

Living Arrangement Trends among China's Oldest and Extreme Old

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Presented at the Aging Research Forum in Xi'an China, September 7, 2019



Percent aged 60+ living independently (alone or with spouse only) in the world's most populous countries

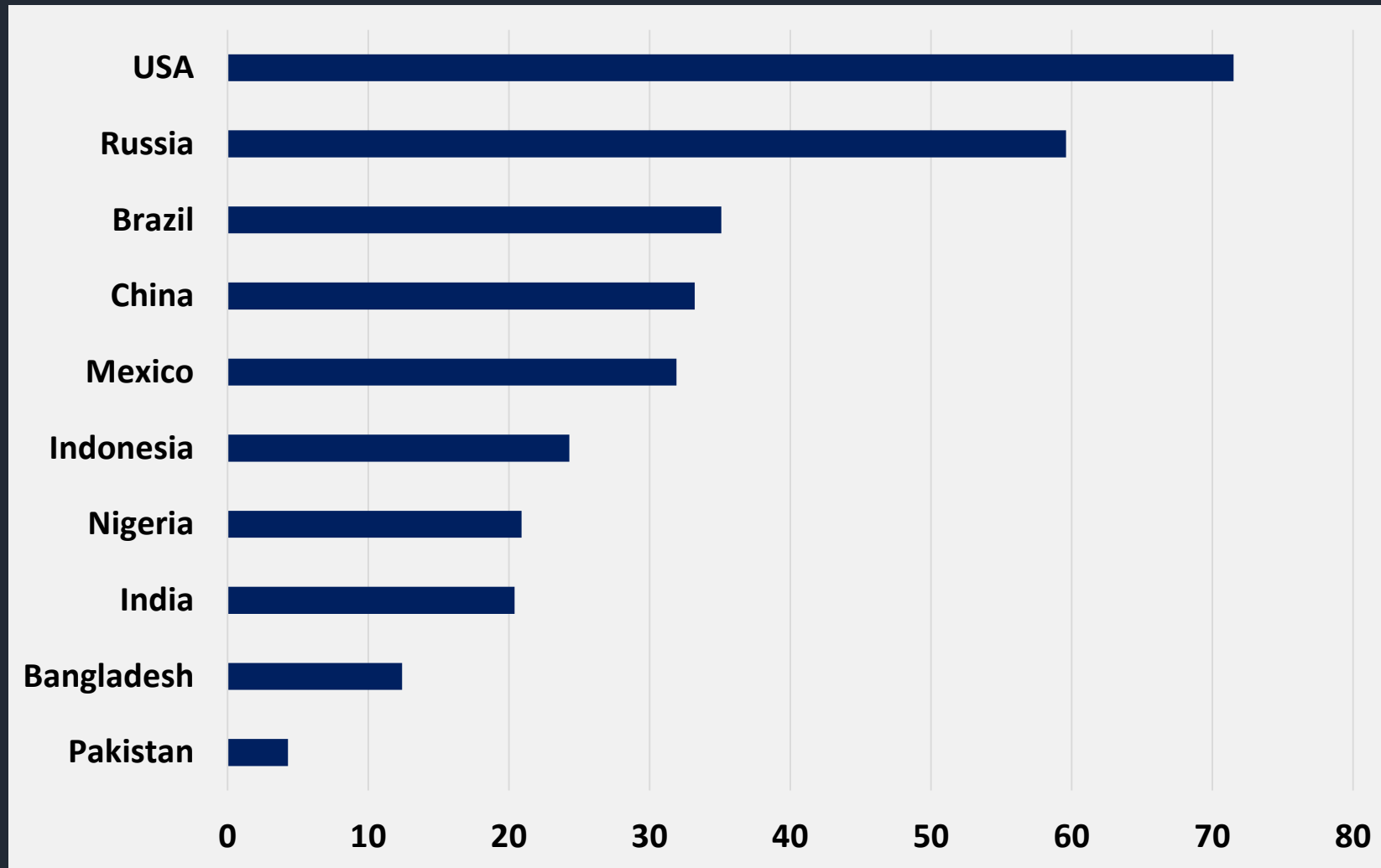


Table 1 from United Nations (2017) *Living Arrangements of Older Persons: A Report on an Expanded International Dataset*. New York: UN Department of Economic and Social Affairs, Population Division

Reasons for Stability and Change in Co-residence in China

Stability	Change
Filial piety	Demographics
Family solidarity	Globalization and economic change
Societal undercurrents	Values

Several bodies of research supports these justifications

Coresidence associates with better physical and mental health:

Chen and Silverstein (2000). Intergenerational social support... *Research on Aging*

Li et al. (2009). Health among the oldest-old in China... *Social Science and Medicine*

Sereny and Gu (2011). Living arrangement concordance... *Journal of Cross-Cultural Gerontology*

Silverstein, Cong and Li (2006). Intergenerational transfers and living arrangements...*Journal of Gerontology: Social Sciences*

Coresidence facilitates intergenerational exchange:

Hermalin, Ofstedal and Shih (2003). Patterns of intergenerational support.... *China's Revolutions and Intergenerational Relations*

Secondi (1997). Private money transfers in rural China... *The Journal of Development Studies*

Treas and Chen (2000). Living arrangements, income pooling... *Research on Aging*

Yan, Chen and Yang (2001). The effects of living arrangements... *Social Sciences in China*

Moves into and out of coresidence are motivated by support needs:

Chen (2005). Residential patterns of parents... *Population Research and Policy Review*

Zhou et al. (2018). A longitudinal analysis of the association... *Research on Aging*

Zimmer (2005). Health and living arrangement transitions... *Research on Aging*

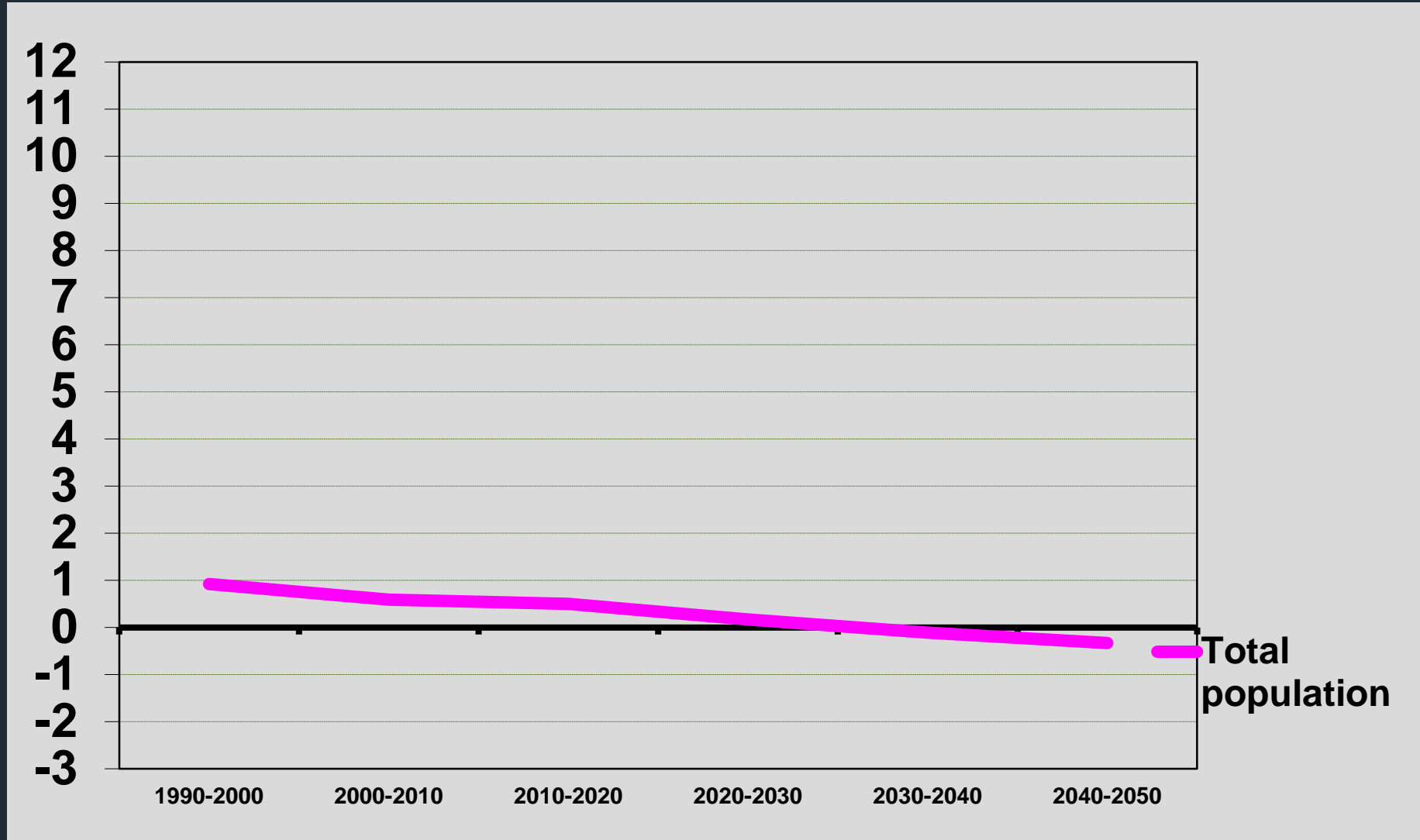
Zimmer and Korinek (2010). Shifts in coresidential living arrangements.... *Demography*

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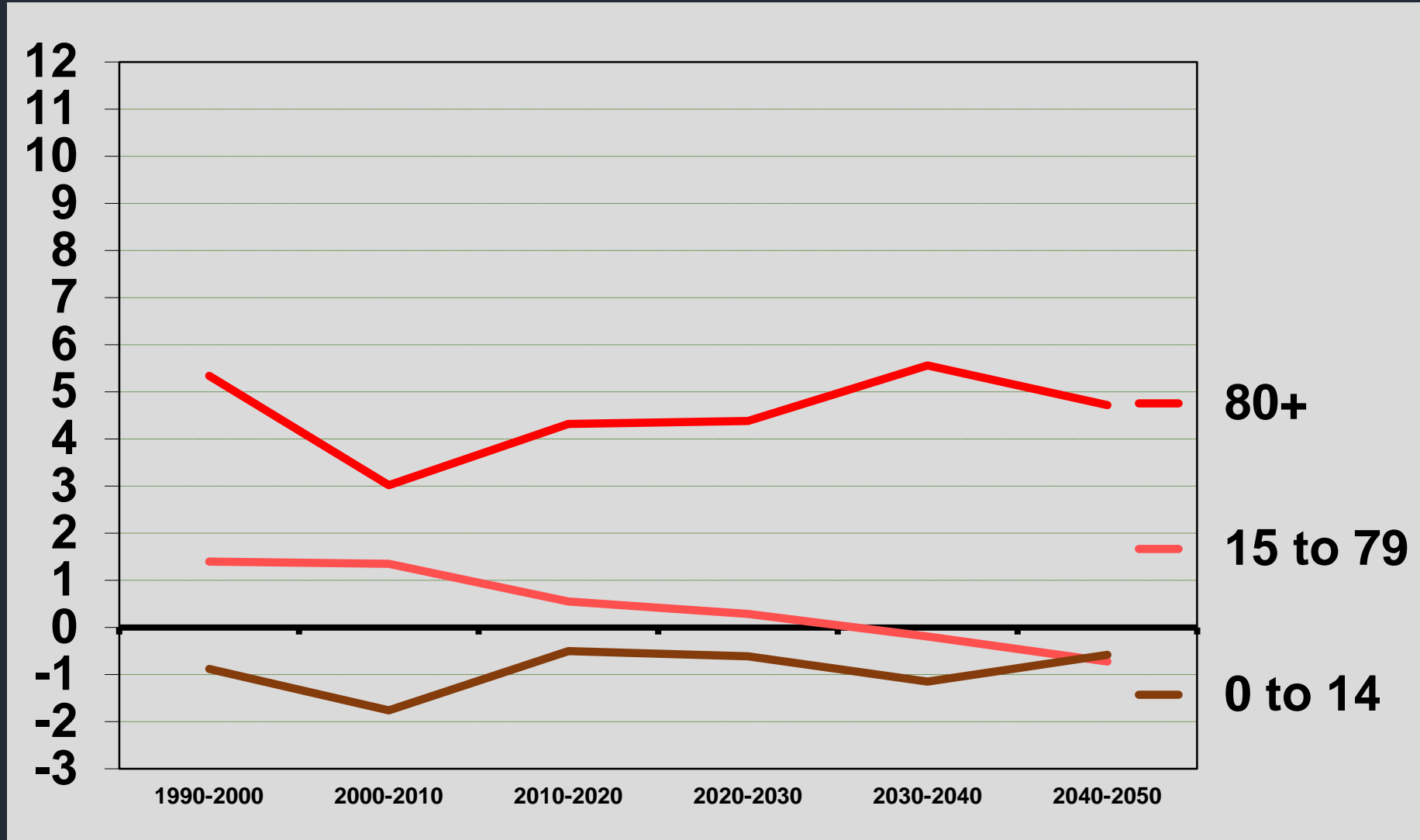
China's demographic transformation

Average annual percent growth of China's population, 1990-2050



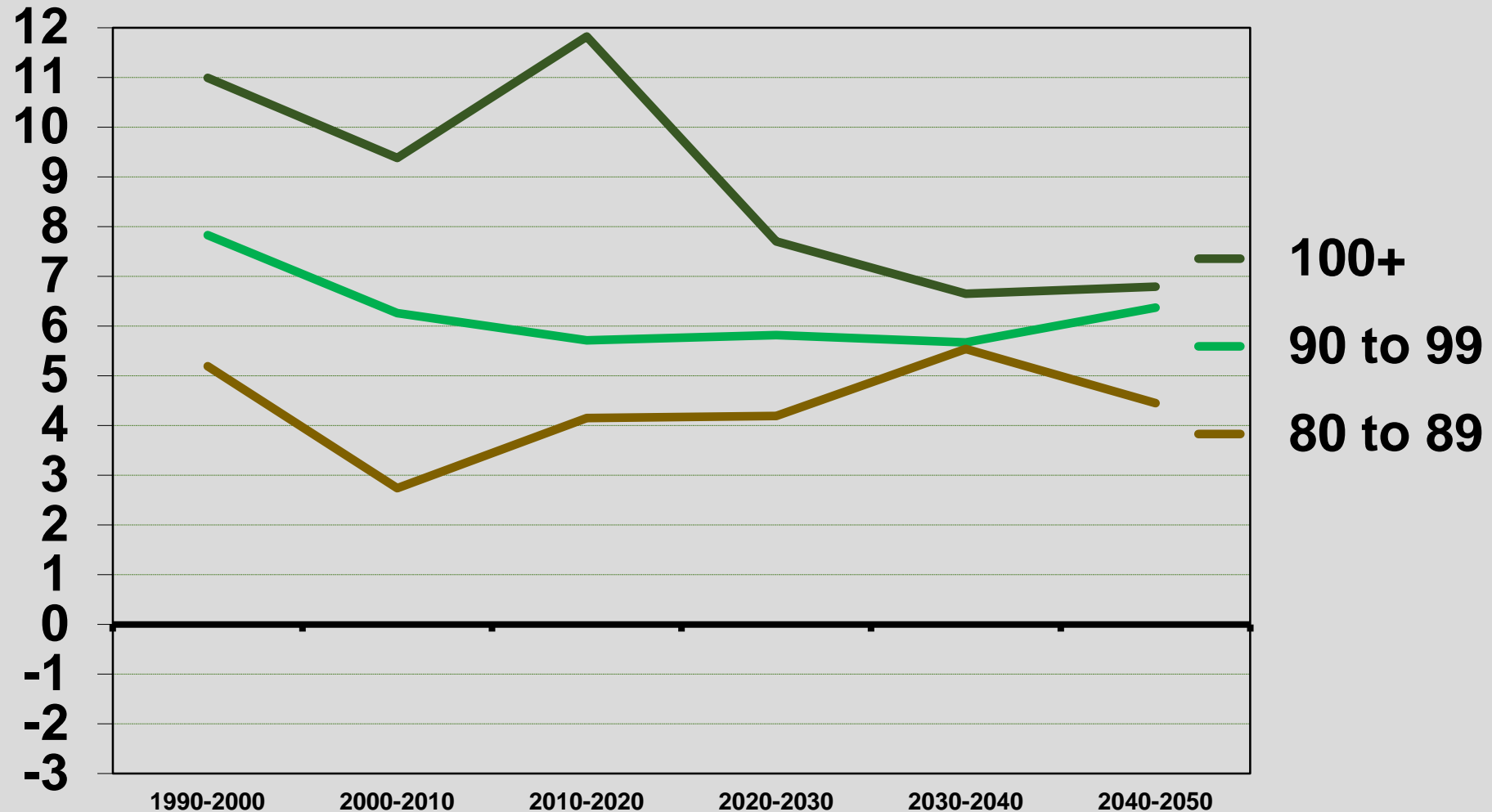
China's demographic transformation

Average annual percent growth of China's population, 1990-2050



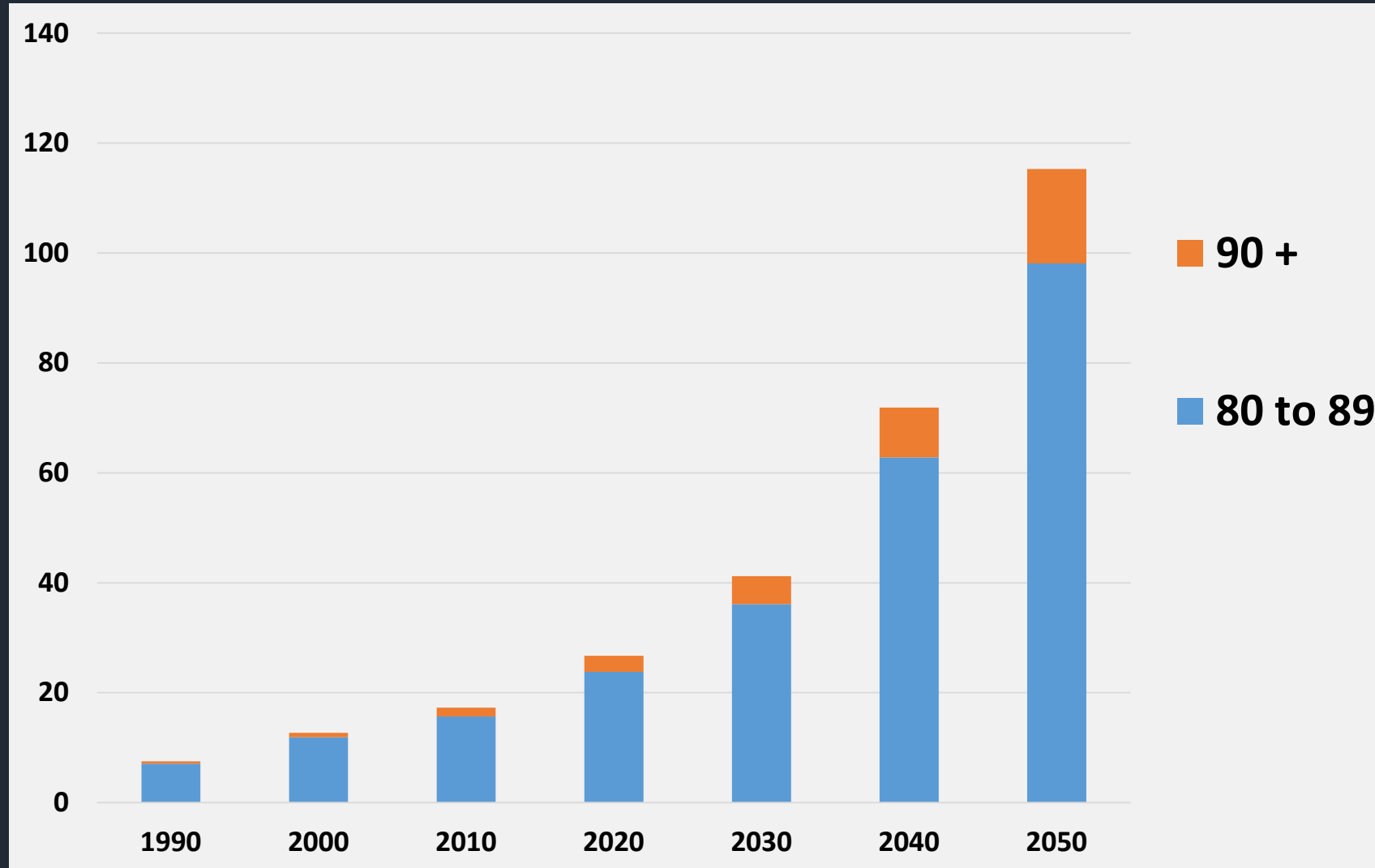
China's demographic transformation

Average annual percent growth of China's population, 1990-2050



China's demographic transformation

Population size, in millions, of China's oldest and extreme old



Research Question 1:

What are the trends in living independently versus coresiding among China's oldest (80+) and extreme (90+) old?

Research Question 2:

Are the trends consistent across subgroups?

Why focus on this age segment?

1. Fastest growing segment of the population
2. Provides an opportunity to assess influence of deep-seated norms versus changing values

Hypotheses

1. There has been an increasing tendency to live independently (alone or with spouse only).
2. This tendency is tempered for those in greatest need, defined as the extreme old and disabled
3. This tendency is inflated in rural areas

Data

China Longitudinal Healthy Longevity Study 1998-2014

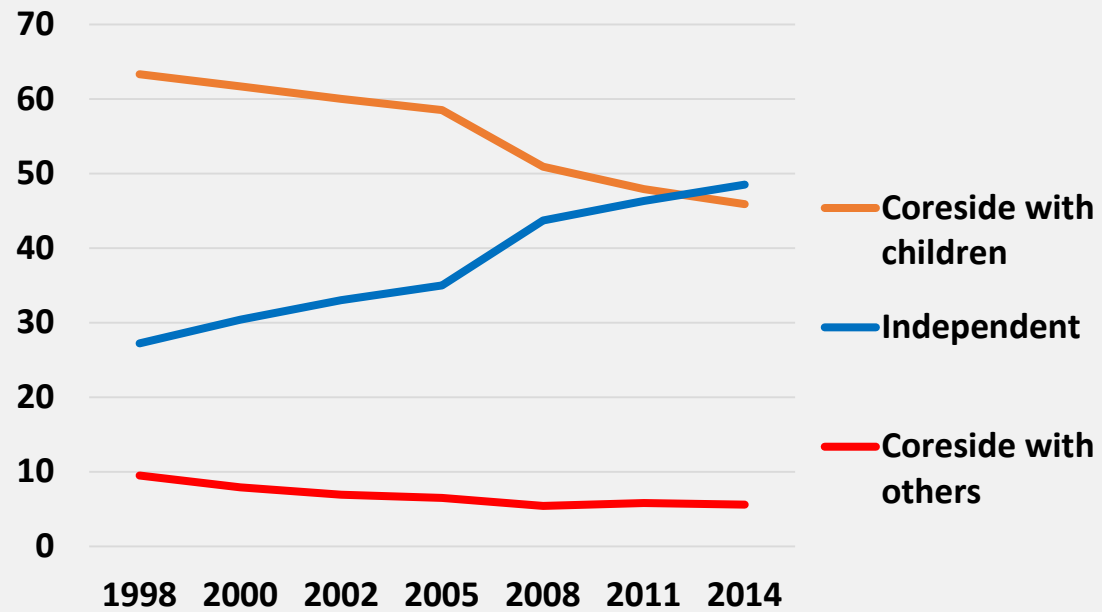
	Sample N
Octogenarians (80-89)	24,385
Nonagenarians (90-99)	22,281
Centenarians (100-105)	14,363
Total	61,029

Nursing home residents (about 4% of total) omitted

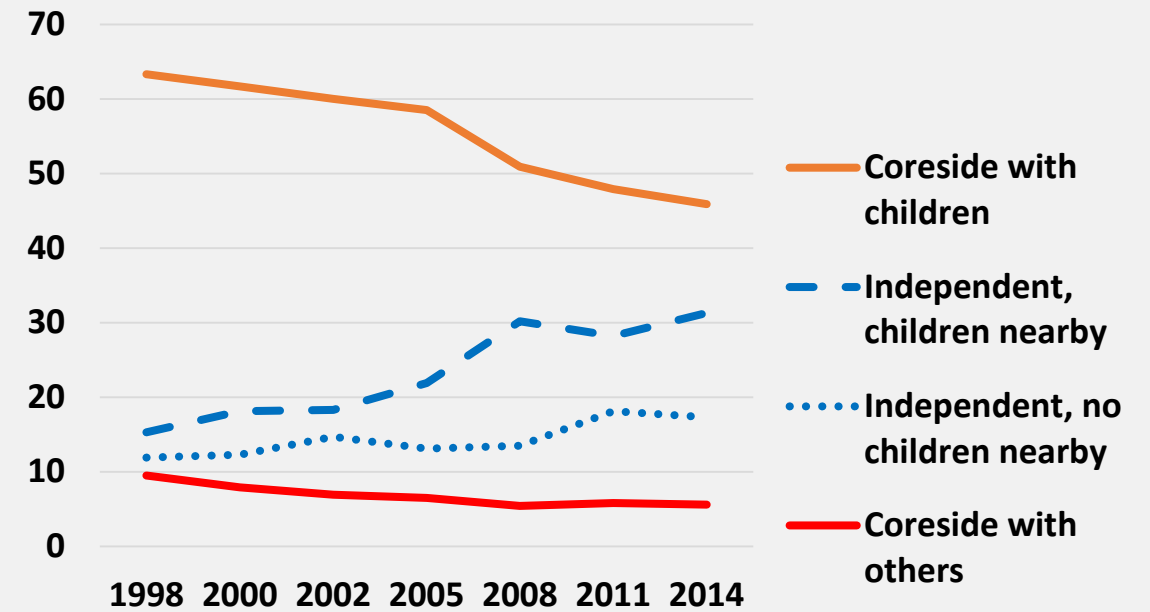
1. What are the trends in living arrangements?

Living arrangement distributions, adults 80+ by survey year

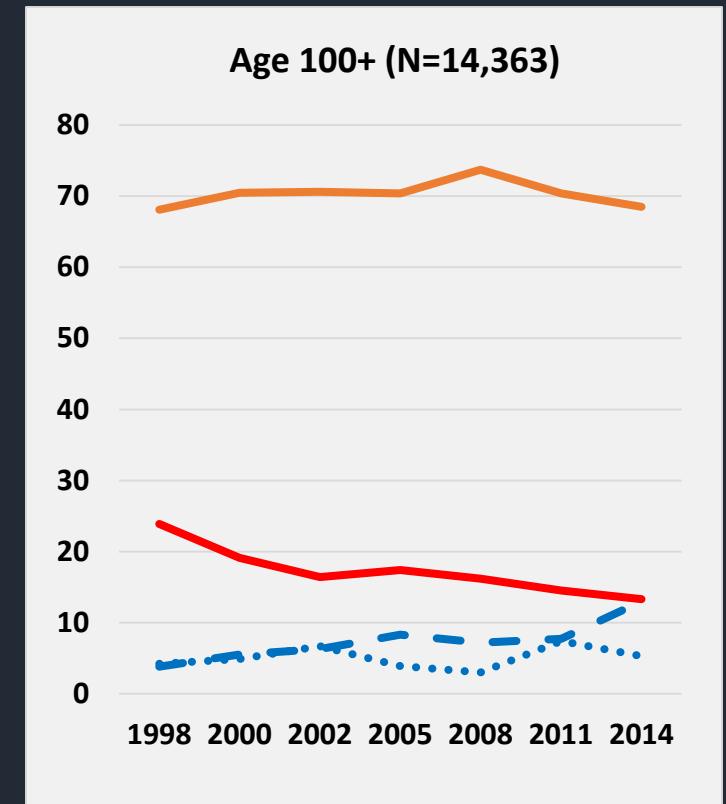
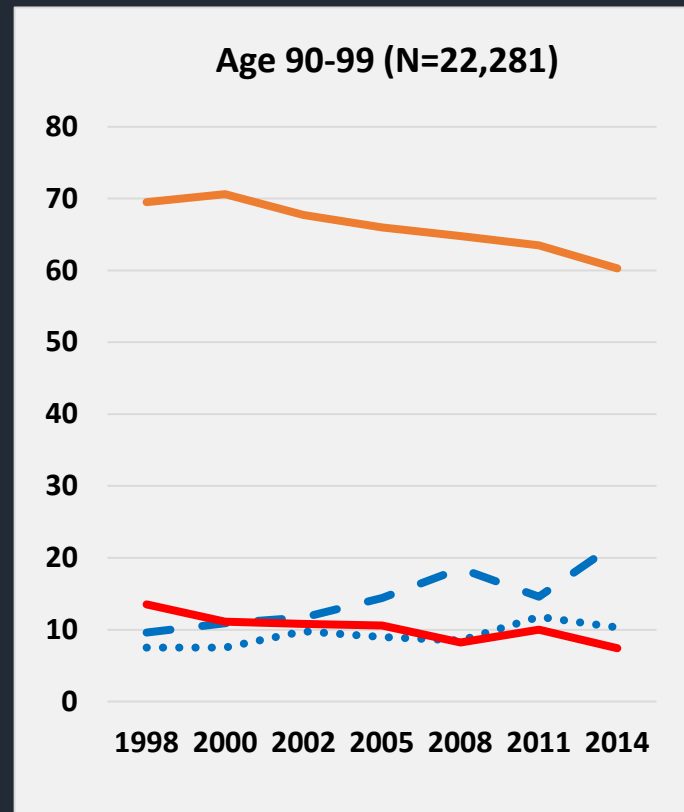
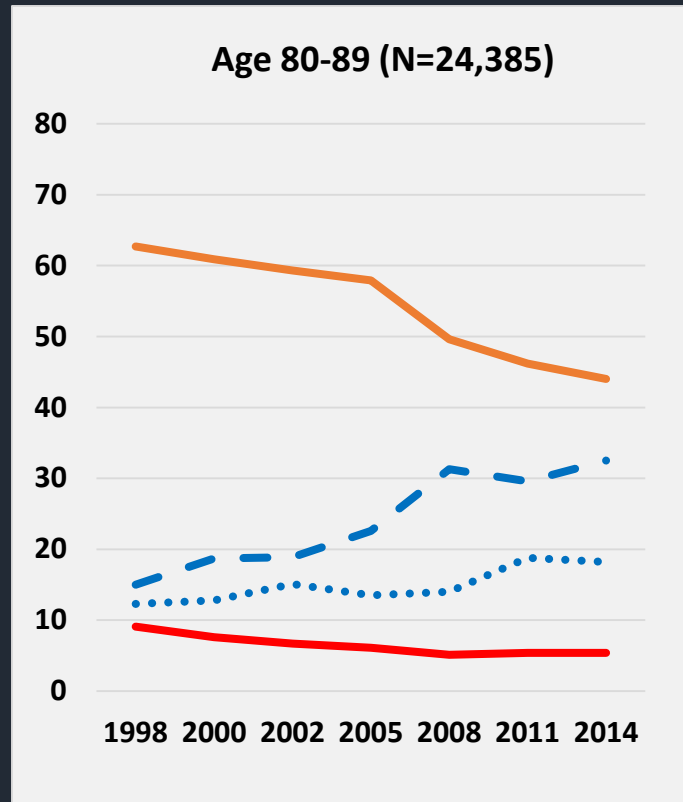
Total population (N=63,777)



Total population (N=63,777)



Living arrangement distributions, adults 80+ by survey year



Coreside with children —
Independent, children nearby - - -
Independent, no children nearby . . .
Coreside with others —

2. Are trends consistent across subgroups?

Methods:

Multinomial regression with four living arrangement categories:

- Independent without children nearby (contrast category)
- Independent with children nearby
- Coresident with children
- Coresident with others

Those without children omitted.

Trend variable:

Time = Effect of 1 year on the chance of living in a particular category

Methods:

Other covariates:

Octogenarian vs. Nonagenarian or Centenarian

Female vs. Male

Rural vs. Urban

Has 2+ children vs. Has 1 only

Primary education vs. Less than primary

Disabled vs. Non-disabled

Spouse coresides vs. No coresident spouse

All covariates are interacted with Time.

Significant interactions are presented.

Multinomial regression main effects models

	Main effects only model		
	Independent with nearby children	Coresident with adult children	Coresident with others
	Vs. Independent without nearby children		
Time	0.020*	-0.038**	-0.041**
Age 80-89	---	---	---
Age 90-99	0.047	0.343**	0.612**
Age 100+	0.290**	1.068**	1.733**
Female	-0.194**	0.028	-0.016
Rural	1.208**	0.746**	0.420**
2+ adult children	0.947**	0.202**	-0.480**
Primary education	-0.701**	-0.341**	-0.054
Disabled	-0.244**	0.518**	0.429**
Spouse coresidence	-0.112 [‡]	-1.556**	-1.129**
Constant	-0.604	1.381	-0.269
** p < .01 * .01 < p < .05 ‡.05 < p < .10			

Multinomial regression interaction model

	Main effects only model		
	Independent with nearby children	Coreresident with adult children Vs. Independent without nearby children	Coreresident with others
Time	0.046**	-0.018**	-0.028**
Age 80-89	---	---	---
Age 90-99	0.057	0.357**	0.609**
Age 100+	0.286**	1.058**	1.709**
Female	-0.187**	0.033	-0.013
Rural	1.186**	0.712**	0.406**
2+ adult children	0.952**	0.206**	-0.477**
Primary education	-0.687**	-0.329**	-0.044
Disabled	-0.244**	0.517**	0.429**
Spouse coresidence	0.106†	-1.150**	-1.125**
Interactions			
Time by...			
Age 90-99	0.002	0.021*	0.008
Age 100+	0.028	0.041**	0.015
Rural	-0.050**	-0.046**	-0.033*
Constant	-0.613	1.380	-0.273
** p < .01 * .01 < p < .05 †.05 < p < .10			

Predicted probabilities

Based on interaction model:

Octogenarian, Nonagenarian and Centenarian
Disabled and Non-disabled
Rural and Urban

Other categories held constant at:

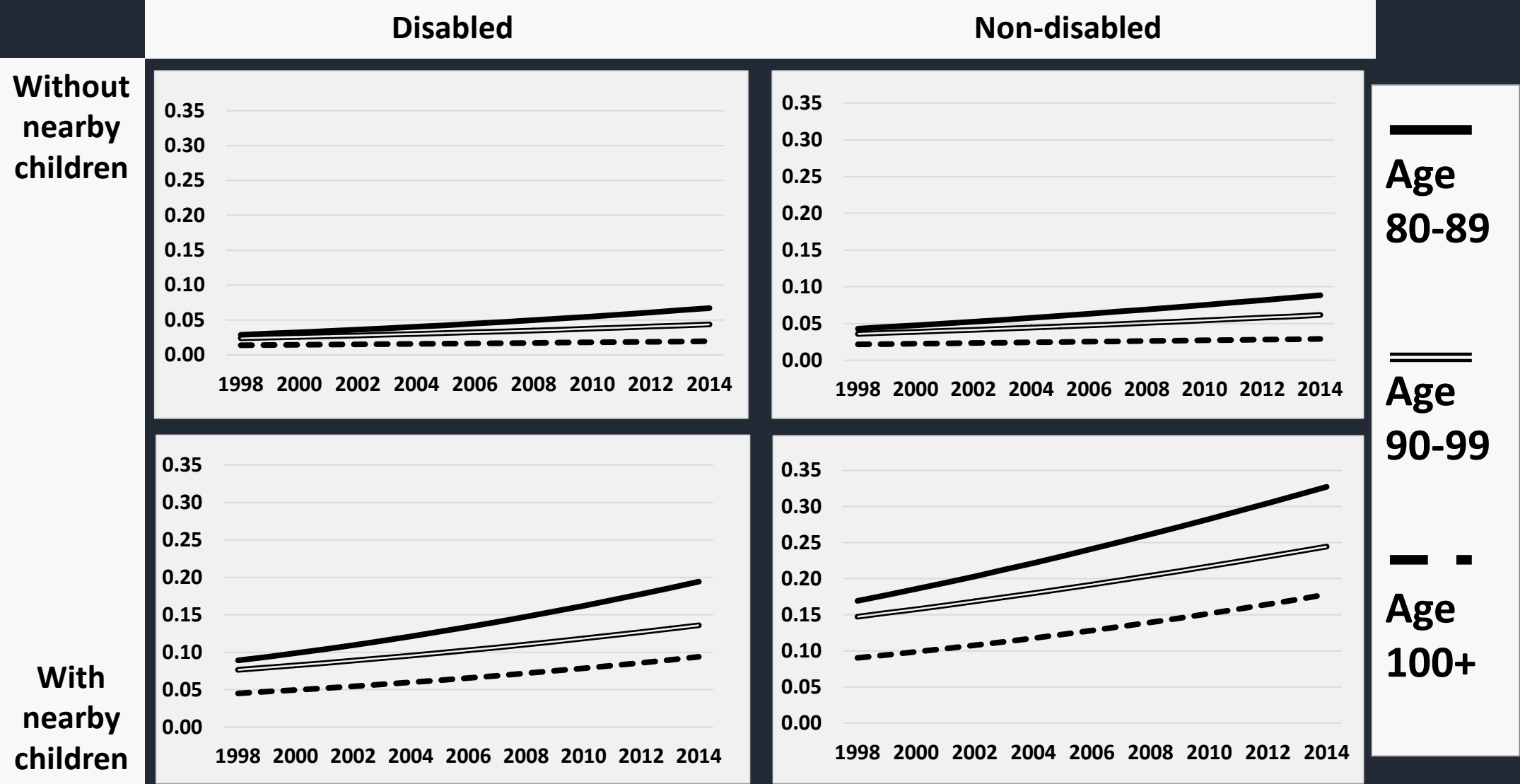
Female

Has 2+ children

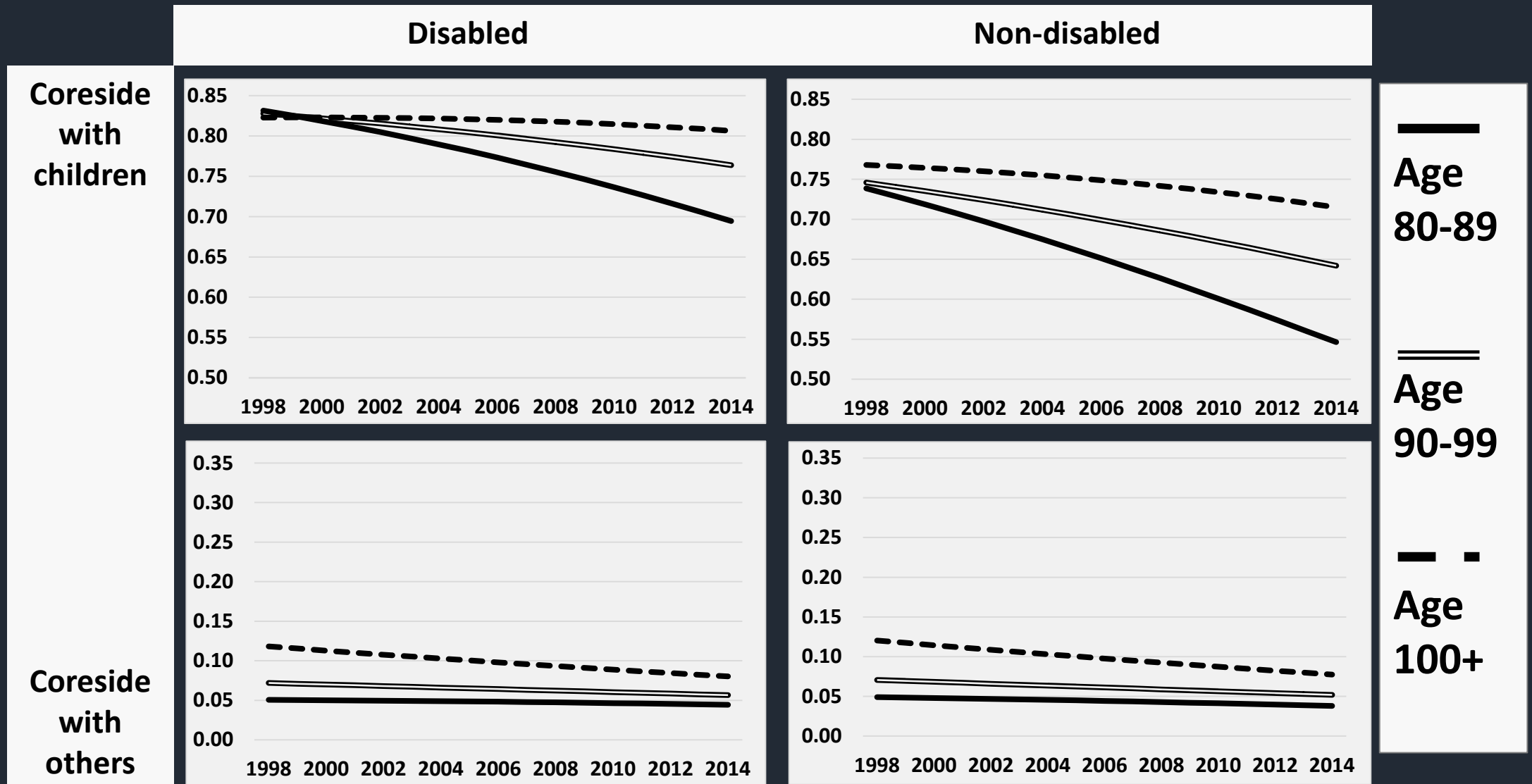
Less than primary education

No coresident spouse

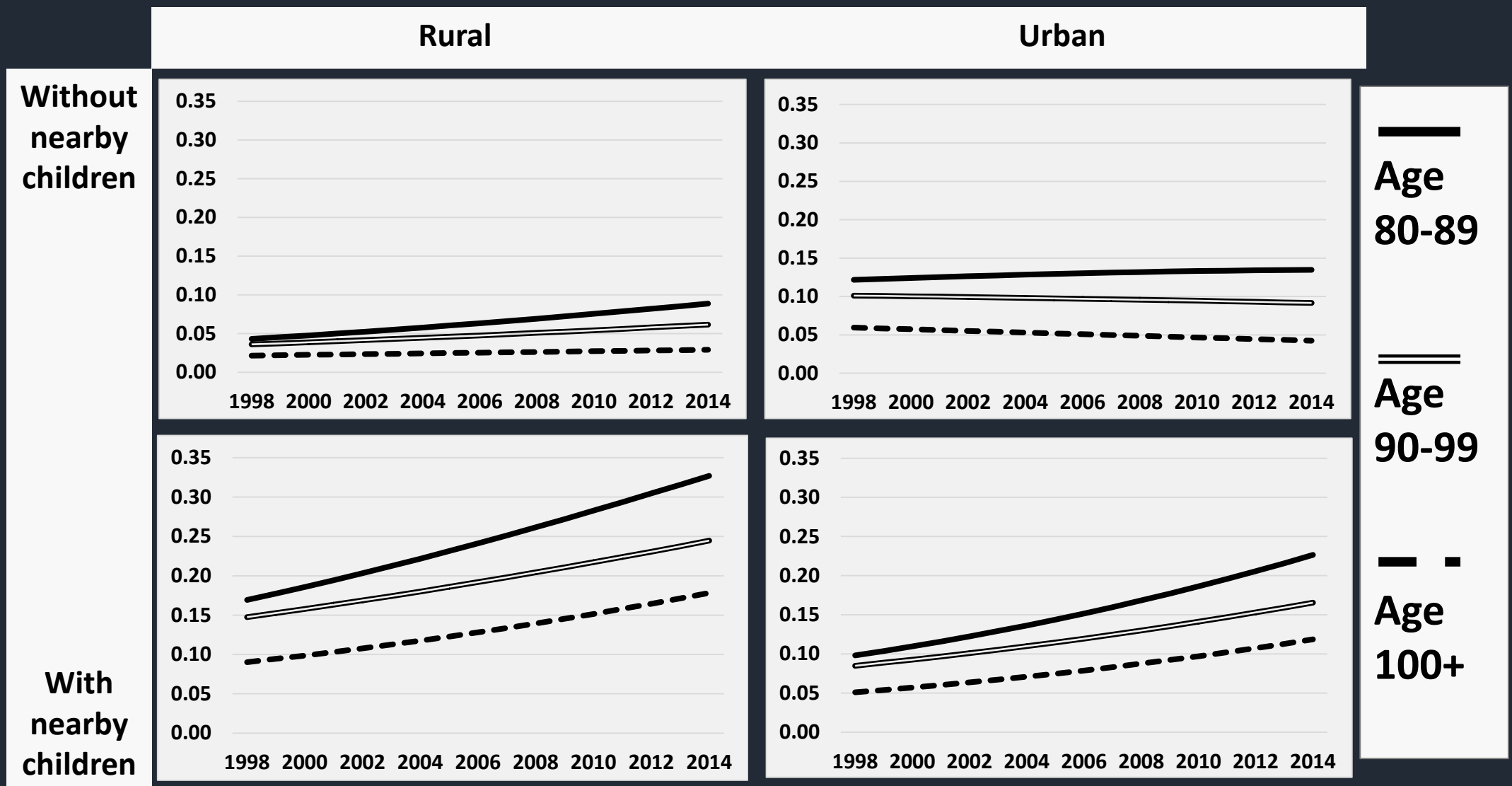
Predicted probability of living independently with and without nearby children, comparing disabled vs. non-disabled



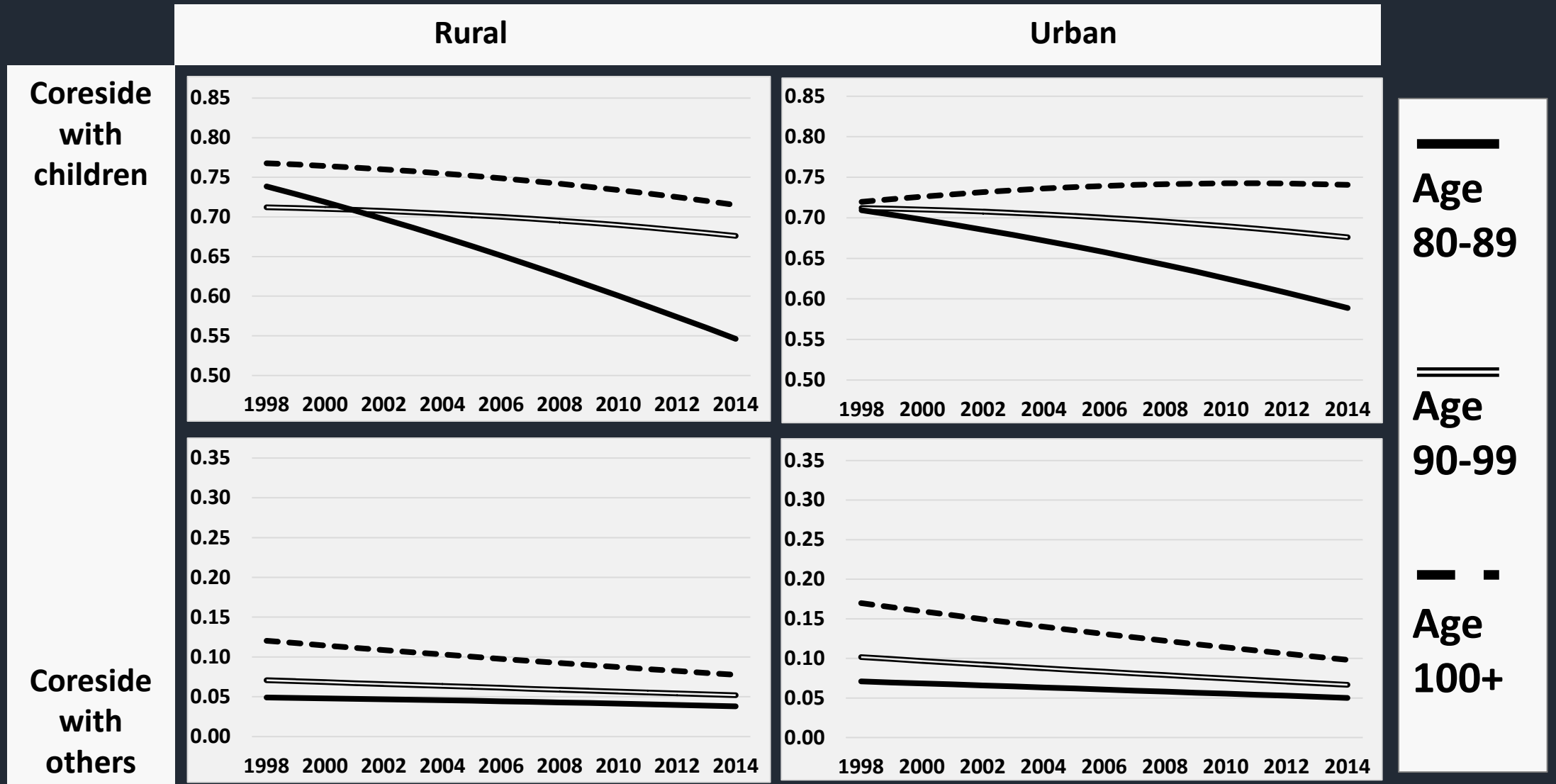
Predicted probability of coresiding with children or others, comparing disabled vs. non-disabled



Predicted probability of living independently with and without nearby children, comparing rural vs. urban



Predicted probability of coresiding with children or others, comparing rural vs. urban



Conclusion

- 1) There has been an increasing tendency to live independently.
- 2) The trend is most evident among octogenarians and least evident among extreme old.
- 3) The trend is greatly inflated in rural areas.
- 4) No difference in trend between disabled and non-disabled, but disabled are still much more likely to live in coresidence.
- 5) Most of the increase in independent living is near children.
- 6) Trends may suggest a compromise between maintenance of filial obligations and changing demographic, economic and social realities.

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