17	
Very favored					1,00	1,00	1,00	1,00	
Favored					1,93	1,44	1,89	1,43	
Poor					2,76	1,91	2,69	1,89	
Very poor					4,20	3,02	4,00	2,95	
Unclassified					2,75	2,39	2,80	2,45	

## Results: Mortality rate ratios (age group 40-64)

2002-2006		Men/Women aged between 40 and 64							
	M1		M2		M3		M4		
	Men	Women	Men	Women	Men	Women	Men	Women	
Age	1,10	1,09	1,10	1,09	1,09	1,08	1,04	1,08	
Married	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	
Single	2,30	1,95	2,27	1,91	1,93	1,91	1,93	1,90	
Divorced	2,13	1,68	2,07	1,64	1,86	1,62	1,83	1,60	
Widower	2,91	1,64	1,88	1,61	1,74	1,51	1,72	1,48	
Vlaanderen			1,00	1,00			1,00	1,00	
Bruxelles			1,17	1,16			1,04	1,08	
Wallonie			1,43	1,27			1,37	1,24	
Very favored					1,00	1,00	1,00	1,00	
Favored					1,29	1,15	1,29	1,16	
Poor					1,89	1,64	1,89	1,65	
Very poor					2,91	2,40	2,87	2,39	
Unclassified					2,59	2,33	2,53	2,32	



## Results: Mortality rate ratios (age group: 65+)

2002-2006	Men/Women aged between 65 and 115							
	M1		M2		M3		M4	
	Men	Women	Men	Women	Men	Women	Men	Women
Age	1,11	1,12	1,11	1,12	1,10	1,12	1,10	1,12
Married	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
Single	1,39	1,20	1,39	1,21	1,28	1,12	1,29	1,12
Divorced	1,46	1,33	1,44	1,33	1,37	1,26	1,35	1,26
Widower	1,22	1,23	1,22	1,23	1,18	1,20	1,18	1,20
Vlaanderen			1,00	1,00			1,00	1,00
Bruxelles			1,01	0,98			1,02	0,96
Wallonie			1,16	1,09			1,16	1,08
Very favored					1,00	1,00	1,00	1,00
Favored					1,37	1,21	1,37	1,20
Poor					1,68	1,43	1,70	1,42
Very poor					2,02	1,68	2,03	1,67
Unclassified					2,29	2,12	2,30	2,11

# Results: Mortality rate ratios (age group: 25+)

## Comparison 1992-1996 / 2002-2006

	Men/Women aged 25 +			
	Men		Women	
	1992-1996	2002-2006	1992-1996	2002-2006
Age	1,10	1,10	1,11	1,11
Married	1,00	1,00	1,00	1,00
Single	1,52	1,68	1,32	1,41
Divorced	1,59	1,70	1,44	1,50
Widower	1,25	1,31	1,31	1,34

# Conclusion

- Excess mortality of non-married men and women in Belgium
- Greater mortality gap for men
- Inequalities are lower at older ages
- Increase in inequalities between the periods 1992-1996 and 2002-2006
- Socioeconomic inequalities explain a small share of these inequalities



# Conclusion

- New hypothesis:
  - The de-standardization of life course contributes to the increase in mortality inequalities between different marital status
- Testing this hypothesis requires a longitudinal approach
  - Taking into account the time spent in each state, the number events, the age at various events, ...
- Interest for specific causes of death to better visualize the underlying factors of these inequalities

