

Some NTA Uses

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Outline

- I. An “Intergenerational Report” for each NTA country.***
- II. Full Generational Accounts***
- III. Externalities and other Consequences of Demographic Events***
- IV. Socioeconomic Differences in Public Transfers***
- V. Consequences of Missing Generations: HIV/AIDS in Africa or War Losses***
- VI. Gender and Time Use***
- VII. Are Some Generations Particularly Squeezed? (Sandwich Generations)***

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I. An “Intergenerational Report” for each NTA country.

- Australian government: “The 2010 Intergenerational Report”.
 - population growth and aging,
 - fiscal pressures that will result,
 - a plan for mitigating the fiscal pressures
 - raising productivity growth through education,
 - encouraging female labor supply.
 - New rules on fiscal policy
- Idea is terrific, commendable. However, with NTA we can do much better

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Develop a intergenerational report for each NTA country based on richer information

- Not a description of estimated profiles
- Rather bring to bear on generational issues.
- For example
 - Basic age profiles, perhaps aggregate, perhaps per capita
 - Trends in support ratios of various kinds
 - General support ratios
 - Fiscal support ratios
 - Support ratios for particular government programs
 - Support ratios for the changing family
 - Suggestions from Indicators Working Group on key measures to highlight.
 - Full Generational Accounts (FGA) is one possibility.
- Important to integrate public and private aspects, because that is an important strength of NTA

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Develop template for these reports

- Generate key information from database on NTA website – charts and tables
- Sidney could help us make this informative and accessible for policy makers, media and the public.
- This would just provide a common set of information for country teams to use as they wish. Not to force a common structure on everybody.

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Analyze generational consequences of new programs

- I understand that some? Many? All? European countries have “generational constitutions” that require that for proposed new programs and policies, the generational consequences be assessed.
- NTA could be useful in this context.

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II. What are we giving our children? Full Generational Accounts (FGA)

- Traditional Generational Accounts looks at current structure of some government programs, and contrasts the situation of current and future generations.
- Bommier, Lee, Miller and Zuber (2010) calculated accounts at birth for Public Education, Social Security, and Medicare for generations born 1850 to 2090.
- Based on NTA style age profiles in age-time matrix.
 - Each generation at birth
 - For future assumes that budgets are balance 50-50 taxes and benefits, so explicit time path.
- This kind of calculation could be a component of FGA, but would need to include all govt programs, not just these three.

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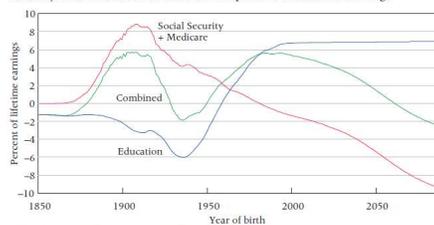
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Accounts for individual generations by year of birth for the US, 1850-2090, for Social Security, Medicare (health care for elderly) and Public Education

A. BOMMIER / R. LEE / T. MILLER / S. ZUBER

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FIGURE 7 Present value at birth of expected lifetime education, Social Security, and Medicare net benefits as a percent of lifetime earnings



NOTE: Calculated using the baseline assumptions (see text).

Source: Bommier et al, *Population and Development Review*, 36(1):1-26 (March 2010)
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Full Gen Accts also include

- All govt programs
- Transfer of Govt debt or assets
- All downward private transfers
 - General child consumption
 - Priv health and education expenditures
 - Inter vivos transfers to children
 - Bequests at death
- How treat upward private transfers? Are these voluntary, in which case we ignore them. Or are they compelled by culture or social sanctions, in which case they offset downward private.

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What is B? Public and private components of “bequests” in NTA

- Costs of rearing, other consumption (OC) (Exclude from B?):
 - Parental transfer for other consumption (OC).
 - Public welfare for kids in poor families
- Investment in HK (HK) public and private:
 - Education
 - Health
- Inter vivos transfers to adult children (AIV)
- End of life bequests, public and private (EOL)
 - Public: National debt, public infrastructure and other capital, natural resources (not yet included)
 - Private: end of life bequests

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B is the FGA

- B is the sum of pub and priv downward transfers per child
- This is a longitudinal net present value at birth measure, which might be constructed from the cross-sectional accounts under appropriate assumptions.
- Eventually perhaps it can be calculated longitudinally as we did for the main public transfers in the US and in France

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US FGA for generation born in 2000 (very rough, many assumptions)

- Estimates by Tim Miller and me
- Use cross-section for 2003.
- Assume transfers rise at 1.5% per year (rate of productivity growth)
- Discount at 3% (result will depend on this, surely; could argue for higher rate)
- Adjust public transfers for future budget balance (50-50 cut taxes, cut benefits)
- Assume public debt = public capital, seems to be approximately right in US.

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Value of FGA for US newborns in 2000 (NPV at birth)

- NPV of Public Transfers (Pub Ed, Soc Sec and Medicare only) assuming budget is balanced 50-50 by cutting taxes and benefits: **+\$47,000** (assumes govt debt = value of pub capital)
- NPV of Intervivos familial transfers received including consumption: **\$220,000**
- Private end of life bequests: **\$27,000**
- **Total: \$294,000 say 300K**

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GFA in context

- Relative to Net Present Value of child's life time earnings = **34%**
- Health and Education as a share of total bequest = **33%**
- Private transfers as a share of FGA = **84%**
- Conclude:
 - We are not robbing our children and saddling them with debt for our public transfers.

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Some questions for future work

- How has FGA changed over 20th Cent?
 - Has it fallen with rise of transfers to elderly in second half of century?
 - Private transfers have surely fluctuated along with fertility, lower for baby boom gens, higher after.
- Compare similar calculations across countries.
 - Is Asia particularly high?
 - How should we count familial support of elderly in Asia?

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III. Externalities and other Consequences of Demographic Events

- Govts of many rich countries would like to raise fertility, in part to help with Pop aging.
 - Introduce financial incentives
- Are children good for the govt budget balance? If so, how big an incentive could be justified?
- Estimate the "fiscal externality" to a birth.

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What about the private costs of a birth? Should we count them?

- I argue we should exclude private costs, and count only public costs, to address the policy question.
- Private costs are large. Parents know they are large. Parents choose to have the child precisely because they think the life time utility they will get from having a birth is greater than the life time cost.
- If govt policy induces couple to have an extra birth, the private costs are offset by the private utility gain.

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Similar questions with immigration

- Fiscal impact of an immigrant
 - Some believe negative, due to heavy use of need based public transfers, public education for children, and low tax payments
 - Others think positive impact, due to help with support of elderly through taxes.
- Similar to question about a birth, except
 - Immigrant can arrive at any age, not just 0
 - Immigrant therefore may arrive with human capital already in place
 - There is no offsetting direct utility gain by native pop

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Similar question about a death

- Like immigrant arrival, death can occur at any age.
- Ignoring the private utility costs, we can assess the fiscal impact as the opposite sign of arrival of immigrant at that age.
- But what about end of life health care costs?

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Selection on the characteristics of those experiencing even

- Birth: Parents may be lower SES than average adult.
- Immigrant: In US, less human capital on average than native; less english language skills.
- Death: More likely to be disabled? Lower SES? Higher health costs?
- Ignore most of these problems for now, and just use NTA average profiles as basis.

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Descendants matter too!

- A birth founds a whole new family line that on average goes on for ever.
- An immigrant also founds a family line (unless arriving after age 45), unless she returns to country of origin before giving birth.
- A death at a younger age may eliminate future births.

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Importance of descendants

- Consider an immigrant arriving at age 25.
- Immigrant retires 40 years later at age 65, and receives costly govt transfers.
- But the immigrant's children are in prime working age, paying lots of taxes, offsetting cost of retired father.
- Earlier, those same children cost the public sector a great deal to educate.
- All needs to be taken into account.

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Calculate an age-time matrix of the net fiscal impact of an individual

- For immigrant (e.g.) arriving at age x in year t , start with the relevant cell in the matrix.
- Add the cell for one year later and one year older, weighted by survival chance and discounted.
- Continue until oldest possible age.
- Find Net Present Value of sum for immigrant.
- Now do same for immigrants first child. Second child. Etc. And the grandchildren, too.

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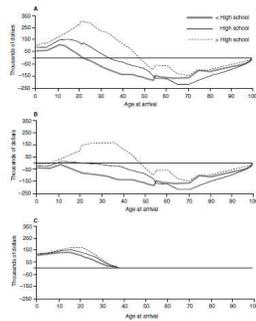
To be more accurate...

- Take into account the non-average education of the immigrant.
- Assume the government budget is balanced in the future. Otherwise taxes will be too low and benefits too high.
- Here are results from work by Tim and me back in 1996, for the US Congress.

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Ronald Lee and Timothy Miller (1997) "The Life Time Fiscal Impacts of Immigrants and Their Descendants" Chapter 7 for *The New Americans*, National Academy Press, 1997 (pp.297-362).



Weighted average of NPVs according to immigrant characteristics

Federal impact: +105,000
State and Local: -25,000
Overall: +80,000

That is 1994\$; today +50%.

Note importance of age at arrival, level of education, first generation vs descendants.

FIGURE 7.10 Net present value of total fiscal impact. A, Generation 1 by age at arrival and education status, self and descendants; B, Generation 1 by age at arrival and education status, over lifetime; C, Generation 1 by age at arrival and education status, descendants.

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Same analysis gave us the fiscal externality of a birth to a native

- Fiscal impact of one birth in US in 1994\$:
+\$245,000 (+365,000 in 2020 \$).
- Another project by Doug Wolf, with Gretchen, Tim and I contributing, looks at the fiscal impact of having at least one child vs remaining childless. Not yet submitted to journal; presented at PAA.

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Impact of emigrant on sending country (experiment by Ivan for Mexico)

- Assume Mexican emigrant has same profile as non-migrant (probably false).
- For migrant who leaves at age x , calculate the loss in net labor income, $y(a) - c(a)$ for all $a > x$, discounted and survival weighted, assuming productivity growth.
- But this is offset by expected remittance flows.
- How handle migrant's assets, if any?

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Other questions we could ask

- A similar calculation could be carried out just for the public sector, based on benefits and tax payments.
- A calculation pertaining to Society's lost human capital investment could be done as well.
- What is the effect of all emigration on the support ratios?

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Remaining topics I will just mention
but not expand on

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IV. Socioeconomic Differences in Public Transfers

- Cassio and Mauricio have looked at SES differences in public transfers in Brazil and Chile.
- Work is extremely interesting, and I think it will be valuable and interesting for policy makers.
- I think this work should get high priority.
- Methodology issues
 - How measure SES? Want a measure that is not affected by the very transfers we are analyzing
 - Want a measure that does not change too much over life cycle.
 - Might answer be to use educational attainment of adult, or of parent for a child?
- I am interested to learn what the working group has concluded.

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V. Gender and Time Use

- Everyone wants to know about this.
- I don't know what the working group has concluded or what it recommends.
- Obviously of great policy interest, and also of scientific interest.

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VI. Consequences of Missing Generations: HIV/AIDS in Africa or War Losses

- How does HIV/AIDS mortality affect support ratios in high prevalence countries in Africa?
- Perhaps support ratios should be adjusted for disability of living adults due to HIV/AIDS, as Doyin suggested to me.
- Might it be possible to use the micro level estimates of intrahousehold transfers in individual households to shed light on these issues?
- There would be difficult issues of fosterage of AIDS orphans.

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VII. Are Some Generations Particularly Squeezed? (Sandwich Generations)

- Working group: any conclusions?
- I see two interpretations
 - Generation with demographic squeeze: many children, heavy old age support obligations.
 - Might have occurred in countries like Canada, Australia and US with large baby booms.
 - Financial interpretation
 - We saw that my generation got squeezed in earlier Bommier et al paper.

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Here is another financial squeeze story

- In China, Taiwan, Korea, Thailand there is strong familial support of the elderly by current working age generations.
- Some people feel they need to invest very heavily in their children's human capital (but they have few children, which reduces costs).
- They also see the old age support system slowly weakening, and don't really expect to be supported by their own children, so they have to save and accumulate assets for their own retirement.
- These current working age generations in Asia are being squeezed hard. This same story that Cio told in her presentation: The transitional generation gets "killed" by double obligation of supporting current elderly and saving for own retirement.

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Those are just some ideas

END

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