I. Basics of Public Finance and Migration
   A. Immigrants use public services, which burdens natives.
   B. Immigrants also pay taxes, which unburdens natives.
   C. In countries like the U.S., the use of public services varies only moderately by income.
      1. Poor use more services targeted at the poor.
      2. But rich use more old-age programs (Social Security, Medicare) because they live much longer.
      3. Rich also use more publicly-funded higher education, because they have higher rates of college attendance.
   D. However, the payment of taxes varies tremendously by income.
      1. Overall, the U.S. tax system is highly progressive.
   E. Upshot: From a fiscal point of view, low-skilled immigrants are plausibly a net burden on native taxpayers, while high-skilled immigrants are plausibly a net benefit for native taxpayers.

II. Rivalry, Age, Family, Federalism, and Immigration
   A. Major complication: Many government services are non-rival; i.e., their cost does not depend on population.
      1. National defense
      2. Debt service
   B. More sophisticated version: Goods are on a continuum from congested to rival to semi-rival to rival.
      1. Quick math: Divide spending by N^a to determine services’ per-capita value. a=0 for non-rival, 0<a<1 for semi-rival, a=1 for rival, a>1 for congested.
   C. When you’re estimating the services an immigrant consumes, you therefore have to take a stand on the share of non-rival goods. With non-rival goods, immigrants can be net taxpayers even though they earn less than average, or even less than the median.
      1. It’s the same as the logic of a matinee. Theaters profit by charging some customers much less than AC.
   D. Another major complication: Fiscal burden varies heavily by age. School-age children are extremely burdensome for taxpayers, as are the elderly. Working-age people, in contrast, use few services.
   E. Remember: Welfare states focus much more on helping kids and the elderly than helping the poor per se.
   F. Third major complication: Immigrants come in families – and immigrant parents often have native children.
   G. Good analyses, therefore, factor in:
      1. The cost of the services used by immigrants’ children.
2. The future taxes the immigrants’ children will pay.
3. Future generations!

H. Note: Sending countries, not receiving countries, pay for almost all the education of adult immigrants. Picture a family of 3:
1. Three natives – domestic taxpayers pay for 3 educations.
2. Two immigrants with native child: domestic taxpayers pay for 1 education.

I. Last complication: Federal, state, and local results widely vary, so it’s important to measure “consolidated” effects.

III. Overall, Long-Run Net Fiscal Effects
A. In the face of all this complexity, how can we measure the net fiscal effect of an immigrant?
   1. Key point: Most people have an opinion on the fiscal effect of immigration but have zero patience for actually looking at numbers.
B. Easy answer: Measure the Net Present Value (NPV) of all the taxes an immigrant will ever pay minus the NPV of all the services an immigrant will ever consume.
C. Better answer: Count the NPV of the immigrants’ descendants as well. This is called the “overall, long-run net fiscal effect.”
D. Do these estimates require assumptions? Absolutely, but all assumptions are not created equal.
E. National Academy of Sciences estimates (in $1000s) of overall, long-run net fiscal effects, using a 75-year horizon:

FIGURE 8-23 Net Fiscal Impacts of Immigration, by Budget Scenario, Treatment of Public Goods, and Average Characteristics of New Immigrants
TABLE 8-14 75-year Present Value Flows for Consolidated Federal, State, and Local Governments for Three Future Budget Scenarios, by Grouped Ages of Immigrant Arrival in the United States, with Public Goods Excluded from Incremental Benefit Costs to Immigrants and Descendants (flows in thousands of 2012 dollars)

<table>
<thead>
<tr>
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<th>CBO Long-term Budget Outlook</th>
<th>CBO Long-term Budget Outlook with Deficit Reduction</th>
<th>No Budget Adjustments</th>
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<tr>
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<td>Total Impact</td>
<td>Immigrant</td>
<td>Descendants</td>
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<tr>
<td><strong>Avg:</strong></td>
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<td><strong>Avg:</strong></td>
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<td><strong>BENEFITS</strong></td>
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<tr>
<td><strong>Avg:</strong></td>
<td>699</td>
<td>502</td>
<td>244</td>
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</table>

**SOURCE:** The values are panel-generated using CPS data pools from 2011-2013.

**NOTE:** The “total” figures equal the fiscal impact of the individual immigrant plus the fiscal impacts of that individual’s descendants. See accompanying text for a discussion of the difference between scenarios without and with public goods included. The discount rate used for the NPV calculations is 3 percent.
F. Note: “On average, recently arrived first generation independent person units (since 2006) have small net fiscal burdens relative to first generation units that have been in the United States longer because the new first generation immigrants heading the unit tend to be younger, have more education, and have fewer dependent children.”

G. Why makes the “No Budget Adjustments” numbers so bad? Because they assume that the U.S. keeps spending vastly more than it taxes... forever.

IV. NPV By Skill and Age
A. The NAS also breaks numbers down by educational and age category.
B. Primarily due to tax progressivity, more-educated immigrants have a better NPV.
C. Similarly, due to pension programs, younger immigrants have a better NPV.
D. Table 8-14:
   1. Results by education: NPV>0 for all except HS Dropouts.
   2. Results by age: NPV>0 for all education levels for <25 years old; NPV<0 for all education levels for 65+ years old.
E. Other complications?
F. Biggest doubts?
G. While projecting the fiscal effects of liberalization using current averages is naïve, interacting sub-group estimates with estimates of post-liberalization demographics isn’t.

V. Friedman and Open Borders: An Assessment
A. Friedman’s quip: “You cannot simultaneously have free migration and a welfare state.”
B. As we’ll see later, this assumes that immigrants have to be fully eligible for welfare benefits. In high-immigration states (Gulf monarchies, Singapore), they rarely are.
C. Suppose, thoughm that immigrants must be treated equally. Is Friedman right then? It all depends on the numbers.
D. At least in the U.S., he’s wrong. Despite the existence of the welfare state, the average new immigrant more than pays for himself.
E. Even less-skilled immigrants are a good deal for taxpayers as long as they’re young when they arrive.
F. Note further: NAS estimates also show that immigrants are fiscally better than natives in all age and education categories. Should we conclude that: “You cannot simultaneously have free reproduction and a welfare state”?

VI. Immigration and the Environment
A. All else equal, higher population leads to more environmental harm.
   1. At first glance, however, immigration only redistributes environmental harm rather than increasing it.
B. Problem: Precisely because immigration increases global per-capita production and consumption, maybe it increases total environmental harm after all.
C. Note: If environmental harm is a good argument against immigration, it is an equally good argument against Third World development in general.

D. Big complication: The Environmental Kuznets Curve. Empirically, moving countries from low income to middle income raises measured environmental harm. Yet moving countries from middle income to high income reduces measured environmental harm.
1. Failure to properly measure low-income environmental quality – e.g. animal waste?

E. Why would there be an Environmental Kuznets Curve?
1. Consumer demand
2. Norms
3. Regulation

F. Key implication: If countries are going to develop anyway, the best scenario for the environment is speeding through middle income zone ASAP.
1. And that’s precisely what immigration does!

VII. Immigration and Contagious Disease
A. “If there were no immigration, all new contagious diseases would exist in a single country.”

B. Not true; you’d also have to get rid of all tourism and trade as well.
1. Remember: tourist contagion works two ways. It’s not enough to keep foreigners out; you have to keep domestics from travelling and then returning.

C. Couldn’t you allow tourism with quarantines and/or testing?

D. Sure, but strict, long-lasting quarantines would deter almost all tourism. Who wants to endure two three-week quarantines just to go on vacation?

E. In contrast, most would-be immigrants would happily endure a three-week quarantine. In you can multiply your income by a factor of 5 or 10 by migrating, a quarantine is no big deal.

F. Even seasonable guest workers would probably find quarantine an OK deal.

G. Long-run perspective: Immigration helps eradicate “diseases of poverty” – e.g. those spread by eating wild animals.