LONGEVITY and MARITAL HISTORY

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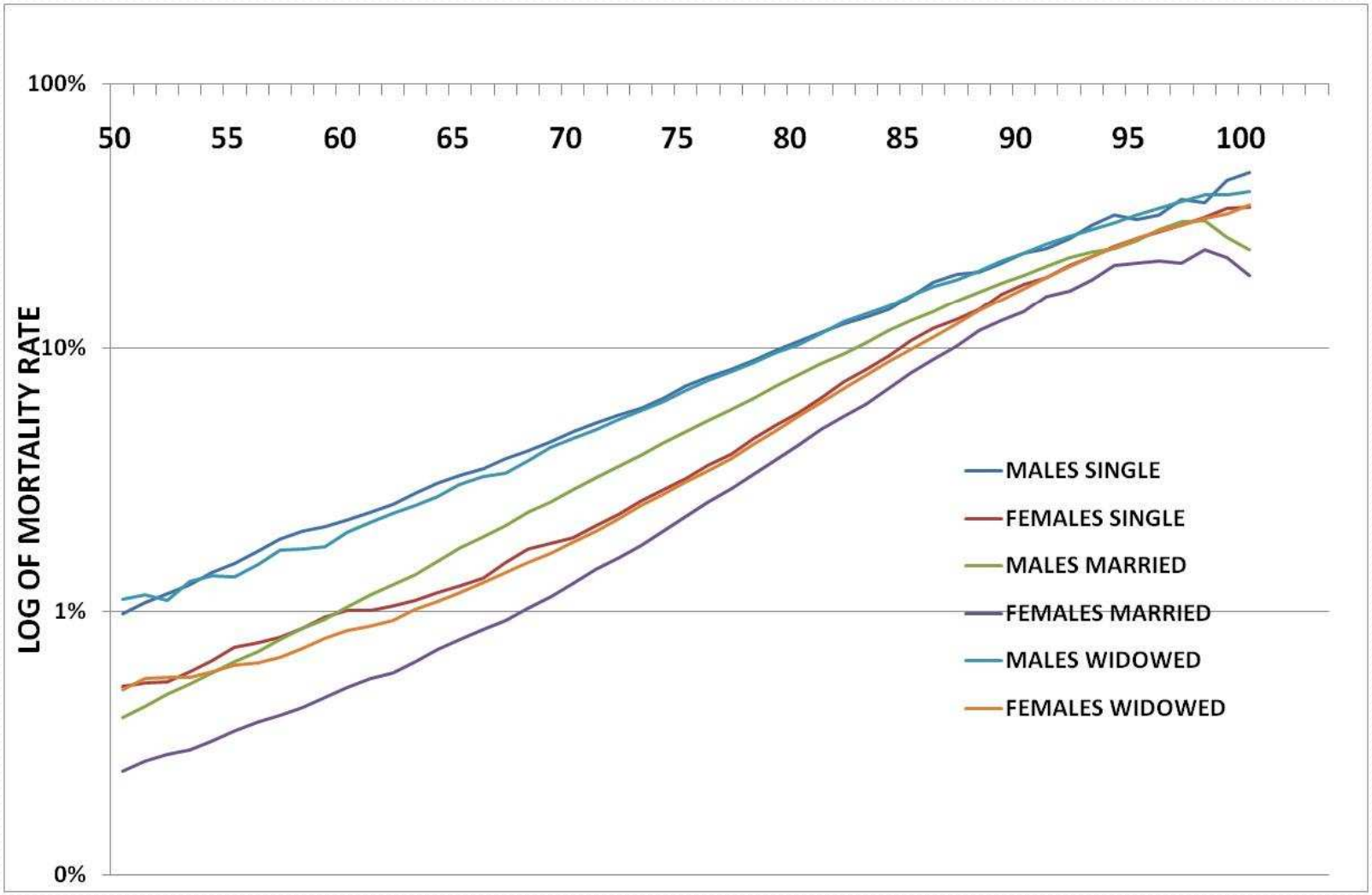
MORTALITY RATES BY MARITAL STATUS (1)

- Mortality rates by marital status are computed by considering deaths by marital status and the corresponding age and sex composition by marital status.
- Such mortality rates have been computed for Belgium by considering the 1,500,000 deaths occurring during the years 1991-2005 within a population of in average about 10,000,000 inhabitants.
- On the base of these mortality rates it is theoretically possible to compute a complete period life table to analyse the difference in mortality by marital status.

MORTALITY RATES BY MARITAL STATUS (2)



LIFE TABLES BY MARITAL STATUS

The use of these period life tables have severe LIMITATIONS as the marital history is not considered but only the current status of every person involved.

- Single persons may marry afterwards.
- Married persons may have been single during a significant part of their life and may be divorced or widowed thereafter.
- Widowed and divorced persons may remarry and accordingly be considered again among married persons.
- In conclusion, period life tables by marital status are not suitable for analysing the possible impact of individual marital history on mortality and longevity.

MORTALITY AFTER LOSS OF SPOUSE

- The loss of spouse and the transition from the married to the widowed status represent the phase of the marital history that has a strong impact on mortality.
- The mortality rates increase significantly in the first months and during the first year after widowhood, and that this impact is more evident for males compared to females.
- The ‘young’ widows or widowers do not present the same level of mortality compared to ‘oldest’ ones.
- Experiencing widowhood younger or later in the life span may have different impact on longevity.

THE QUESTION ADDRESSED

- The *aim of our contribution* is to check if oldest olds have followed specific marital history that could be considered as having a positive effect on longevity.
- We will focus our investigation on *birth cohorts of the years 1889 to 1902*. The choice is done by considering that only few persons born before 1889 reached age 100 years while the 1902 cohort is the youngest one in order to ensure the extinction of these generations (only 12 persons born before 1903 were still alive in Belgium in May 2010).

DIFFICULTIES FACED

- Widowed persons show mortality rates that are higher compared to that of married persons. However, when a married person lives longer the probability to become widowed increases. Accordingly, most of the oldest olds die as widow or widower.
- The marital history of the oldest olds can only be compared with the one of individuals from the same birth cohorts who died at age 50, 70 or 80 years which means collecting longitudinal data on about half century.
- The number of oldest olds is often rather limited in order to reach significant results.

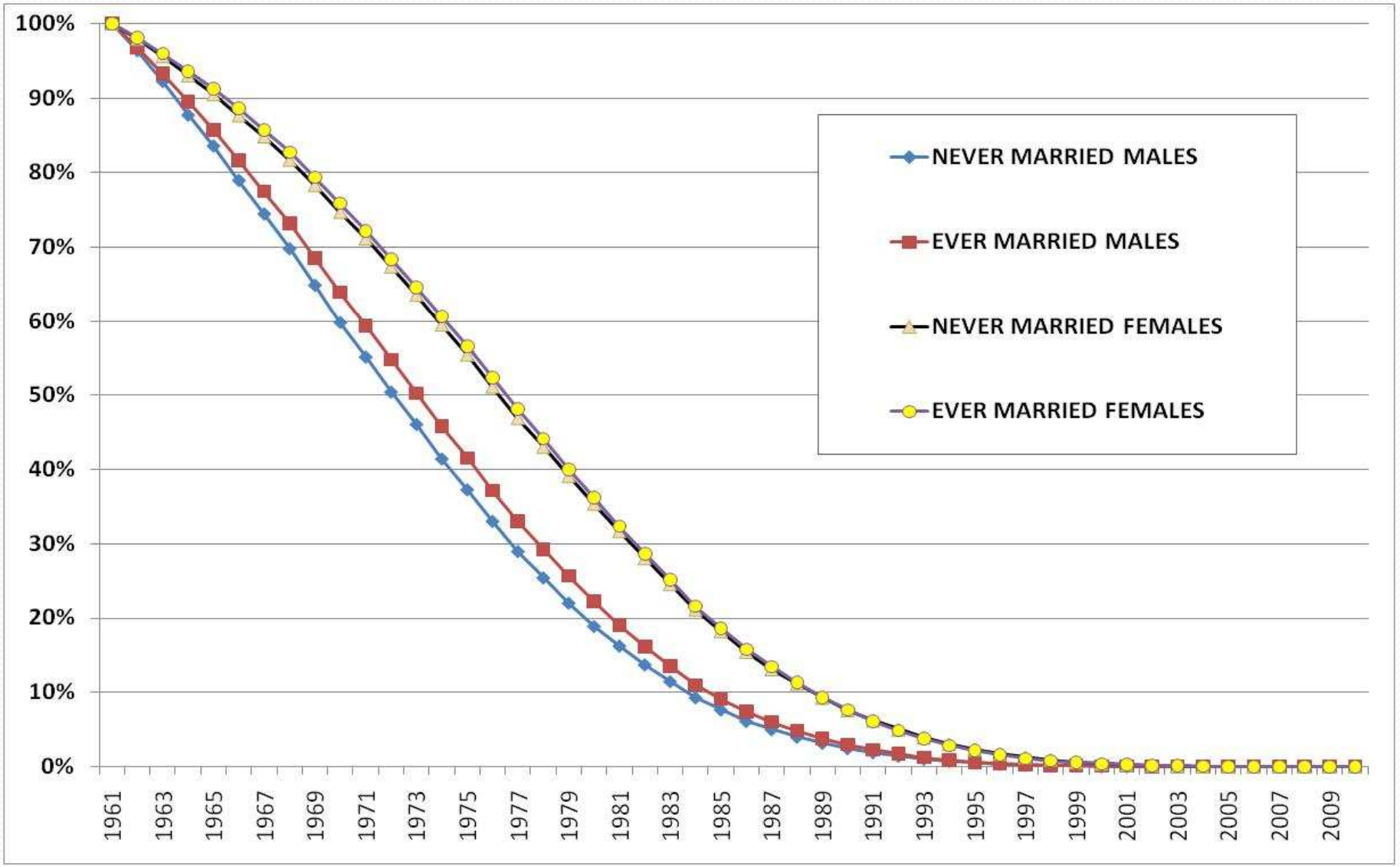
DATA AND METHODS USED

- *In the first step*, we will consider all deaths for the selected birth cohorts by sex and marital status at death from **1961 to 2010** and reconstruct the survival of these birth cohorts during the last fifty years but using the **method of extinct generations**.
- *In a second step,* we will use a **database of 2,900 centenarians** who were born during the same years (complete coverage for men, representative sample for women).

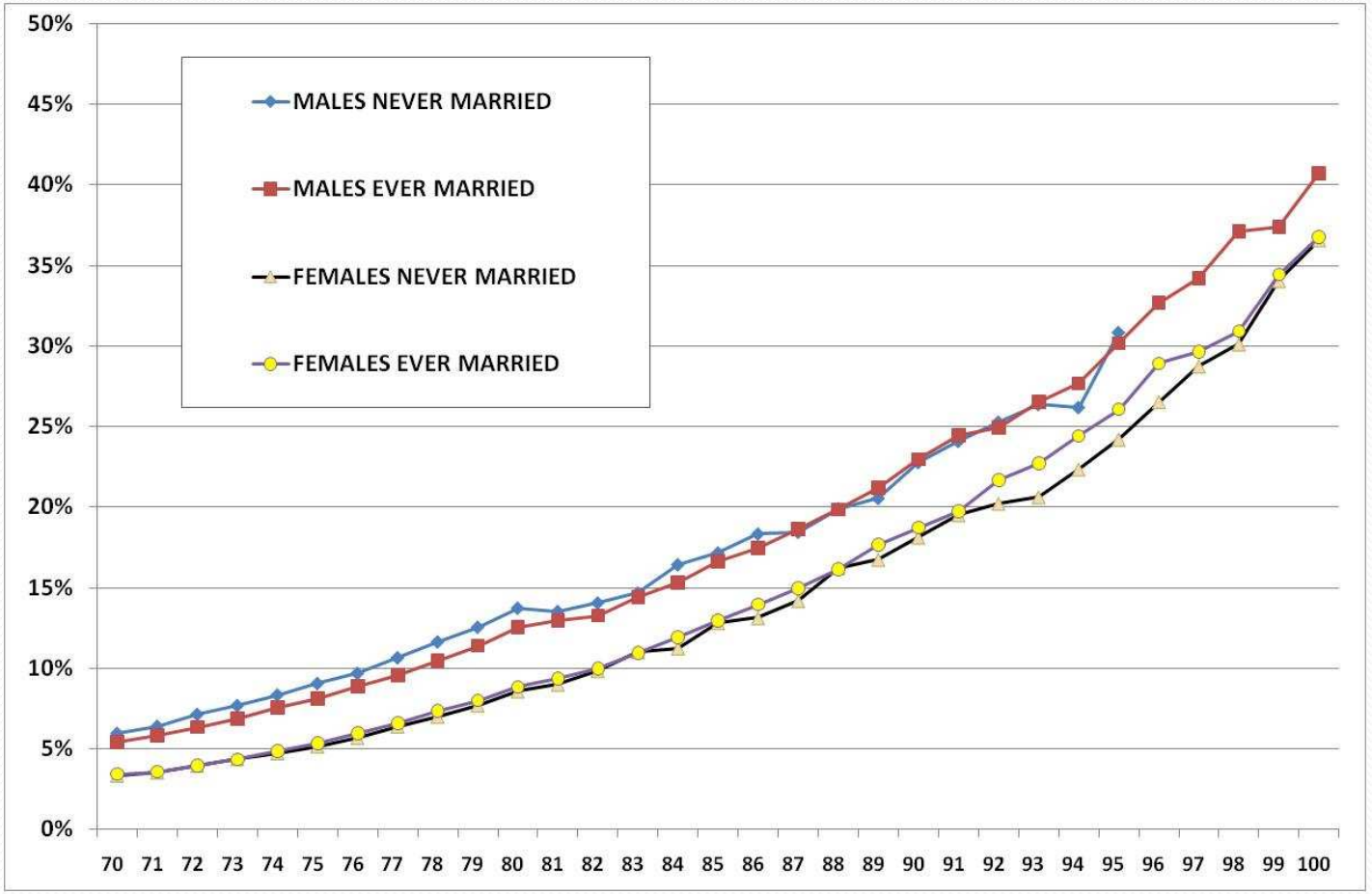
EXTINCT GENERATION METHOD

- **1,289,130 deaths** by marital status registered from 1961 up to May 2010.
- Only **12 persons born before 1903** are still alive in Belgium in May 2010.
- Those who died as single were never married; others have been married but part of them were widowed at an unknown date.
- By comparing **never and ever-married**, this method allows to catch the impact of marriage on longevity keeping in mind that for the oldest olds having been married means also very often to become widowed.

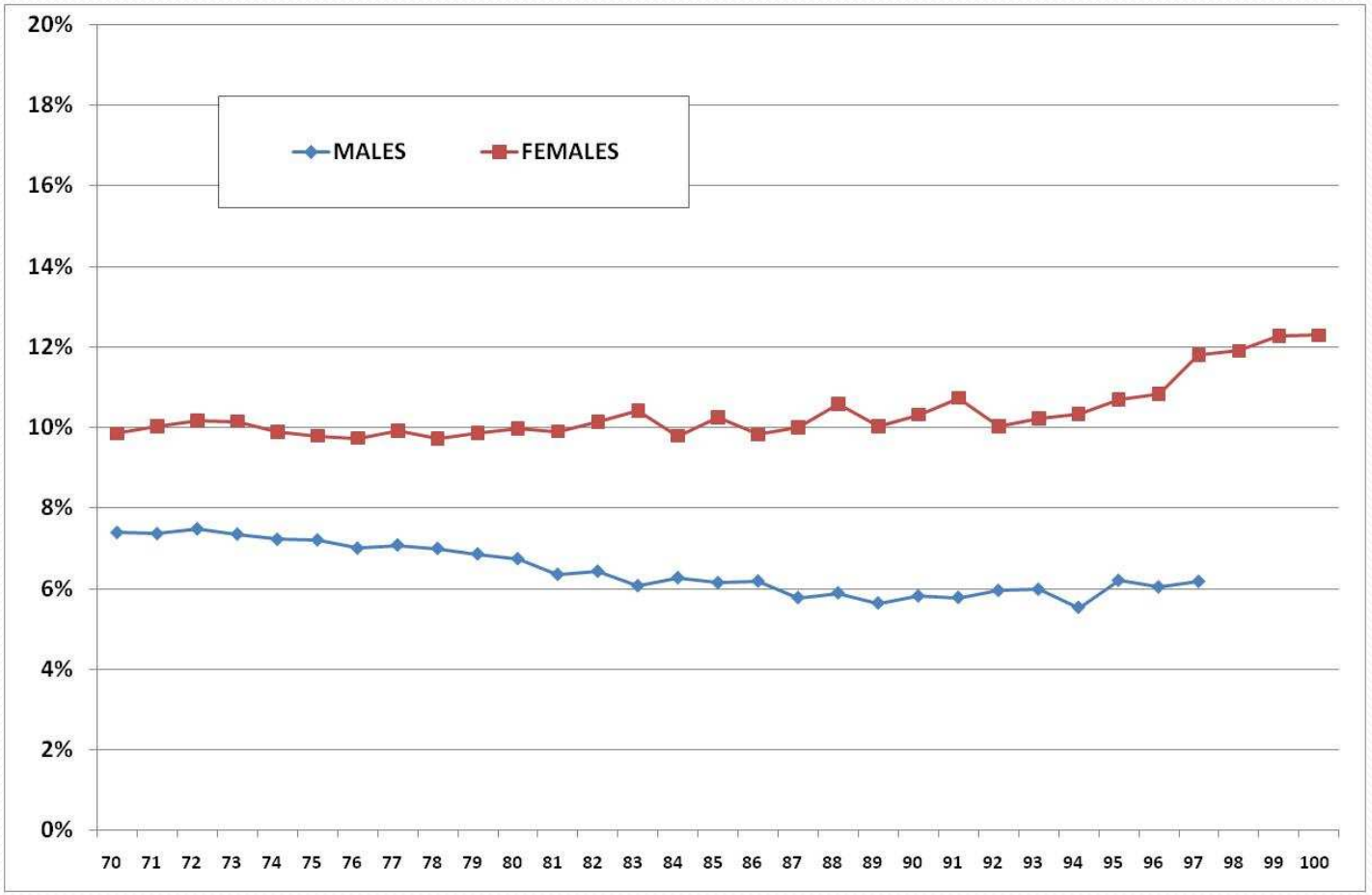
Survival for the birth cohorts 1889 – 1902 from 1961 to 2010



Compared mortality rates after age 70 for males and females never or ever married (generations 1889-1902)



Proportion of never married among dead persons by gender and age at death (generations 1889-1902)



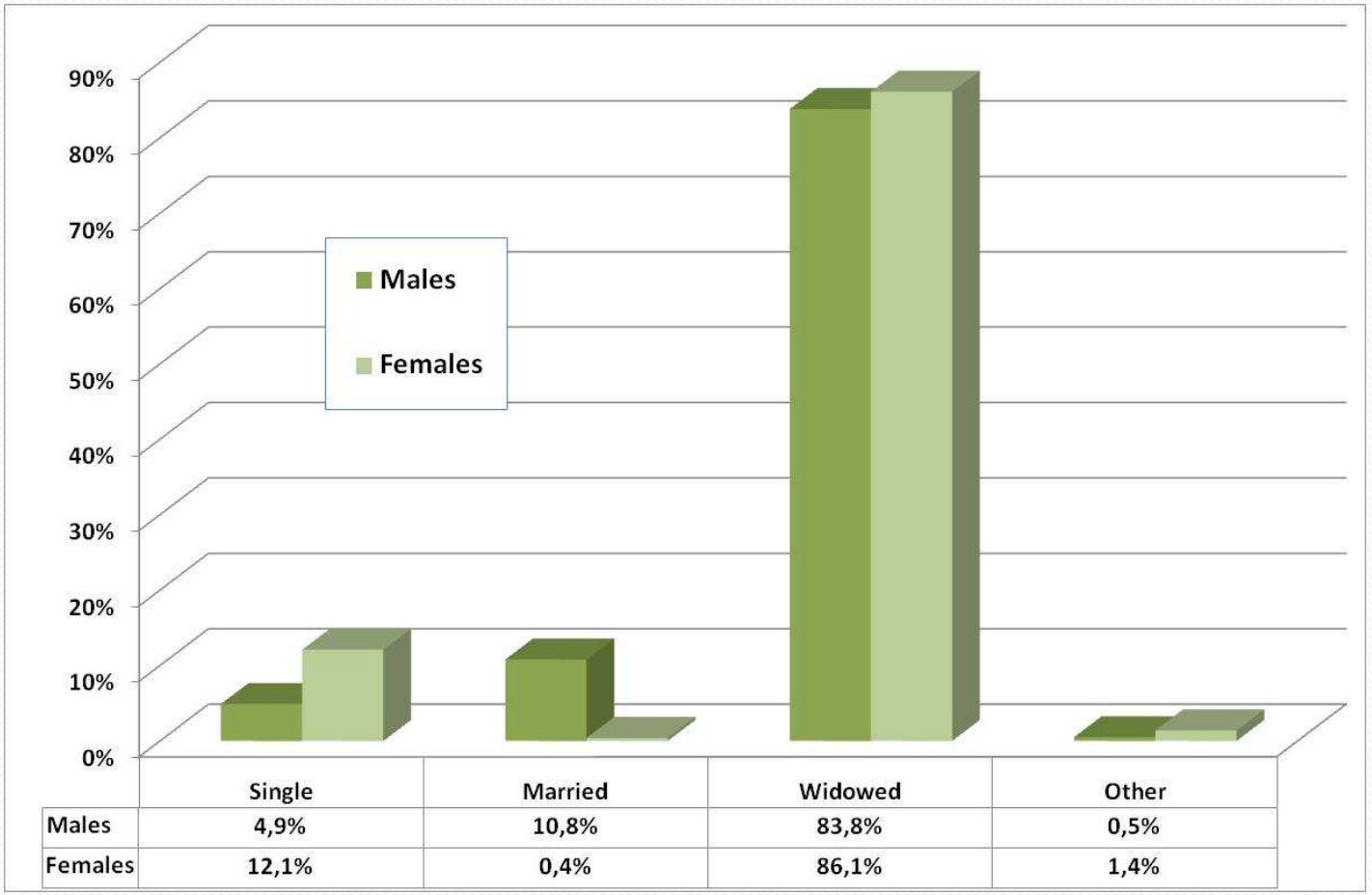
The centenarian database

- In order to identify the impact of the marital history on longevity the complete marital history of 2,900 centenarians born during the years 1889-1902 has been reconstructed and analyzed.
- For men the coverage is quite exhaustive while for women a representative sample has been considered.

Distribution of the 2900 centenarians by sex, age and marital status at death

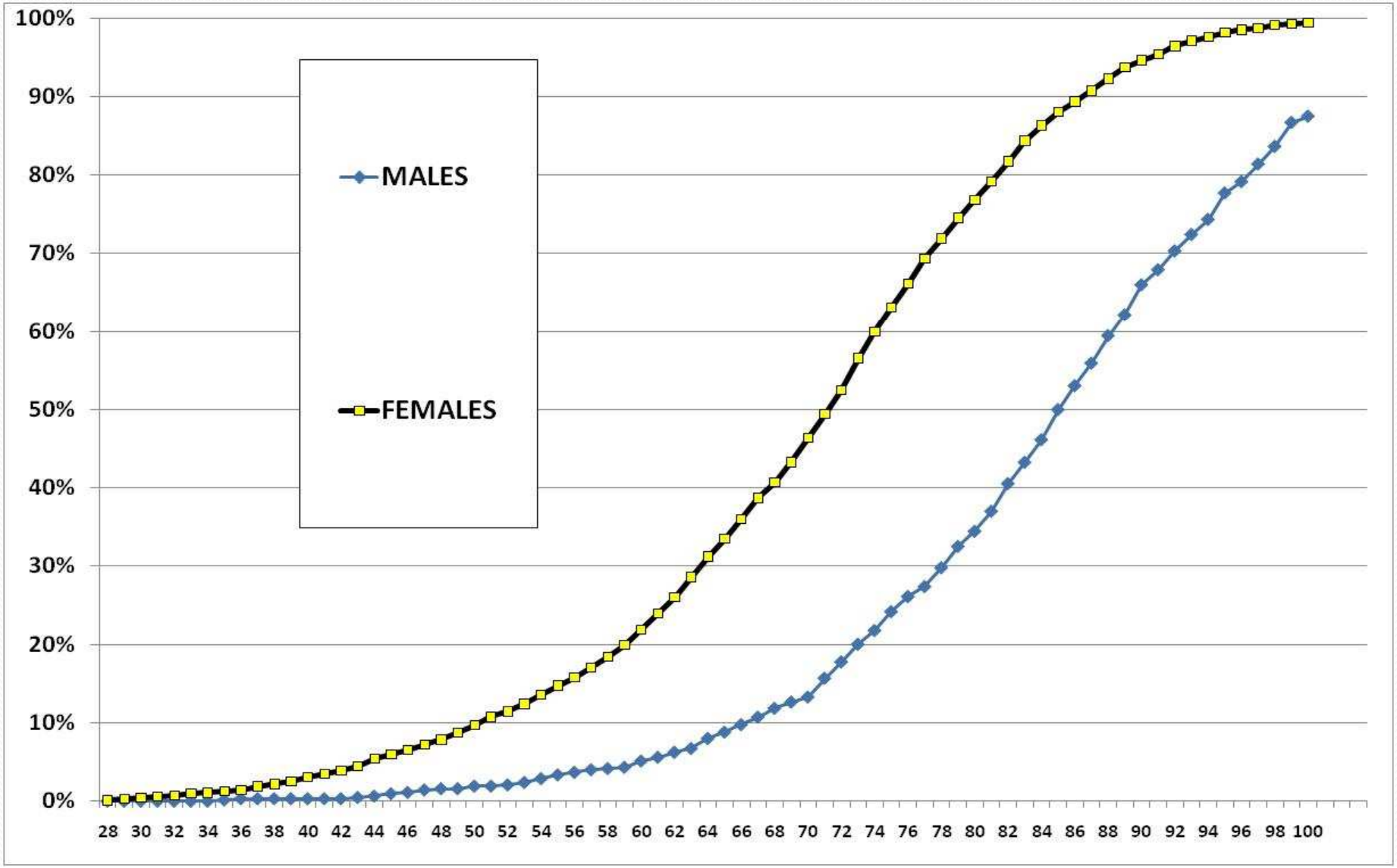
	Single	Married	Other	Widowed	TOTAL MALES	Single	Married	Other	Widowed	TOTAL FEMALES
100	14		26	195	235	48	5	1	433	487
101	9	1	15	141	166	55	9	3	409	476
102	4	1	16	103	124	61	6	4	417	488
103	1	1	6	60	68	38	4	1	267	310
104	3		5	25	33	23	3		185	211
105			2	15	17	13	2		108	123
106	1		1	8	10	15	1		58	74
107				2	2	10	1		31	42
108						7			15	22
109									7	7
110				1	1	1			2	3
112									1	1
	32	3	71	550	656	271	31	9	1933	2244

Marital status at death for 2900 centenarians



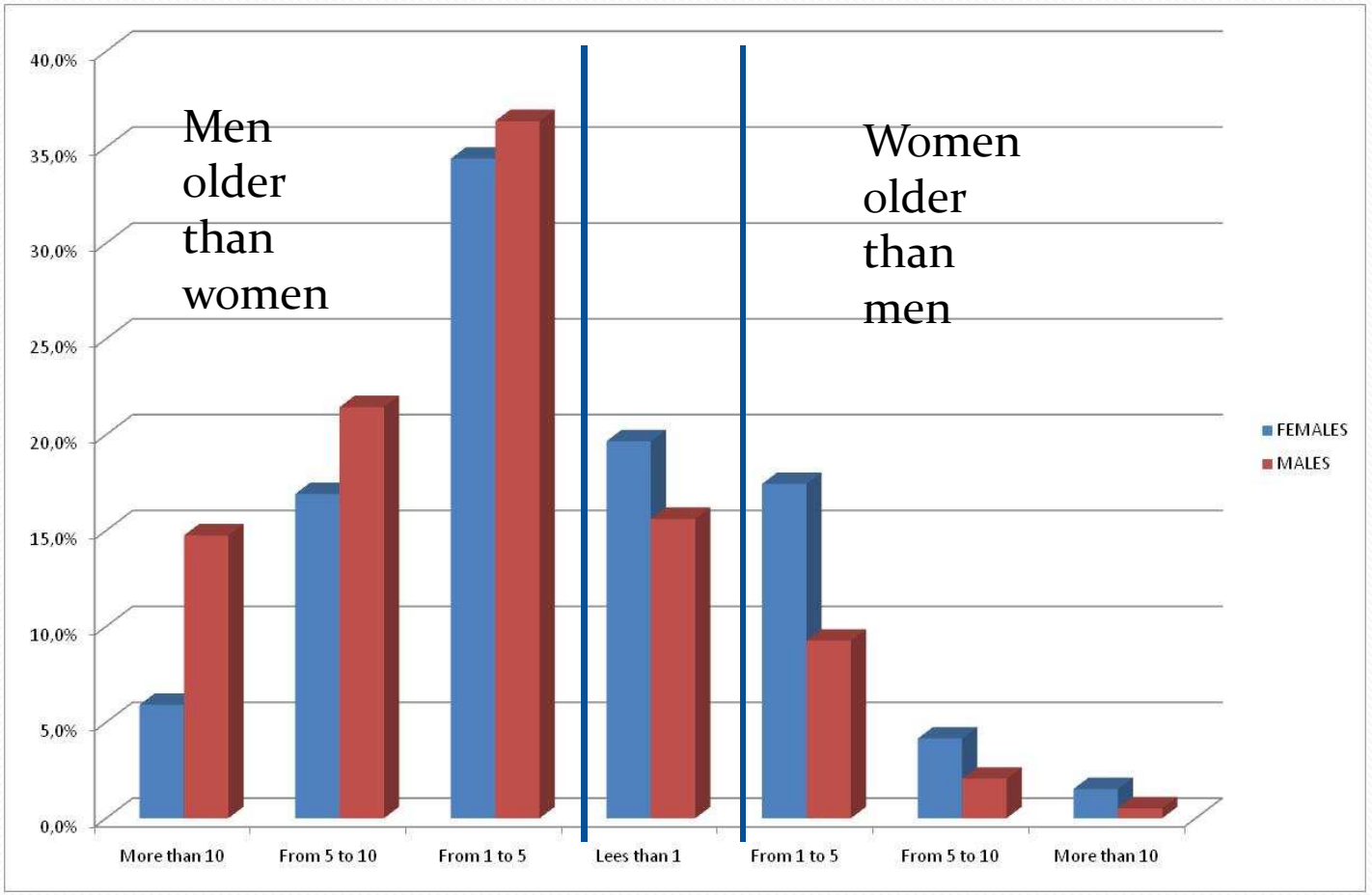
	Single	Married	Widowed	Other
Males	4,9%	10,8%	83,8%	0,5%
Females	12,1%	0,4%	86,1%	1,4%

Cumulative distribution of age at widowhood for ever married centenarians

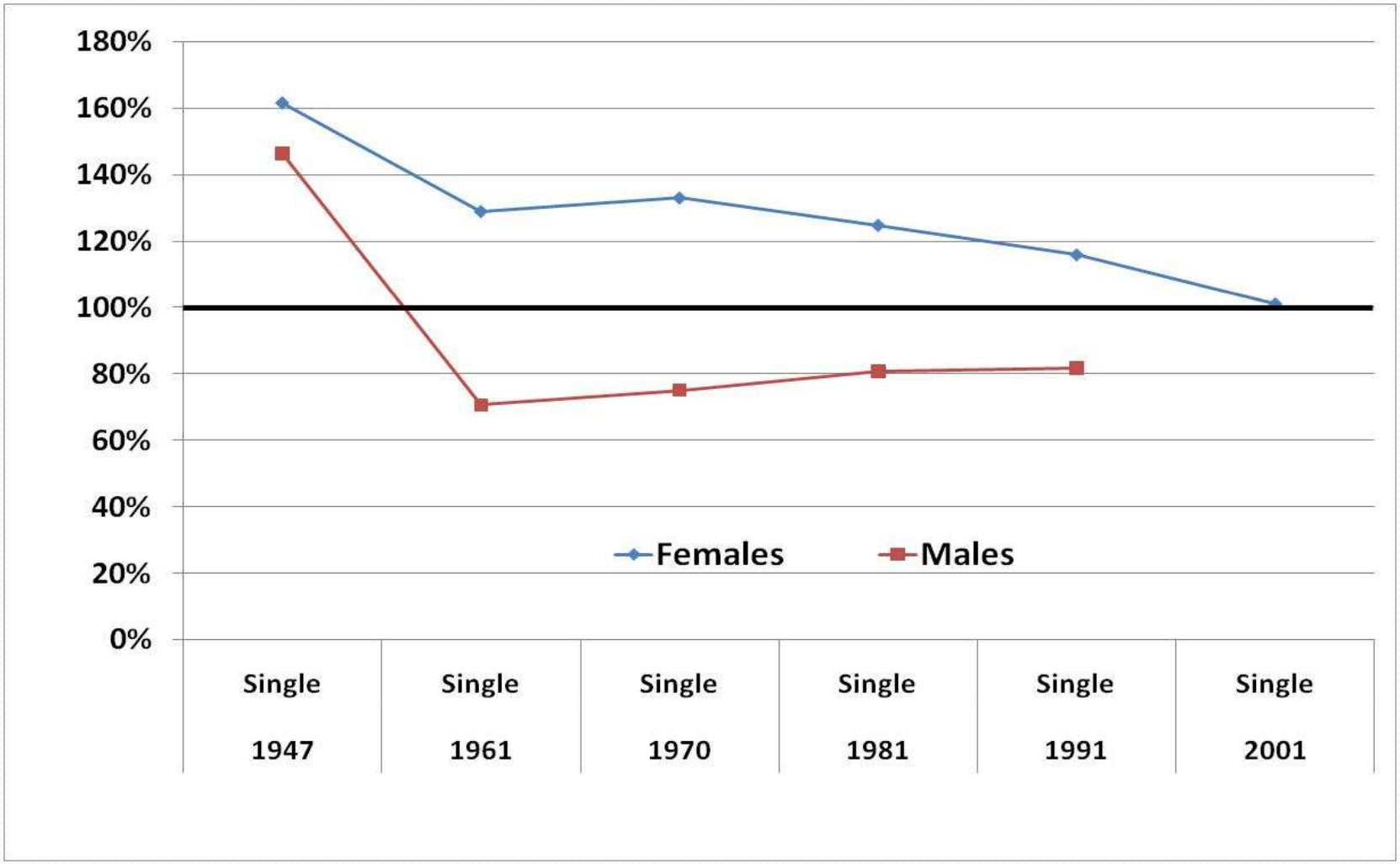


Age difference between the centenarian and his/her last spouse

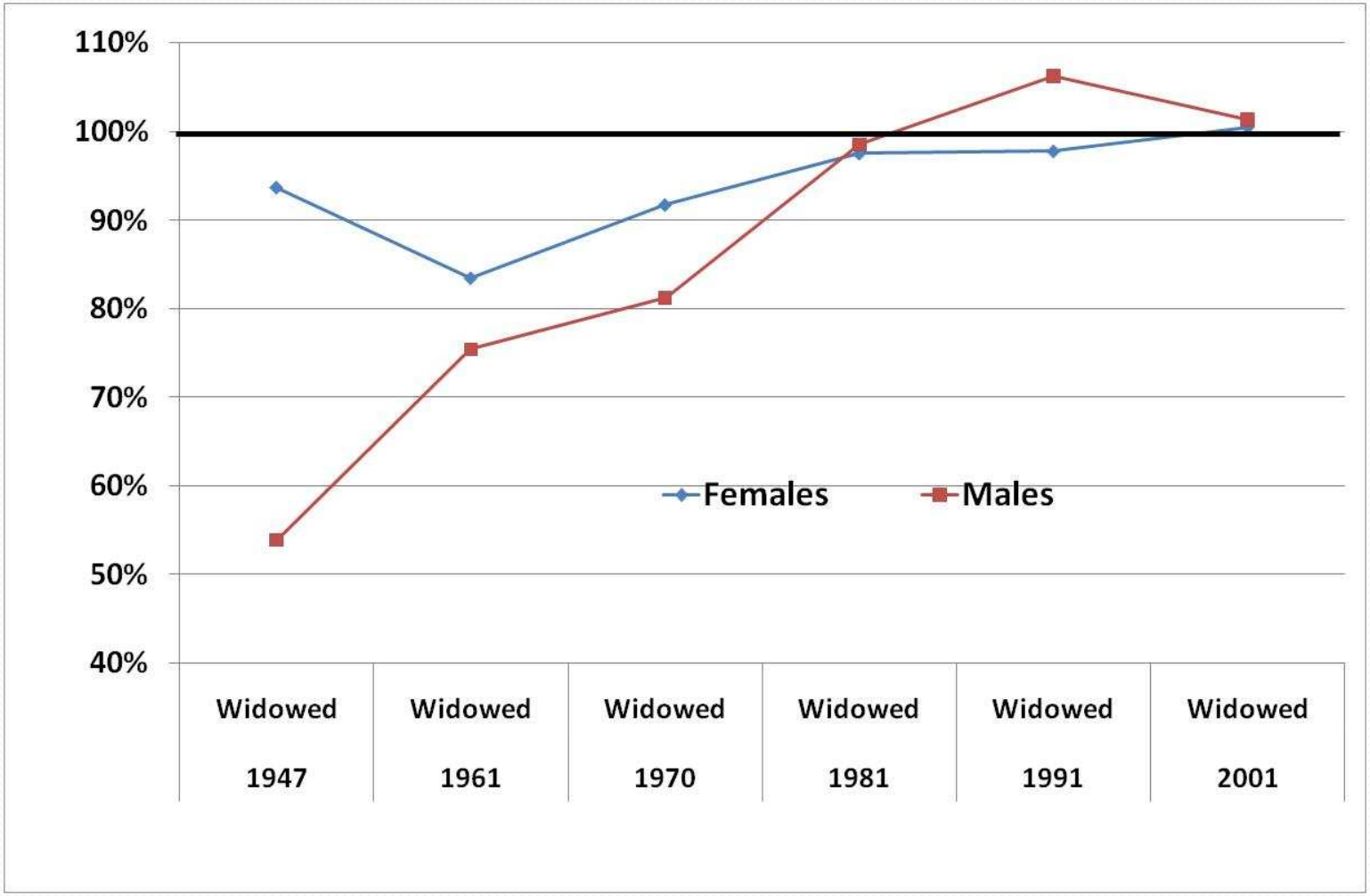
(for both sex the difference is calculated the same way)



Comparing the proportion of single with the whole population at successive censuses 1947-2001



Comparing the proportion of widowed with the whole population at successive censuses 1947-2001



NEXT STEPS

- Find data on age at widowhood for the whole birth cohorts considered.
- More investigation of the role of age difference between spouses and the duration of marriage.
- Prospective method : comparing the survival of persons observed several decades ago as single, married and widowed (with distinction of those widowed long time ago or more recently).
- Considering the marital history in combination with the one of living arrangements.


THANKS AND SOON