A User's Guide to the 2016 National Academy Report on "The Economic and Fiscal Consequences of Immigration"

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Introduction

The National Academy of Sciences (NAS) has just published a major report on T*he Economic and Fiscal Consequences of Immigration.* The National Academy panel that prepared the report consisted of about 20 social scientists, including economists, sociologists, and demographers. The project was led by Francine Blau, a professor of economics at Cornell, and Christopher Mackie, who is a study director with the Committee on National Statistics at the NAS. Fran and Chris did an amazing job bringing this very complicated project to fruition over a three-year period. They were (very) patient, fair, professional, and made sure that all the work done by the members of the panel was somehow weaved into a cohesive whole--and that's no small feat! And did I say they were very patient?

Full disclosure: I was a member of the NAS panel that prepared the report, but anything I say in this series of posts reflects only *my* take about what is in the report and what, I think, is important. These posts have not been read or vetted by anyone in the panel.

I think the report has four major conclusions. But it is near 300,000 words long with big chunks of it written in "technical-ese," comprehensible only to trained economists and likely to appeal only to immigration geeks. So I'm going to write five posts that together make up "*A User's Guide*." The *User's Guide* will link to the main tables and figures in the report that document those conclusions.

Let me start by giving a brief outline of my *User's Guide*. All quotes below are from the report's summary:

1 **There has been a slowdown in assimilation during the immigrants' lifetime (User's Guide, 1).** "As time spent in the United States lengthens, immigrants' wages increase relative to those of natives and the initial wage gap narrows. However, this process of economic integration appears to have slowed somewhat in recent decades; the rate of relative wage growth and English language acquisition among the foreign-born is now slightly slower than it was for earlier immigrant waves."

2 **Immigration has a harmful effect on the earnings of low-skill workers (User's Guide, 2)**:"When measured over a period of 10 years or more, the impact of

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immigration on the wages of natives overall is very small. However, estimates for subgroups span a comparatively wider range, indicating a revised and somewhat more detailed understanding of the wage impact of immigration since the 1990s. To the extent that negative wage effects are found, prior immigrants—who are often the closest substitutes for new immigrants—are most likely to experience them, followed by native-born high-school dropouts, who share job qualifications similar to the large share of low-skilled workers among immigrants to the United States."

3 **Immigrants and their dependent children create a fiscal burden (User's Guide, 3; and User's Guide, 4)**: "On average, individuals in the first generation are more costly to governments, mainly at the state and local levels, than are the native-born generations...For 2013, the total fiscal shortfall (i.e., the excess of government expenditures over taxes) was $279 billion for the first generation group...Viewed over a long time horizon (75 years in our estimates), the fiscal impacts of immigrants are generally positive at the federal level and negative at the state and local levels." But these fiscal impact estimates are, rightly, stamped with a Consumer Warning label: "Assumptions play a central role in analyses of the fiscal impacts of immigration."

4 **The bottom line. (User's Guide, 5):** The NAS report does not conduct the final (and obvious) calculation that adds up the economic gains and compares that number with the fiscal burden. But anyone with a pencil and a proverbial back-of-an-envelope can do so using the numbers in the report. The only time the NAS comes close to estimating the total gains is when it reports the "immigration surplus"--the increase in the aggregate wealth of natives resulting from the productive contributions of immigrants. Although much is left out when calculating this theory-based surplus, it seems evident (at least to me) that the bottom line is very simple: The economic impact of immigration is, at best, a net wash for the average native-born person. The gains accruing from the immigrants' productive contributions are probably offset by the fiscal burden. But even though the mythical average person is unaffected, some groups gain a lot and some groups lose a lot.

Finally, let me re-emphasize that this *User's Guide* focuses on topics that I personally find interesting and important. There's much more in the report, including (long and dense) discussions of immigration, innovation, and economic growth, where the foundational research is still a work in progress. Nevertheless, they provide an excellent introduction to many research and policy questions.

1. Assimilation

It is well known that immigrants have an economic disadvantage when they first enter the United States. Many are not fluent in English; they are not familiar with how the US labor market works; and on and on. So it is not surprising that, at first, they earn far less than

natives. Over time, the immigrants learn the language, acquire new skills, and begin to "catch up" or assimilate to the native norm.

Economic assimilation is obviously an important component of any assessment of the impact of immigration. And despite all the hype claiming that immigrants today are assimilating just as well as earlier waves did (including another NAS report focusing specifically on assimilation and released just one year ago; here's that report and the media spin), the new NAS report gives a far more realistic and measured assessment of the situation.

Chapter 3, which summarizes trends in the skills of immigrants, is quite detailed. But there is one table (Table 3-12) and one figure (Figure 3-6) that speak volumes about what really matters. Here's the table:

TABLE 3-12 Weekly Wage Assimilation of Male Immigrants, by Cohort (Percentage Difference between Native-born and Foreign born Wages)

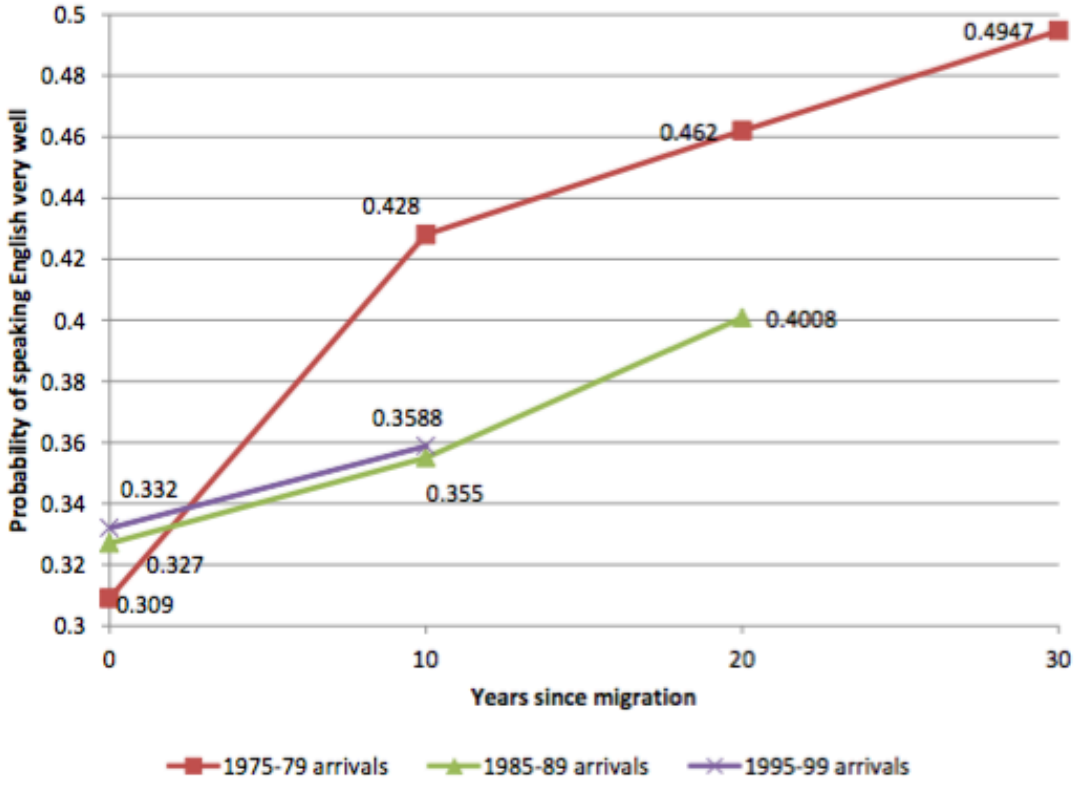
	Controlling for age (cubic) only Years Since Migration				
	0	10	20	30	40
Arrival Cohort					
1965-69 arrivals	−0.235	−0.120	−0.020	−0.014	0.176
1975-79 arrivals	−0.314	−0.185	−0.176	−0.136	
1985-89 arrivals	−0.331	−0.269	−0.252		
1995-99 arrivals	−0.273	−0.269			

This table reports the age-adjusted percent wage gap between specific immigrant waves and natives at different points in time. The table obviously shows that there was a lot of wage growth for immigrants who arrived in the 1960s and 1970s, but far less for immigrants who arrived in the 1980s and 1990s. For example, the 1965-1969 arrivals had a 23.5% wage disadvantage at the time of arrival, and this had narrowed to a 12.0% disadvantage after 10 years. But the 1995-99 arrivals had a 27.3% wage disadvantage at the time of arrival, and it was still 26.9% after 10 years. As the report modestly puts it:

Male immigrants who arrived between 1965 and 1969 experienced rapid growth in their relative wages, which allowed them to close the gap with native-born peers. This indication of economic integration has shown signs of slowing in more recent decades. The relative wage profile has flattened somewhat across recent arrival cohorts, indicating a slowing rate of wage convergence.

And then here's the figure:

FIGURE 3-6 Aging profile for high English language proficiency of male immigrants (wage earners), by arrival cohort



It shows that immigrants who came in the 1970s became fluent in English at a faster rate than the immigrants who arrived in the 1980s and 1990s. This is how the panel describes the finding:

These trends generally corroborate the finding...that earlier cohorts of immigrants experienced more rapid language assimilation than recent cohorts.

The NAS analysis of trends in immigrant skills brings to the immigration debate a new and important fact: **There has been a slowdown in the economic assimilation of immigrants**. Even though we do not yet fully understand why this slowdown occurred, there is a crucial question lurking underneath: What does the assimilation slowdown mean for the future?

An aside: Beware of adjectives and adverbs in the NAS report. Look at Table 3-12 and Figure 3-6, and ask yourself: Is the assimilation slowdown numerically significant? This is how the report's summary describes it: "The rate of relative wage growth and English language acquisition among the foreign-born is now **slightly** slower than it was for earlier immigrant waves." Maybe it's just me, but the finding that there is no wage growth whatsoever by the time you get to the 1995-1999 wave is a tad stronger than the claim that assimilation is "now slightly slower."

2. Labor Market Impact

Chapter 5 of the report, entitled "Employment and Wage Impacts of Immigration," weighs in at over 32,000 words (for context, that's over half the length of my new book, *We Wanted Workers*). I am cynical enough to know that most of the people who will bother to wade through the verbiage are fishing for "talking points" that will support their ideological point of view. But they'll be missing something. This is, by far, the best and most extensive survey of a difficult and voluminous literature. The report's emphasis on the diversity of findings, and the many caveats that go along with those findings, reflects the doubts and uncertainty in the existing academic literature.

Having said that, we still need "stylized facts" to help us think about this issue. The very long chapter only has two tables (in the main text). And those two tables summarize the key insights from the literature. So let me describe what those two tables do, and note the take-away points.

Table 5-1, copied verbatim from tables that I published in my technical book *Immigration Economics*, summarizes the evidence from "structural models" of the labor market. In plain English. Let's assume that all the immigrants who arrived between 1990 and 2010 entered the country all at once. We are then going to stream these data through a mathematical model that purports to describe how the labor market works. This mathematical exercise then lets us "see" how the market reacts in the "short run" (the instant after the immigrants arrive) and the "long run" (after the market has fully adjusted to their entry).

TABLE 5-1 Simulated Percentage Wage Impacts of 1990-2010 Immigrant Supply Shock

	High School Dropouts	High School Graduates	Some College	College Graduates	Post-College	All Education Groups
Percent supply shift	25.9	8.4	6.1	10.9	15.0	10.6
A. Short Run						
Scenario 1*: $\sigma_{MN} = \infty$						
All workers	-6.3	-2.8	-2.3	-3.3	-4.1	-3.2
Scenario 2: $\sigma_{MN} = 20.0$						
Native-born	-4.9	-2.3	-2.0	-2.7	-3.3	-2.6
Foreign-born	-8.5	-6.6	-5.9	-8.1	-8.5	-7.6
All workers	-6.3	-2.8	-2.3	-3.3	-4.1	-3.2
Scenario 3*: $\sigma_{MN} = \infty$ and $\sigma_{HS} = \infty$						
All workers	-3.4	-3.4	-2.3	-3.3	-4.1	-3.2
Scenario 4: $\sigma_{MN} = 20.0$ and $\sigma_{HS} = \infty$						
Native-born	-2.1	-3.0	-2.0	-2.7	-3.3	-2.7
Foreign-born	-5.6	-7.3	-5.9	-8.1	-8.5	-7.2
All workers	-3.4	-3.4	-2.3	-3.3	-4.1	-3.2
B. Long Run						
Scenario 1*: $\sigma_{MN} = \infty$						
All workers	-3.1	0.4	0.9	-0.1	-0.9	0.0
Scenario 2: $\sigma_{MN} = 20.0$						
Native-born	-1.7	0.9	1.2	0.5	-0.1	0.6
Foreign-born	-5.3	-3.4	-2.7	-4.9	-5.3	-4.4
All workers	-3.1	0.4	0.9	-0.1	-0.9	0.0
Scenario 3*: $\sigma_{MN} = \infty$ and $\sigma_{HS} = \infty$						
All workers	-0.2	-0.2	0.9	-0.1	-0.9	0.0
Scenario 4: $\sigma_{MN} = 20.0$ and $\sigma_{HS} = \infty$						
Native-born	1.1	0.2	1.2	0.5	-0.1	0.5
Foreign-born	-2.4	-4.1	-2.7	-4.9	-5.3	-4.0
All workers	-0.2	-0.2	0.9	-0.1	-0.9	0.0

Although I am personally responsible for introducing this type of structural simulation in the second half of my 2003 *Quarterly Journal of Economics* paper, I'm not a big fan of it. Why? Because the mathematical model builds in many assumptions, and assumptions matter. This opens up the door for a lot of mischief and obfuscation, as different

researchers play with different assumptions and end up producing different answers. Let me quote the report on what it is we learn from this type of structural analysis:

The key differences in the structural studies literature can be linked back to the studies' modeling assumptions. Allowing capital to adjust (i.e., moving from a short-run to a long-run scenario) reduces the estimated negative effects across the board [Going from Panel A to Panel B of the table]...The simulations also show that allowing for imperfect substitution between immigrants and natives [going from Scenario 1 to Scenario 2] does not greatly attenuate the wage impact of immigration on high school dropouts. There is still a 2 to 5 percent wage loss, depending on whether one looks at the long run or short run...The scenario that does lead to a much lower negative or even positive impact of immigration on the lowest skilled workers is the one that also incorporates the possibility that high school dropouts and high school graduates are perfect substitutes [going from Scenario 1 to Scenario 4].

Let me translate all this. Two assumptions have been used to claim that immigrants have only a trivial wage effect on low-skill natives. The first is that low-skill immigrants are not productive "clones" of low-skill natives--so that the entry of low-skill immigrants may actually be making the low-skill natives more productive. This is precisely the claim first made by Ottaviano and Peri a decade ago. We now know, as Peri-coauthor Ethan Lewis concludes in footnote 7 of his survey, that this type of complementarity is, at best, "very modest." Not surprisingly, the NAS reports that accounting for this issue "does not greatly attenuate the wage impact of immigration on high school dropouts." What really matters is **adding in the other assumption**: that high school dropouts and high school graduates are productive clones. This, as the report acknowledges, is the assumption one needs to get the data to finally "confess" that low-skill workers are not harmed by immigration.

(For the geeky reader. Scenario 2 in Table 5-1 assumes low-skill immigrants complement low-skill natives; Scenario 3 assumes high school dropouts and high school graduates are productive clones; and Scenario 4 assumes both).

The other table in the chapter (Table 5-2) skips all that math and all those assumptions, and instead summarizes what we find when we simply correlate wages with immigration (across cities or skill groups).

TABLE 5-2 Effect on Native Wages of an Inflow of Immigrants that Increases Labor Supply by 1 Percent

Study	Wage Effect (%)	Which Natives	Which Immigrants	Short Run?	Note
A. Spatial studies					
Altonji & Card (1991)	−1.7	Dropouts, Black men	All	—	10-year difference
	−1.0	Dropouts	All	—	10-year difference
Borjas (2016b)	−1.4	Dropouts, non-Hispanic men	Dropouts	Yes	Upper bound, Mariel Boatlift
	−0.5	Dropouts, non-Hispanic men	Dropouts	Yes	Lower bound, Mariel Boatlift
Monras (2015)	**−0.7**	High school graduates or less, non-Hispanic, including immigrants	HS or less, Mexican	Yes	1-year difference
Cortes (2008)	**−0.6**	Dropouts, Hispanic with poor English	Dropouts	—	Fixed effects (10-yearly data)
	−0.3	Dropouts, Hispanic	Dropouts	—	Fixed effects (10-yearly data)
	−0.1	Dropouts	Dropouts	—	Fixed effects (10-yearly data)
Card (2001)	**−0.1**	Men	All	—	5-year difference, wage level
	0.1	Women	All	—	5-year difference, wage level
Peri & Yasenov 2015)	0.3	Dropouts, non-Cuban	Dropouts	Yes	Mariel Boatlift
B. Skill cell studies					
Llull (2015)	−1.7	Men	All	—	IV, fixed effects (10-yearly data)
Borjas (2003)	−0.6	Men	All	—	OLS, fixed effects (10-yearly data)
Card & Peri (2016)	−0.2	Men	All	—	OLS, 10-year differences
Card & Peri (2016)	**−0.1**	Men	All	—	OLS, 10-year differences
C. Structural studies					
	−0.8	Dropouts	All	Yes	Scenario 1; $\sigma_{MN} = \infty$
	−0.4	All	All	Yes	Scenarios 1,3; $\sigma_{MN} = \infty$
	−0.4	Dropouts	All	—	Scenario 1; $\sigma_{MN} = \infty$
	−0.3	Dropouts	All	Yes	Scenario 4; $\sigma_{MN} = 20$
	−0.2	All	All	Yes	Scenarios 2,4; $\sigma_{MN} = 20$
	0.1	All	All	—	Scenarios 2,4; $\sigma_{MN} = 20$
	0.1	Dropouts	All	—	Scenario 4; $\sigma_{MN} = 20$

This table is a "let-the-data-decide" kind of table (in Panels A and B). I think this is a far more credible approach. And this is what the NAS report says about those correlations:

Some notable patterns emerge...Native dropouts tend to be more negatively affected than better-educated natives (as indicated by comparing results for dropouts with the overall results for all workers or all men or women). The results in the table also suggest that this negative effect may be compounded for native minorities. Altonji and Card (1991) found more-negative results for low-education blacks than low-education whites...Cortés examined a number of groups and found the largest negative effects for Hispanic dropouts with poor English, as well as larger negative effects for Hispanic dropouts than for all dropouts. This could be because native dropout minorities are the closest native substitutes for immigrants.

In plain English: the actual data indicate that those natives who are most likely to be affected by the immigrants because they share similar skills are, in fact, the natives most affected by those immigrants. There is a delicious irony in Table 5-2 that I cannot resist pointing out. Look and see which economist has produced the most *negative* impact of immigration on the wage of low-skill workers. It happens to be none other than David Card. [Full Disclosure: Another panel member was responsible for the construction of the table].

And, after everything is said and done, the NAS report concludes:

When measured over a period of 10 years or more, the impact of immigration on the overall native wage may be small and close to zero. However, estimates for subgroups span a wider range and suggest some revisions in understanding of the wage impact of immigration since the 1990s...The intensive research on this topic over the past two decades, summarized in Table 5-2, displays a much wider variation in the estimates of the wage impact on natives who are most likely to compete with immigrants, with some studies suggesting sizable negative wage effects on native high school dropouts...Thus, the evidence suggests that groups comparable to the immigrants in terms of their skill may experience a wage reduction as a result of immigration-induced increases in labor supply, although there are still a number of studies that suggest small to zero effects.

Let me add an important caveat to this quote. The zero average wage effect in the long run ("10 years or more") is based on the structural estimates reported in Table 5-1. Take a look at the last column of that table and note that **the long-run impact of immigration on the average wage of workers is always exactly equal to 0.0 percent,** regardless of which scenario we look at. What a remarkable statistical coincidence!

As the panel itself acknowledges, however, this zero wage effect is **built in** by the mathematics of the model: "In the case of structural studies, when capital is assumed to be perfectly flexible, [average] wage effects on natives are zero, although this result is built in by theoretical assumptions." Put bluntly, claims that the long-run effect of immigration on the average wage is "small and close to zero" have nothing to do with the data. That result is instead a by-product of a mathematical assumption used to construct the model of the labor market.

And, to make matters worse, this mathematical assumption cascades over to every other number reported in Table 5-1. After all, the wage effects for the various skill groups **must** average out to zero. This means that each particular wage impact needs to "align itself" around zero so that the weighted average of the relevant numbers indeed adds up to the mathematically built-in 0.0 long run wage effect. Put bluntly: Table 5-1 should come stamped with a big **Users Beware** sign.

3. Short-Run Fiscal Impact

The NAS panel calculated the short-run fiscal impact by comparing the cost of providing public services to immigrants with the taxes that those immigrants pay in a particular year. Both Chapter 8 and Chapter 9 give estimates of the short-run fiscal impact. Chapter 8 includes federal expenditures and taxes when calculating the impact in 2013, while Chapter 9 focuses on the impact at the state and local level for the years 2011-2013.

Table 8-2 is the key short-run table in Chapter 8. The NAS panel used *eight* alternative scenarios to calculate the fiscal impact.

TABLE 8-2 Net Fiscal Impacts of First, Second, and Third-plus Generation (each with dependents) Groups in 2013, by Scenario and Level of Government

			1st generation and their dependents			2nd generation and their dependents			3rd-plus generation and their depend		
			Population:	55.5 million		Population:	23.3 million		Population:	237.3 million	
		2013	Outlays	Receipts	Receipts/ Outlays	Outlays	Receipts	Receipts/ Outlays	Outlays	Receipts	Receipts/ Outlays
Scenario 1	Immigrants pay	Federal	9,767	7,117	0.729	13,093	9,495	0.725	12,050	9,473	0.786
	average cost of	State and Local	6,141	3,769	0.614	6,101	5,039	0.826	5,844	4,813	0.823
	public goods	Total	15,908	10,887	0.684	19,194	14,534	0.757	17,894	14,286	0.798
Scenario 2	Scenario 1, but	Federal	8,466	7,117	0.841	11,792	9,495	0.805	10,749	9,473	0.881
	interest costs are	State and Local	5,517	3,769	0.683	5,477	5,039	0.920	5,220	4,813	0.922
	excluded	Total	13,983	10,887	0.779	17,269	14,534	0.842	15,970	14,286	0.895
Scenario 3	Scenario 1 but	Federal	9,767	7,051	0.722	13,093	9,507	0.726	12,050	9,486	0.787
	immigrants' sales	State and Local	6,141	3,475	0.566	6,101	5,092	0.835	5,844	4,868	0.833
	taxes are 80%	Total	15,908	10,525	0.662	19,194	14,600	0.761	17,894	14,353	0.802
Scenario 4	Scenario 1, but new	Federal	9,767	6,937	0.710	13,093	9,536	0.728	12,050	9,513	0.790
	immigrants' corporate	State and Local	6,141	3,769	0.614	6,101	5,039	0.826	5,844	4,813	0.823
	taxes are zero	Total	15,908	10,706	0.673	19,194	14,576	0.759	17,894	14,326	0.801
Scenario 5	Immigrants pay	Federal	6,154	7,117	1.157	13,734	9,495	0.691	12,691	9,473	0.746
	marginal cost of	State and Local	5,515	3,769	0.683	6,216	5,039	0.811	5,959	4,813	0.808
	public goods	Total	11,669	10,887	0.933	19,949	14,534	0.729	18,650	14,286	0.766
Scenario 6	Scenario 5, but	Federal	6,154	7,117	1.157	12,208	9,495	0.778	11,165	9,473	0.848
	interest costs are	State and Local	5,515	3,769	0.683	5,478	5,039	0.920	5,221	4,813	0.922
	excluded	Total	11,669	10,887	0.933	17,686	14,534	0.822	16,386	14,286	0.872
Scenario 7	Scenario 5, but	Federal	6,154	7,051	1.146	13,734	9,507	0.692	12,691	9,486	0.747
	immigrants' sales	State and Local	5,515	3,475	0.630	6,216	5,092	0.819	5,959	4,868	0.817
	taxes are 80%	Total	11,669	10,525	0.902	19,949	14,600	0.732	18,650	14,353	0.770
Scenario 8	Scenario 5, but new	Federal	6,154	6,937	1.127	13,734	9,536	0.694	12,691	9,513	0.750
	immigrants' corporate	State and Local	5,515	3,769	0.683	6,216	5,039	0.811	5,959	4,813	0.808
	taxes are zero	Total	11,669	10,706	0.917	19,949	14,576	0.731	18,650	14,326	0.768

I think Scenarios 1 and 5 are the most interesting ones, and roughly define the extremes. Scenario 1 assumes that the cost of providing public goods (such as national defense) is the same for an immigrant as it is for a native, while Scenario 5 assumes that immigrants do not increase the cost of public goods at all. There are 55.5 million persons who are either immigrants or the minor children of immigrants (that is, their dependents). And this is how the report describes the fiscal impact of this group under Scenario 1:

The total fiscal burden is $279 billion for the first generation group (average outlays of $15,908 minus average receipts of $10,887, multiplied by 55.5 million individuals).

It is equally easy to estimate the fiscal burden in Scenario 5, where immigrants are assumed not to increase the cost of public goods at all. The average outlay is then $11,669 and tax receipts remain at $10,887, creating a fiscal burden of $43.4 billion. The report tries to put these statistics in context by noting that the United States runs a fiscal deficit exceeding over a trillion dollars a year, so that *everyone* is a fiscal burden. Left unsaid is an equally important point: Some burdens are avoidable, and some burdens are not. We may not be able to do much about the fiscal burden of the native-born population. But there are many obvious policy options available to ensure that the already-large burden is not further increased by immigration.

Chapter 9 presents more detailed estimates of the short-run fiscal impact, focusing on expenditures and taxes at the state and local government level. The panel allocated expenditures on "local" public goods (such as public safety, hospitals, and libraries) on a per-capita basis to immigrants and natives. Table 9-6 is the key table that summarizes the evidence, and reports the taxes and expenditures for the first generation (the immigrants

and their dependents). Here is the relevant table, where I cut out most of the state-specific rows to make it more readable (here is the full table):

TABLE 9-6 Net Difference between State and Local Revenues and Expenditures per Independent Person Unit (rounded to nearest $50), by Immigrant Generation by State, 2011-2013

State	Immigrant Generation				Difference: First less Third+
	First	Second	Third+	All	
California	−$2,050	$1,550	$3,100	$1,050	−$5,150
New Jersey	−1,850	2,300	700	200	−2,550
New York	−1,500	4,400	2,600	1,700	−4,050
Nevada	−1,300	1,000	1,950	1,050	−3,250
Florida	−350	1,200	1,350	950	−1,700
Texas	−2,050	−400	1,400	450	−3,450
United States	−1,600	1,700	1,300	900	−2,900

Nationwide, the typical immigrant generates a fiscal shortfall at the state-local level of $1,600 annually. There are 36.1 million such first-generation "households" (see Table 9-13 in the report), so that the total shortfall is over $57 billion (or $1,600 times 36.1 million). This is how the report describes that finding:

First generation independent person units (which include first and second generation children assigned to independent first generation persons) cost the states on net about $1,600 each...These estimates of the fiscal impact imply that the total annual aggregate impact of the first generation and their dependents, averaged across 2011-13, is a cost of $57.4 billion.

The data are so unambiguous that it is very easy to summarize what they say. On a year-to-year basis, the taxes that immigrant pay simply do not cover the public expenditures they trigger. And the shortfall seems to be at least $50 billion annually.

4. Long-Run Fiscal Impact

By looking only at expenditures and taxes during a given year, the calculation of the short-run fiscal impact ignores that some of those expenditures actually yield a return. The cost of sending the children of immigrants to school today leads to higher earnings for those children in the future. Plus the aging of the native-born population is creating severe fiscal problems, as there is not enough money to fund the liabilities in Social Security and Medicare unless we drastically raise taxes or cut benefits. Immigration brings in new taxpayers who can fund some of those liabilities in the future.

Chapter 8 of the NAS report presents the calculation of the long-run fiscal impact. To see how this is done, imagine the following sequence of events. An immigrant arrives today,

paying taxes and receiving public services. That immigrant has children. Those children may be costly, but they eventually grow up and pay taxes. The children have children, and the process goes on. The panel did this calculation by "tracking" the immigrant and all descendants over the 75-year period after arrival and adding up all the taxes paid and expenditures incurred. The difference between total taxes and total expenditures is the long-run fiscal impact.

Table 8-12 is the key table in the chapter.

TABLE 8-12 75-year Net Present Value Flows for Consolidated Federal, State, and Local Governments for Two Future Budget Scenarios, by Education and Age of Arrival, Varying the Treatment of Public Goods and Characteristics of an Average Immigrant (Fiscal Impacts are in Thousands of 2012 Dollars)

	CBO Long-term Budget Outlook												No Budget Adjustments											
	Total Impact				Immigrant				Descendants				Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
AVERAGES BASED ON RECENT IMMIGRANTS																								
No public goods included in benefits																								
<HS	35	-225	-257	-117	23	-198	-257	-109	11	-26	0	-8	-118	-231	-254	-185	-18	-176	-254	-115	-100	-55	0	-70
HS	239	-42	-164	49	140	-50	-164	11	98	8	0	39	13	-105	-170	-67	61	-70	-170	-29	-48	-36	0	-39
SomCol	401	157	-155	261	236	99	-155	155	165	58	0	106	117	35	-163	67	127	47	-163	78	-11	-12	0	-11
BA	495	504	-160	481	301	366	-160	330	194	138	0	150	172	283	-177	235	160	251	-177	210	12	32	0	25
>BA	446	994	-100	812	287	805	-100	635	159	190	0	177	140	627	-120	469	143	565	-120	427	-2	63	0	42
Avg.	291	269	-201	259	177	196	-201	173	114	73	0	85	45	116	-206	77	82	118	-206	92	-37	-2	0	-15
Benefits include defense, subsidies, and rest-of-world payments																								
<HS	-77	-294	-279	-200	-32	-246	-279	-158	-45	-47	0	-43	-266	-322	-282	-295	-90	-239	-282	-179	-176	-84	0	-116
HS	127	-112	-187	-33	85	-99	-187	-39	42	-14	0	6	-136	-198	-197	-176	-12	-132	-197	-94	-123	-65	0	-83
SomCol	288	82	-178	170	180	49	-178	104	107	33	0	67	-33	-63	-192	-53	55	-17	-192	12	-88	-46	0	-64
BA	385	426	-183	395	245	316	-183	279	140	110	0	116	26	181	-206	122	87	186	-206	144	-61	-5	0	-22
>BA	339	915	-123	726	231	754	-123	583	108	161	0	142	-2	523	-149	355	69	499	-149	359	-70	24	0	-4
Avg.	180	195	-224	173	121	147	-224	123	59	48	0	50	-103	19	-234	-36	9	54	-234	26	-112	-35	0	-62
AVERAGES BASED ON ALL IMMIGRANTS																								
No public goods included in benefits																								
<HS	49	-239	-253	-196	32	-221	-253	-186	17	-18	0	-10	-107	-237	-250	-219	-6	-199	-250	-177	-101	-38	0	-42
HS	271	-82	-155	-47	157	-88	-155	-65	114	6	0	19	36	-129	-160	-112	80	-105	-160	-88	-44	-24	0	-23
SomCol	425	63	-144	99	249	28	-144	45	176	35	0	54	135	-21	-151	-10	142	-15	-151	-4	-7	-7	0	-6
BA	540	290	-157	280	324	218	-157	195	216	72	0	85	204	147	-174	123	184	130	-174	107	20	17	0	16
>BA	515	648	-99	547	321	556	-99	452	194	91	0	95	187	405	-119	318	176	374	-119	293	11	30	0	24
Avg.	301	53	-183	58	181	27	-183	22	121	26	0	37	54	-28	-189	-36	93	-16	-189	-23	-38	-11	0	-14
Benefits include defense, subsidies, and rest-of-world payments																								
<HS	-65	-299	-274	-259	-23	-266	-274	-230	-42	-33	0	-29	-258	-316	-276	-301	-78	-259	-276	-233	-180	-58	0	-68
HS	156	-143	-177	-109	102	-133	-177	-109	55	-9	0	0	-116	-208	-187	-193	8	-164	-187	-145	-124	-44	0	-48
SomCol	310	2	-166	34	194	-18	-166	0	117	20	0	33	-17	-101	-179	-96	70	-74	-179	-62	-87	-27	0	-34
BA	427	230	-180	216	268	172	-180	150	159	57	0	66	55	68	-202	39	112	71	-202	49	-57	-3	0	-10
>BA	404	588	-122	485	265	510	-122	407	139	78	0	77	40	326	-147	236	103	314	-147	235	-63	12	0	1
Avg.	188	-8	-205	-5	125	-19	-205	-22	63	12	0	18	-96	-107	-216	-119	20	-76	-216	-80	-117	-31	0	-39

The table has two panels. The top panel reports the long-run impact if we tracked the typical immigrant who arrived between 2011 and 2013, while the bottom panel reports the long-run impact if we tracked the typical immigrant now living in the United States. The tracking of the immigrant who arrived between 2011 and 2013 can be very misleading--just imagine what the fiscal impact would look like if the United States suddenly decided to admit 300,000 refugees and we then tracked *that* typical immigrant. There are blips in who the immigrants are from year to year, with "good" and "bad" years. To avoid slanting the numbers in any particular direction, it is far preferable to track the *average* immigrant in the country.

The table uses four different scenarios to calculate the long-run impact. The scenarios differ on what they assume about whether immigrants increase the cost of public goods, and on what they assume about the path of taxes and expenditures over the next 75 years. And the panel helpfully added nice yellow highlights to Table 8-12 that isolate the key number resulting from each scenario.

The long-run fiscal impact is positive only if immigrants do not affect the cost of public goods **and** we assume that future tax rates and benefit payments will follow the projections made by the Congressional Budget Office (CBO). If you get rid of either of those assumptions, the positive long-term impact of an immigrant contributing a net of +$58,000 over the next 75 years becomes a loss as large as -$119,000. The role of assumptions in generating the answer leads to several bolded bullet points in the NAS report:

Forward-looking projections of the net fiscal impact of an additional immigrant and descendants generate a relatively wide range of possible results.

The future path of fiscal policy is important for assessing the fiscal impacts of immigrants.

The treatment of spending on public goods is important for assessing the fiscal impact of immigrants.

Let me translate. Assumptions matter, and different assumptions lead to wildly different answers. I think there is an elephant in the room that the NAS report alludes to, but cannot bring itself to say out loud. So I will: **All estimates of the long-run fiscal impact are useless!**

It is extremely easy to manipulate assumptions and end up with either large positive or large negative long-run impacts. Do you want a large positive number--as some people in the debate surely do? Then pick a year where the new immigrants look particularly "good," assume that taxes will go up in the future, and ignore public goods. Do you want a large negative number--as some other people in the debate surely do? Then pick a "bad" year, assume immigrants increase expenditures in public goods, and assume that taxes and expenditures stay in their current path for the remainder of this century.

I would also add: Don't be fooled by the CBO "experts" who claim to know how taxes and expenditures will evolve over the next 75 years. Those same experts couldn't even predict

Obamacare enrollment just a few months ago. What do they really know about taxes and expenditures in the year 2075?

One final point. Table 8-12 also reports the long run fiscal impact for immigrants in each education group. Regardless of scenario, it is obvious that low-skill immigrants impose a fiscal burden in the long run, but that immigrants with at least a college education are fiscally beneficial.

5. The Bottom Line

Immigrants have both a labor market impact and a fiscal impact. Do the economic gains generated by working immigrants outweigh the fiscal burden that immigrants impose? The NAS report (probably wisely) avoids putting two and two together, but the report contains all the necessary ingredients to let us do it ourselves. So let's take a crack at it.

There is a fiscal burden. Across all levels of governments, the annual burden ranges from a minimum of $43 billion to a maximum of $299 billion, depending on what is assumed (Table 8-2 of the report shows all eight scenarios). As I noted earlier, the estimates of the long-run impact, which incorporates the taxes and expenditures of the immigrant and descendants over a 75-year period, are useless and easily manipulated to produce whatever large positive number or large negative number one wants.

Now let's find out what the report says about the "immigration surplus," the increase in wealth accruing to the native population as a result of immigration. As immigrants enter the labor market and reduce the wage of natives, they increase profits for the employers. Plus the immigrants themselves produce additional output, generating even more profits. In the end, the aggregate wealth of natives--both workers and firms--rises, and there is a redistribution of wealth from workers to firms. The report presents its estimate of the immigration surplus in Chapter 4:

Immigrant labor accounts for 16.5 percent of the total number of hours worked in the United States, which...implies that the current stock of immigrants lowered wages by 5.2 percent and generated an immigration surplus of $54.2 billion, representing a 0.31 percent overall increase in income that accrues to the native population.

This short paragraph contains a lot of important information. First, the immigration surplus is relatively small, about $54 billion. Unfortunately the report does not give a transparent estimate of the size of the wealth transfer from workers to firms, reporting instead that, on average, wages went down by 5.2 percent. It would be better if they had reported the number of dollars involved in that transfer. That number, it turns out, would be about $500 billion. (A geeky footnote at the end of this post explains how you can get that number). So, yes, immigrants created an additional $54 billion worth of new wealth, but a byproduct of that creation was a wealth transfer of half-a-trillion dollars.

The report cautions that this is an estimate of the short-run economic gains, based on the assumption that the economy has not yet adjusted to the entry of immigrants. Obviously, the 42 million immigrants now in the country entered over a period of many years. And economic theory implies that, over time, as capital adjusts, the immigration surplus dwindles down to almost nothing. As the report puts it:

Over the course of decades...capital has had plenty of time to adjust, and so these estimates can at best be described as upper limits that exaggerate the real impact of immigration on native wages and overall incomes.

I would add another huge caveat to the $54 billion estimate of the surplus. It ignores all the externalities that immigrants create along the way. The externalities are both good--the entry of extremely high-skill immigrants surely accelerates innovation, makes us more productive, and has a beneficial impact on economic growth. And bad--the entry of some high-skill immigrants, such as those who enrolled in flight schools and learned to fly planes and then flew them on September 11, 2001, can make us all much worse off. The panel did not even try to quantify the value of all the many positive and negative externalities (and, in fact, neither has anybody else). So, in the end, all we really have to go on is an estimated surplus of $54 billion in the short run.

If we then take the report's estimates of the surplus and the fiscal burden at face value, it is self-evident that:

The impact of immigration on the aggregate wealth of natives is, at best, a wash.

Instead, the impact of immigration is distributional. Those who compete with immigrants are effectively sending billions and billions of dollars annually to those who use immigrants.

To reiterate, the impact of externalities can radically change this conclusion (in either direction). But note that even if beneficial externalities dominated, they would have to be awfully important--they would need to *quintuple* the current estimate of the immigration surplus from $54 billion to $270 billion--to offset the high-end estimates of the fiscal burden.

For the geeky reader:

This is how to calculate that $500 billion transfer in the back of an envelope. The calculation of the immigration surplus reported in Chapter 4 of the NAS report assumes that GDP is $17.5 trillion; that 65% of GDP goes to workers; and that 16.5% percent of the workforce is foreign-born. The report also says that "the current stock of immigrants lowered wages by 5.2 percent."

Because only 65% of GDP goes to workers, that means that the total earnings of all workers is $11.4 trillion (or 0.65 × 17.5). But because only 16.5% of workers are foreign-born, the fraction of total earnings that goes to *native* workers is $9.5 trillion (or 0.835 × 11.4). The NAS report says that native earnings fell by 5.2 percent, so that the wage transfer from native workers to employers is $494 billion (or 0.052 × 9.5).