Demographic Transition and Demographic Dividends
New International Evidence

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Acknowledgements

- Andy Mason
- Members of NTA teams that constructed NTA for the 60+ economies in our database

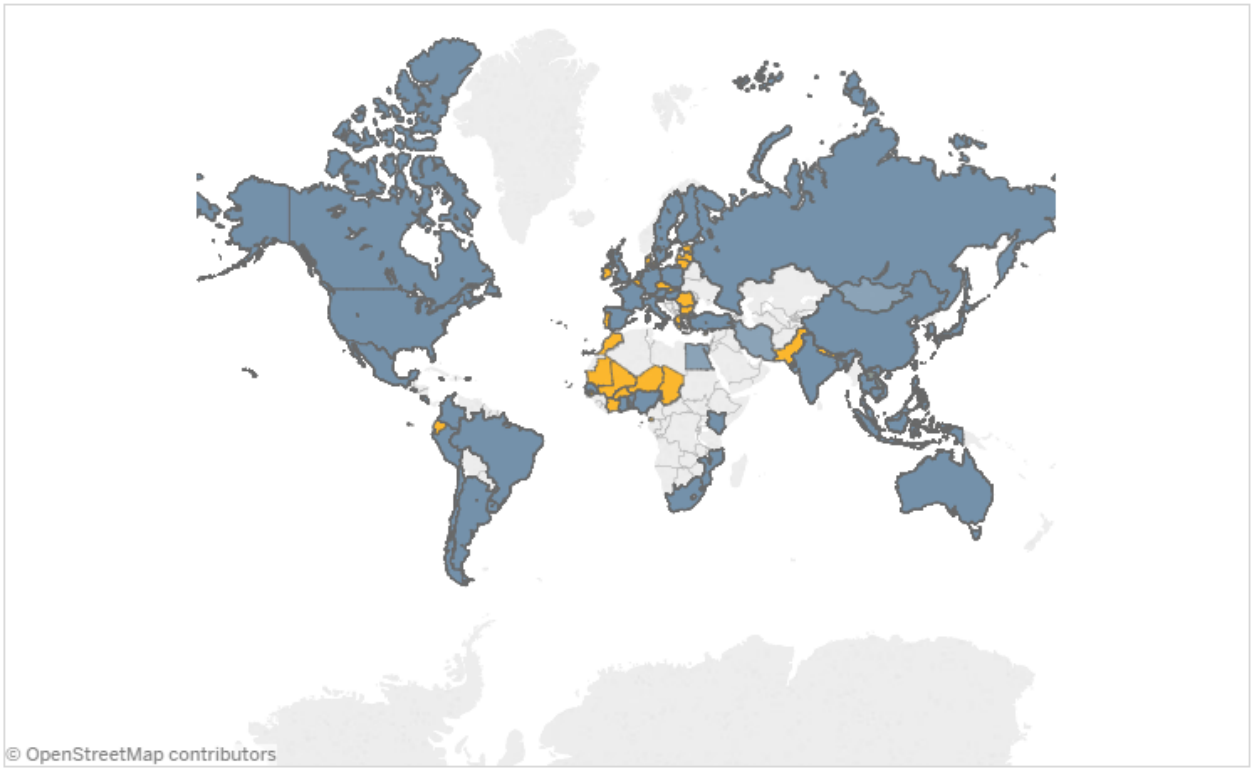
NTA Membership

Growth of NTA Membership

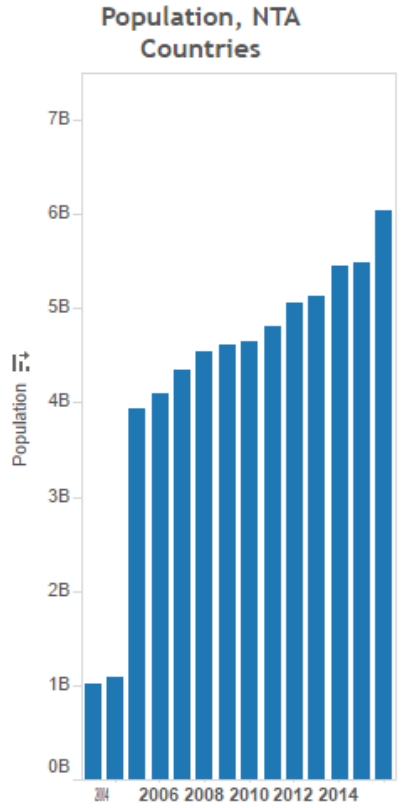
Year

(All)

All



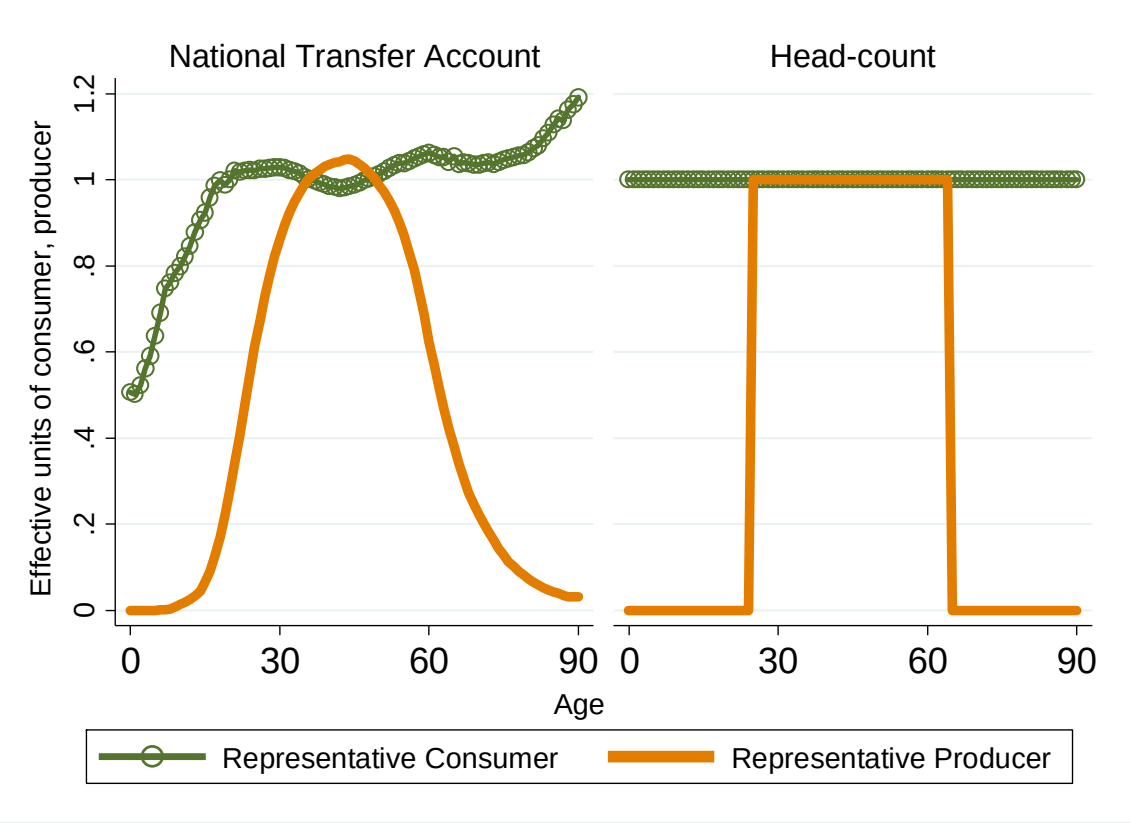
Countries belonging to the NTA network are represented by blue.
Countries constructing accounts and not yet members of the network are represented by orange.



Column is sum of populations as of 2015.

National Transfer Account

“Understanding the Generational Economy”



Purpose

- Quantify the demographic dividend
  - Contribution to economic growth of changes in fertility, mortality, and age structure that occur over the demographic transition
- Explore channels through which demography influences the economy
- Capitalize on the increased availability of National Transfer Account data
  - Country team estimates for about 60 economies from which we model economic lifecycles of 100+ more

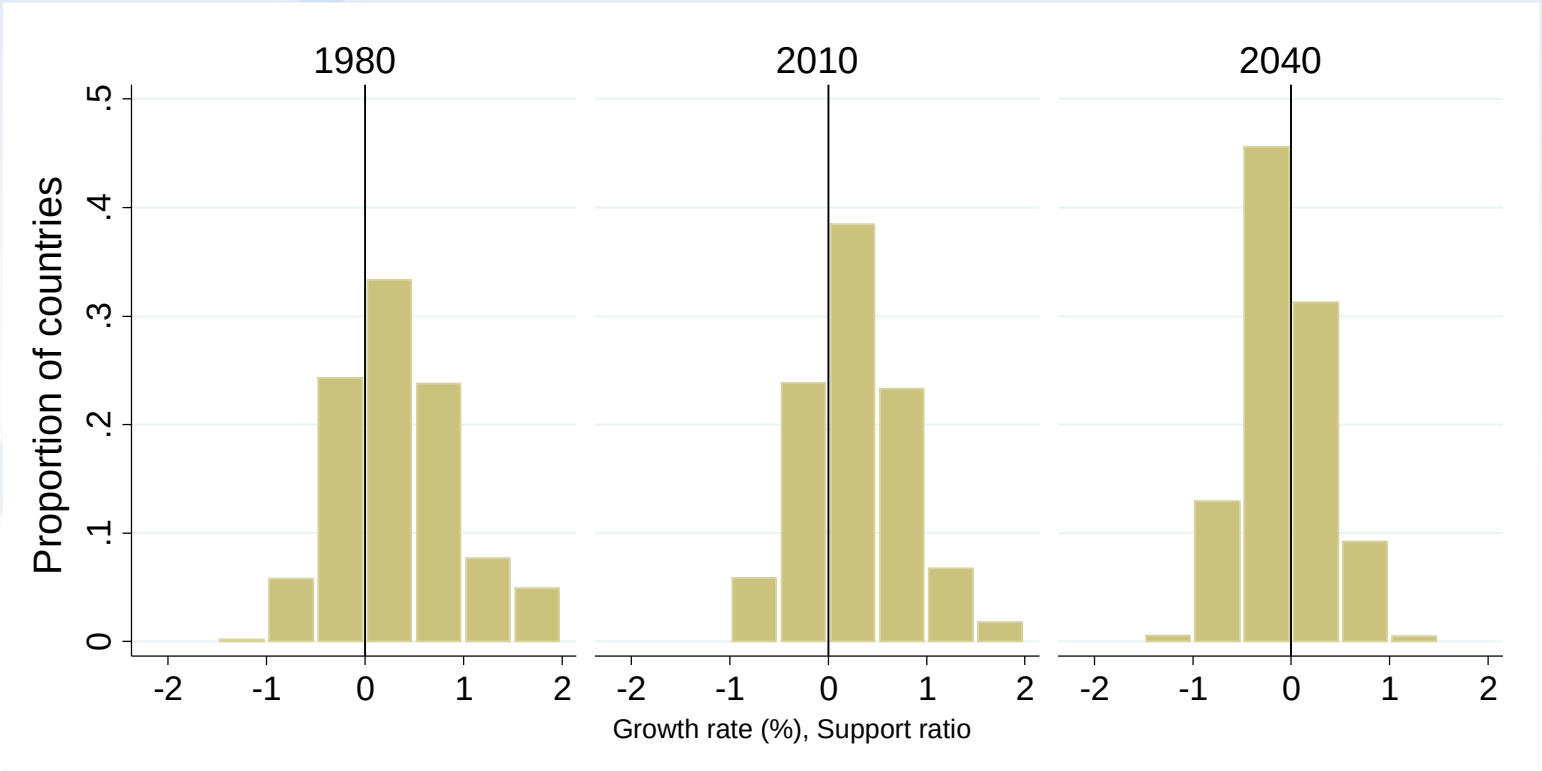
Demographic change is a potentially powerful development factor operating through multiple channels

Demographic Dividends

- First dividend: Fertility decline leads to a substantial, sustained, but ultimately transitory, rise in the number of workers relative to the number of consumers.
- Second dividend: Fertility decline leads to an increase in the productivity of each worker
  - Consequence of increased capital and human capital
  - Delayed as compared with the first dividend
  - Can be permanent or self-sustaining.
- Taken together, the results suggest a substantial payoff to policies that enable couples to have fewer children with families and governments investing more in each child.

First Demographic Dividend

About 70% of countries currently benefitting



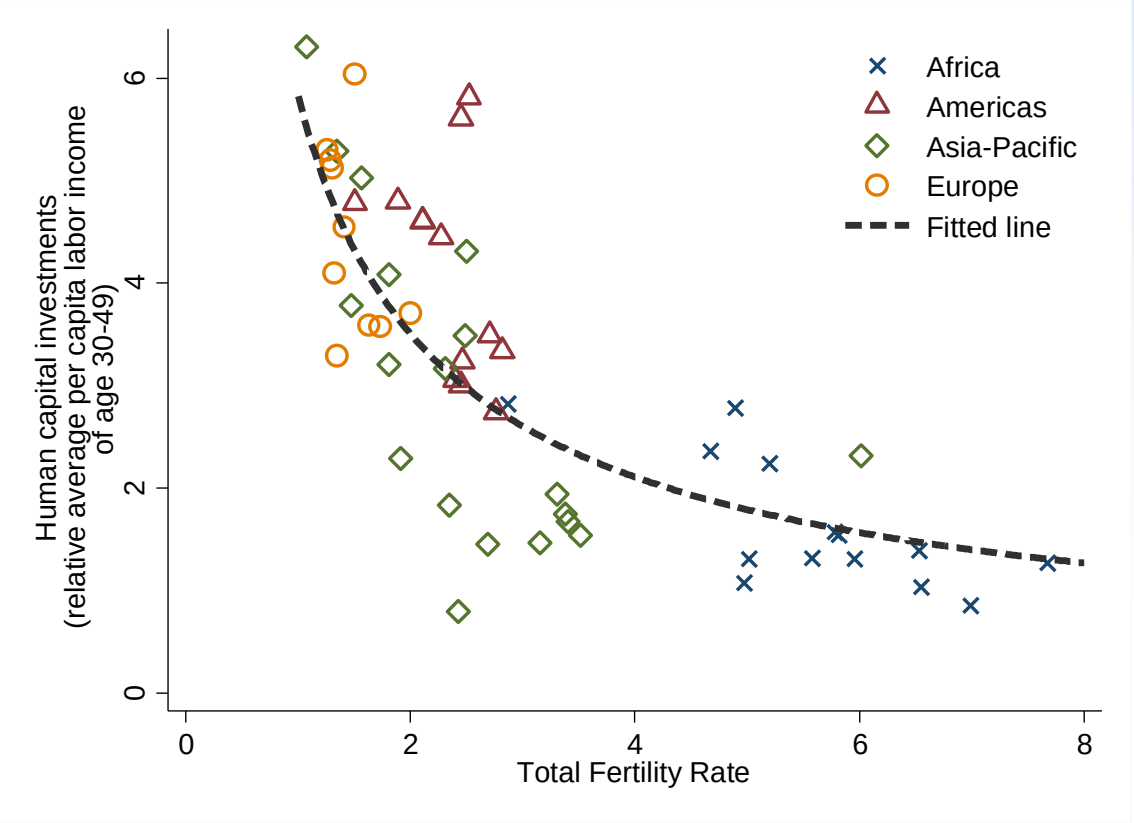
First Demographic Dividend

Substantial, Sustained, Transitory

Region	Timing (Average)		Dividend (% points)		
	Start	End	Average	25th	75th
Africa	1991	2084	0.38	0.15	0.53
Americas	1974	2032	0.51	0.21	0.71
Asia-Pacific	1975	2033	0.56	0.18	0.80
Europe	1964	2001	0.35	0.14	0.51
World	1977	2041	0.45	0.17	0.62

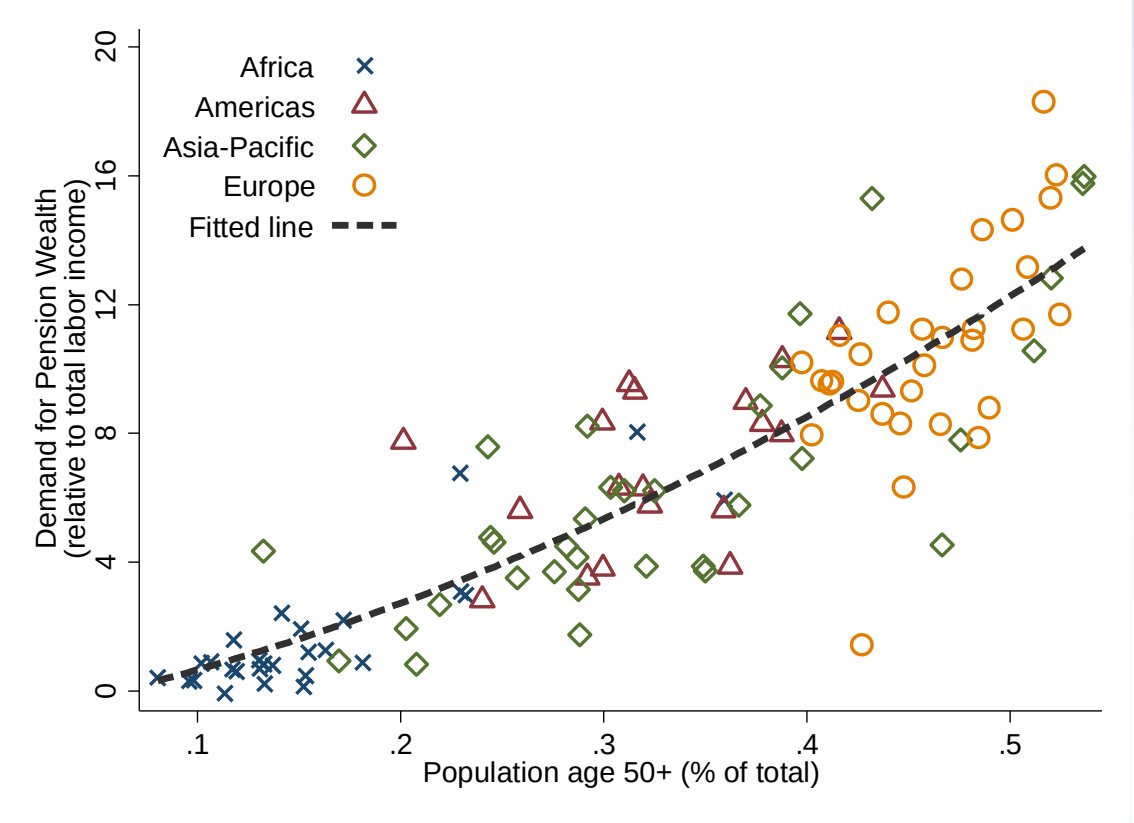
Second Demographic Dividend

Greater human capital spending with fewer children per woman



Second Demographic Dividend

Greater demand for pension wealth as population age



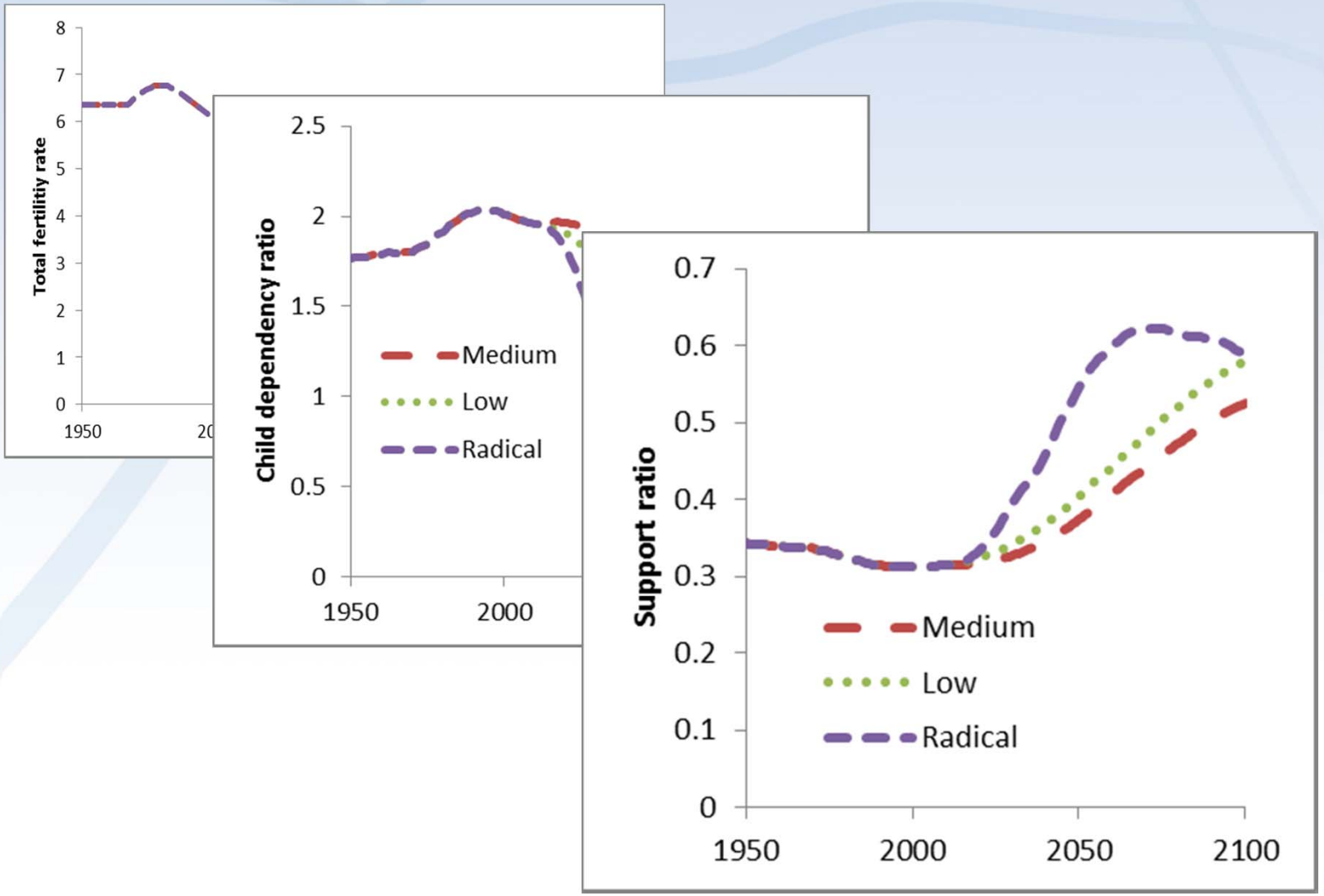
DemDiv Simulation

Mason, A., R. Lee and J.X. Jiang (2016). Demographic Dividends, human capital, and saving. *The Journal of the Economics of Ageing*, 7(2), 106-122.

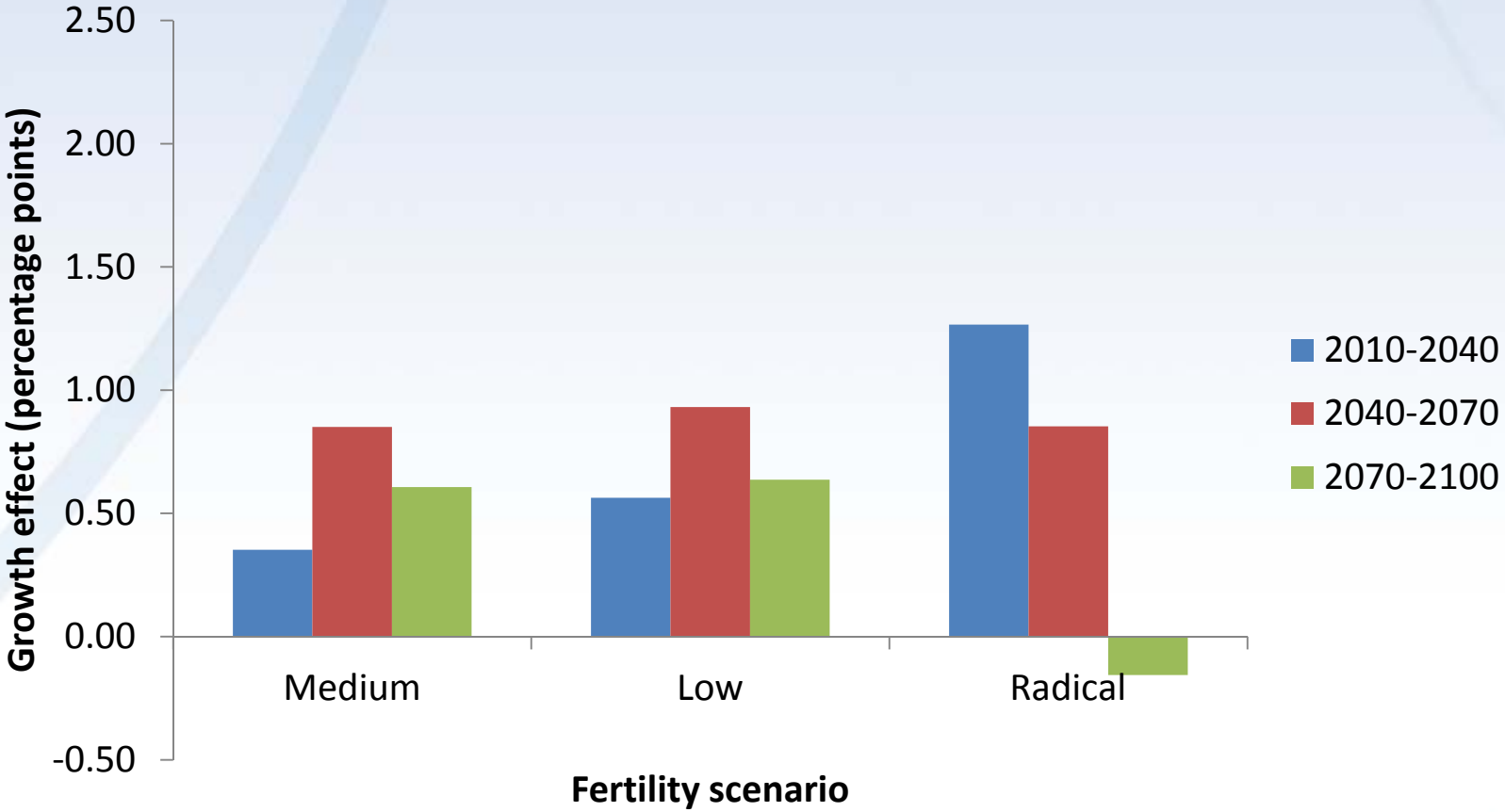
Model

- Economic growth influenced by size of labor force, human capital, physical capital, and exogenous technological change
- Standards of living influenced by first and second dividends with capital and human capital channels distinguished
- Model parameters: NTA estimates and standard parameters drawn from the literature
- Nigerian population scenarios
  - Medium and low fertility scenario compared with no fertility decline scenario.
  - Radical fertility decline scenario based on China's experience.

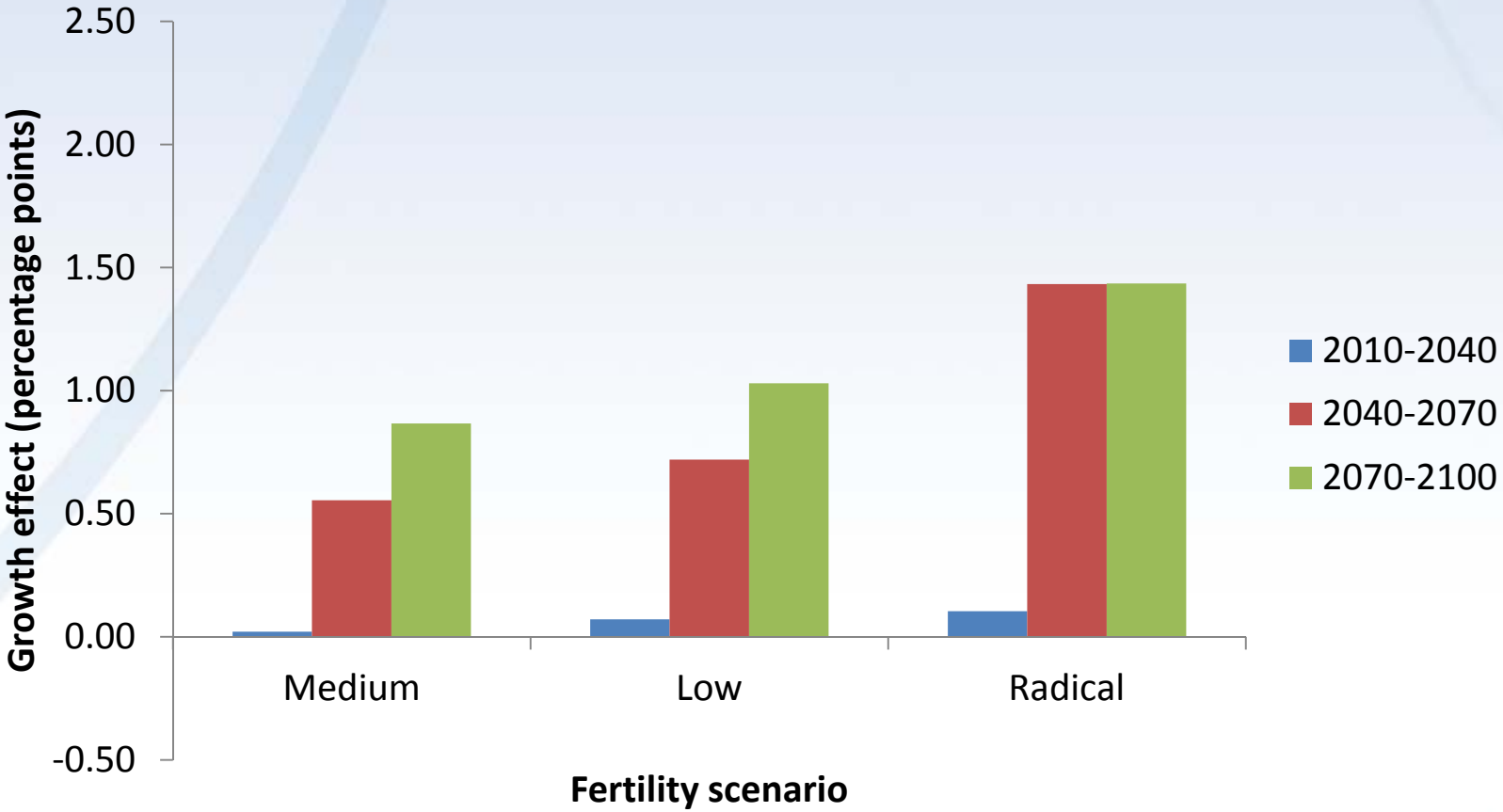
Three demographic scenarios



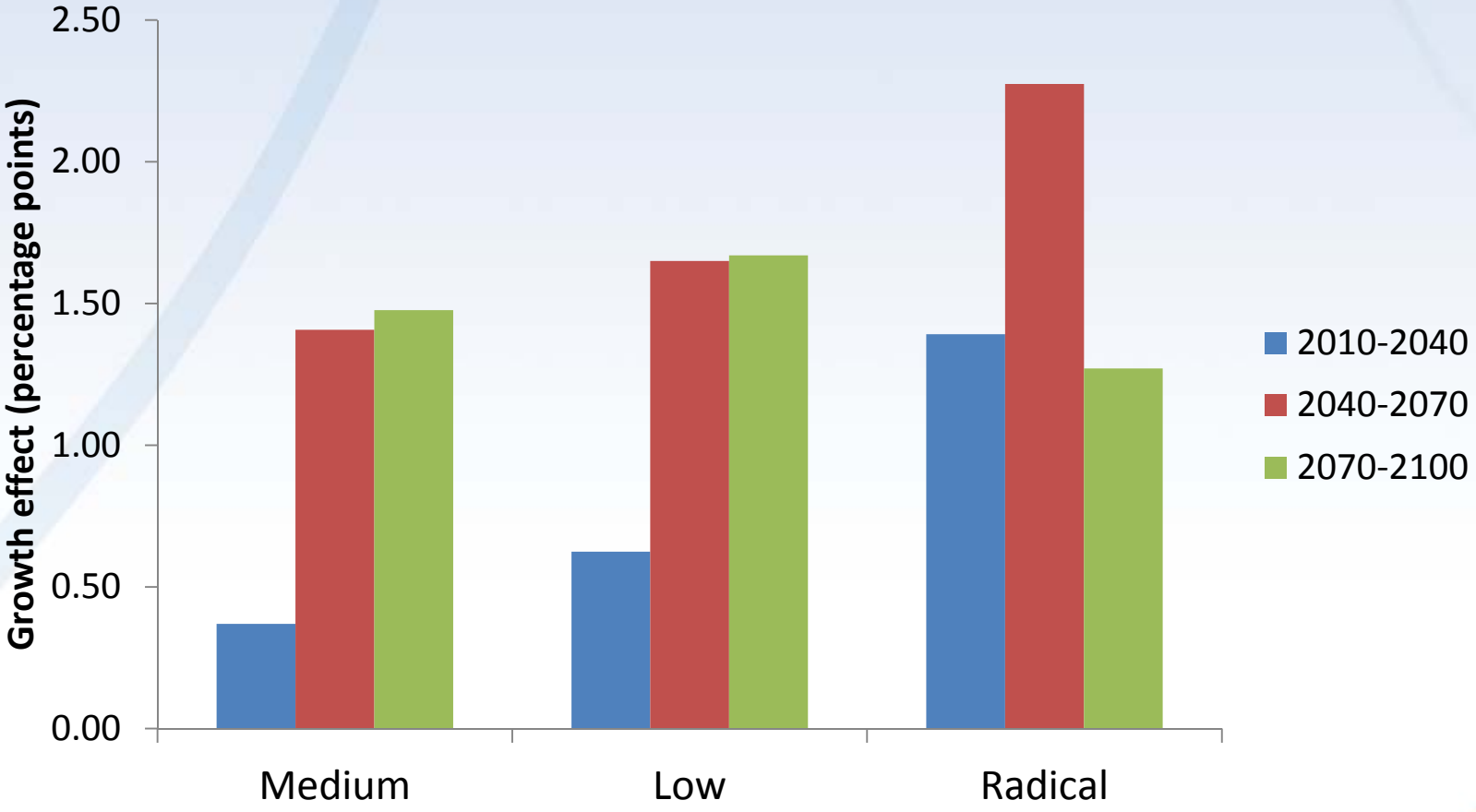
First Dividend



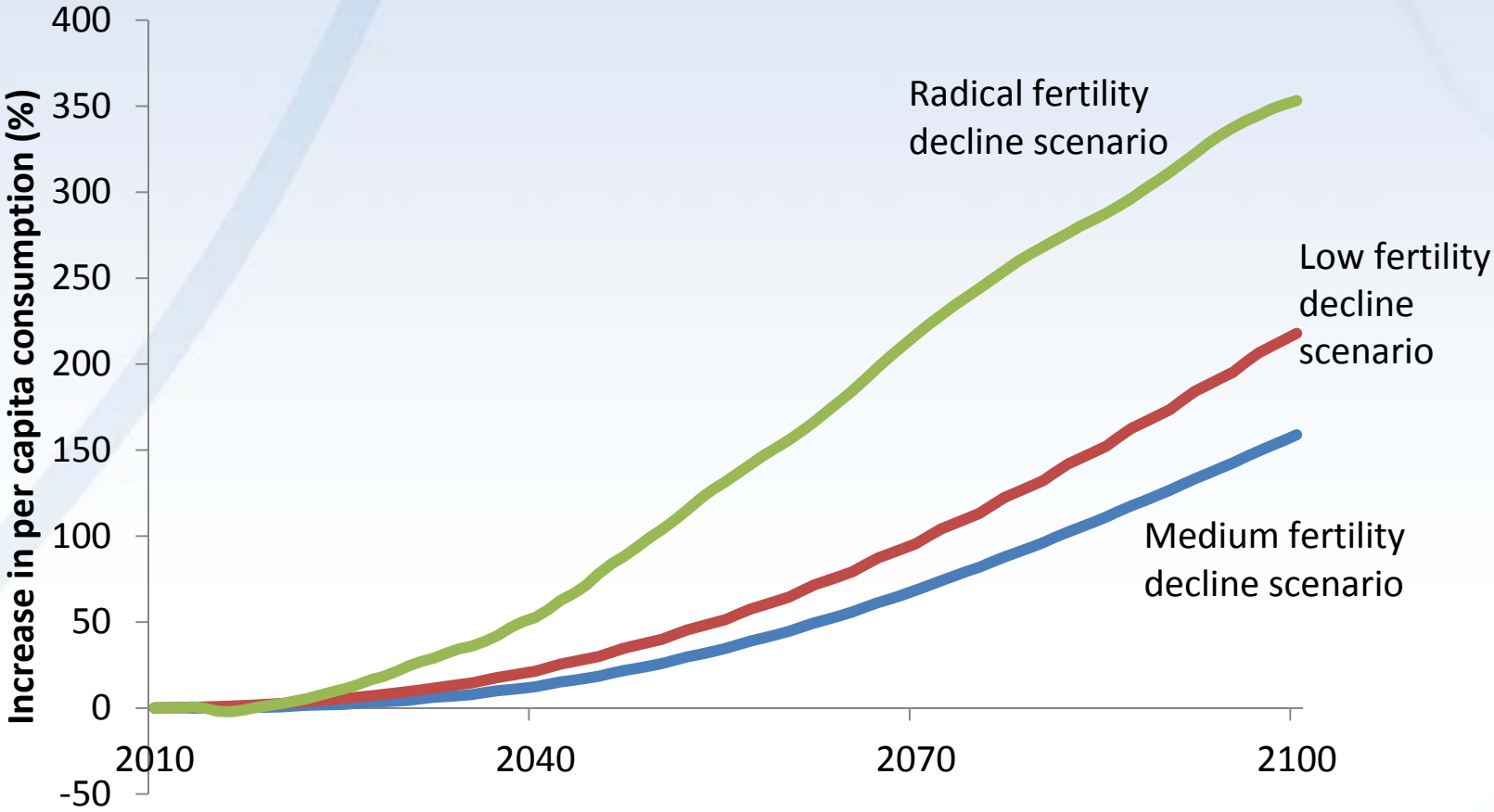
Second Dividend



Demographic Dividends Combined



Cumulative effect on per capita consumption



Conclusions

- Low fertility path could boost per capita consumption by 80% in two generations time
- Radical fertility path could boost per capita consumption by nearly 300% in two generations time
- First dividend benefits come early, are significant, but dissipate eventually
- Second dividend is delayed, but given appropriate policy benefits are large and permanently boost income and consumption