# The Fiscal Impact of Immigration

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July 23, 2014

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# 1  Introduction

The fiscal impact of immigration—how immigrants and their descendants affect government budgets—is a widely debated and contentious issue. Economists overwhelmingly accept the economic gains of immigration, but are less certain about immigrants' impact on government budgets. Contention over this issue is fueled by the numerous methodologies and complexity of analysis that obscure the fiscal costs of immigration.

The complexities are many. Each layer of the United States' federal structure of government—federal, state, and local—is funded by different types of taxes and each spend their budgets on different programs and in different ways. Many government spending programs are only directed at certain age groups. Public education is one example of a front-loaded cost expended on children and young adults at the beginning of their lifespan, while Medicare and Social Security are back-loaded costs expended closer to the end of the recipient's life span. The intertemporal structure of many government programs makes age a relevant factor in analyzing the fiscal costs of immigration, but so do other factors such as the skill level, fertility, and language ability of the immigrants themselves. This is not much different from the fiscal impact of newborn children, who consume vast amounts of public schooling before paying taxes. The working life of an immigrant, however, can be shorter than that of a native, because immigrants often immigrate later in life, after their window for taking advantage of government-funded education expires (Rowthorn 2008: 563-564).

The types of public goods consumed by immigrants also affect their fiscal impact. If the public goods are "pure," meaning that they are non-rivalrous and non-excludable, then more taxpayers in the form of immigrants spread out the tax cost without diminishing the quality of the goods. Immigrants lower the tax burden of providing pure public goods. But, if the public goods

are "congestible," more immigrants could decrease the quality of the goods, prompting the government to spend more tax dollars to maintain the quality. Some congestion occurs for most government-supplied goods whenever population increases, by immigration or through procreation, but the fiscal impact varies widely.

Immigrants also impact the U.S. economy. They can displace U.S.-born workers, complement them, or have little impact on their employment opportunities, all of which alter tax revenue and government welfare expenditures in different ways. Immigrants are also consumers of real estate and other goods and services in the United States, boosting aggregate demand and spurring investment that further grows the taxable economy. In short, the fiscal impact of immigration is a deceptively simple question that obscures a complex reality: Is the extra tax revenue *created* by immigrants more or less than the cost of the extra government-supplied goods and services they consume? If it is more, then the fiscal impact of immigration is positive and immigrants decrease the budget deficit or produce a budget surplus. If less, then the fiscal impact of immigration is negative and immigrants increase the budget deficit.

The methodologies employed to study the fiscal impact of immigration are also numerous and complicated. This chapter will examine these methodologies' relative merits and demerits, and present the common findings of the major studies using the various methodologies.

# 2  Dynamic Economic and Fiscal Effects

Only studies that estimate the economic impact of immigration, how that economic impact affects tax payments, and how immigrants increase expenditures over time are worth serious consideration. Such studies are called "dynamic" as they rightly assume that immigrants impact all of those budget areas over time (Preston 2013: 20). Studies that assume immigrants do not

affect the taxable economy are "static" and can reveal the net fiscal impact of a stock of immigrants in a given year. There are just a handful of insightful static analyses, but most are not worth consideration (See Rubenstein and Martin 2008 and Ruark 2010 for examples of poor fiscal impact analyses). Studies that do not state their methodologies, only count fiscal costs, or only calculate tax revenue are not serious and will be ignored in this chapter.

Dynamic fiscal impact estimates must also be longitudinal, or forward-looking, because large government expenditures are either front-loaded or back-loaded on individual lifecycles. Young immigrants of working age may pay more in taxes than they consume in government benefits today, but, when they retire, they will become net consumers of benefits. Longitudinal studies analyze immigrants' long-term impact on the economy and government expenditures— including their descendants if possible. They then discount their net fiscal contribution to the present, expressed as a net present value, and compare the effects to a projected fiscal baseline (Lee and Miller 1998: 183-184, Rowthorn 2008: 566, and National Research Council 1997: 339-340). A problem with longitudinal studies is that they are based on forecasts of future government expenditures, the economic impact of immigrants and their descendants, and future tax rates—three variables that are constantly in flux and e*x ante* unknowable. Changes in policy, such as the creation of new entitlement programs and unanticipated surges in economic growth, can quickly eviscerate even the most thoughtful fiscal projection. Furthermore, many longitudinal studies assume that the government will balance its budget at some point in the future. Adjusting the date at which the government will balance its budget, whether it will balance its budget through tax increases or budget cuts or a combination, or even assuming that it will not balance its budget all impact the result (Auerbach and Oreopoulos 2000: 151).

Another type of study uses a relatively easier static accounting methodology that seeks to explain how current immigrants affect the economy and government budgets today or at a specific point of time in the past. Static accounting studies do not involve assumptions and projections for the future, a characteristic that makes them more accurate than longitudinal studies, but they cannot indicate how future immigrants will affect budget deficits (Lee and Miller 1998: 200-201). The static accounting methodology largely misses accumulated fiscal costs and benefits over time, but it is useful in answering questions like, "What would happen this year if all illegal immigrants disappeared?" (Lee and Miller 1998: 184). This chapter will discuss a handful of static accounting studies before delving into the more complex dynamic models.

All manner of fiscal impact studies need to grapple with identifying their variables. The first is to decide who the immigrants are. Much of the fiscal impact immigrants have is through their children. An immigrant may not consume public education, but his or her children likely will. For long-term estimates, the public education costs of those children are important, but so is the long-term tax revenue paid by those children after they finish school—especially for the entitlement programs. If the children are counted when they are young and costly, then they need to be counted when they are middle aged and paying taxes too (Lee and Miller 1998: 184 and Kandel 2011: 6-7). Deciding when to stop counting the fiscal impact of descendants is difficult and, the more generations that are counted, the more speculative the economic growth and demographic assumptions become (National Research Council 1997: 342-343).

Immigrants can also be counted as individuals or as members of a household. Counting the net fiscal contribution of households headed by immigrants biases the cost estimates upwards, because it counts the costs of children enrolled in public schools until they leave home

and start working, ignoring their future tax revenue (Lee and Miller 1998: 184). Another reason why dynamic longitudinal studies are best completed by estimating the fiscal impacts of individuals is because the size of households changes over time, producing a variable that changes and makes it difficult to analyze (National Research Council 1997: 256, 305). Net fiscal cost calculations of households are highly misleading (Lee and Miller 2000: 350-351).

Accumulated net fiscal cost estimates over long periods of time also have to be represented in an understandable way because of the time value of money. One hundred dollars today is not the same as one hundred dollars in 50 years due to inflation, interest rates, return on investment, and numerous other factors. Therefore, longitudinal dynamic studies over *long* time periods need to show the net fiscal impact in present value. Two other ways to portray the long-run net fiscal costs are through estimating what percentage of future government budget deficits or surpluses can be attributed to immigrants and through estimating the size of the immigrant surplus or deficit in relation to the entire economy (See Rector and Richwine 2013 for a study that ignores the time value of money).

## 2.1   Estimating Future Tax Revenue Effects

Estimating the economic gains from immigration is essential to estimating future additional tax revenue that will be collected due to immigrant economic activities. The most obvious indicator of immigrant economic activity is the skill level of immigrants. The more high-skilled the immigrants, the higher the wages, and the more they pay in taxes, *ceteris paribus*. The incidence of taxation is important here, as counting only the taxes directly paid by immigrants likely understates the taxes immigrants "pay." Immigrants are generally, but not always, complementary to American workers and other factors of production, thus increasing incomes

for many American workers and the American owners of capital and land. For instance, a low skilled immigrant might not pay income tax, but his or her employer will likely make a higher profit and pay additional taxes as a result of hiring the worker. If those effects are not included, then the benefits will be underestimated.

Immigrants affect the supply side of the economy by directly increasing the supply of labor. Judging the net fiscal impact requires looking at wages, the labor force participation rate (LFPR), employment rates, and the other variables examined by labor economists. But other factors unique to immigration, like English language fluency, greatly impact earnings and tax payments. English fluency boosts wages by 21 percent on average, all else remaining equal (Lewis 2009: 7), and is a good predictor of future wages, especially since immigrant wages will rise over time as they and their descendants learn English (Access Economic Pty Limited 2008: 11). Low-skilled immigrants generally have an initially lower rate of English proficiency and have a slower rate of linguistic assimilation over their lifetimes, but their children are nearly uniformly fluent in English, which explains part of the rapid rise in incomes from the first to the second generation. Higher skilled immigrants are usually English fluent upon arrival. Immigrant labor substitutability or complementarity, depending on skill level and other factors, must also be factored into any estimates (See Lewis 2011, Peri and Sparber 2009, Ottaviano and Peri 2012, Borjas 2003, Borjas and Katz 2007, Borjas et al. 2011, Kerr and Kerr 2011).

Immigrants also boost the demand side of the economy through buying goods and services in the United States. One such area of demand is the housing and real estate market, which is likely more affected by immigration than the labor market because the supply of real-estate is relatively inelastic (Saiz 2003: 20). For instance, a 1 percent increase in a city's population causes a citywide increase in rents by about 1 percent (Saiz 2007: 345). When the

increase is unexpected, a 1 percent rise in population increases rents by 3.75 percent with the effect of also pushing up housing prices and increasing local and state tax revenue from property tax (Saiz 2007, p. 345), as well as stimulating additional construction to meet the demand. Jacob Vigdor estimates that each of America's roughly 40 million immigrants adds, on average, 11.6 cents to the value of a home in their local county, boosting the national U.S. taxable housing value by an estimated $3.7 trillion (Vigdor 2013: 2). Interestingly, much of the added housing value is located on the outskirts of the most expensive cities (Vigdor 2013: 14). The increase in real-estate prices has a bigger tax effect on states and local governments who collect property tax. The prices for other goods and services are likely affected by a demand effect that varies by elasticity in different sectors of the economy.

Further indirect economic effects are likely important, but very difficult to estimate. Immigrants tend to increase productivity through a further division of labor and increase the quantity of skilled native-born workers (See Cortés and Tessada 2011). Higher-skilled immigrants are very innovative, inventive, and entrepreneurial (Hanson 2012: 26-27 and Fairlie 2014: 11-14). Lower-skilled immigrants increase returns to owning capital that, in turn, increases investment that boosts production and labor demand (See Lewis 2010).

## 2.2   Estimating Future Government Expenditure Effects

Estimating the future economic effects and extra tax revenue collected because of immigration is difficult, but it is only half of the calculation. Future additional government expenditures must also be factored in. As mentioned earlier, the per-capita fiscal burden of supporting some pure public goods, such as national defense and the public debt, will decrease as the population

increases due to immigration (Cully 2012: 6 and Lee and Miller 1998: 187). Congestible publicly provided goods, like public education, must also be considered.

Education is a congestible government-supplied good that is primarily funded by state and local governments and is often their largest budget expenditure (Congressional Budget Office 2007: 7). Many immigrant children are non-English speakers, which increases the cost of educating them, while many move to other states after graduation to begin their working lives—denying the state and local governments that educate them tax revenue to cover the costs of their education. A large increase in the number of immigrants could increase education costs substantially for state and local governments, explaining why some studies find that immigration increases budget deficits for those levels of government.

Immigrant income is a powerful predictive tool in estimating how much means-tested welfare benefits are likely to be consumed. Higher-skilled immigrants consume few means-tested welfare benefits (See Desai et al. 2009). Lower-skilled immigrants are more likely to consume means-tested welfare and greater quantities of it, compared to higher skilled immigrants, similar to the U.S.-born population. However, the legal status and laws governing access to means-tested welfare shape the use rates and the dollar value of those benefits. Legal migrant workers and illegal immigrants generally have no recourse to public benefits except for Emergency Medicaid, which is a relatively small expenditure (See DuBard and Hessing 2007). Also, many unauthorized immigrants and legal migrant workers return to their home countries when they face unemployment in the United States, decreasing the chance that they will consume welfare benefits as their income drops (Rowthorn 2008: 563). Due to the circular flow of some unauthorized immigrants and legal migrant workers, even the lowest-skilled immigrants can be net fiscally positive.

Depending on the state, means-tested welfare benefits are generally unavailable to legal immigrants during their first five years of residency, unavailable to unauthorized immigrants, and denied to lawful migrant workers (Schwartz and Artiga 2007: 1). As mentioned above, the major exception is Emergency Medicaid. Specific rules on immigrant access to some means-tested welfare vary by state. It is therefore not surprising that immigrants below 200 percent of the poverty line are much less likely to use welfare than similarly poor natives (Ku and Bruen 2013: 6-7). Even when poor immigrants do use means-tested welfare, they consume a lower dollar amount than similarly poor natives (Ku and Bruen 2013: 6-7). Laws that diminish immigrant welfare accessibility going forward will have two effects. First, such a legal change will alter immigrant self-selection, so that those who want to work and believe they will be able to work will be more likely to come, decreasing the demand for welfare. Second, welfare restrictions will decrease government expenditures and the fiscal costs of immigration (Nowrasteh and Cole 2013: 6).

It is also important not to understate the welfare costs of immigrants. Borjas and Trejo (1991) noted that an average immigrant family, unadjusted for poverty, consumed about twice as much in government services as the average U.S.-born family before the 1996 welfare reform act. Borjas' use of household estimates is problematic for numerous reasons and the timing of his paper makes his findings inapplicable today. Regardless, the poor U.S.-born children of immigrants consume more welfare than non-citizen children, although still less than the poor children of natives for Supplemental Security Income (SSI), food stamps, and other cash assistance programs (Ku and Bruen 2013: 6-7, Skinner 2012: 661). Despite varying levels of welfare benefits across states, there is little evidence that migrants choose their state destination based on the generosity of the welfare system (See Levine and Zimmerman 1999 and McKinnish

2005). New immigrants are mainly choosing to reside in states with low levels of social welfare spending and growing economies and are moving away from states with high levels of social welfare spending and low economic growth (Griswold 2012: 161).

Healthcare spending is another vital component of government expenditures that immigrants can affect, especially since it is such a large and growing proportion of the United States budget (Access Economic Pty Limited 2008: 14-15). With the exception of Medicare, which will be discussed below, immigrants generally under-consume healthcare compared to natives. A study from 2000 of immigrants in Los Angeles County, which are 45 percent of the county's 18-64 years old population, found that immigrants consumed only 33 percent of health care benefits for that age bracket (Goldman et al. 2006: 1700). Unauthorized immigrants in Los Angeles were 12 percent of the city's population in the same age bracket, but were only responsible for 6 percent of health care spending for that bracket (Goldman et al. 2006: 1708). The same study found that immigrants were twice as likely as natives to never have had a checkup. Twenty percent of immigrant women who have never been pregnant have not had a checkup compared to just 4 percent of U.S.-born females who have not been pregnant. For all women, 5 percent of U.S.-born females have not had a checkup compared to 19 percent of immigrant females. The percentages for males are similar. 30 percent of all immigrant males and 40 percent of all unauthorized immigrant males have never had a checkup compared to just 21 percent of U.S.-born males (Goldman et al. 2006: 1706). Although unauthorized immigrants have generally been in the United States for a shorter period of time than the U.S.-born, they do not disproportionately consume public health care benefits. Unauthorized Mexican immigrants had far fewer physician visits than U.S.-born of Mexican descent (See Ortega et al. 2007: 2354). One reason why immigrants are less likely to see doctors is that they are less likely to have a

chronic health condition. For Los Angeles residents between 18 and 64 years of age, 27 percent of all immigrants and 19 percent of unauthorized immigrants report having a chronic health problem compared to 38 percent of natives (Goldman et al. 2006: 1705).

Fewer doctor visits for immigrants is correlated with lower government health expenditures. Twenty-one percent of all health care spending on the U.S.-born was paid for by government programs, compared to 16 percent for immigrants, regardless of income level (Goldman et al. 2006: 1708). Looking again at the Los Angeles study, 23 percent of health care expenditures for immigrant women were covered by government programs compared to 27 percent for U.S.-born women. Twenty percent of health care expenditures for immigrant men were paid for by the government compared to 29 percent of health care expenditures for U.S.-born men (Goldman et al. 2006: 1707). The different health care and doctor usage rates generally hold across California (See Ortega et al. 2007) and the United States (See Schwartz and Artiga 2007). Immigrants are less likely to have private insurance than U.S.-born persons, but they also use emergency rooms less often than U.S. citizens and are more likely to pay out of pocket for medical services (Schwartz and Artiga 2007: 2, 6).

Welfare reform had an enormous effect on immigrant welfare usage in the United States. In 1996, Congress tightened welfare eligibility requirements for legal permanent residents (LPR), a subcategory of immigrants here on green cards. Between 1994 and 1999, LPR use of means-tested welfare per family declined dramatically. Temporary Aid to Needy Families (TANF) declined by 60 percent, food stamps by 48 percent, Medicaid by 15 percent, and SSI by 32 percent. For TANF, SSI, and General Assistance[1] combined, the three major cash benefit programs generally thought of as "welfare," participation rates fell by 44 percent (Fix and Passel

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[1] Cash aid.

2002: 15). Such large and unanticipated declines in LPR welfare use would make a large

difference in fiscal projections.

Immigrants have a positive long-run fiscal impact on the entitlement programs: Medicare

and Social Security. From 2002 to 2009, immigrants made 14.7 percent of contributions to

Medicare Part A, but only consumed 7.9 percent of all expenditures, contributing $13.8 billion

more annually to Medicare Part A than they consume in benefits. Natives produced $30.9 billion

in deficit annually (Zallman 2013: 1). Among Medicare enrollees, average expenditures were

$1,465 lower for immigrants than for U.S. born—$3,923 compared to $5,388 (Zallman 2013: 3).

The differentials are largely the result of return migration and differences in the age structures

between the U.S.-born, who are typically older, and younger immigrants.

Estimated impacts on the Social Security system vary widely. According to one paper,

immigrant men by retirement paid 76 percent of the taxes as a comparable U.S.-born male paid,

but received 83 percent of the amount in benefits that a native received (Gustman and Steinmeier

2000: 330). The shares for women are 78 percent and 80 percent, respectively (Gustman and

Steinmeier 2000: 330). Based on actuarial information provided by the Social Security

Administration, Stuart Anderson ran numerous different immigration scenarios to test their

impact on Social Security's actuarial debt (See Social Security Administration 2004 and

Anderson 2005). Anderson found that a moratorium on legal immigration beginning in 2005

would balloon the size of the actuarial debt by 31 percent over a 50-year period (Anderson 2005:

1). However, an increase in legal immigration by 33 percent would reduce the actuarial debt by

10 percent over 50 years, boosting revenues to Social Security by a present value of $169 billion

over 50 years and $216 billion over 75 years (Anderson 2005: 9). Unauthorized immigrants

provide a potentially greater boost, assuming they are not legalized (See Feinleib and Warner 2005).

Of course, immigrants in the United States age just as everyone else does, meaning that many of them will be net-consumers of entitlements in the future, even though they might be net-contributors today. Critical in estimating how much immigrants will use in the future is the percentage of immigrants who move back to their home countries before retirement and forego Social Security[2] and Medicare benefits. The standard estimate of immigrants who return before they can collect entitlements is 30 percent (Smith and Edmonston 1997: 330 and Duleep 1994: 38). Such a high return rate contributes mightily to making long-run immigrant Social Security contributions a net positive under most estimates. Changed rates of return could, however, substantially shift immigration's impact on the fiscal shape of entitlement programs.

# 3   Beginning with the Basics: Static Accounting Models

The static accounting models differ from the later dynamic models because they attempt to study the net fiscal contribution of immigrants for a specific slice of time, place, or immigrant group. This method simply compares the taxes paid directly and indirectly by immigrants to the public services consumed by immigrants in a year. Crucially, static accounting methods only measure the fiscal impact of all immigrants currently living in the United States and do not indicate how future immigrants might affect the fiscal condition of the government. Static accounting analyses can also base government expenditures on households because they are the primary unit through which public services are delivered and do not change in size under a static analysis (National

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[2] The United States has agreements with some countries that allow return migrants to receive Social Security benefits after leaving. For other migrants, many are able to receive a refund of their FICA taxes after leaving.

Research Council 1997: 254). Before explaining the benefits of static models, there are four major downsides that need to be considered (National Research Council 1997: 297- 298).

First, static accounting models only measure existing immigrants, irrespective of any changes that could occur in the future due to age, skills, or changes in income. Future immigrants will undoubtedly be different from today's immigrants and demographics have an enormous effect on future government budgets. Second, government policies change over time. A static accounting analysis completed for 1995, one year before welfare reform became law, would produce a much more negative fiscal impact result than a static analysis completed in 1997, even though the population would be largely unchanged. Third, static accounting ignores the lifecycle tax contributions and consumption of government benefits. Fourth, government budget deficits or surpluses during the year of analysis considerably skew the final result (National Research Council 1997: 257-720 and OECD 2013: 137-139). Government budgets do not need to be balanced over the short term, but there is no obvious way to assign the incidence of a budget deficit or surplus in a static accounting model. Static accounting methods have their limitations for all of the reasons mentioned above, but they are easier to construct and can be a decent starting point for studying how immigrants impact budgets (OECD 2013: 133-137).

In their static accounting analysis, Lee and Miller found that the net fiscal contribution of immigrants and their concurrent descendants in 1994 was a positive $23.5 billion for state and federal governments combined (Lee and Miller 1998: 198). That figure included a $27.4 billion net deficit produced by immigrants at the state and local government levels and a $50.9 billion net surplus produced in the federal government (Lee and Miller 1998: 198) (See Table 1). The total fiscal surplus was equal to about 0.35 percent of GDP that year (Lee and Miller 1998: 198).

Interestingly, Lee and Miller admit that longitudinal studies are superior (Lee and Miller 1998: 199).

The Organization for Economic Cooperation and Development (OECD) produced a static accounting analysis of households in the United States and other OECD countries using data pooled from the years 2007-2009 (OECD 2013: 146-147). The net fiscal contribution of a household with two U.S.-born Americans at the head was a positive $8,533.96. The same amount for a household headed by two immigrants was a positive $8,274.01. For mixed households, with one immigrant and one U.S.-born American as the heads, the net fiscal contribution was $17,157.63. This analysis excluded immigrants who returned to their home countries and immigrants who had been residing in the United States for less than a year (OECD 2013: 147) (See Table 2).

The OECD analysis found that immigrants contributed less in taxes and under-consumed Social Security, Medicare, and housing subsidies compared to natives, but they over-consumed social assistance, unemployment benefits, and family allowances compared to natives (OECD 2013: 155). Immigrants in the United States are so fiscally positive in this static accounting model, because they made large contributions to Social Security and Medicare in the 2007-2009 period, increasing net tax revenue to the federal government by an amount equal to 0.03 percent of GDP (OECD 2013: 159). In their analysis of the fiscal impact, the OECD authors found that improving the employment rates of immigrants would produce the largest fiscal gain (OECD 2013: 161). The OECD study concludes by stating that the fiscal impact of immigration is neither a fiscal burden nor so much of a fiscal benefit that immigration should be decided on these grounds (See Table 3).

Many static accounting studies focus on individual American states during specific years. A fiscal analysis of New Jersey based on 1980 census data found that a typical immigrant-headed household imposed an average net fiscal burden of $350 on local governments compared to a net fiscal burden of $225 for each native-headed household during a year when the state ran a budget deficit. On the state level, immigrant headed households imposed a net fiscal burden of $841 compared to a net fiscal cost of $846 imposed by native headed households (Espenshade and King 1994: 225). The study also divides up immigrant households by ethnicity, finding that Hispanic-American households impose the largest net fiscal cost (Espenshade and King 1994: 225).

Another study of New Jersey focused on the impact of immigrant households on the state and local levels for the 1989-1990 fiscal year (Garvey and Espenshade 1998: 77). Average net state fiscal costs in 1990 per immigrant household, where the head of the household was under the age of 65, was $1,821 compared to a net state cost of $1,249 for an average native-born household whose head was in the same age range (Garvey and Espenshade 1998: 78-79). Immigrant-headed households from Europe, Canada, and Asia imposed net fiscal costs that were 39 percent to 52 percent of the size of the net fiscal cost imposed by Hispanic immigrant households, who were, again, the biggest net consumers of state provided benefits in those years (Garvey and Espenshade 1998: 79).

On the local level, the study found that the average net fiscal cost for local governments by immigrant households, where the head of household was under the age of 65, was $2,526 compared to an average net fiscal cost of $1,581 for households headed by the native born (Garvey and Espenshade1998: 84-85). European and Canadian immigrants had net fiscal costs that were 62 percent of the size of Hispanic immigrant households while Asian households cost 5

percent more than Hispanic immigrant households (Garvey and Espenshade 1998: 85). Large local and state budget deficits in that year made all households seem particularly burdensome on the state and local levels.

Garvey et al. (2002) looked at the same New Jersey data that Garvey and Espenshade (1998) did, but only compared the fiscal costs of immigrant and native households that had similar incomes and demographic characteristics. Garvey et al. (2002: 546) discovered that immigrant households consumed $366 less in government benefits on the state level but contributed $383 more to state coffers than similarly well-off native households. Garvey et al. (2002: 550) also found that immigrants consumed the same amount in local government benefits but contributed $516 more in taxes on the local level than similarly well-off natives did. Garvey et al. (2002: 537) attributed the differences between natives and immigrants to different socio-economic characteristics rather than country-of-origin effects that the Garvey and Espenshade (1998) study did.

Shifting to the west coast, Clune (1998: 122) looked at federal, state, and local contributions for households in California for the fiscal year of 1994-1995. The study excluded the budget deficit in California that year, which would have made all households appear to be net fiscal drains. Clune found that native households contributed a net $2,229 to the federal government, $1,126 to the state government, and $267 local government (1998: 156). In contrast, immigrant households imposed a net fiscal cost of $1,835 to the federal government, $2,217 to the state government, and $787 to the local government (Clune 1998: 156).

The rest of the literature about state governments is fairly poor and most studies are either fiscal cost analyses or fiscal benefit analyses. The studies that attempted to estimate the net fiscal

benefits on the state level were largely produced by think tanks, state governments, and universities.

An analysis of the fiscal impact of immigration in Arkansas used the Impacts for Planning (IMPLAN) model that tracked consumer spending across 500 sectors of Arkansas' economy and how it affected state GDP (Appold et al. 2013: 15-16). This model produced an estimate of the economic impact of immigration on the size of the economy and state employment, as well as productivity spill overs on other workers in the state. It then compared the extra tax revenue from these additional sources of income to the additional public costs incurred by the immigrants and their children, producing a net fiscal cost of $127 per immigrant resident or $31 million for the state budget in 2010 (Appold et al. 2013: 27). In contrast, Gans used the same IMPLAN model to estimate that immigrants contribute $940 million more in tax revenue than they consumed to the state government of Arizona in 2004 (Gans 2007: 57-58).

Heet et al. (2009) estimated the impact of immigration on U.S.-born wages in the state of Indiana for the year 2007. He included the wages of immigrants but excluded indirect economic effects that would affect tax revenue. Its conservative estimates of public benefits consumption and tax payments still revealed an unambiguously positive impact on state and local budgets of $750 million in 2007, finding that only unauthorized immigrants produced a net negative fiscal impact on the state (Heet et al. 2009: VII-1). The estimated lower wages earned by unauthorized immigrants substantially lowered the estimated tax revenue paid by that cohort in Indiana.

Eisenhauer et al. (2007: 5) pooled data in Florida for the years of 2002-2005. They relied on an Institute on Taxation and Economic Policy model to estimate taxes paid by immigrants, based on income level data and their consumption of public goods and services according to the Current Population Survey's Annual Social and Economic supplement (Eisenhauer et al. 2007:

31). Their model did not include the indirect economic effects. Regardless of that omission and their model's limitations, they found that immigrant individuals paid $506.22 less in taxes per year than natives, but also consumed $614 less in benefits (Eisenhauer et al. 2007: 34-35). Overall, the positive net fiscal contribution of average individual immigrants was $1,500, compared to an average U.S.-born individual's net fiscal contribution of $1,390 to the state of Florida (Eisenhauer et al. 2007: 35).

Static analyses generally find that immigration increases net tax revenue to the federal government, but can have a slightly negative or positive impact on state and local governments. The OECD (2013) and Lee and Miller (1998) both found that immigration slightly decreases the federal budget deficits. Lee and Miller (1998) went on to find a negative fiscal impact on state and local governments in the United States that is far smaller than the positive fiscal impact on the federal government. Studies of Indiana and Florida found that immigrants decreased budget deficits there while studies of Arkansas, California, and New Jersey found varying degrees of negative net fiscal impacts imposed by immigrants and their households.

# 4    Three Dynamic Methods for Measuring the Fiscal Effects of Immigration

There are three main ways to dynamically estimate the fiscal impact of immigration. The first method is by using macroeconomic models—variants of general equilibrium models—to predict the economic effects of immigration relative to a pre-immigration trend line, additional tax revenue, and additional government expenditure. The second is through generational accounting that pays particular attention to the government's intertemporal budget constraints. The third is

though a net transfer profile that starts with a static accounting model in a base year and then builds a lifecycle net transfer profile for individual immigrants. These are only quasi-rigid categories with the possibility of mixing and matching certain characteristics of each methodology, but each one has its own benefits, drawbacks, and several studies that employ each method, sometimes mixing them.

## 4.1   Macroeconomic Models

Most macroeconomic modeling approaches use a computable general equilibrium model (CGE). They first estimate economic growth caused by immigration or a shift in immigration policy. CGE models take into account all of the economic factors mentioned above as well as the economic shock caused by a sudden and sustained increase in population (See Dixon and Rimmer 2009 and Hinojosa-Ojeda 2012). The assumption is that tax revenue collected by the government will be a proportion of the size of the total economy going forward, so in order to estimate tax revenue, the size of the economy is critical. For instance, the federal tax to GDP ratio in the United States has been steady over recent decades regardless of the actual tax rates. The specific economic growth rates and tax revenue caused by immigration are heavily subjected to assumptions about the future and highly sensitive to policy shifts in areas of economic policy not related to immigration.

Storesletten (2000: 300) used a calibrated general equilibrium model of overlapping generations to investigate whether changes in immigration policies alone could resolve the projected entitlement deficit caused by the imminent retirement of the baby-boomer generation, then discounted the net fiscal contributions of marginal immigrants based on their skill levels. According to his estimates, admitting 1.6 million additional high skilled immigrants annually

who are between the ages of 40 and 44 would pay for the entitlement system (Storesletten 2000: 302). He finds that the net present value (NPV) for the average low, medium, and high skilled legal immigrants are -$36,000, -$2000, and +$96,000, respectively (Storesletten 2000: 302). He assumes that the age group of skilled immigrants who would be admitted without spouses are unlikely to have children and are likely to pay a high level of taxes due to high incomes and to consume relatively little in welfare. Storesletten found relatively negative results for low and mid-skilled workers compared to the following studies, because he assumed that there will be no future changes in tax rates or benefit rates, and that the budget will never be balanced (2000: 302).

Lee and Miller (2000: 352) found that the initial budgetary impact is usually negative, but becomes positive over time as the children of immigrants grow to working ages and contribute to Social Security. The main fiscal benefit of young and low-educated immigrants is that they produce more children than natives. Those children will eventually pay more taxes into Social Security, shoring up the entitlement system by creating a younger age distribution that lasts for generations. Specifically, they tested raising net immigration to the United States by 100,000 a year. Based on numerous different policy and economic impact estimates over a 75-year time period, the federal government always experiences a net increase in federal revenues after expenditure and the states experience a small net decline. The greatest positive tax-revenue gain for the federal government is equal to 0.7 percent of federal revenue and the greatest loss for the states is equal to a negative 0.5 percent of the state's net tax revenue (Lee and Miller 2000: 352). Lee and Miller conclude that, "the overall fiscal consequences of altering the volume of immigration would be quite small and should not be a consideration of policy" (Lee and Miller 2000: 352-353).

The Congressional Budget Office (See Congressional Budget Office June 2013a and Congressional Budget Office June 2013b) ran two models of the impact of the proposed U.S. Senate 2013 immigration reform bill (S. 744). The first was a less dynamic model that assumed minimal economic impact of immigration besides the addition of more workers. That model assumed that if S. 744 became law, it would lower the projected federal government deficit by $875 billion by the year 2033 (Congressional Budget Office June 2013a: 2-3). In the model, the CBO found a large increase in federal tax revenue, but very slight increase in expenditure, largely because immigrants would have little access to welfare benefits.

The second model run by the CBO was an enhanced Solow model—a more dynamic model—and the first instance of one being used by the CBO in estimating the budgetary impact of legislation. This second model assumed that S. 744 will increase GDP by adding workers, affecting the earnings of American workers, boosting total factor productivity (TFP), and stimulating an increase in investment (Congressional Budget Office June 2013b: 2-3). Taking all of those dynamic economic factors into account, the CBO found that S. 744 would boost GDP by 5.1 percent to 5.7 percent over the baseline by 2033 (Congressional Budget Office June 2013b: 14). This extra GDP growth was estimated to lower the total federal deficit by $1.197 trillion by 2033, a $300 billion greater reduction than under the less-dynamic version of the CBO's model.

Following on the heels of the CBO, the Bipartisan Policy Center (BPC) used a similarly enhanced Solow model. As opposed to the CBO's projections, the BPC estimates assumed that a higher percentage of the legalized unauthorized immigrants would eventually become citizens and thus eligible for government benefits. BPC also did not assume that S. 744 would lead to an increase in TFP. Regardless of those changes, the BPC's findings were similar to the CBO's. BPC found that S. 744 would decrease net government deficit by $180 billion in the first 10

years after passage and further decrease federal deficit by $990 billion in the second decade while causing similar increases in GDP (Bipartisan Policy Center 2013: 7). More interestingly, BPC ran an alternative "attrition through enforcement" projection that was successful at removing more unauthorized immigrants, a strategy desired by many immigration restrictionists. That scenario resulted in an increased federal deficit of $800 billion and a drop in GDP of 5.7 percent compared to the baseline by 2033 (Bipartisan Policy Center 2013: 23). BPC ran numerous varying scenarios and the only one that produced more deficits relative to the baseline was "attrition through enforcement."

CGE models can also form the basis for evaluating the fiscal impact of previous immigration waves. Chojnicki et al. (2011) examined the net fiscal contribution of immigrants during the 1950-2000 period of U.S. history. According to their findings, immigration grew the U.S. economy and produced more net tax revenue. Their model showed that the biggest gains for the U.S. economy and net-tax revenue came from the generations of the descendants of immigrants born in the United States (Chojnicki et al. 2011: 323). The low-skilled first generation consumed more welfare than they paid in taxes, but their descendants more than compensated for that initial deficit by producing a more positive dependency ratio for entitlement programs, leading to a slightly positive contribution to the federal budget in the long run (Chojnicki et al. 2011: 323).

Most CGE models find that immigrants increase net tax revenue to the federal government. Many CGE models also find that immigrants slightly diminish net tax revenue for state and local governments, but that the federal net tax revenue increase is larger than the state and local decrease. The CGE models used by the CBO and BPC forecast the net budgetary impact of the proposed Senate immigration reform bill in 2013. They found that immigrants

would have decreased deficits by about $1.2 trillion over twenty years if that bill had become law. Storesletten (2000) found that highly skilled immigrants pay far more in tax revenue than they consume in benefits, while low and moderately-skilled immigrants consume more in benefits than they pay in taxes. Lee and Miller (2000) found that the federal government always sees a fiscal benefit from immigration, while state and local governments always see a slight loss, but the gain to the federal government is *always* bigger than the loss to state and local governments. Historically, removing the fiscal impact of immigrants from the last half of the 20[th]century would have increased the budget deficit over that time period (Chojnicki et al., 2011).

## 4.2   Generational Accounting

The generational accounting approach estimates the present value of the government's future spending liabilities plus its future projected purchases of goods and services. It then subtracts from those cost estimates the estimated present value of projected future net tax payments of current generations to arrive at the present value of the net tax burden facing future generations under current or projected policy (Auerbach et al. 1999: 1-2). If this method discovers that the tax burden faced by future generations is higher than that currently faced by newborns, then it is impossible to sustain current fiscal policy without raising taxes (Auerbach et al. 1999: 2).

Generational accounting attempts to estimate the degree to which different generations will finance government expenditures or increase government debt, assuming that the debt will always be paid off. Estimating population growth in subsequent generations and future government fiscal policy over the same period are essential to this approach. Demographic shocks, like the addition or subtraction of millions of immigrants, can change the age-structure of

society and affect the outcomes of generational accounting. Immigrants, like everybody else, are either net-taxpayers or net-consumers of government benefits at different points in their lives, but immigrants add peculiar wrinkles to generational accounting that do not occur with population growth through procreation.

Much of the U.S. government's spending commitments are for old-age entitlements. The extent to which immigration affects the age-structure of society by lowering the average age, which subsequently improves the dependency ratio for the entitlement, can have a large impact on long-term government finances (Rowthorn 2008: 561). As Rowthorn reported in his literature survey (2008: 562), the dependency ratio is only modestly affected by a large increase in temporary migrants. According to his estimates, a rolling stock of 3.5 million temporary guest workers at working age in the United Kingdom reduces the old-age dependency ratio from .431 to .395, an improvement but one incapable of sustaining the entitlements. That modest improvement in the dependency ratio should also be kept in perspective as 3.5 million guest workers is far larger than the number of Poles who stirred up so much controversy by moving to the United Kingdom in 2004 (Rowthorn 2008: 562).

Rowthorn found that the large fiscal effects, which he defines as producing a net fiscal present value contribution or loss of greater than 1 percent of GDP, only occur under two different scenarios. The first is an unrealistically large demographic decline in the destination country, such as a large and sudden drop in the native birth rate. In such a scenario, an increase in guest workers or immigrants can make a substantial difference in the dependency ratio. The second is an unrealistically large surge of immigration (Rowthorn 2008: 577).

Auerbach and Oreopoulos (1999) set up different fiscal accounts for natives and immigrants and ran various future projections varying the size of immigrant flows and fiscal

policy. They found that the fiscal impact of both groups is almost entirely driven by fiscal policy.

Critical to their findings is their selection of which generation will pay for the fiscal

imbalances—current or future residents. If the entire fiscal imbalance is placed on future

generations, then the presence of new immigrants reduces the fiscal burden borne by natives by

spreading the debt. The more irresponsible the government's fiscal policy, the more positive

impact immigrants have on reducing long run debt. But if the government's budget is balanced to

begin with, there is no fiscal gain from immigration. In both scenarios, impact of immigration on

the fiscal balance is extremely small relative to the size of the imbalance itself. Immigration is

neither a source of fiscal deficits nor a cause of them (Auerbach and Oreopoulos 1999: 180). In

more realistic scenarios with smaller immigrant flows, immigration has a very small impact on

the budget, partly depending on whether defense is a pure public good or not in the

accounting(Auerbach and Oreopoulos 2000: 151).

Methodology varies slightly between studies and most have focused on European

countries, so their findings are worth mentioning. Bonin et al (2000), Collado et al (2004),

Moscarola (2001), Fehr et al (2004), and Mayr (2005) all used different generational accounting

methods adjusting tax revenue and immigrant inflow scenarios over time. They all found that

immigration helped balance long term government finances for Germany, Spain, Italy, the EU,

and Austria respectively. For France, the average lifecycle contribution of an immigrant is

negative according to Chojnicki et al (2010).

Generational accounting models generally find that immigration more positively impacts

public finances than other methods (See Razin and Sodka 2004), partly because they implicitly

assume that the entire burden of financing today's fiscal deficit can be pushed on to future

generations (Rowthorn 2008: 560). It is also important to mention some of the criticisms of

generational accounting. The first is that it ignores potential policy-induced changes in factor returns that can alter the long-term fiscal impact. The second is that generational accounting estimates assume that the incidence of taxation falls on those who pay taxes. This assumption makes the calculation easier, but is more likely to lead to incorrect findings (Fehr and Kotlikoff 1999: 44). The third is that this method assumes that all deficits need to ultimately be paid off by resident tax payers, ignoring other government options like default or inflation to pay debts.

## 4.3   Net Transfer Models

Net transfer profiles start with the static accounting model mentioned above and then build that out into a lifecycle net transfer profile of immigrant groups by country of origin and their descendants that presents the fiscal impact as a net present value (Cully 2012: 7). The first step is to calculate the net fiscal contribution for each immigrant group under consideration for a single year, depending upon all of the economic and demographic considerations discussed in the previous sections. The second step is to project future income growth and demographic change for the immigrant group. The third step is to take those projections and to extend them over the lifecycles of the immigrants themselves and their descendants. The fourth step is to set a time horizon—out to the year 2100 for instance—to estimate the net fiscal contribution over the period.[3] The fiscal cost and tax payment of each generation must be counted in order to avoid biasing the result, at least counting the second generation into old age. The fifth step is to take into account basic financial economics by discounting the future cash flows back to the base year to produce a net present value that describes the fiscal impact (OECD 2013: 137-139).

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[3] The Social Security Administration makes 75 year projections.

The age expenditure profile of immigrants during the three life phases of fiscal contribution is crucial to arriving at the most accurate outcome (Access Economic Pty Limited 2008: ii, 12 and Kandel 2011: 6). The first phase of life is childhood, where there is a high consumption of government services, such as education and welfare, but a low or zero tax payment. During the childhood phase, substantial fiscal cost is incurred by the person or immigrant being studied. The next phase is the working life. During this phase, the worker pays quite a bit more to the government in taxes than he consumes in social services and welfare. Educational attainment in the childhood phase and the LFPR are very important for determining how positive the worker phase is and how much it makes up for the net fiscal cost incurred during the childhood and the last phases. The last phase is retirement. During this last phase, tax contributions are limited but consumption of public pensions and healthcare is very high. Estimated life span, demographics, and the quantity of taxes paid during the working phase determine whether the person in question is a net fiscal cost or burden by the end of his life.

So far, a net-transfer model can apply equally well to either a native or an immigrant. The immigrant age of arrival adds a confounding factor that is important in gauging the net fiscal impact (Access Economic Pty Limited 2008: 7-10). The age of arrival that minimizes the amount of public schooling that the immigrant consumes in the source country, but maximizes the length of his working life is more likely to make a positive fiscal contribution. A younger immigrant worker with only a high school degree who immigrates at the age of 18 makes a positive contribution, in present value, to public finances according to Cully (2012: 4). Cully (2012) goes into greater detail, comparing the present value of fiscal contribution at various ages of arrival and immigrant skill level, but many ambiguities exist. For instance, a 15 year old refugee and a 40 year old skilled worker are difficult to compare (Cully 2012: 7). The refugee has his whole

working life ahead of him but the skilled worker will likely have a higher income over the remaining years of his work life. Many other details, like the availability of welfare and the LFPR, make a large impact.

Another consideration for immigrants that rarely applies to the U.S.-born is return migration. A migrant who comes during the working years of his life and then leaves to retire in his home country and who cannot transfer government subsidized healthcare or old age pension payments, will make a more positive fiscal contribution, all else remaining equal. Return migration can help to make the net present value of contributions more positive by reducing the public cost of retirement. However, return migration can also diminish the long-run fiscal impact of additional American-born children. In such a scenario, the legality of the worker also matters. An unauthorized immigrant might or might not pay taxes, although 75 percent in the United States filed a tax return, had taxes withheld from their paycheck, or both (See Cornelius and Lewis 2007), but he almost certainly consumes less welfare than similarly poor natives or legal immigrants. A departing unauthorized immigrant will typically not contribute children who will pay taxes and consume future government benefits.

The descendants of immigrants, when they are included, make a large and positive net fiscal contribution under net transfer models. The National Research Council's net transfer analysis (1997: 297-362) analyzed the net present value fiscal impact of the immigrants themselves as well as the immigrants and their descendants for all levels of government in the United States. They found that a typical immigrant imposes a net fiscal cost of $3,000 himself but the descendants of the immigrant have a positive net fiscal contribution of $83,000 in present value, producing an $80,000 fiscal surplus (National Research Council 1997: 334). Subsequent generations more than make up for the net fiscal cost of the first generation. According to their

model, the total fiscal impact for the typical immigrant does not turn positive until 22 years after the arrival of the immigrant, while it takes 40 years for the state and local impact to turn positive (National Research Council 1997: 342). Comparing the results to natives, immigrants generally receive about the same quantity of welfare in these models but pay less in taxes (National Research Council 1997: 349). The National Research Council then makes numerous assumptions about future education, income, duration of welfare benefits, and other relevant factors to estimate the fiscal net present value under different scenarios that reach positive results over time (National Research Council 1997: 358-361) (See Table 4).

The further out the projections are, the less certain are the results. A controversial portion of the National Research Council study estimates the fiscal net present value out to the year 2300 (1997: 341-347). The authors admit that such a long run forecast is not very reliable and they adjust the discount rate by more heavily discounting the longer run effects (National Research Council 1997: 342). To give an idea of how absurd it is to fiscally forecast out that far, it is the equivalent of trying to forecast today's fiscal conditions in 1729, when there hadn't yet been an industrial revolution and the United States was still a colony of Great Britain. How accurate could our long run economic and fiscal forecasts possibly be over such a long time scale? George Borjas (1999) echoes this criticism, especially harping on the poor track record of even *short-term* economic forecasts. He also admits the quandary of not including the descendants, which is necessary to get an accurate fiscal net present value (Borjas 1999: 123-125).

# 5   A Note about Unauthorized Immigration

Most of the fiscal impact studies mentioned in this chapter include unauthorized immigrants as a subset of immigrants. Due to a large and likely-to-increase population of unauthorized

immigrants in most developed countries, especially if lawful immigration is not liberalized, there is increasing interest in studying the fiscal impact of this specific subgroup. The main problem, however, is measuring the fiscal impact and economic circumstances of a population that does not want to be found (Kandel 2011: 3).The U.S. General Accounting Office (GAO)[4] reviewed 13 studies on the fiscal impact of unauthorized immigrants that were published between 1984 and 1993. The main result of the studies is that they could not come to a firm conclusion about the fiscal cost and benefit of unauthorized immigration (See General Accounting Office 1995). Generally, the unknowns are so large that it is difficult to judge the reasonableness of studies prior to 1995.

# 6  Conclusion

It is difficult to predict the impact of immigration on government budgets currently or in the future. Based on the few studies that have tried to systematically examine the impact on government budgets, taking into account immigration's impact on the size of the economy and pace of economic growth, as well as the impact of immigration on government budgets, the longitudinal and static studies reveal a very small net fiscal impact clustered around zero (OECD 2013: 125). Each dynamic model is sensitive to the demographic, economic, and budgetary assumptions built into it, but dynamic models are all we have to judge the long term fiscal impact. Many of the different models discussed are similar and clearly borrow methods from each other, the main emphasis being on which government-supplied goods are counted, how and if government budgets will be paid off, and the level of rivalry in consumption of certain public goods. The outcome of static models also largely depend on the economic effects of

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[4] It has since been renamed the U.S. Government Accountability Office.

immigration, immigrants' degree of substitutability or complementarity with their U.S.-born counterparts, their indirect economic effects, age characteristics, government budget deficits or surpluses, and estimates of public benefit consumption.

The economic benefits of immigration are unambiguous and large, but the fiscal effects are dependent upon the specifics of government policy over a long time period, which means that the net fiscal impact of immigration could be negative while the economic benefit is simultaneously positive. Looking at the results of all of these studies, the fiscal impacts of immigration are mostly positive, but they are all relatively small. They are rarely more than 1 percent of GDP in dynamic models (Rowthorn 2008: 568). Even dramatic changes in the level of immigration have small effects on government budgets and deficits (Auerbach and Oreopoulos 2000: 151). Besides the net present value of the individual immigrant or group fiscal contribution, immigrant-caused deficits or surpluses could also be represented as a percentage of future economic growth or projected budget deficits. Regardless of those details and nuances, there is no strong fiscal case for or against sustained large-scale immigration.

The enormous economic gains from immigration described in Chapter 1 indicate that an open borders policy of the type proposed in Chapter 7 is not likely to lead to large government deficits or surpluses. Tax revenue would certainly increase dramatically under an open borders policy, but so would government expenditures on education, roads, and other congestible government-supplied goods. There is no reason to suspect that such an increase in tax revenue and government spending would not continue under a radically liberalized immigration policy. However, the federal, state, and local governments could reform their spending and tax policies to increase the fiscal gains from such a large economic gain. The federal government could institute a head tax or tariff on all immigrants or shift toward flatter taxes that place more of a

burden on lower skilled immigrants. States and local governments could also decrease the amount they spend on public education and thus lower the cost of their most expensive budget item. Congestible public goods could also be privatized, decreasing government spending without decreasing revenues. Generally, governments at all levels in the United States could balance their budgets and pursue a more responsible spending policy, a wise choice regardless of immigration policy. The fiscal impact of radically liberalized immigration or open borders would be determined by the government's fiscal policy.

Even if the fiscal costs of immigration were consistently larger than the fiscal benefits, there are far easier and cheaper methods to lower the cost than scaling back or outlawing immigration. Reforming welfare, charging immigration tariffs, or allowing more immigrant workers could all redress a possible net fiscal cost. The United States has reformed welfare before, but has never succeeded in halting unauthorized immigration except when aided by a Great Depression and World Wars. Reforming the fiscal system to fit the specifics of America's population is actually achievable and more beneficial than attempting to alter our country's population through fiddling with immigration policy to fit the government's fiscal goals.

This chapter leaves aside the wisdom of judging the benefits of immigration based on the immigrant's fiscal impact largely because the fiscal impact is so small. A worldview that seeks to judge whether immigrants are beneficial based on their fiscal impact, where the chief value of an additional American is determined by the size of their net-tax contribution, is fundamentally flawed and a testament to how dehumanizing a large welfare state can be. The fiscal impact of immigration is neither a proper evaluating metric nor is it a particularly meaningful one upon which to base support for or opposition to immigration.

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**Table 1. How the Aggregate Fiscal Impact Depends on the Definition of the Study Population (1994 in 1994 $ billions)**

| A. Aggregate Fiscal Impact | | | |
|---|---|---|---|
| **Study Population:** | **Overall** | **Federal** | **State and Local** |
| Immigrants Only | 32.4 | 28.2 | 4.2 |
| Immigrant Households | -13.3 | 16 | -29.3 |
| Immigrants and Concurrent Children | 29.5 | 48.9 | -19.3 |
| Immigrants and Concurrent Descendants (Children and Grandchildren) | 23.5 | 50.9 | -27.4 |
| | | | |
| **B. Population Subtotals** | | | |
| **Study Population:** | **Number** | **Cumulative Total** | |
| First Generation | 22,766,711 | 22,766,711 | |
| Second Generation under age 20 | 8,201,368 | 30,968,079 | |
| Concurrent Second Generation age 20 and over | 5,597,759 | 36,565,838 | |
| Concurrent Third Generation | 3,862,610 | 40,428,448 | |

*Source: Lee, Ronald and Timothy Miller (1998), "The Current Fiscal Impact of Immigrants and Their Descendants: Beyond the Immigrant Household," in* The Immigration Debate*, edited by James P. Smith and Barry Edmonston, National Academy Press, Washington DC.: 198.*

**Table 2. Average Net Direct Fiscal Contribution of Households by Migration Status of the Household Head, 2007-2009 Average**

| Country | Average Net Contributions—Using EU-SILC | | |
|---|---|---|---|
| | Only native-born household head(s) | "Mixed" | Only immigrant household head(s) |
| Switzerland | $14,967 | $21,434 | $14,545 |
| Iceland | $12,272 | $17,558 | $9,292 |
| Netherlands | $9,940 | $21,303 | $2,544 |
| Belgium | $9,159 | $16,830 | $5,560 |
| United States | $8,534 | $17,158 | $8,274 |
| Canada | $7,552 | $15,494 | $5,167 |
| Denmark | $7,362 | $17,713 | $2,368 |
| Sweden | $6,815 | $13,473 | $896 |
| Germany | $5,875 | -$4,453 | -$5,633 |
| Finland | $5,706 | $12,265 | $1,314 |
| Norway | $5,055 | $20,366 | $4,505 |
| Greece | $5,008 | $10,511 | $7,728 |
| OECD average | $4,840 | $9,942 | $3,283 |
| Estonia | $4,514 | $5,877 | -$2 |
| Slovenia | $4,450 | $2,368 | $3,006 |
| Italy | $3,980 | $12,126 | $9,148 |
| Australia | $3,778 | $8,355 | $2,305 |
| Czech Republic | $3,474 | $1,116 | -$184 |
| Austria | $3,375 | $6,443 | $2,353 |
| Spain | $3,106 | $9,830 | $7,497 |
| United Kingdom | $2,604 | $11,954 | $3,029 |
| France | $2,407 | $9,131 | -$1,451 |
| Slovak Republic | $2,148 | $752 | -$2,171 |
| Hungary | $1,081 | $1,915 | $1,864 |
| Portugal | $950 | $9,800 | $4,479 |
| Poland | $291 | -$4,630 | -$5,691 |
| Luxembourg | -$1,228 | $7,232 | $9,178 |
| Ireland | -$2,487 | $6,511 | -$1,274 |

*Source: OECD, http://dx.doi.org/10.1787/888932822940*

**Table 3. Estimated Net Fiscal Impact of Immigrants as Percentage of GDP**

| | Baseline | Baseline excluding pensions | Baseline plus per-capita allocation of collectively-accrued items (excluding defense and debt services) | Baseline plus per-capita allocation of collectively-accrued items (excluding defense) |
|---|---|---|---|---|
| Australia | 0.00 | 0.82 | .. | .. |
| Austria | 0.12 | 0.89 | -0.37 | -0.80 |
| Belgium | 0.76 | 0.96 | 0.06 | -0.43 |
| Canada | -0.06 | -0.06 | .. | .. |
| Czech Republic | -0.01 | 0.07 | -0.28 | -0.31 |
| Denmark | 0.11 | 0.23 | -0.31 | -0.39 |
| Estonia | 0.49 | 1.15 | .. | .. |
| Finland | 0.16 | 0.02 | -0.08 | -0.13 |
| France | -0.52 | 0.30 | -0.52 | -0.84 |
| Germany | -1.13 | 0.21 | -1.93 | -2.32 |
| Greece | 0.98 | 0.86 | .. | .. |
| Hungary | 0.08 | 0.12 | -0.11 | -0.18 |
| Iceland | 0.90 | 0.96 | .. | .. |
| Ireland | -0.23 | -0.39 | -1.23 | -1.41 |
| Italy | 0.98 | 0.91 | 0.97 | 0.61 |
| Luxembourg | 2.02 | 2.20 | 0.37 | 0.24 |
| Netherlands | 0.40 | 0.74 | -0.01 | -0.14 |
| Norway | 0.42 | 0.50 | 0.60 | 0.49 |
| Poland | -0.32 | 0.01 | -0.42 | -0.45 |
| Portugal | 0.52 | 0.56 | 0.27 | 0.13 |
| Slovak Republic | -0.06 | 0.04 | -0.16 | -0.18 |
| Slovenia | 0.76 | 1.00 | .. | .. |
| Spain | 0.54 | 0.21 | 0.07 | -0.05 |
| Sweden | 0.20 | 0.62 | -0.37 | -0.57 |
| Switzerland | 1.95 | 2.00 | 1.42 | 1.16 |
| United Kingdom | 0.46 | 1.02 | -0.01 | -0.26 |
| United States | 0.03 | -0.51 | -0.64 | -1.00 |
| **Average** | **0.35** | **0.57** | **..** | **..** |
| **Average (2)** | **0.30** | **0.49** | **-0.12** | **-0.31** |

*Source: OECD (2013: 159).*

| Table 4. Average Fiscal Impact of an Immigrant Overall and by Education Level (1996 dollars) | | | | |
|---|---|---|---|---|
| **Education Level of Immigrant** | | | | |
| **Group** | **< High School** | **High School** | **> High School** | **Overall** |
| Immigrants (baseline) *(a)* | -$13,000 | $51,000 | $198,000 | $80,000 |
| Immigrants themselves | -$89,000 | -$31,000 | $105,000 | -$3,000 |
| Descendants | $76,000 | $82,000 | $93,000 | $83,000 |
| *(a)*Based on estimated educational transition probabilities. | | | | |

*Source: National Research Council (1997: 334).*