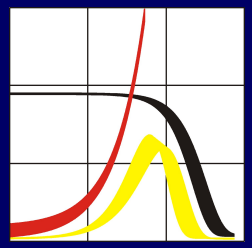


Max Planck Institute for Demographic Research

Can grandma help with the kids?

A demographic analysis of the sandwich generation

Josh Goldstein[1] Carl Mason[2]
Emilio Zagheni[1]

[1]Max Planck Institute for Demographic Research

[2]Department of Demography, UC Berkeley

Are parents sandwiched or supported?

"Caring responsibilities are moving in two directions ... not only down to children, but up to the aging parents of working people"

Penny de Valk, Ceridian's manag. dir.

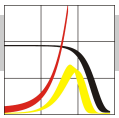
"Families increasingly depend on grandparents for childcare"

The Telegraph, June 22, 2009

The New York Times, Nov 9, 2010

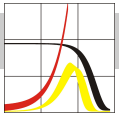
What's happening?

- Is the concept of *"sandwiched mothers"* consistent with demographic trends?
- Are grandparents healthy and available to help, or are they sick and a burden?
- Are grandparents sandwiched between grand-children and their own parents?



Research Aim

We want to quantify the effect of demographic change on the “sandwichness” of generations, and the availability of grandmothers to help with grandchildren

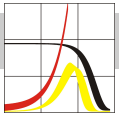


Our approach

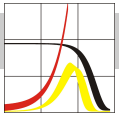
1. AGGREGATE ANALYSIS of care needs at the population level

2. STABLE POPULATION ANALYSIS of sandwichness and availaibility for comparing steady states

3. MICROSIMULATION (SOCSIM) for dynamic demography



AGGREGATE ANALYSIS

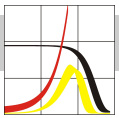


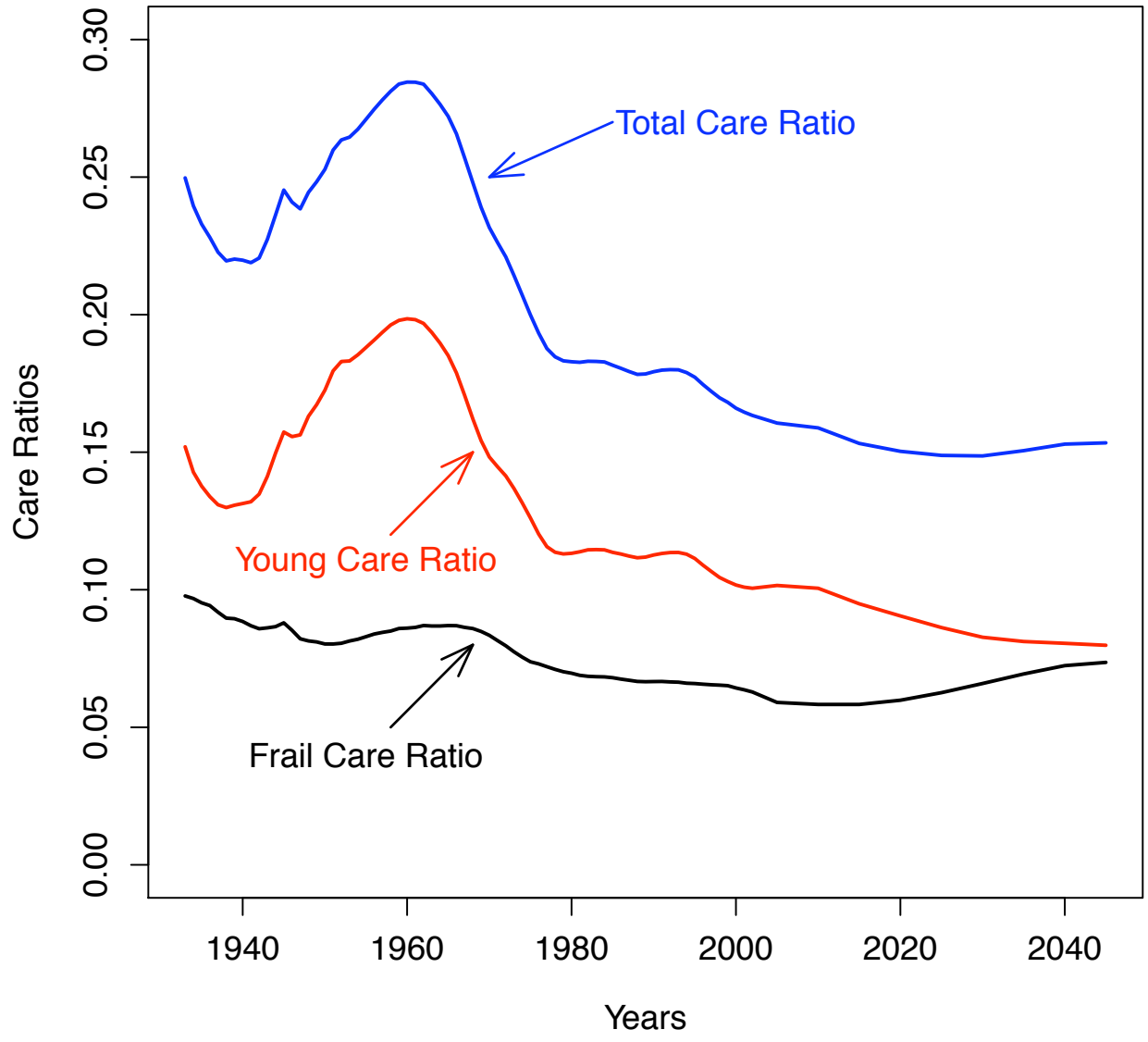
Indexes of care needs: "Total care ratio" (TCR)

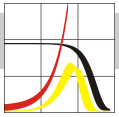
$$\text{TCR} = \frac{(\text{Children} < 5) + (\text{people dying within 5 years})}{\text{people over 20 who will survive more than 5 years}}$$

numerator $\sim$ potential care receivers

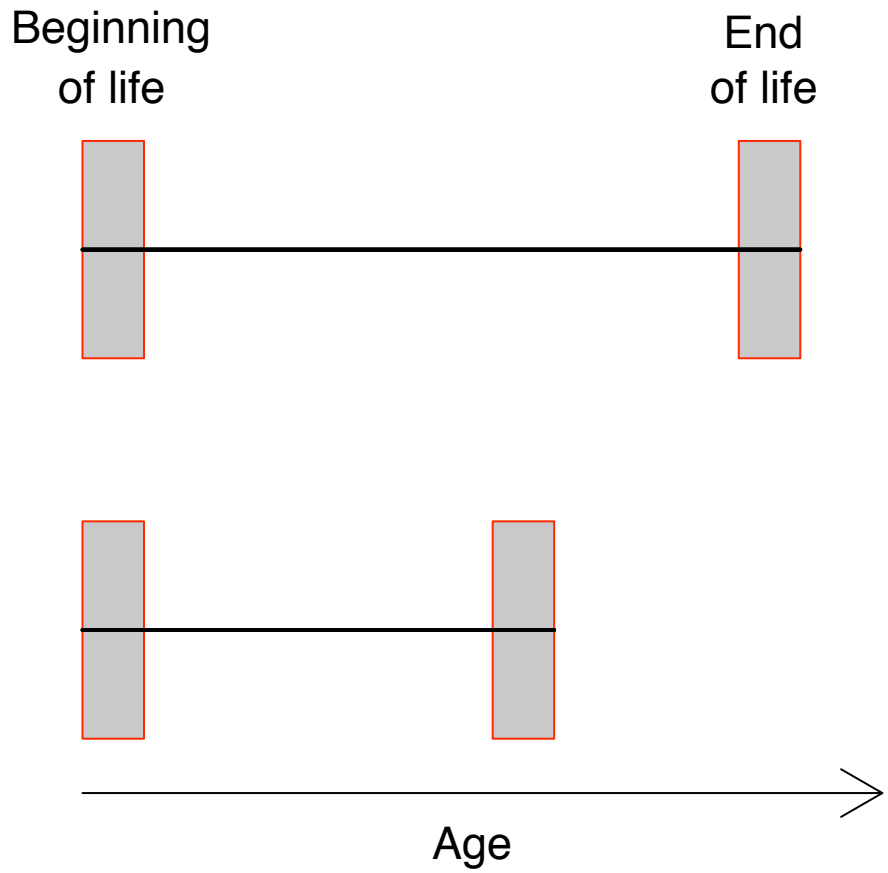
denominator $\sim$ potential care givers




Care Ratios
0.00
0.05
0.10
0.15
0.20
0.25
0.30
1940
1960
1980
2000
2020
2040
Years
Total Care Ratio
Young Care Ratio
Frail Care Ratio

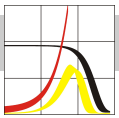


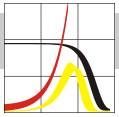
Higher longevity ⇒Lower total care ratio ...



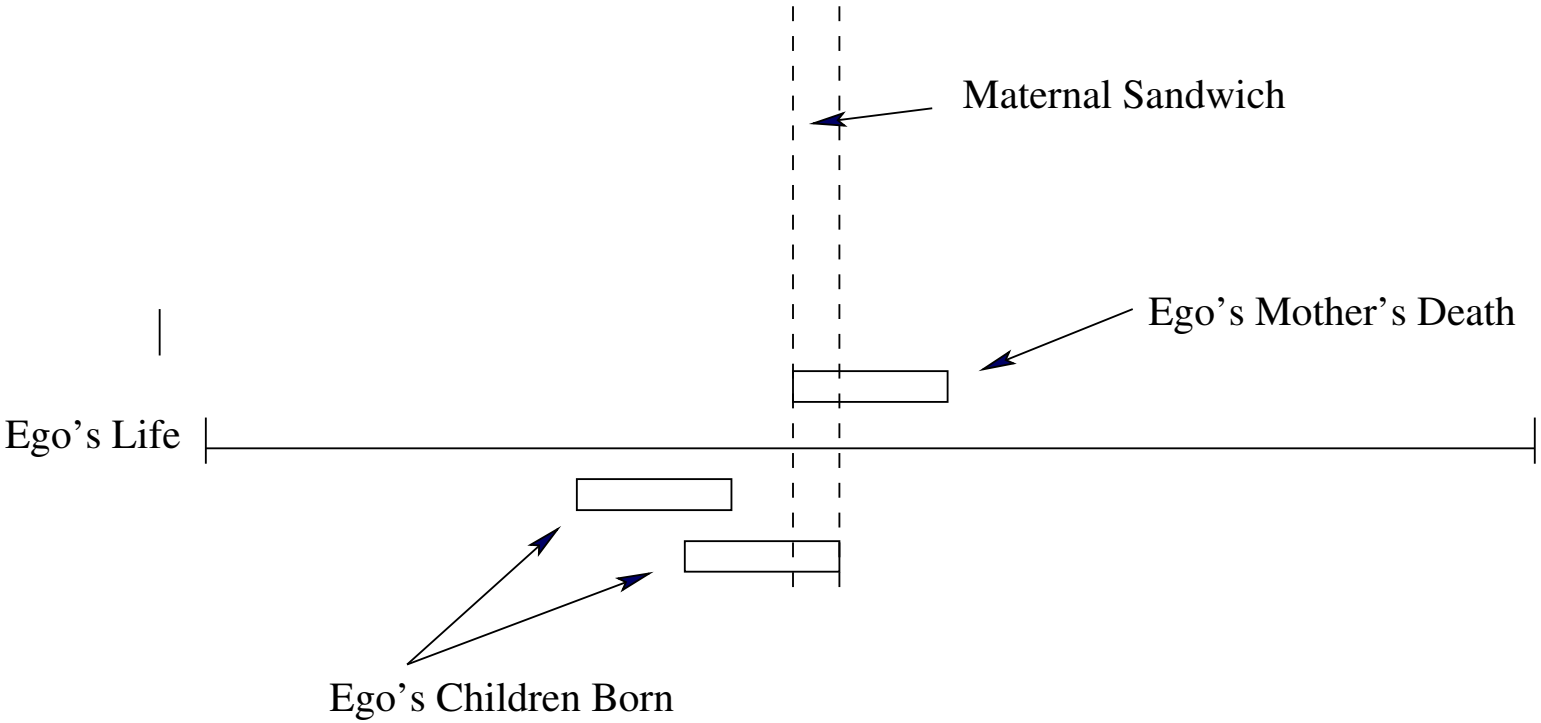
longer life expectancy
=
lower fraction of life
in need of care

shorter life expectancy
=
higher fraction of life
in need of care

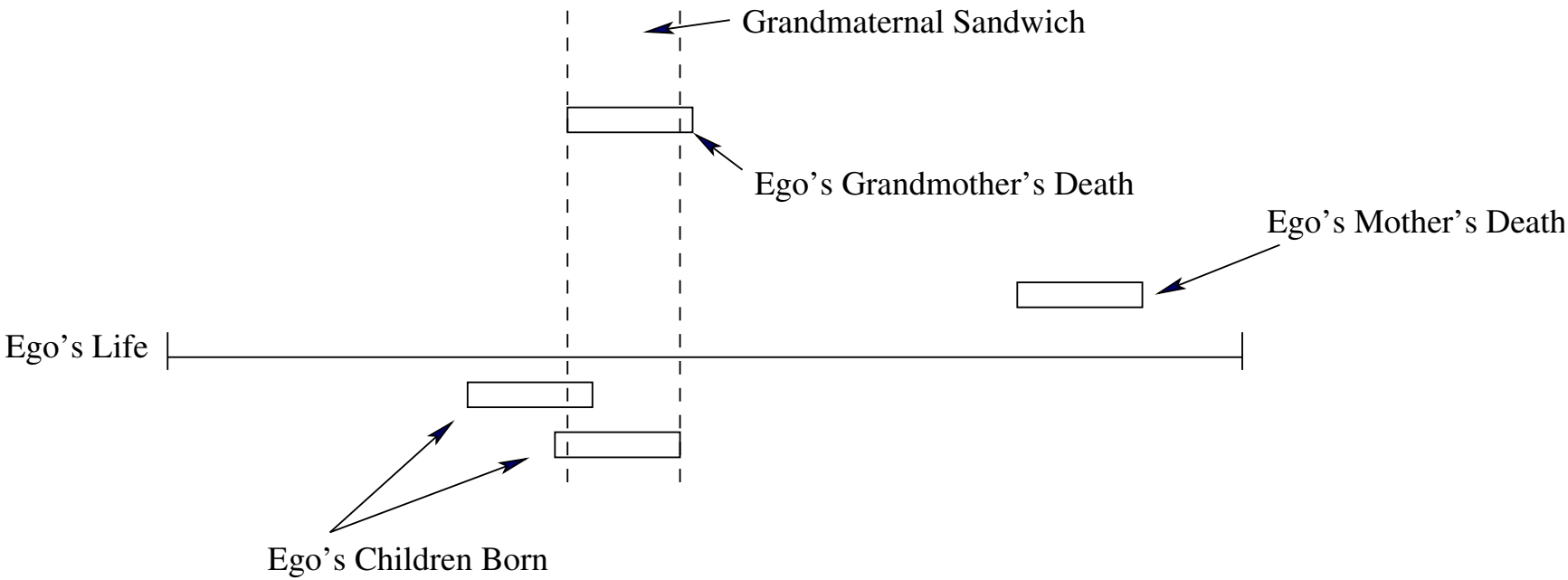




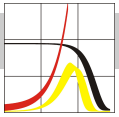
Low life expectancy

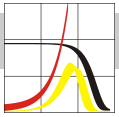


Higher life expectancy



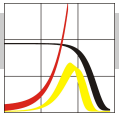
INSIGHTS FROM STABLE POPULATION





- From formal demography of kinship (Goodman, Keyfitz and Pullum, 1974), probability of living mother at age a:

$$M_1(a) \approx \frac{l(\mu + a)}{l(\mu)}$$



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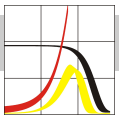
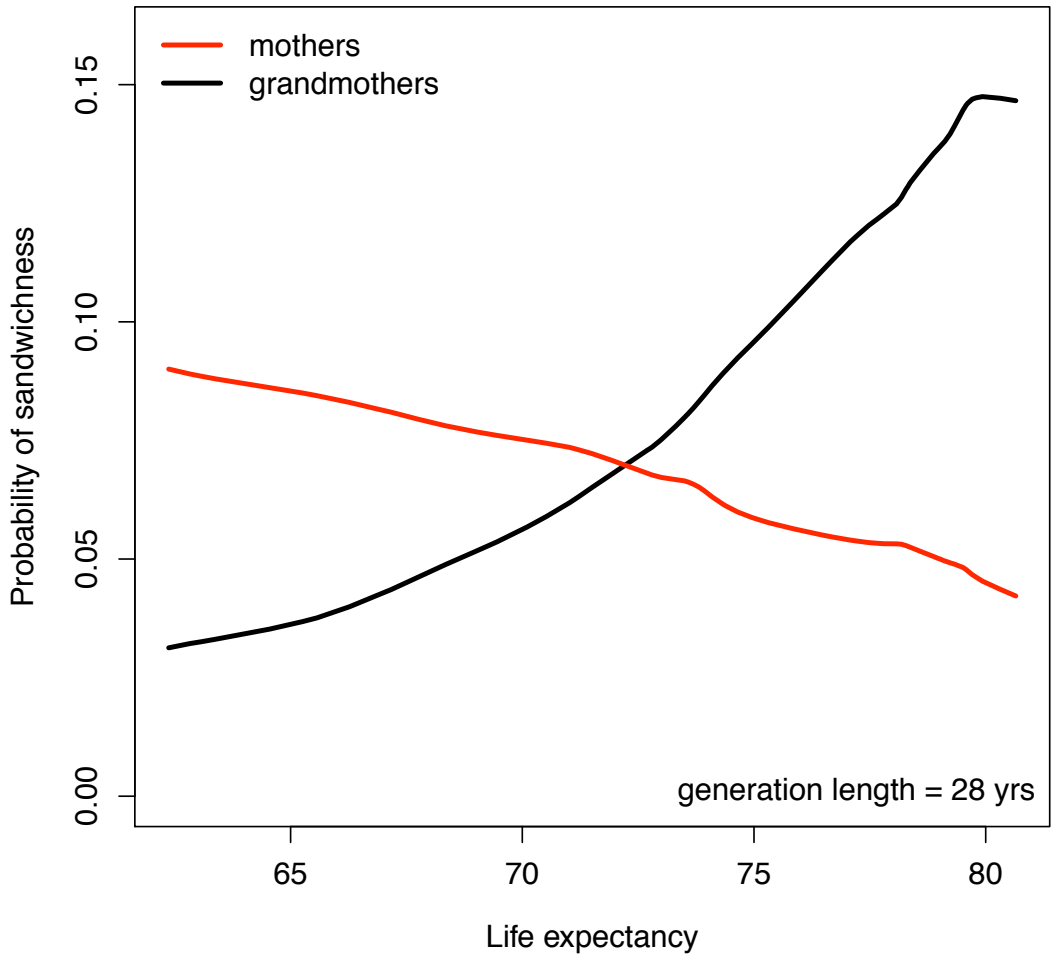
$$M_1(a) \approx \frac{l(\mu + a)}{l(\mu)}$$

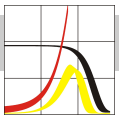
- From the point of view of a newborn girl:

$$P(\text{Mother sandwiched}) = \underbrace{M_1(5)}_{\text{P(Mum alive next 5 years)}} \times \underbrace{M_2(0)}_{\text{P(Grandma alive)}} \times \underbrace{(1 - \frac{l(2\mu + 5)}{l(2\mu)})}_{\text{P(Grandma dies within 5 years)}}$$

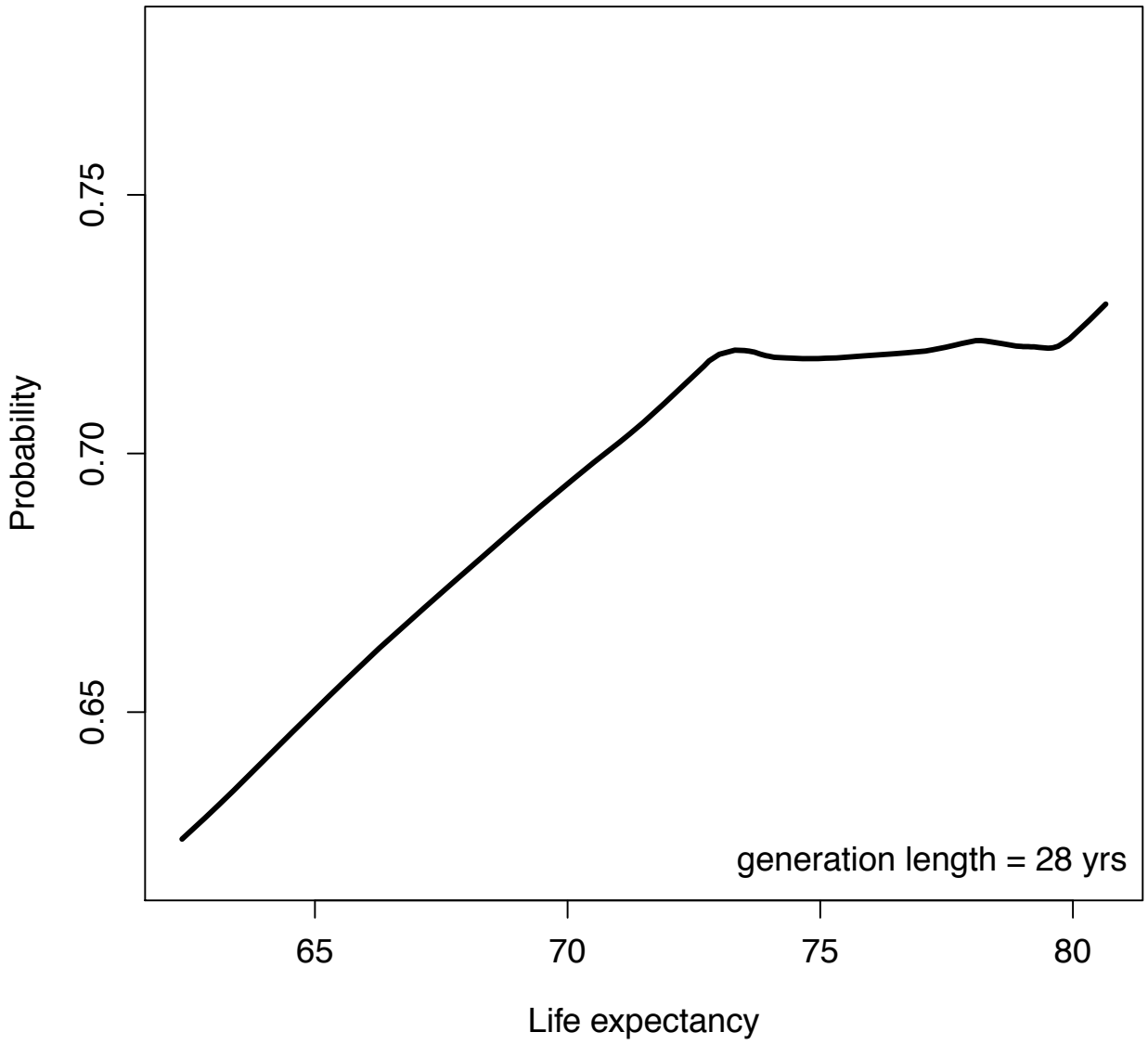


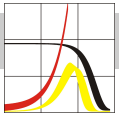
Grandmothers more ‘sandwiched’

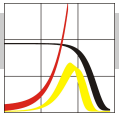




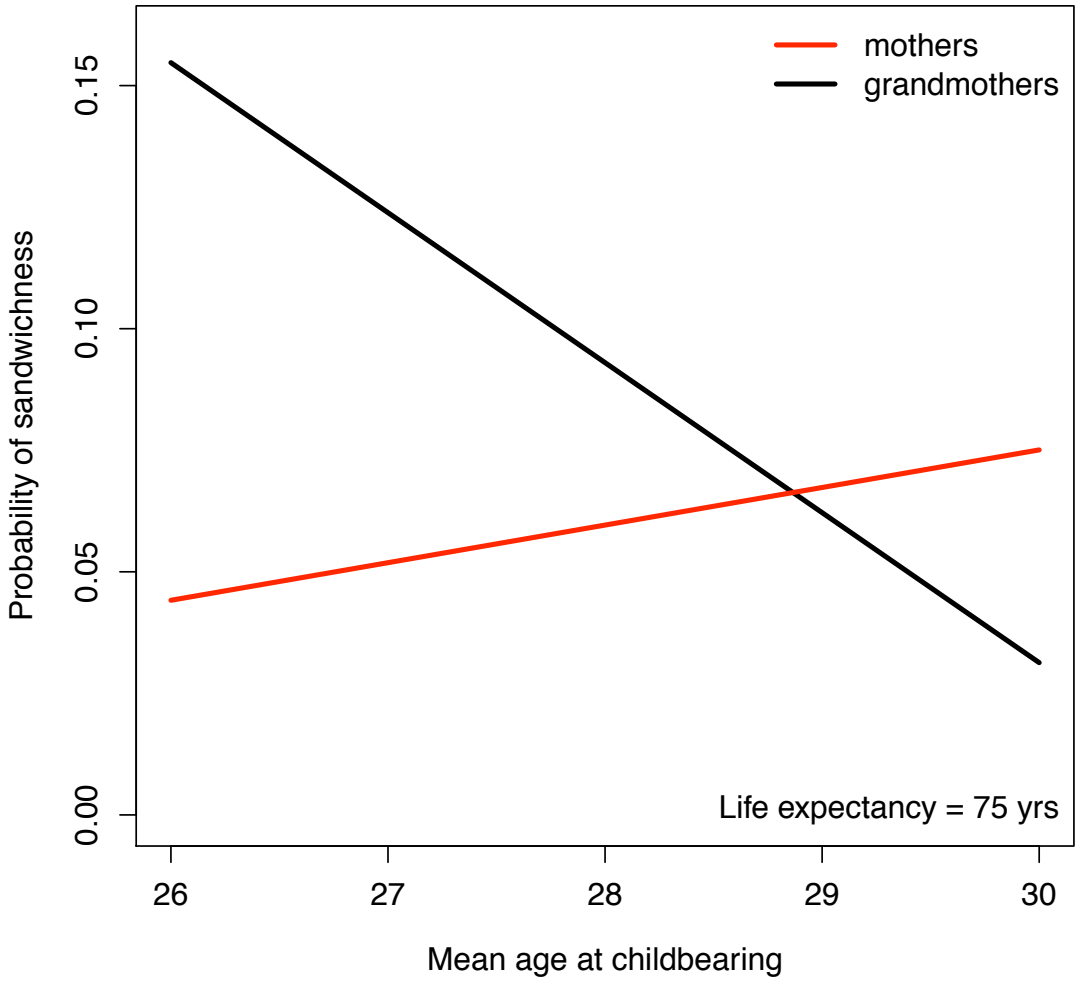
Availability of a 'healthy' grandmother for a child who is 5 yrs old

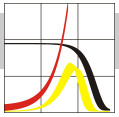




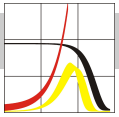


Later childbearing ⇒ less sandwiched grandmothers

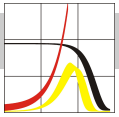




DYNAMICS OVER TIME: MICROSIMULATION

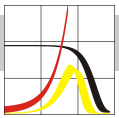


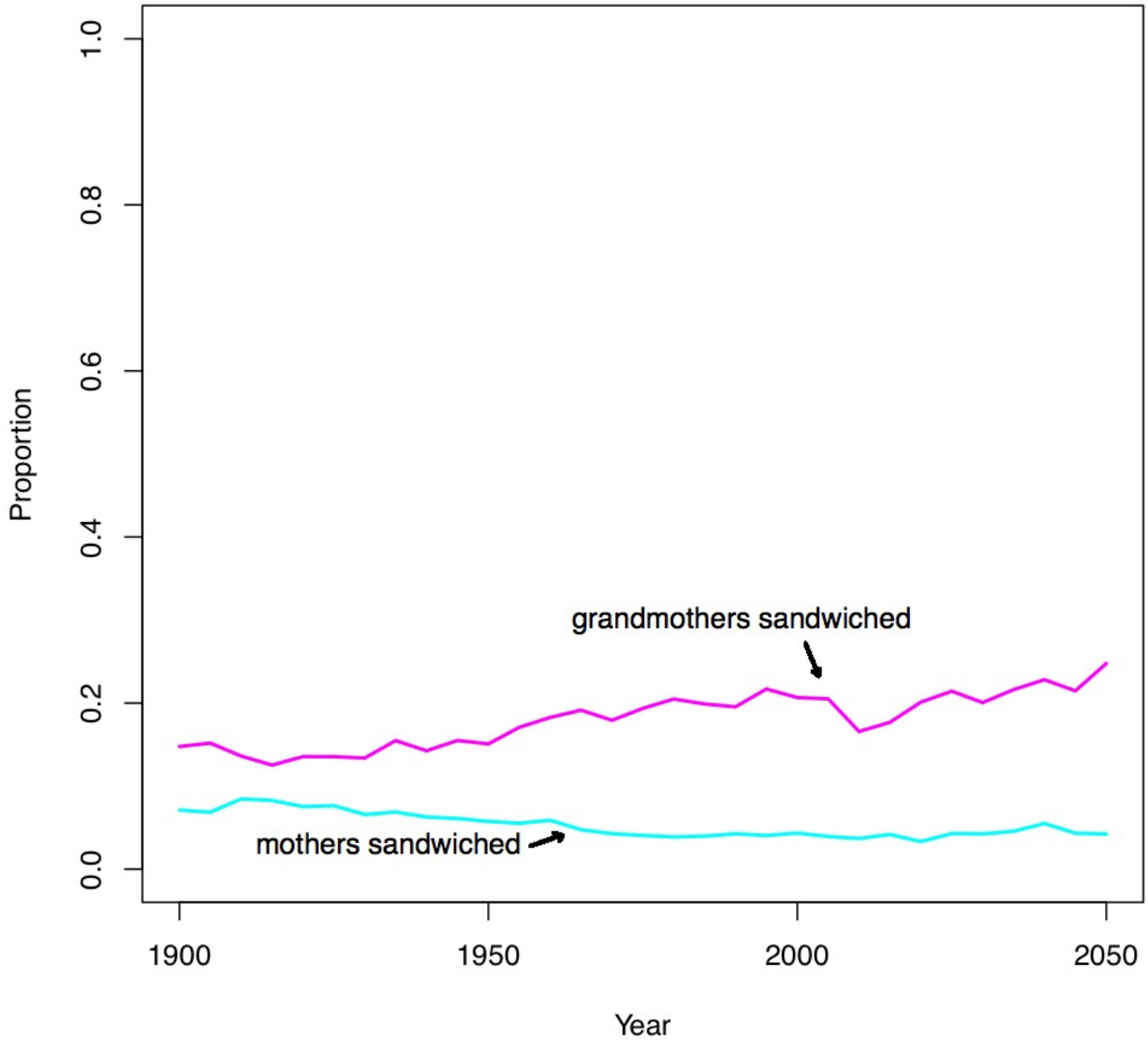
SOCSIM

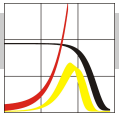


SOCSIM

- A computer program developed at UC Berkeley for kinship microsimulation
- It allows us to:
  - relax the stable population assumptions (e.g., two-sex population)
  - reconstruct the dynamics of sandwichness for the 20th century U.S., and make predictions for the future

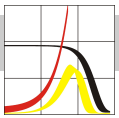



Proportion
0.0
0.2
0.4
0.6
0.8
1.0
1900
1950
2000
2050
Year
grandmothers sandwiched
mothers sandwiched



Mean person-years in maternal sandwich

Birth cohort	Mothers	Early Mothers	Late Mothers
Pre-1900	4.056	5.246	2.633
1905	2.394	2.790	1.862
1935	2.419	3.166	1.800
1960	1.497	1.696	1.197
1985	1.158	1.221	1.024
UN 2010	1.372	1.557	1.204



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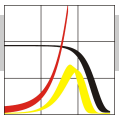

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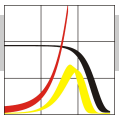

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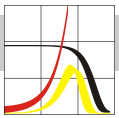
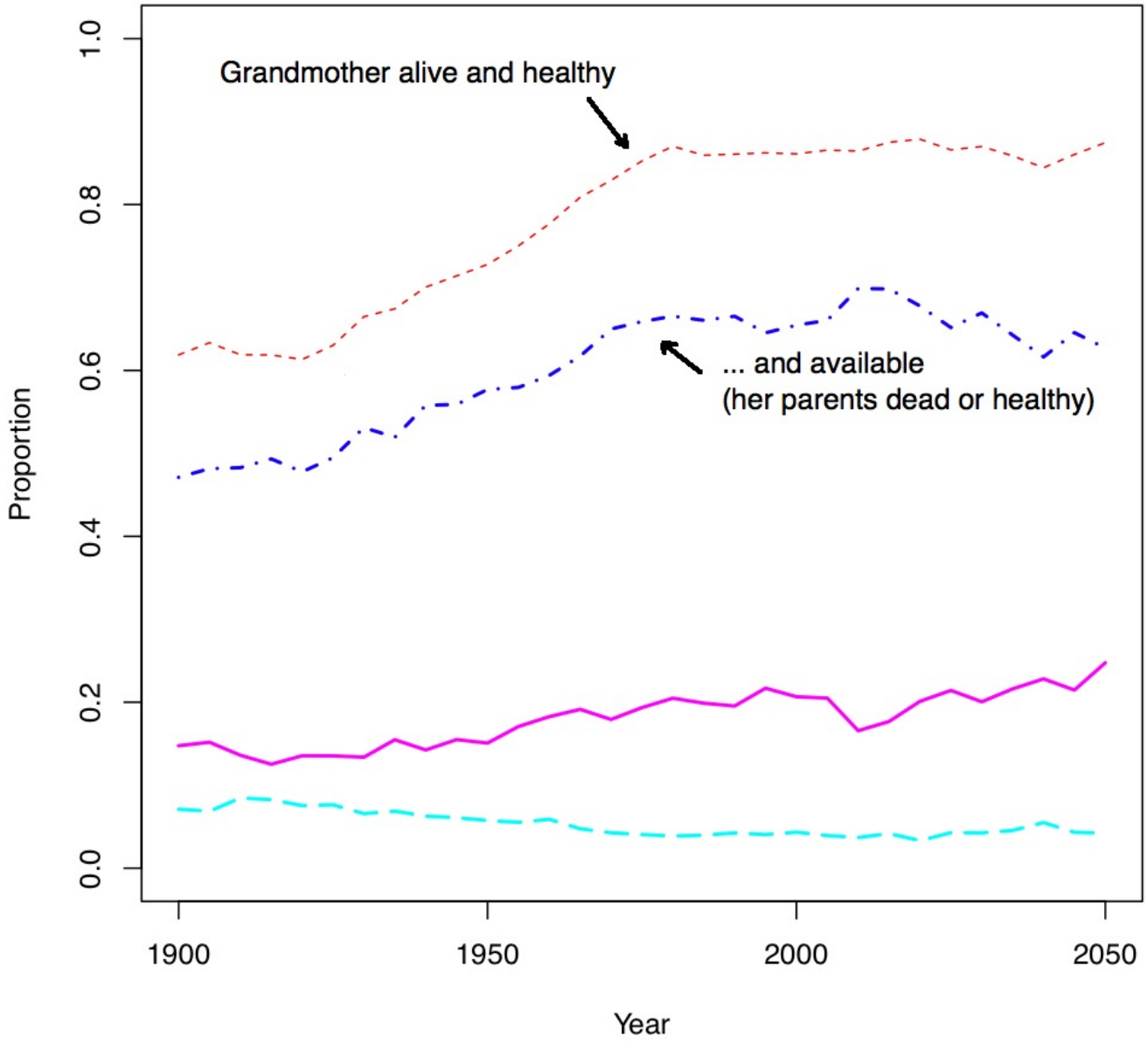
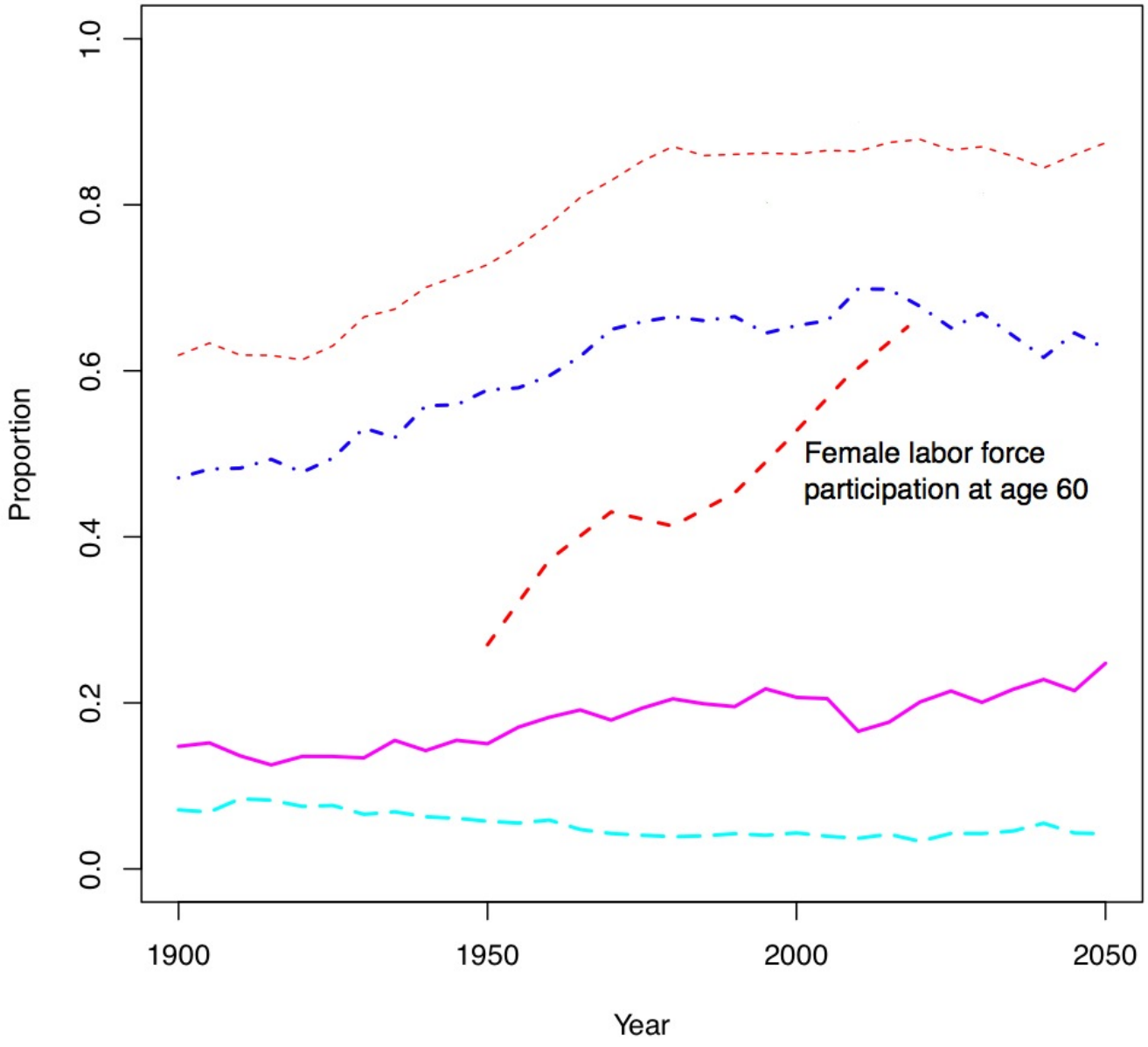
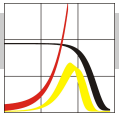



Grandmother alive and healthy
... and available
(her parents dead or healthy)
Proportion
0.0
0.2
0.4
0.6
0.8
1.0
1900
1950
2000
2050
Year


Proportion
0.0
0.2
0.4
0.6
0.8
1.0
1900
1950
2000
2050
Year
Female labor force
participation at age 60

Conclusion

- The timing of demographic events is very important for familial care, support, time transfers



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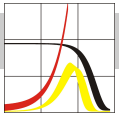
- ... But there is also quite a bit of heterogeneity (e.g., early vs late mothers, only-children, divorce, etc.)



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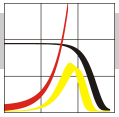

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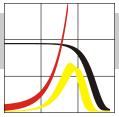
- The availability of grandmothers will not decrease substantially, but there will be more “competition” for grandmothers’ time



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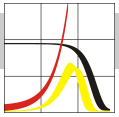
- The availability of grandmothers will not decrease substantially, but there will be more “competition” for grandmothers’ time
- Will grandma "multitask" in the future?



Thank you

Acknowledgements: Gretchen Donehower, for the SOCSIM input rates for the U.S.