



CLIMATE CHANGE AND THE SPATIAL REALLOCATION OF LABOR

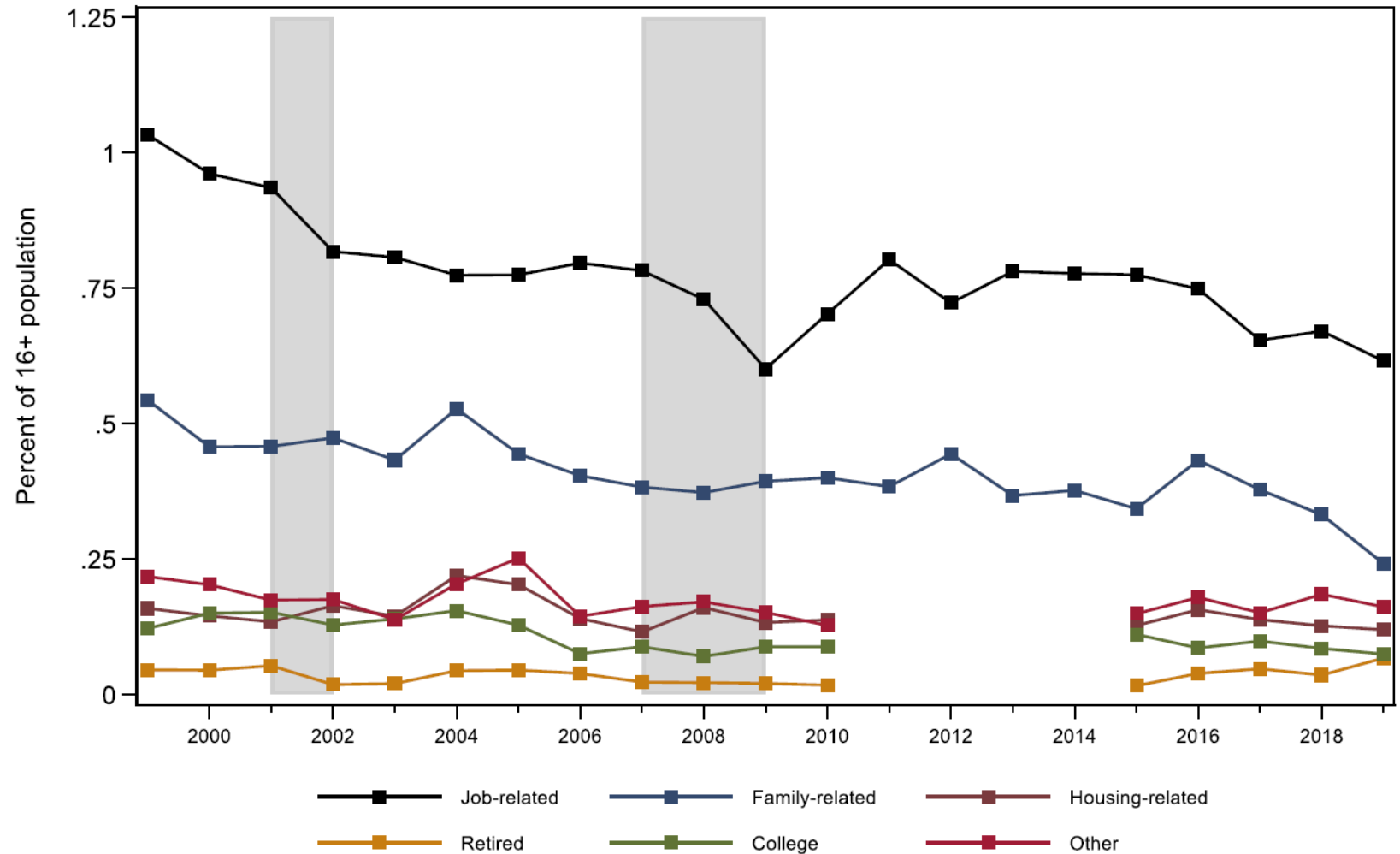
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HOW WILL CLIMATE CHANGE AFFECT THE SPATIAL DISTRIBUTION OF LABOR?

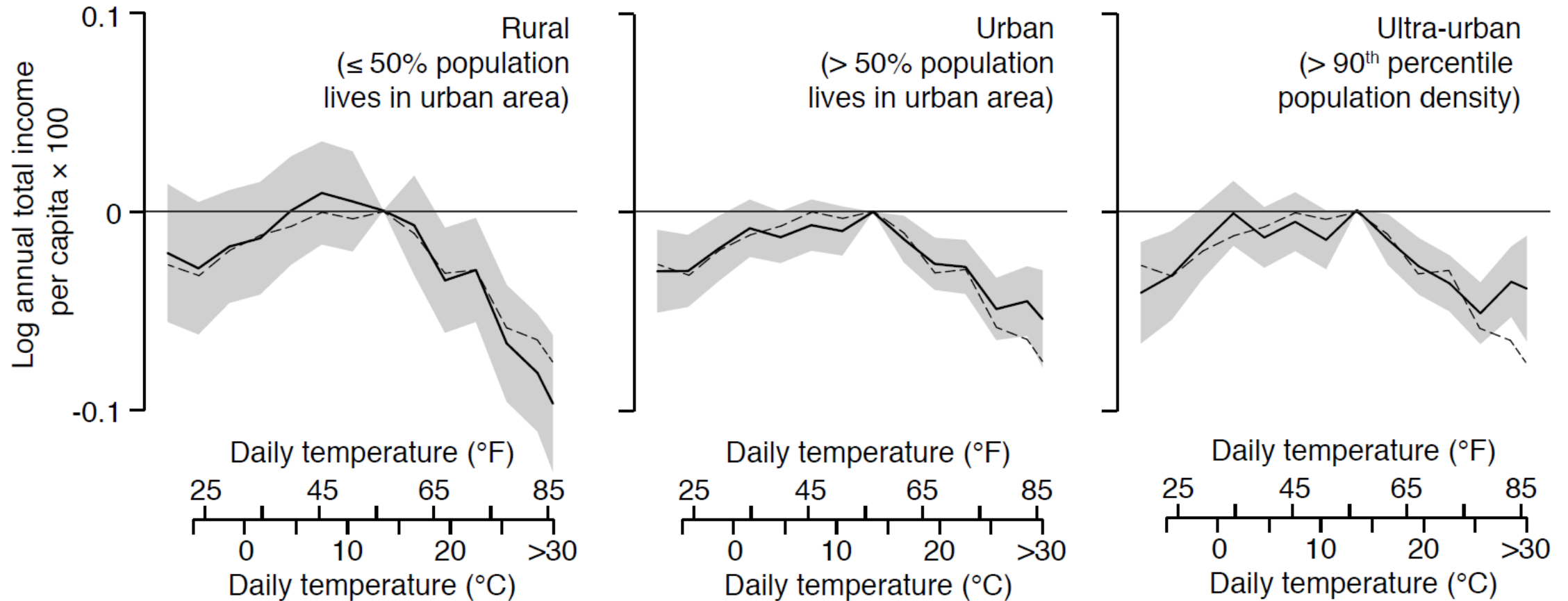
1. There is a lot of scope for spatial reallocation of labor, at least in the US
2. Most people move for job-related reasons and fairly early in life \Rightarrow Future productivity of places is important for future spatial distribution of labor
3. There is a lot of uncertainty about future productivity of places
4. Many people live in seemingly sub-optimal locations, and we don't really understand why

MOST PEOPLE MOVE ACROSS STATES FOR JOB- RELATED REASONS



Source: Jia et al. (JEL forthcoming)

HIGH TEMPERATURES ARE BAD FOR PRODUCTIVITY...



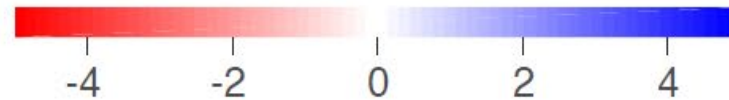
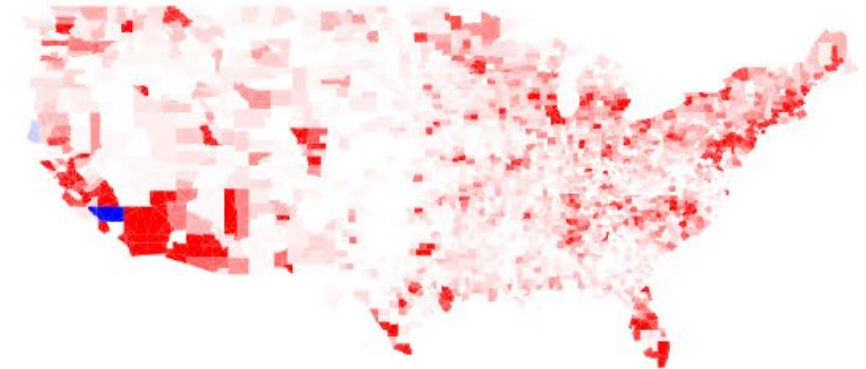
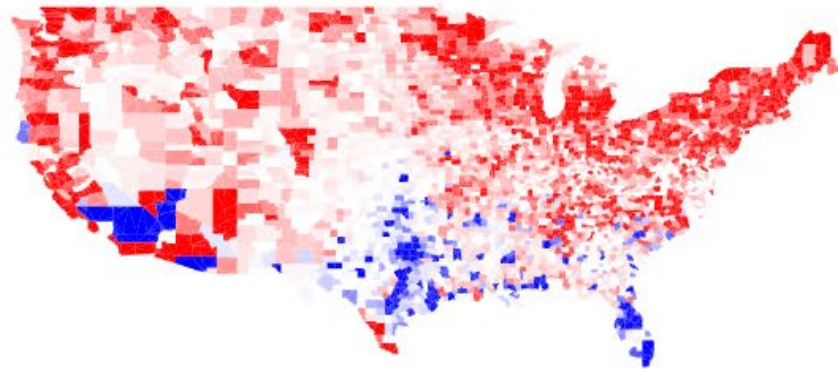
Dashed lines correspond to estimates for both urban and rural counties. Source: Deryugina and Hsiang (2017)

... BUT ACCOUNTING FOR ADAPTATION MATTERS

Change in total income 1991-2100
(NPV median trajectory relative to no warming)

Change in total farm income 1991-2100
(NPV median trajectory relative to no warming)

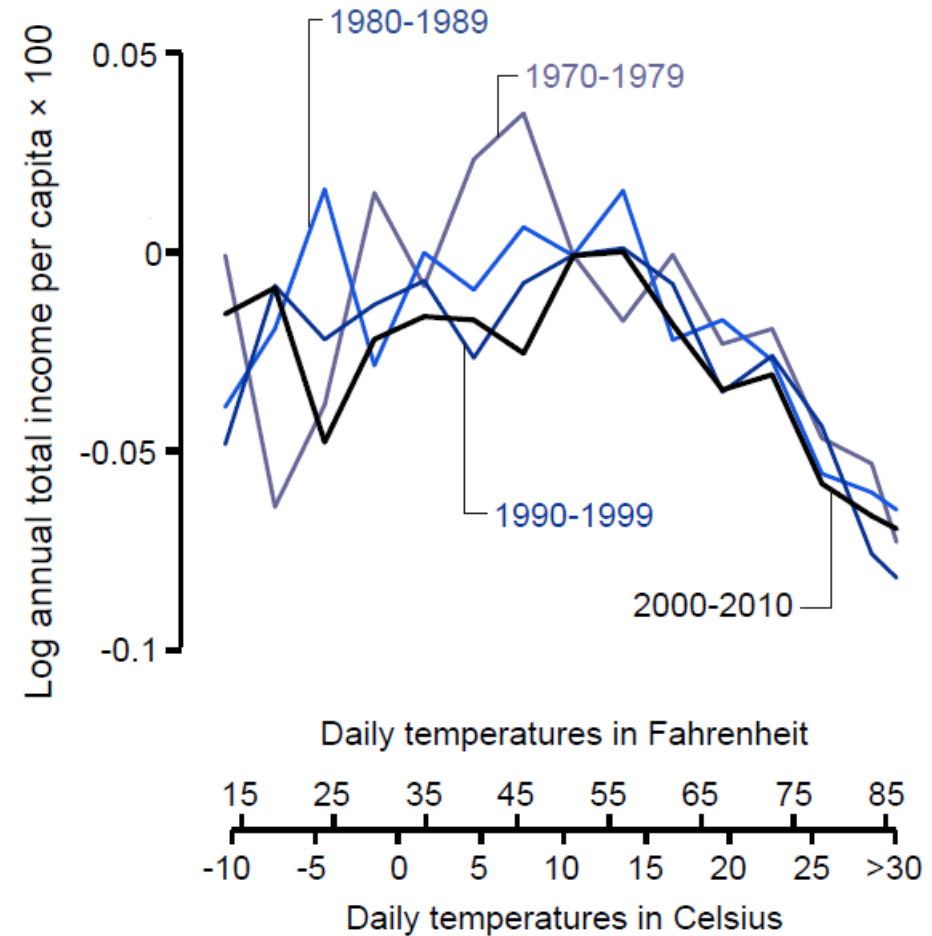
*full adaptation
(cubic) model,
stratifying counties
by urban vs. rural*



*billions of 2011 US dollars in
net present value (3% discount rate)*

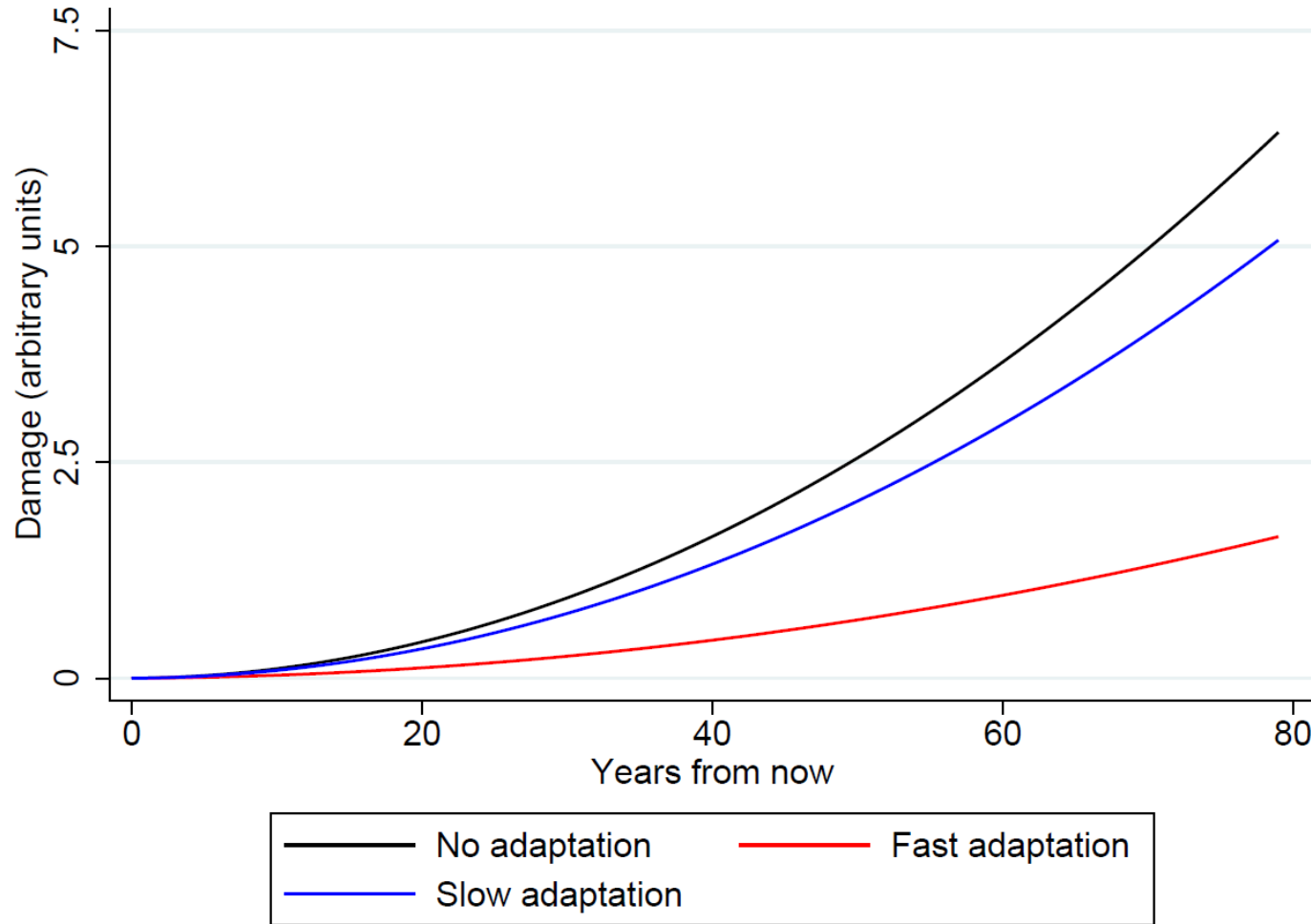
IN THE LONG RUN WE ARE ALL DEAD

- There is evidence of *cross-sectional* adaptation
- But no evidence of adaptation to high temperatures in 40 years of US data



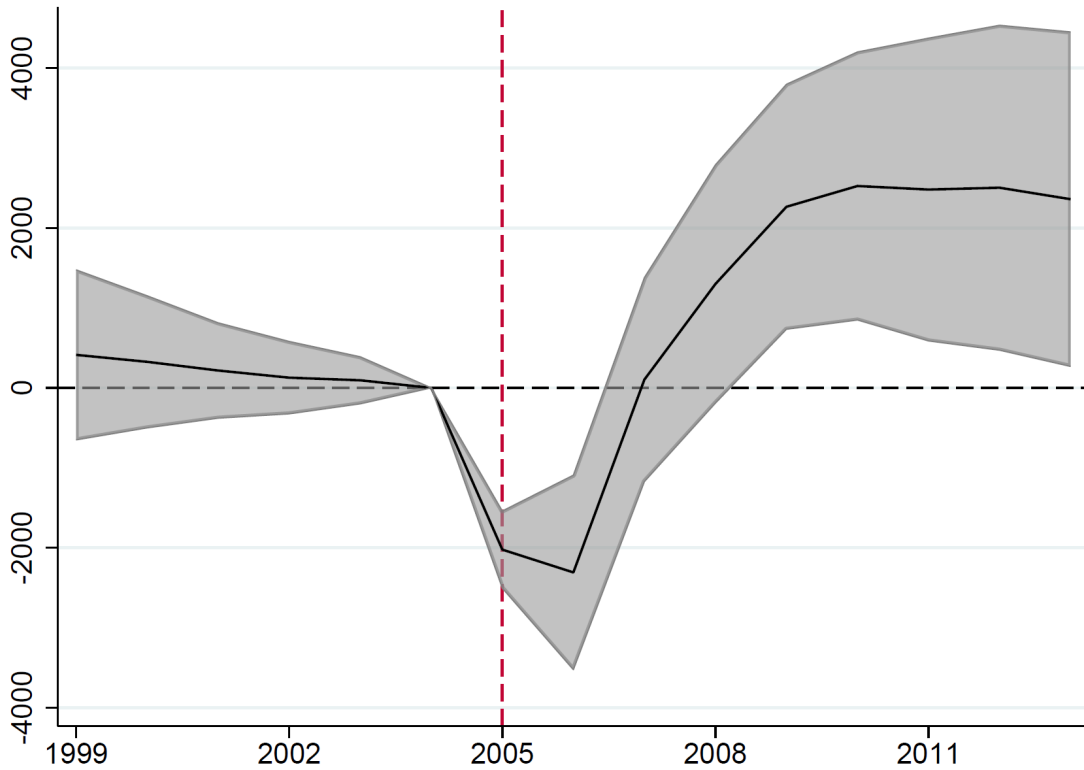
Source: Deryugina and Hsiang (2017)

SPEED OF ADAPTATION MATTERS

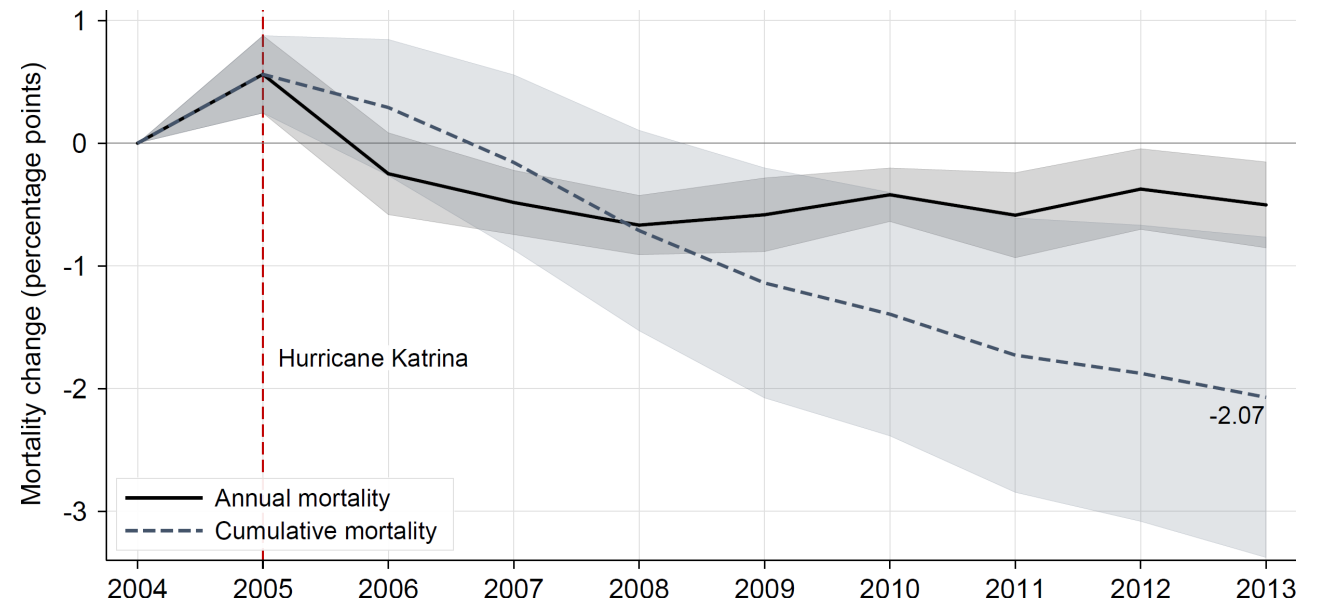


- Fast adaptation eliminates about 75% of damage (NPV), slow adaptation eliminates about 20%
- *There is a lot of uncertainty about future productivity of places*

MANY PEOPLE LIVE IN SEEMINGLY SUB-OPTIMAL LOCATIONS



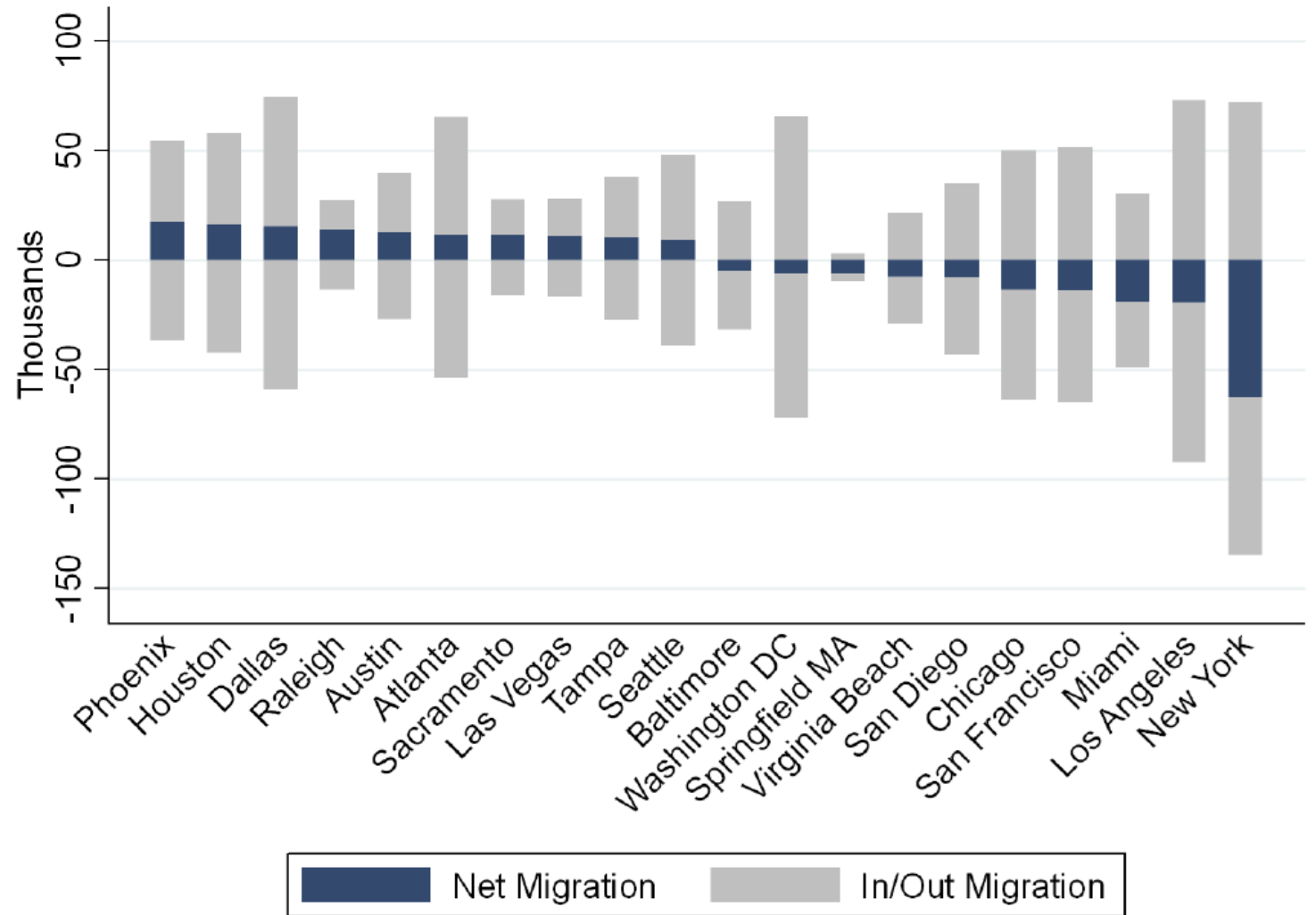
Hurricane Katrina improved victims' long-run real incomes and survival



RELOCATION DUE TO CLIMATE CHANGE MAY BE MINIMAL

- Mathes (2022) uses administrative Medicare data for 65+ year-olds to calibrate a spatial equilibrium model where location affects health and mortality:
 - Climate change will lower life expectancy at age 65 by 0.18 years, but few 65+ year-olds will relocate in response
 - The annual welfare value of being able to relocate in response to climate change is only \$7 per capita, tiny compared to the annual welfare value of being able to relocate more generally (\$2,085)
- Would similar conclusions be reached by studying the working-age population?

THE
FASTEST-
GROWING
METRO
AREAS
ALREADY
HAVE HOT
CLIMATES



Source: Jia et al. (forthcoming *JEL*)

Migration is defined as moving in 2018-2019

**WE NEED TO
UNDERSTAND
WHY PEOPLE
REMAIN IN
SEEMINGLY
“SUBOPTIMAL”
PLACES**



Offsetting amenities



Social networks



Lack of information



Habit formation