

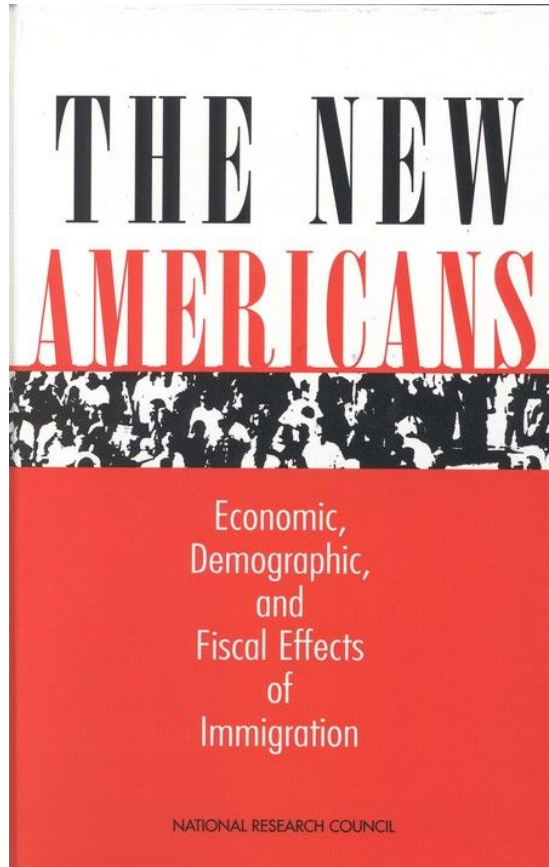
Does Immigration Raise or Lower Taxes?

Demography 175

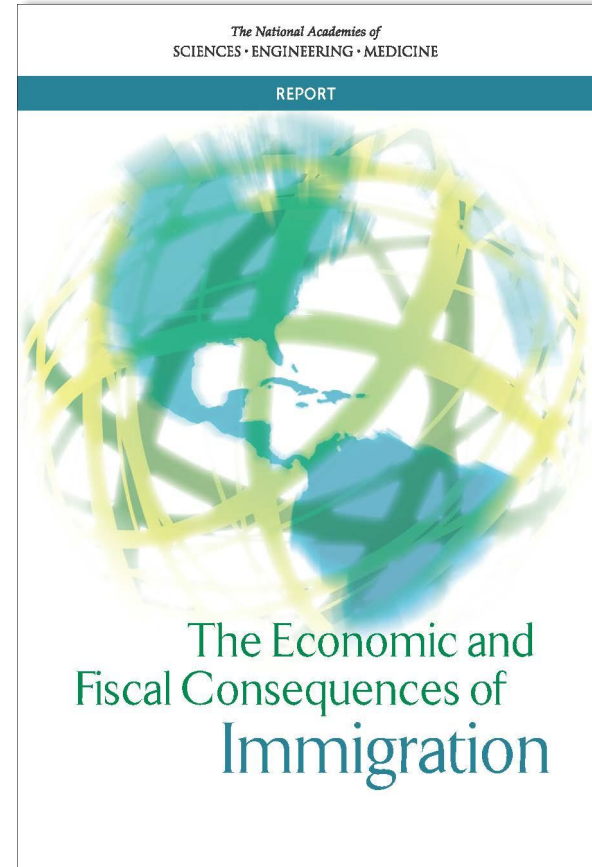
Thursday, April 13, 2017

Gretchen Donehower, UC Berkeley Demography

1997



2016

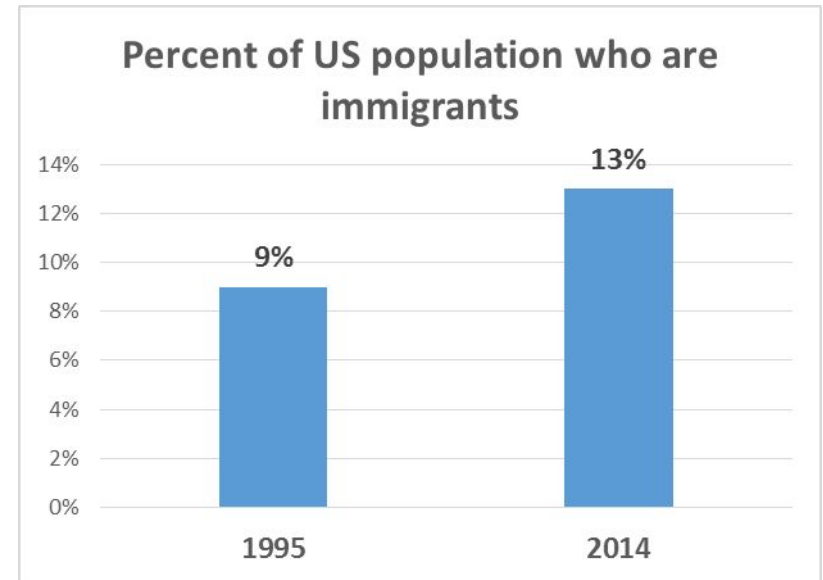


Thanks to Dr. Francine Blau, Chair of the 2016 Panel, for use of several slides in this presentation.

How have immigration patterns changed recently?

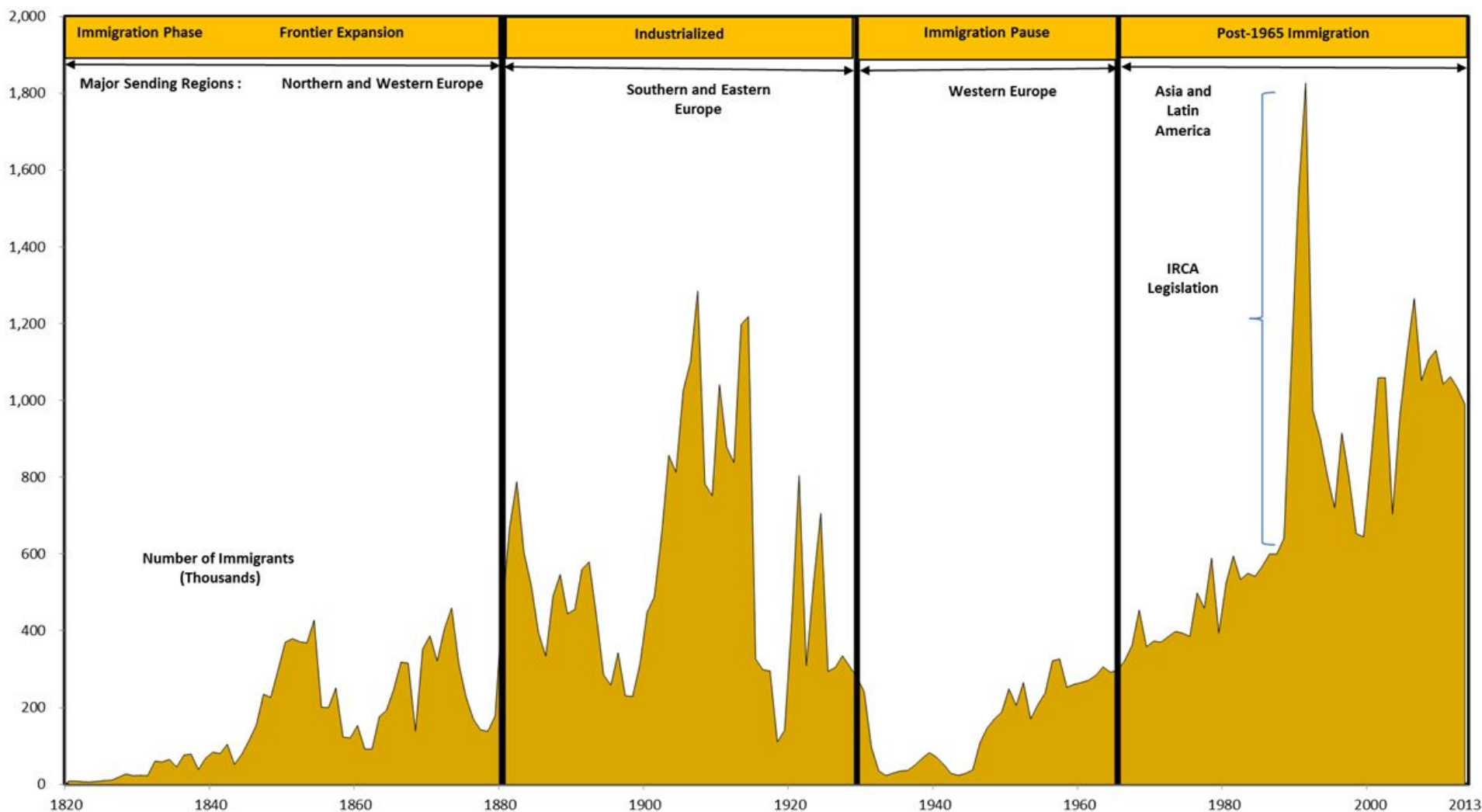


STOCK: Today, nearly one in four Americans are immigrants or second generation (US-born children of immigrants)



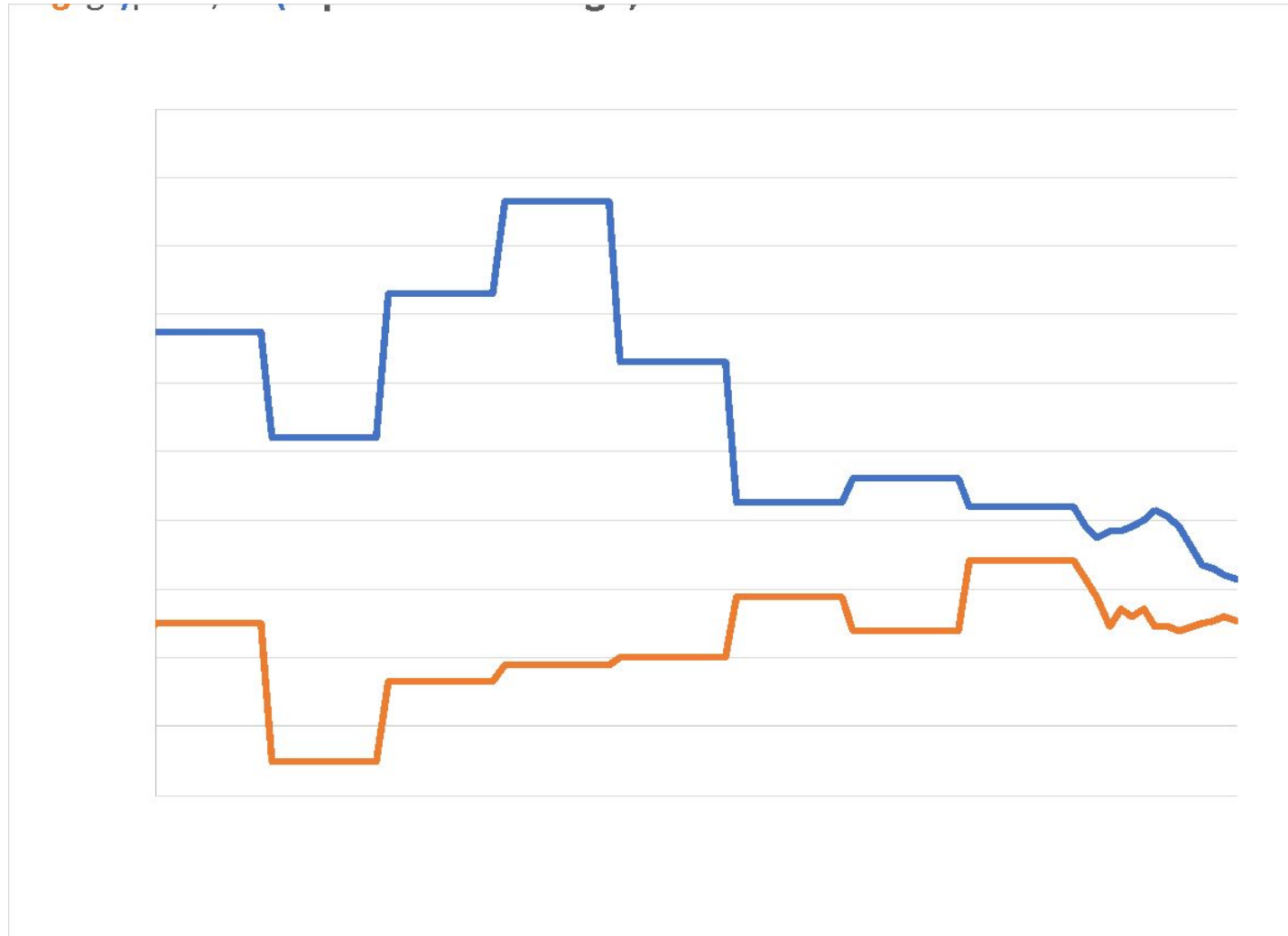
STOCK: Over the past twenty years, there was an increase in the immigrant share of the population.

FLOW: Thousands of arrivals and legal permanent resident status grantees



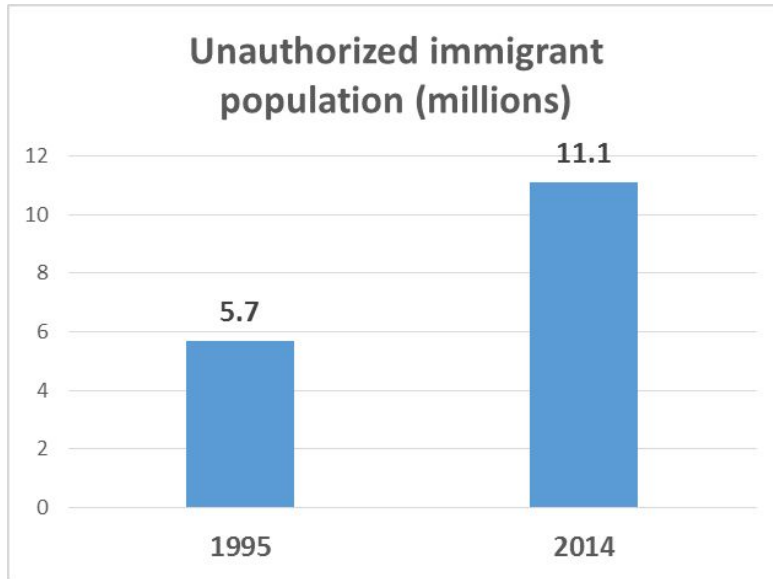
Source: NAS 2016, page. 25. This figure replicates Martin (2013), Figure 2, p. 5, directly from the data series maintained by the Department of Homeland Security, 2014.

NET FLOW RELATIVE TO EXISTING POPULATION: Changes in population from net natural increase versus net international migration



Source: NAS 2016, page. 36, from Haines (2006); U.S. Bureau of the Census (2015).

Trends in the unauthorized population



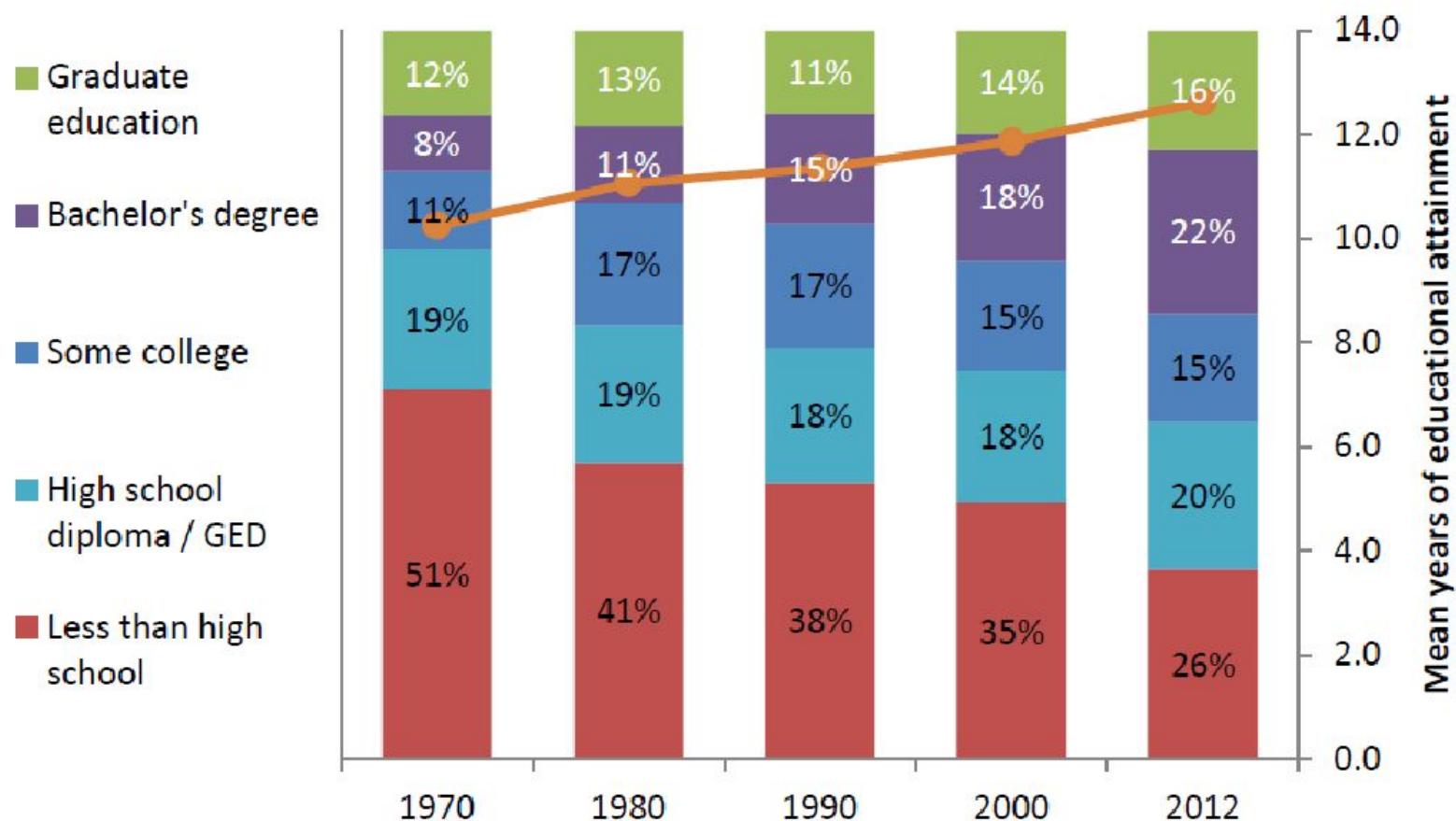
- But unauthorized population actually shrank between 2007 and 2009 and has since leveled off.
- Current estimates of NET UNAUTHORIZED FLOW is zero or slightly negative.

STOCK: Unauthorized immigrant population increased over the past 20 years...

Changing characteristics of immigrants

- Recent immigrants are more educated than immigrants of the past
 - Native education has increased as well so recent immigrants still have less education than natives, on average
 - Among recent immigrants, younger immigrants are particularly narrowing the education gap with natives
- Among full population, foreign born more concentrated at the extremes, overrepresented:
 - Among those with less than 4 years of HS AND
 - Among those with more than 4 years of college, particularly in STEM fields
- Foreign-born share of college grads about the same as natives

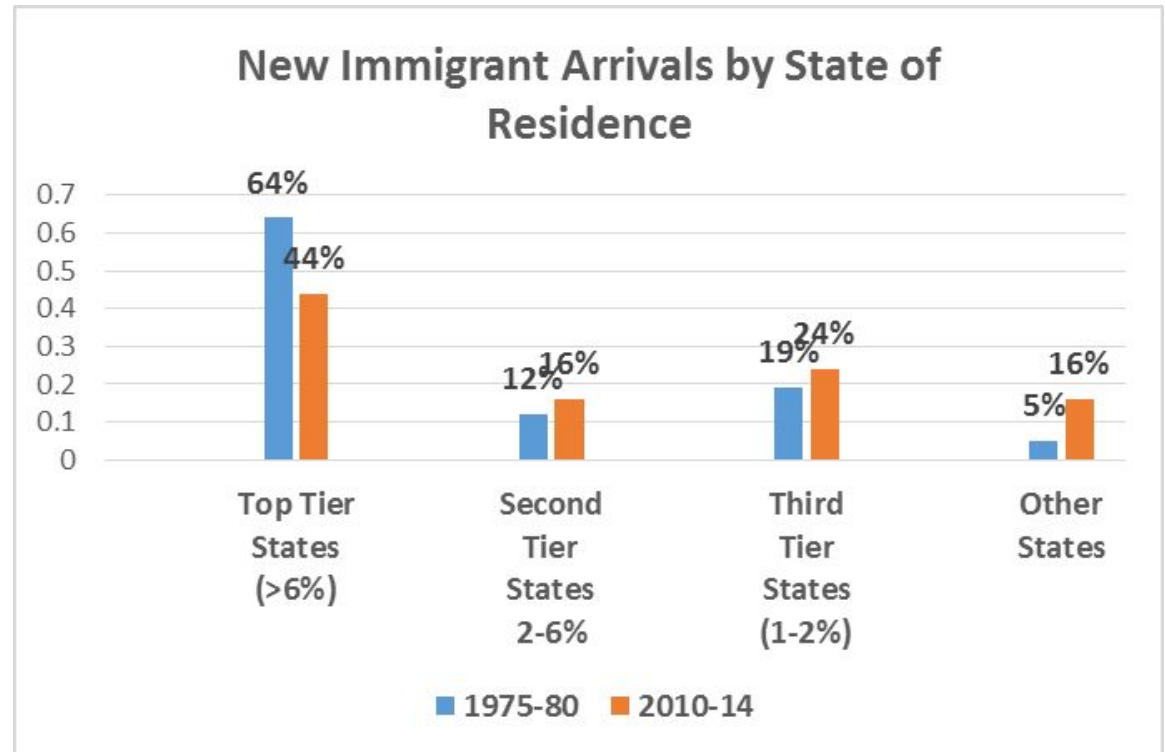
FIGURE 3-1 Educational attainment of recent immigrants (those who entered in the 5 years prior), by Census year, 1970-2012 (in percentages).



SOURCE: Analysis of 1970, 1980, 1990, and 2000 Decennial Census data, and 2010-2012 3-year ACS data, accessed through IPUMS.

The immigrant population has gotten more dispersed

Immigrants have become more geographically dispersed – moving to states and communities that historically had few immigrants – though the majority continue to reside in traditional gateway cities and states.



Tiers defined by % of new arrivals in earlier period.

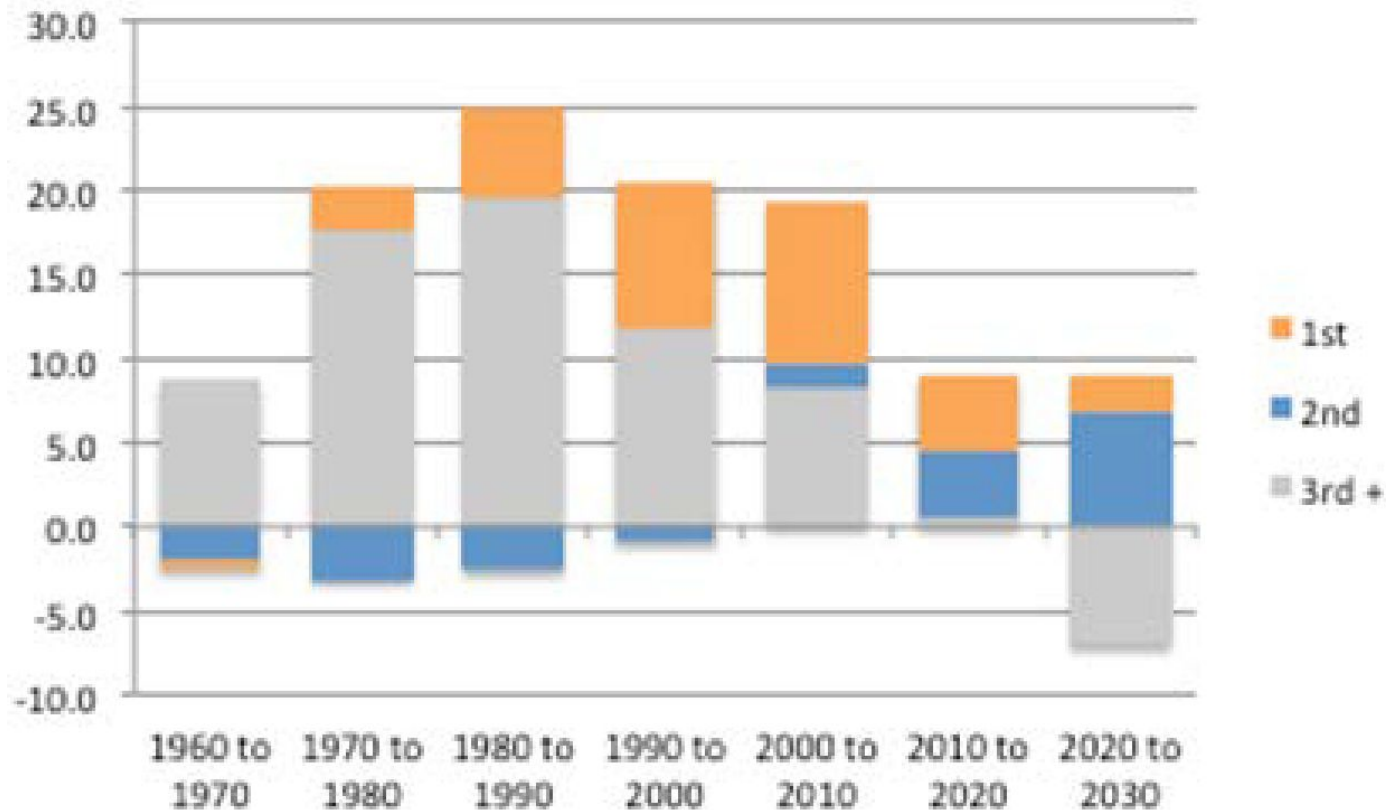
Top tier: CA, NY, TX, FL, IL

Second tier: NJ, VA, MD, MA, WA

Economic Impacts

- Affects labor force size and growth
- Impacts on wages and employment of native-born
- Other

Net change in working-age population each decade, by immigrant generation (in millions)



SOURCE: NAS 2016, page 51. Table 2-5 data, Pew Research Center, 2015a.

How does an influx of foreign-born workers affect native-born workers' employment and wages?

- Economic theory predicts:
 - Native-born workers who are close substitutes (same skills) are most likely to be negatively affected
 - When immigrants' skills *complement* those of native-born workers, the presence of immigrant labor may improve their prospects
 - Returns to capital may be increased
- Because of these mixed predictions, theory alone cannot predict the effect on native workers; empirical evidence is needed to determine the direction and magnitude of any effects

But empirical evidence is not so easy to find either...

- Immigration is just one of many factors influencing native wages and employment
 - Trade/globalization/international competition
 - Robots!
- Immigration itself is influenced by the same factors that shape overall wages and employment
 - Example: immigrants may be drawn to labor markets that are expanding
- Impact of immigration may differ across time and space depending on the characteristics of the immigrants and labor market conditions

What is the impact of immigration on wages and employment?

- Overall

Impact of immigration on the **wages** of the native-born is very small and on **employment** no convincing evidence of impacts.

- Low-skilled immigration

To the extent negative effects are found, substitutes to low-skilled immigrants are most likely to experience negative wage effects (prior immigrants, native-born high-school dropouts, teenagers).

- High-skilled immigration

Several studies found *positive* impact of skilled immigration on wages and employment (complementarity? innovation and productivity?), but a couple of studies focused on narrowly defined fields find that immigrants can have adverse effects on wages or productivity of natives working in those specific fields

Immigration has a positive effect on economic growth

- High-skilled immigrants have boosted our capacity for innovation and technological change
 - Research suggests skilled immigrants raise patenting per capita, contributing to productivity growth
 - Immigrants contribute to entrepreneurship
- Immigration supplies prime-age workers who have helped counterbalance our aging populations (see case of Japan for a counterexample)

And now... what are the fiscal impacts of immigration?

Fiscal impacts are about

TAXES/GOVERNMENT REVENUE

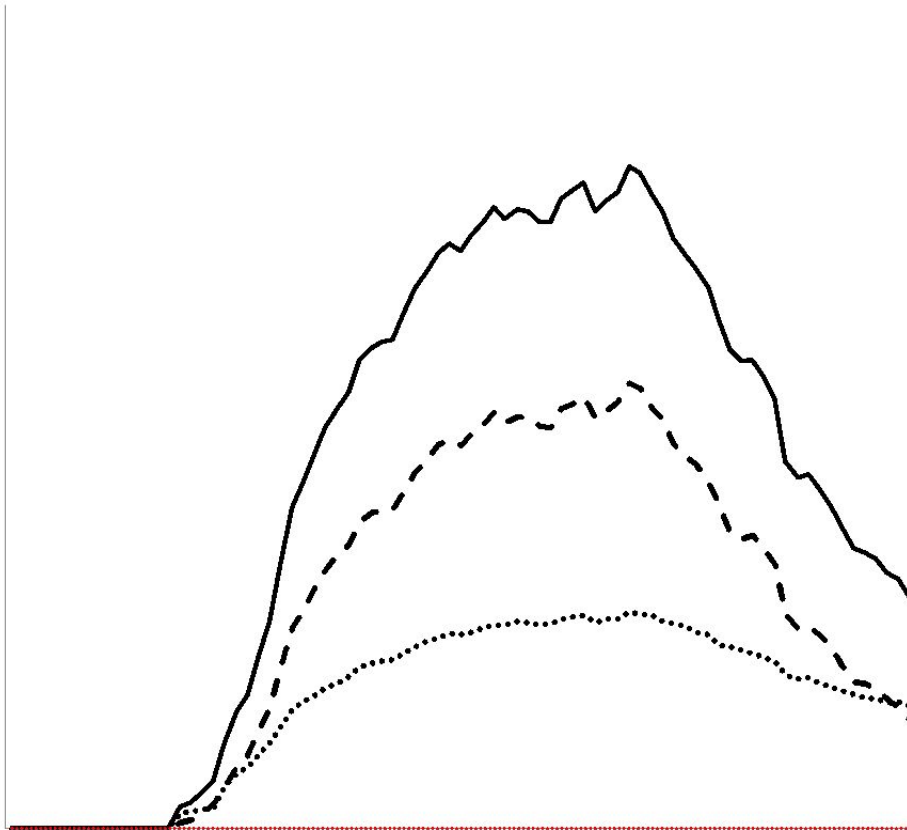
versus

BENEFITS/GOVERNMENT EXPENDITURES

And now... what are the fiscal impacts of immigration?

- Impacts from contribution to overall economic growth
 - Increase tax revenue by increasing labor and capital income
 - Decrease expenditures on social welfare programs that are triggered by lower incomes
- Impacts from their own tax payments and benefit consumption (and those of their descendants?)
 - THIS IS WHAT I WORKED ON AND WHAT I'LL BE TALKING ABOUT FOR THE REST OF THE DAY
 - Narrowly focused question: do immigrants pay more or less in taxes than they get in benefits?
 - First let's look at overall taxes and benefits...

Taxes by Age, 2012



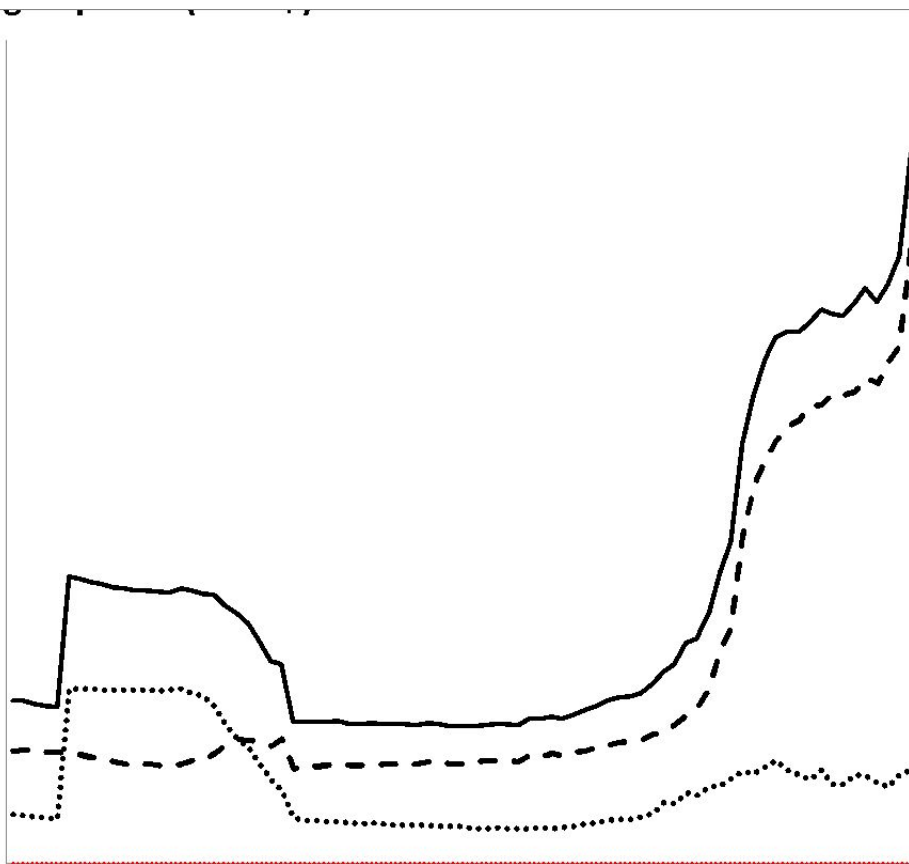
What does this include?

- Income tax
- Property tax
- Corporate taxes
- Sales and excise taxes
- FICA taxes and other social contributions

How was it computed?

- Aggregate amounts come from national accounts data and published expenditure reports
- Age shapes come from surveys (Current Population Survey) and assumptions

Benefits by Age, 2012



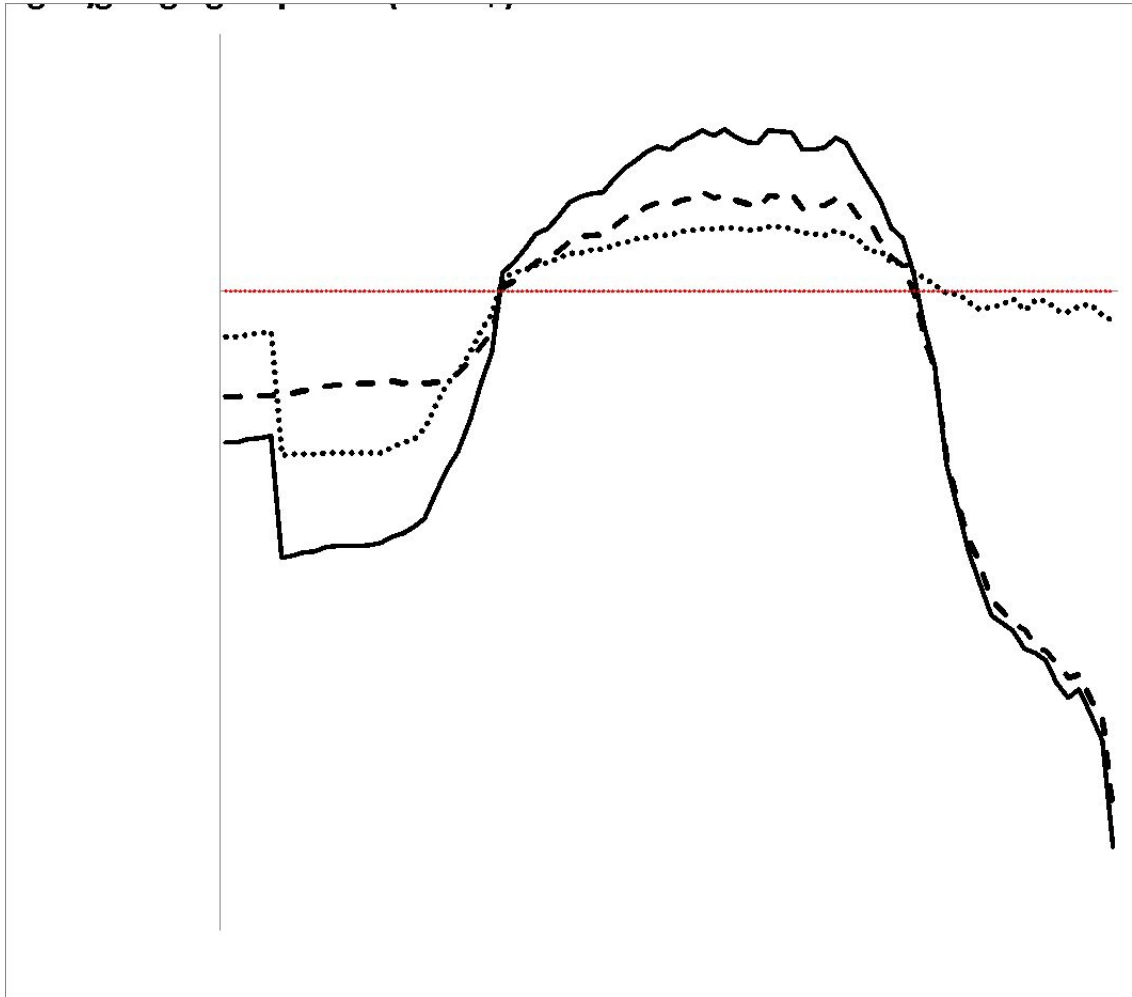
What does this include?

- Targeted: programs for poor, elderly, kids, workers, etc
- Non-targeted: public administration and services, national defense, interest payments, subsidies, foreign aid

How was it computed?

- Aggregate amounts come from national accounts data and published expenditure reports
- Age shapes come from surveys (Current Population Survey) and even more assumptions

Net Fiscal Impacts by Age, 2012



This is benefits minus taxes

Note how important AGE is to overall fiscal impact

- Kids are expensive to state/local government
- Elderly are expensive to federal government
- Fiscal impact of immigrants very dependent on age distribution

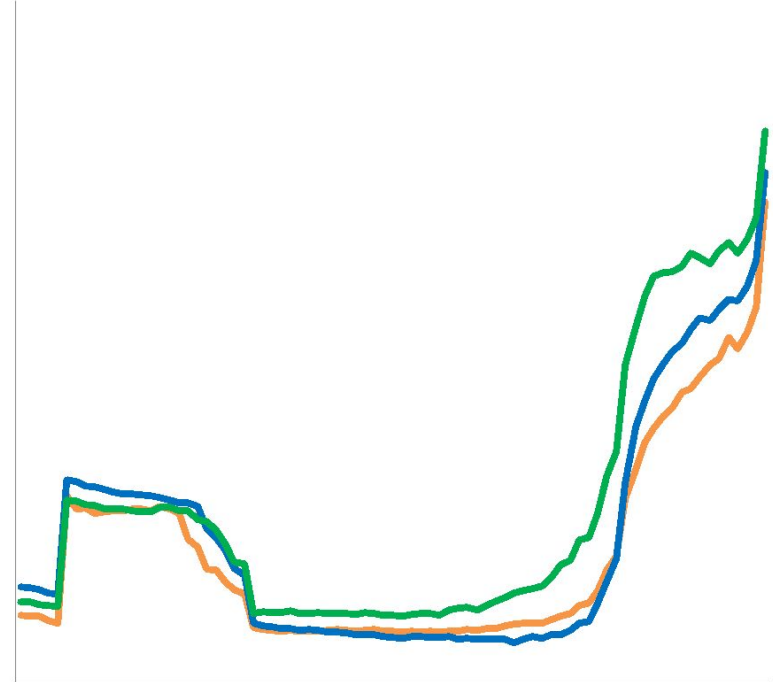
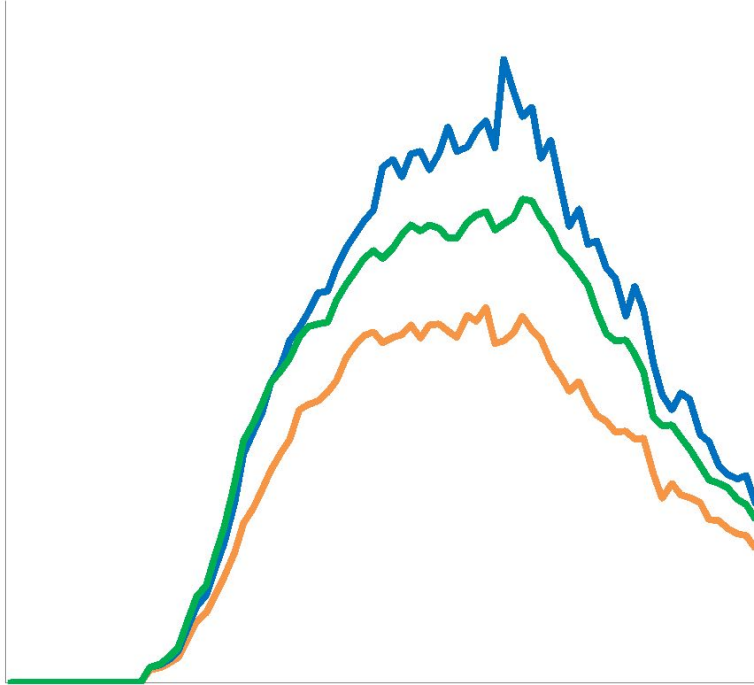
It looks like there is not much surplus

- There isn't, that's what a budget deficit is - on average the government spends more on each of us than it gets from us in taxes

Not all benefits are the same when we think about “fiscal impacts” of an immigrant...

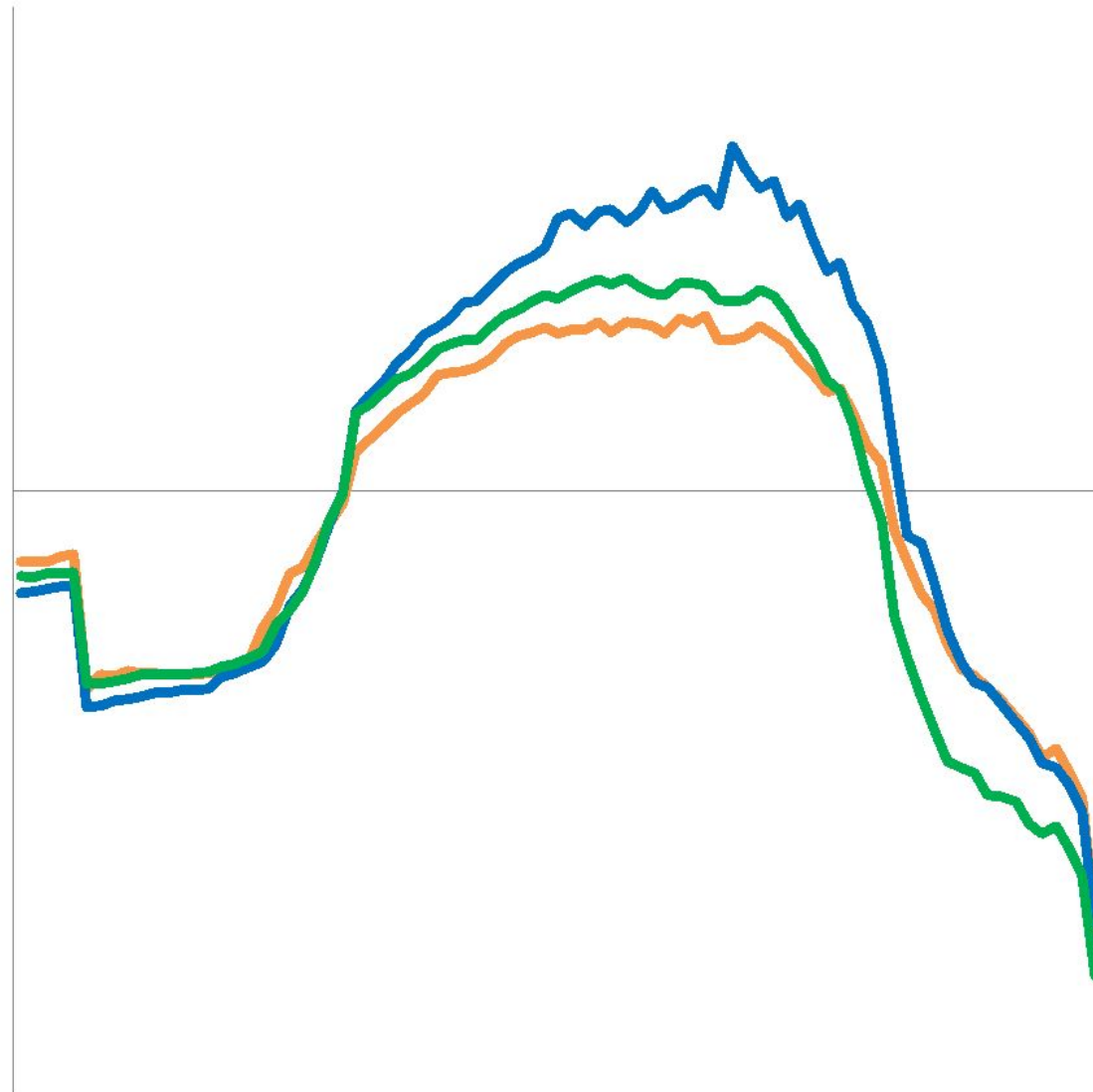
- Increases the cost of targeted programs
 - Social welfare programs, education, etc. increase if that immigrant uses the service
- Increases the cost of congestible public goods
 - Cost of police, fire departments, libraries, etc., increase when population increases
- Does not increase the cost of pure public goods
 - Defense, payment of interest on past debts, subsidies...
 - Defense and interest are a big chunk of the government spending so results are very sensitive to how you treat these expenditures

Fiscal Impacts by Generation



- Some of this is compositional: more 2nd gen with highest education and earnings, more 1st generation with lowest
- Some not: even within BA and BA+ education groups, 2nd generation earns more and pays more taxes
- 1st generation is poorer on average but is excluded from many public programs

Fiscal Impacts by Generation

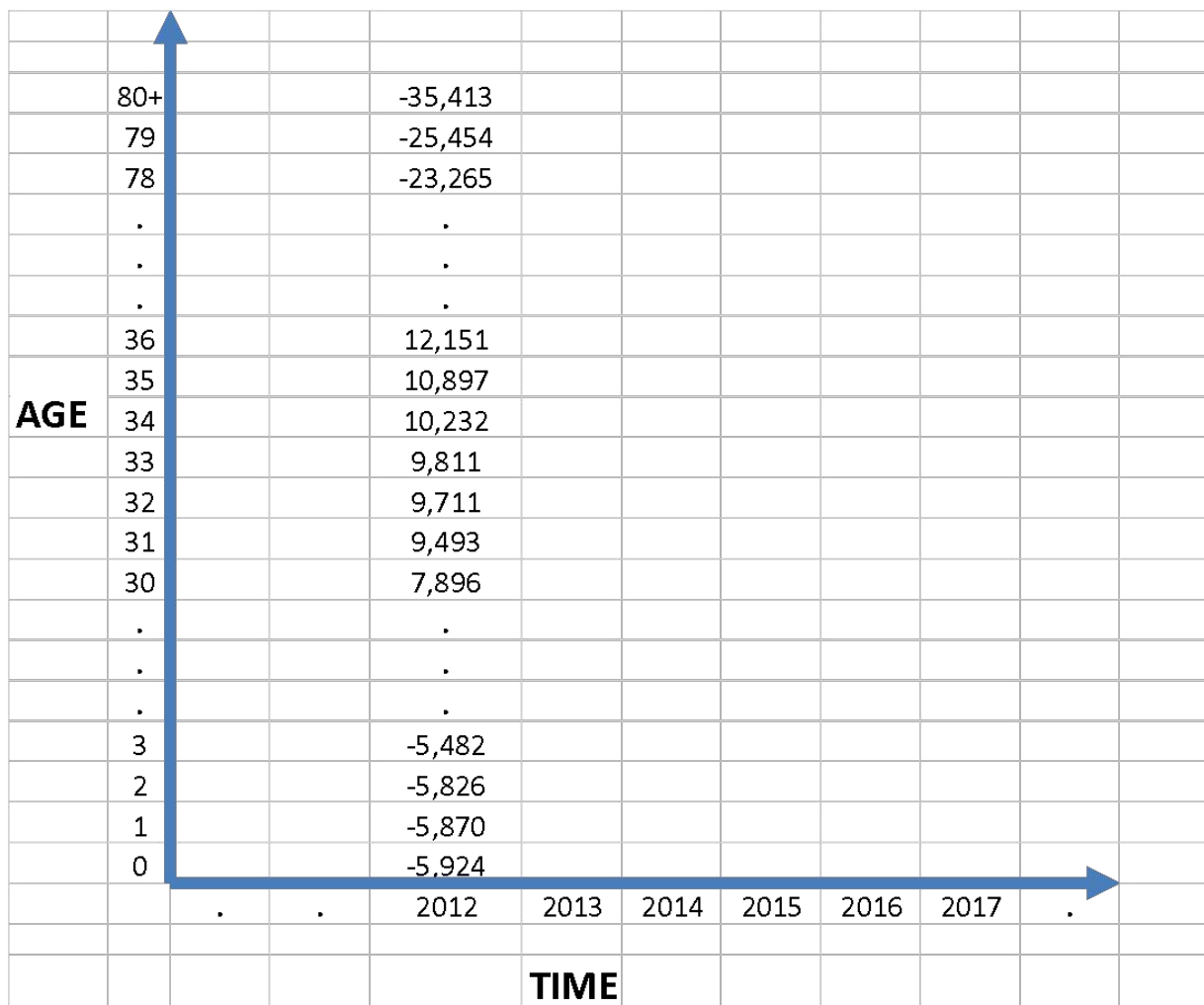


Note:
benefits do
not include
defense,
interest
payments,
or
subsidies

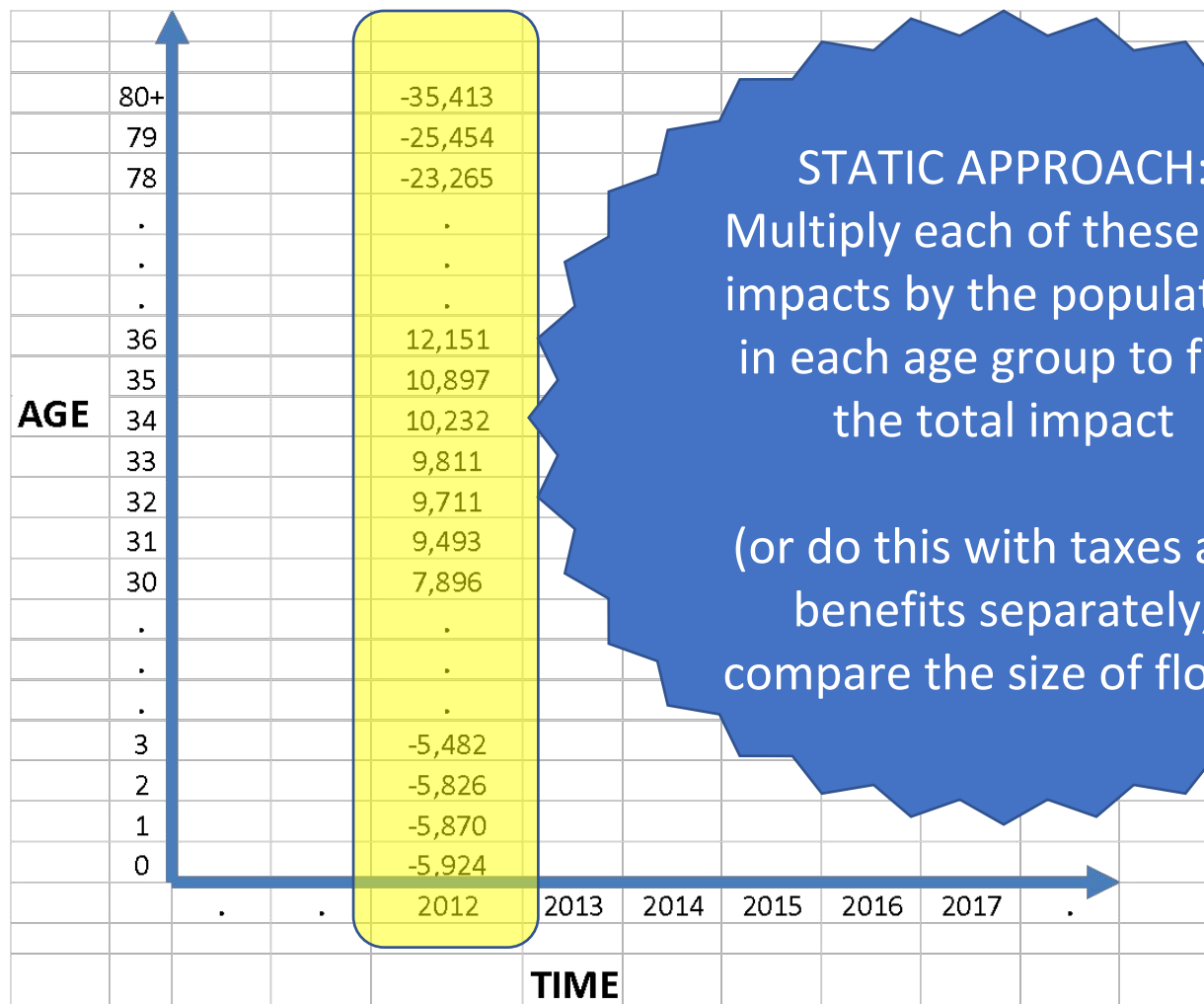
How to summarize all this data?

- Static approach
 - This year, is the average immigrant paying more or less in taxes than he receives in benefits?
- Dynamic approach
 - If another immigrant arrives, will she pay more in taxes over time than she receives in benefits?

Taxes – benefits (net fiscal impact), for 1st generation, by age and time
 Pure public goods not included.



Taxes – benefits (net fiscal impact), for 1st generation, by age and time
Pure public goods not included.



STATIC APPROACH:
Multiply each of these net impacts by the population in each age group to find the total impact

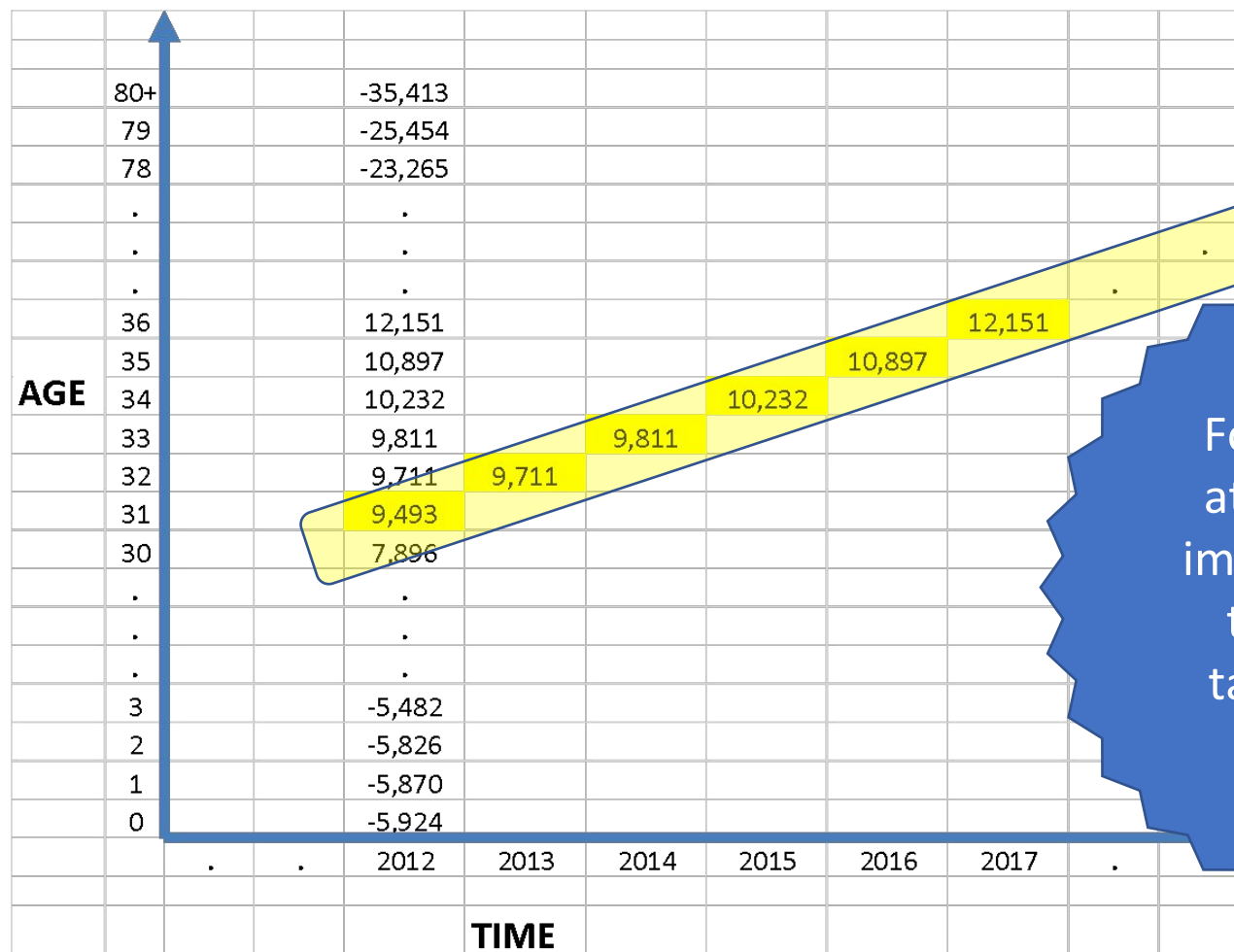
(or do this with taxes and benefits separately, compare the size of flows)

Static approach

In year “y”, sum population-weighted taxes (T) and benefits (B) over all ages “a” and take the ratio:

$$\frac{\sum_a (pop_{a,y})(T_{a,y})}{\sum_a (pop_{a,y})(B_{a,y})}$$

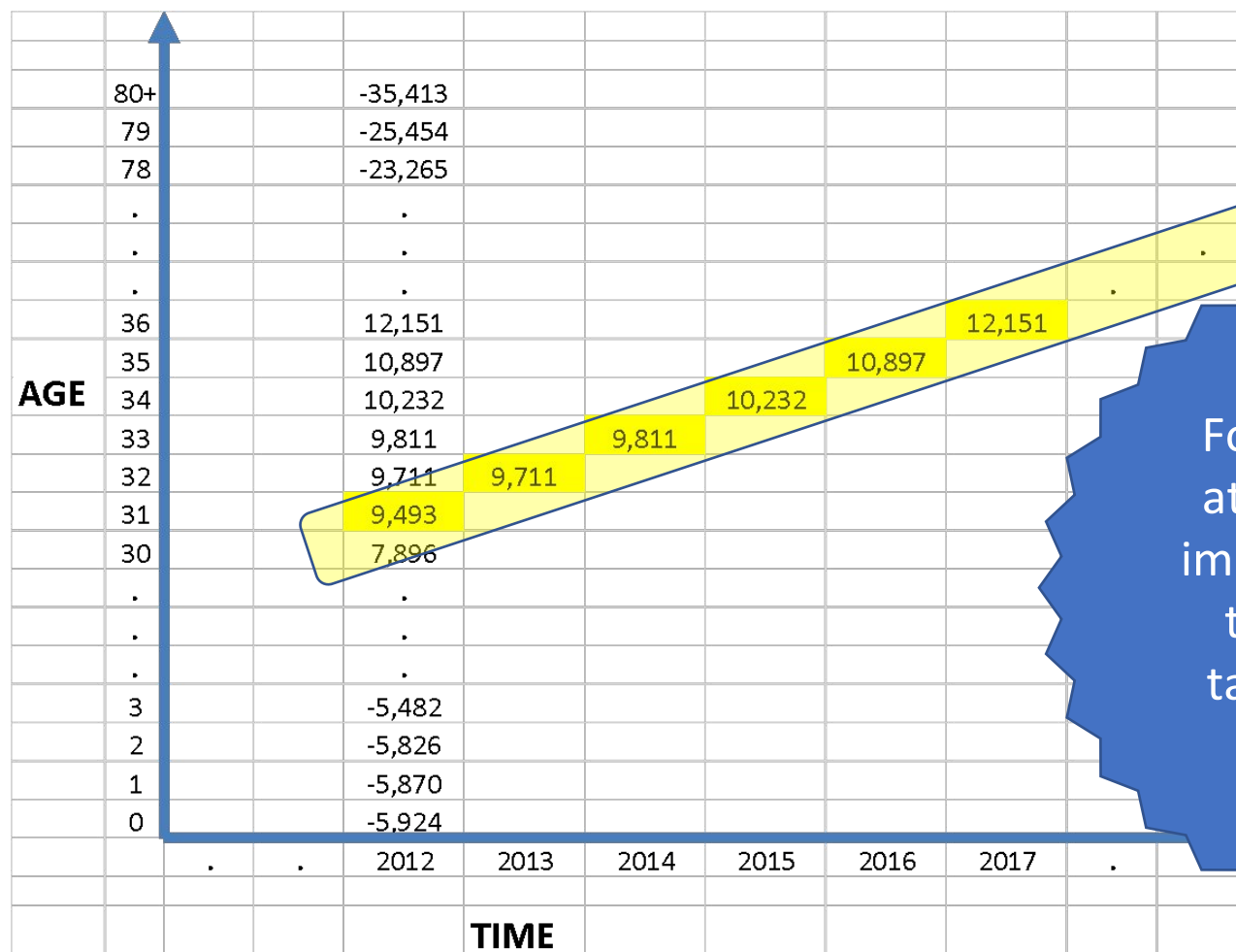
Taxes – benefits (net fiscal impact), for 1st generation, by age and time
 Pure public goods not included.



DYNAMIC APPROACH:

For a particular age
 at arrival, follow an
 immigrant forward in
 time, tracking his
 taxes and benefits,
 and those of his
 descendants

Taxes – benefits (net fiscal impact), for 1st generation, by age and time
 Pure public goods not included.




**DYNAMIC
 APPROACH:**
 For a particular age
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 descendants

For dynamic approach, have to make assumptions about future probability of survival, emigration, and number of surviving offspring. Also about education, because that is so important in determining tax and benefit flows.


Dynamic approach

For an immigrant entering the US at age “x” with education “e” in year “y” :


$$\sum_{a=x}^{100+} ([T - B]_{e,a,y+a-x})(ps_{a,x})(1 - pe_{a,x})(e^{-r(a-x)})$$




Future net fiscal
impact of
education group
“e” at age “a” in
time “y+a-x”



Probability
of
surviving
from age x
to age a



Probability
of not
emigrating
from
arrival at
age x to
age a



Discounted
at rate r,
(a-x) years
in the future

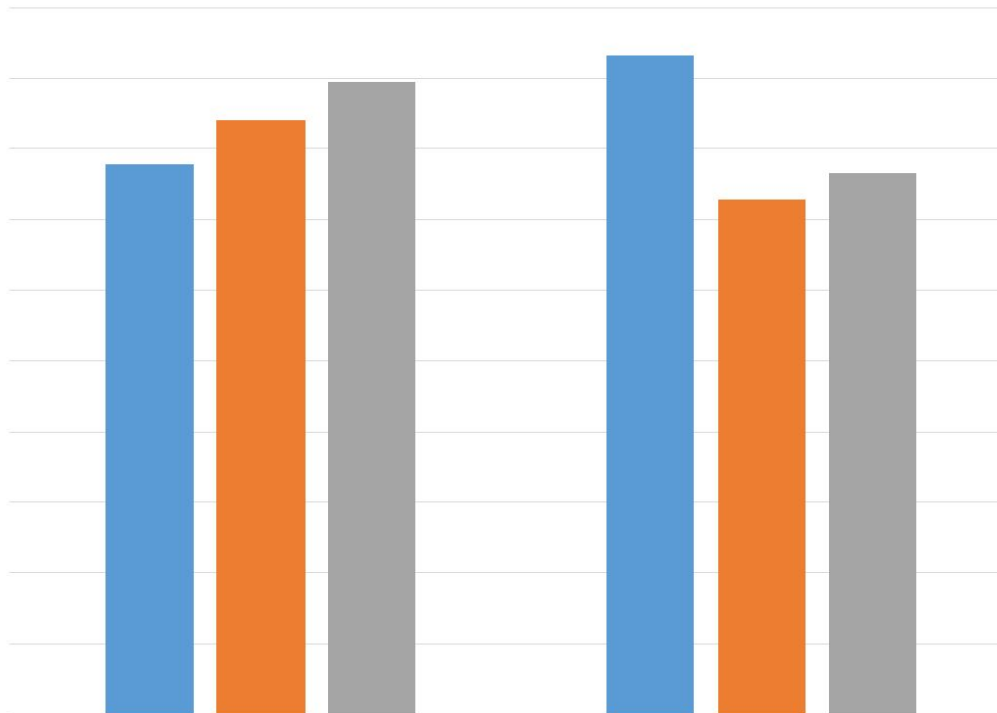
- And then, we add the descendants!

Dynamic approach requires a lot of data and assumptions

- Different scenarios:
 - Projected future taxes and benefits (2 scenarios)
 - Follow CBO projections for totals
 - Assume all flows grow at a fixed rate
 - Characteristics of “average” immigrant arrival (2 scenarios)
 - Like arrivals in last 5 years
 - Like current stock of 1st generation immigrants
 - Treatment of pure public goods (2 scenarios)
 - Excluded as a benefit to immigrants
 - Non-interest pure public goods included (defense, subsidies, rest-of-world payments)
- Demographic rates stay fixed at current levels
 - Survivorship, fertility, emigration (probability declines with duration in US)
- Projected future education
 - Arrivals age 25+ maintain level of arrival education
 - Arrivals age <25 and descendants achieve predicted level of education at age 25, based on parental education and birth region
- Other assumptions
 - 75-year forward-looking horizon, 3% discount rate

Static approach results

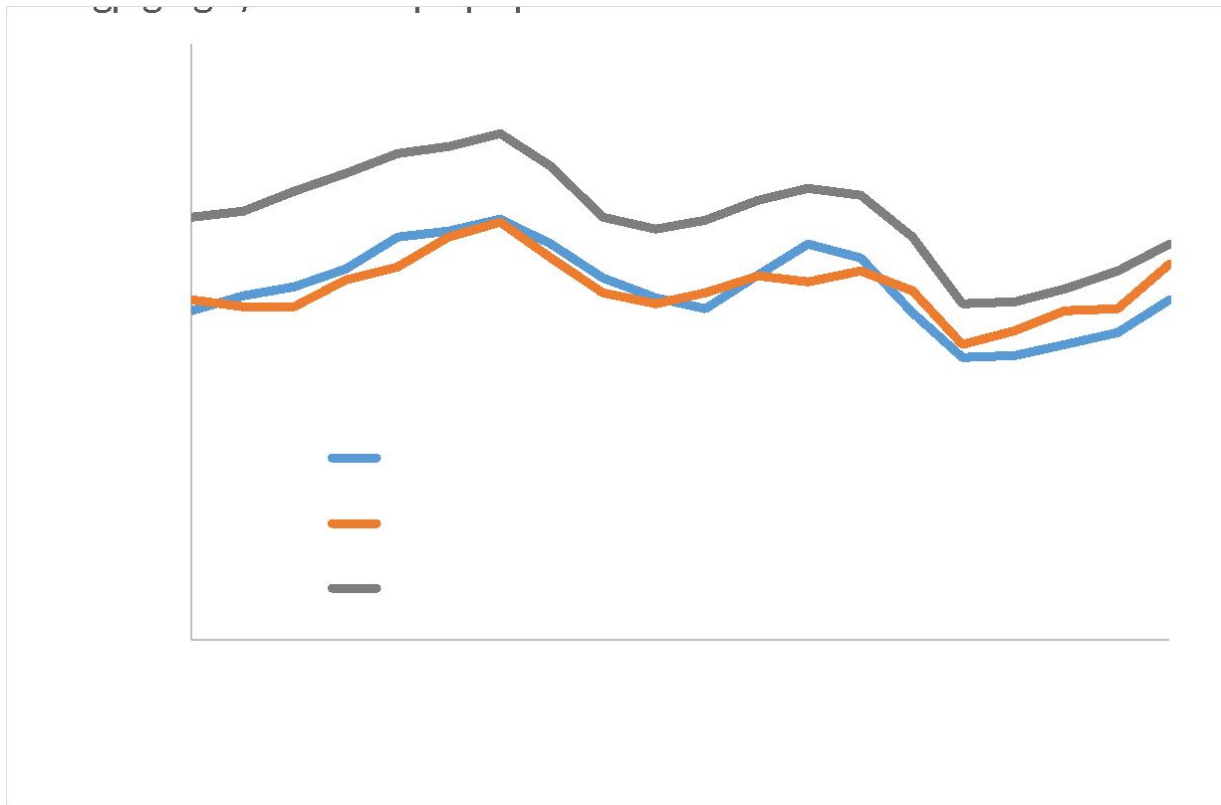
Ratio of taxes/benefits, by immigration generation, with differing treatment of pure public goods



For this analysis, dependents age <18 are included with the parental generation.

Static approach results over time

Ratio of taxes/benefits over time, by immigration generation, for average cost public goods scenario

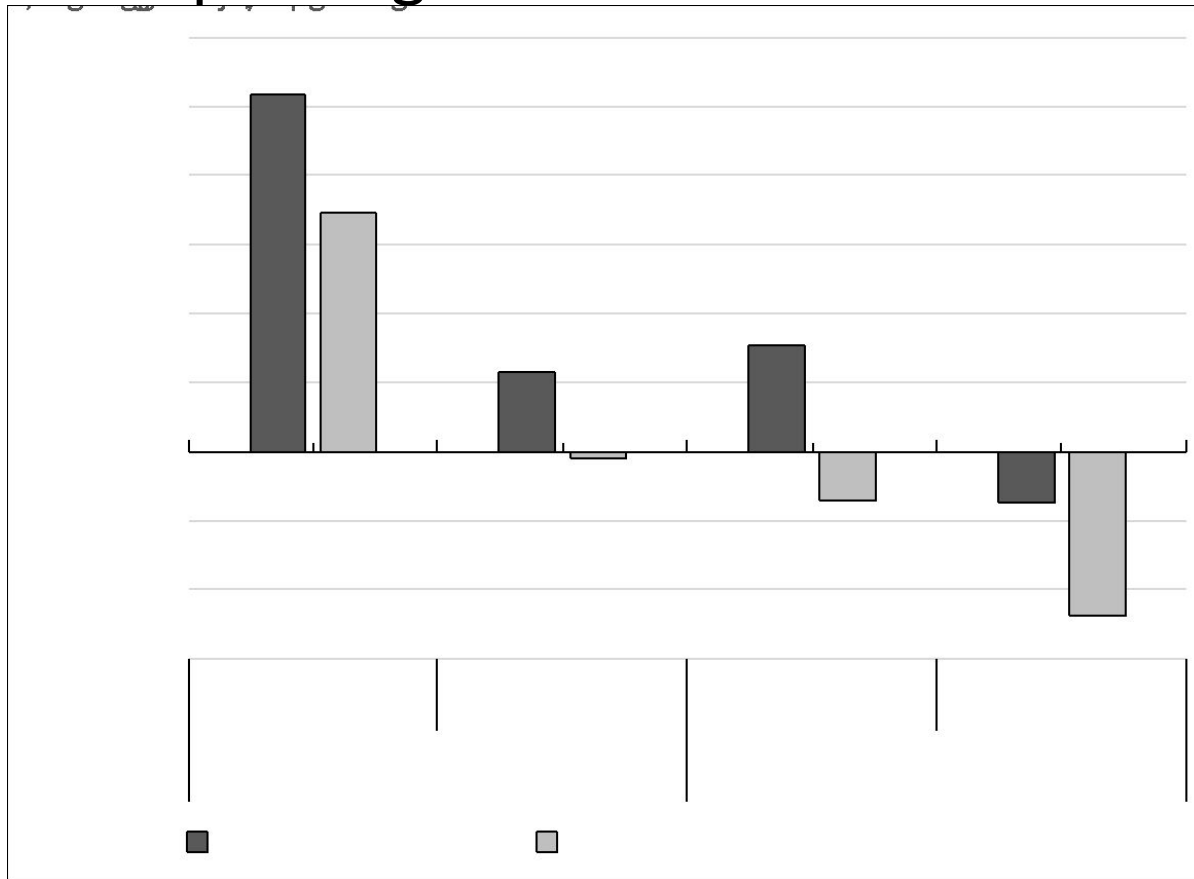


For this analysis, dependents age <18 are included with the parental generation.

All public goods included here at average cost to all persons.

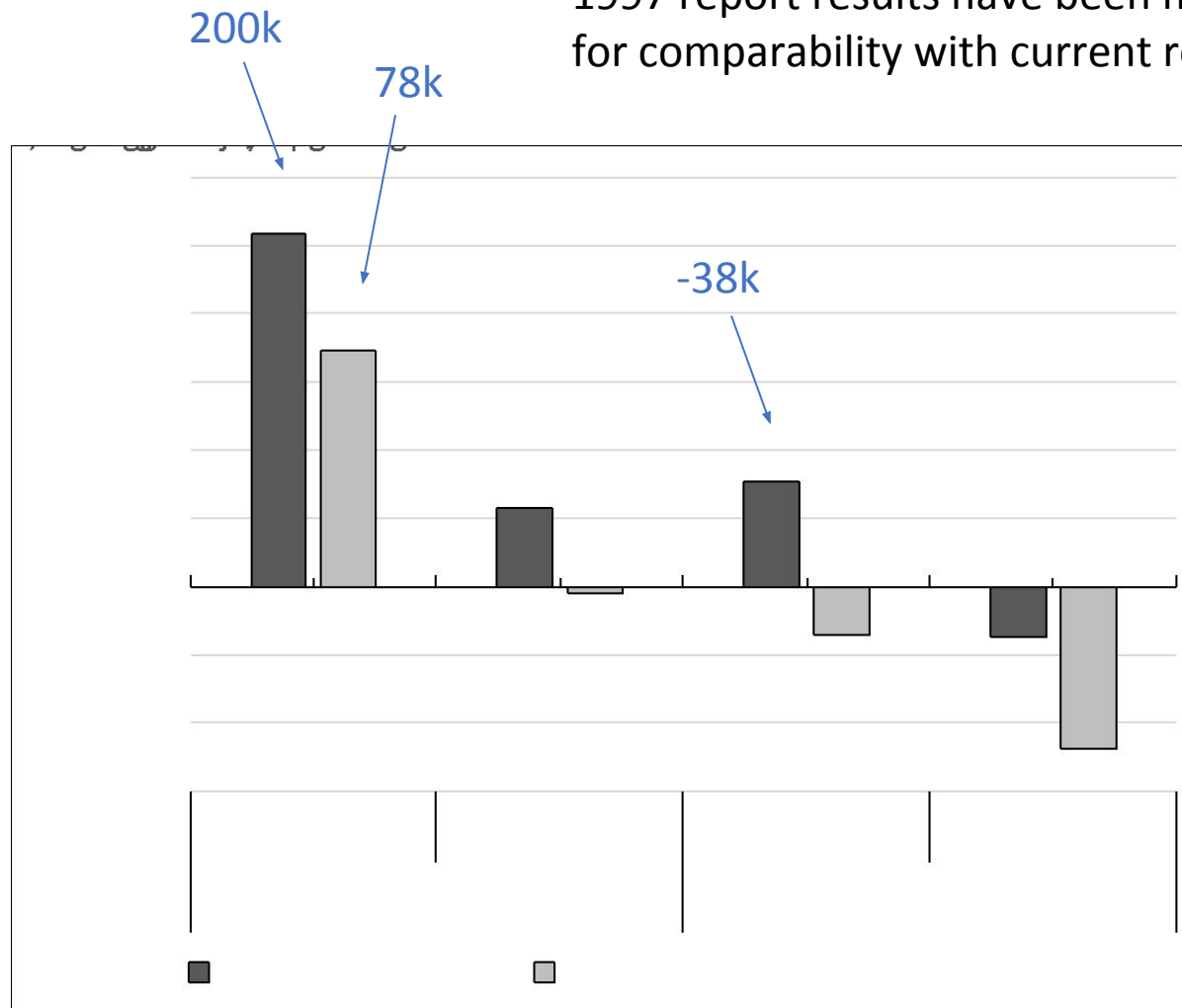
Dynamic approach results

Net present value of an additional immigrant and her descendants, by characteristics of “average” immigrant, future budget scenario, and treatment of non-interest public goods



Comparing old report with new (roughly)

Note that from 1994 to 2012, total taxes and benefits have grown by a factor of about 2.5, so 1997 report results have been multiplied by 2.5 for comparability with current report.



Dynamic approach results

- Differ a great deal at Federal versus State/local level
 - For most scenarios, Federal amount is positive while State/local is negative
- Scenarios generate a wide range of results depending on public goods, immigrant characteristics, and future government budgets
 - POSITIVE IF:
 - Immigrant education stays at the level of new arrivals or increases
 - We think that the cost of defense and other pure public goods will not increase because of immigration
 - The Federal government lowers budget deficits
 - NEGATIVE IF:
 - Immigrant education returns to the lower level observed in the 1990s
 - We think that the cost of defense and other pure public goods will increase because of immigration
 - The Federal government continues to run budget deficits as it is now

Which approach makes sense?

- Static approach
 - Pro – straightforward, easy to understand
 - Con – only tells you about the situation today, limited policy relevance?
- Dynamic approach
 - Pro – forward-looking analysis more relevant for policy and including second generation dynamics
 - Con – much more complex than static approach, requires more assumptions about the future
- Issues common to both approaches
 - Role of public goods
 - Health and education benefits to children are treated as a cost, not an investment

New Report Conclusions

- **Recent changes in immigrant patterns:**

- Growth in the unauthorized population has stopped,
- Immigrant education has risen,
- Immigrants and their children will account for the vast majority of current and future labor force growth.

- **Economic effects:**

- Immigration benefits US economic growth, innovation, and entrepreneurship,
- With little to no negative effects on the overall wages or employment of native born workers in the longer term.

- **Fiscal effects:**

- Negative short-run effects, especially at the state level, when the costs of educating the children of immigrants are included,
- Children of immigrants (the second generation) go on to be the most positive fiscal contributors in the population,
- In the longer term (75 year time horizon), fiscal impacts of immigrants are positive at the federal level, though still negative at the state level.

Thinking about all of this more deeply

- President's remarks on immigration in first address to Congress... what do you think?
- What makes more sense to you, the static or dynamic analyses?
- Are there economic effects of immigration that I didn't discuss?
- Other ways fiscal analysis could be applied?