DEPENDENTS AND DEPENDENCY

IMMIGRANTS AND THE FUTURE OF THE US ECONOMY

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While baby boomers increasingly retire, the United States is also experiencing historically low fertility rates registering at 1.9 births per woman, which is below the population replacement rate of 2.1 births per woman.

Introduction

As the United States enters deeper into the new millennium and baby boomers increasingly enter retirement, dependence on an immigrant population will likewise increase: immigrants will help replace the retiring native-born and, more importantly, the workforce, which funds a pay-as-you-go Social Security system. By using national survey data, we explore the social location (by age and sex) of immigrants and analyze how they factor into dependencies and dependency ratio calculations in the United States. We find that, in general, immigrants in the US are less dependent and, therefore, make a greater socio-economic contribution in comparison to native-born citizens. Immigrants are generally of working age, they were educated at another country's expense and a greater proportion of them are in the labor force. These are important facts for those involved in US immigration policy reform, as our immigrant workforce makes and will continue to make significant contributions towards America's successful economic future.

Dependents and Dependency

The US is currently undergoing a demographic transition and a shift in societal dependencies most notably by the first waves of baby boomers entering retirement. Retirement generally marks a transition from the workforce into a more economically dependent state of life and, therefore, it is an important factor in dependency ratios. However, when calculating dependencies, retirement is only one part of a dependency equation, on the front end of social dependencies are birth and fertility rates, childhood, and adolescent education. Data from 2010 shows that the US is experiencing historically low fertility rates registering at 1.9 births per woman, which is below the population replacement rate of 2.1 births per woman.[1] Note, this is the national total fertility rate, which would be even lower without the higher rates of fertility found among many immigrant groups. Thus, we can see that the US is experiencing something of a double transition that is impacting societal dependencies: the birthrate decline and the retirement of baby boomers.

$$\text{Dependency Ratio} = \frac{\text{Dependent Population}}{\text{Population of Working Age}} \times 100$$

In dependency analysis there are two main stages: childhood and old-age. In these stages, individuals are dependent on those in the workforce. Dependency ratios can be calculated based on children, the elderly, or as a combined total and approximate the number of those "dependent" for every 100 workers. This is typically done by taking the count of the specific population in question (for example, the elderly), dividing it by the number of those of working age (16 to

64 year olds), and multiplying by one hundred. Since the output of this calculation represents the level of dependency on workers, the higher the number, the higher the level of dependency. It is important to the functioning of a society that there be something of a balance between those who are working and those who are dependent: not too many workers and not too many dependents, for one day, some of those who have been dependent (children) will begin working and those who have been working (older adults) will retire and become more dependent.

Photo source: See note 2

Population Pyramids

Population pyramids are a demographic tool that offer a snapshot of society: a visualization of the composition of a population by age and sex. In Figure 1 we see the general population pyramid for the US in 2011: men on the left, women on the right, and their grouped ages, from zero to 85 and above, ascending along the center vertical axis with their percentage of the total population along
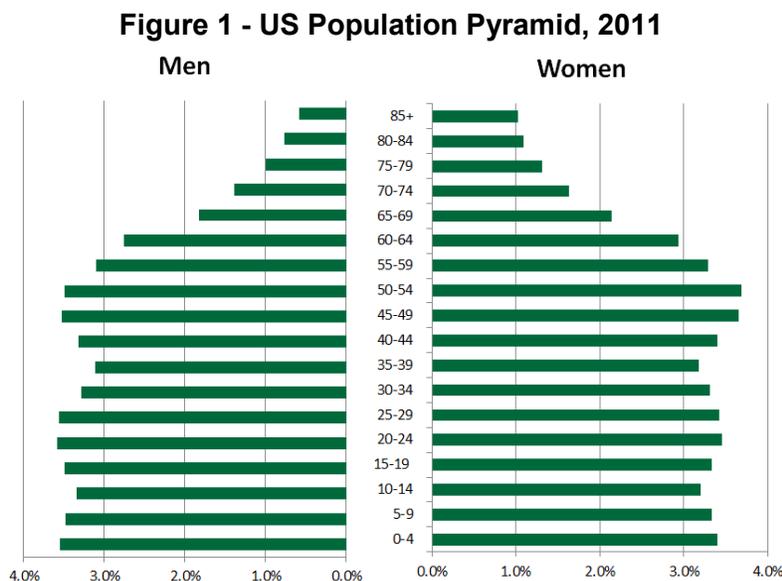
Figure 1 - US Population Pyramid, 2011

Source: US Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2011.[3]

the horizontal axis. Men and women are not very different in this figure, though, there are slightly more men in early life and slightly more women in late life. We can also note that early baby boomers, the "population bulge" beginning among

those in their early 60s and continuing through those in their mid 40s, have just begun to retire. The ages of dependency are generally accepted as under 16 (the traditional age of compulsory education) and above 64 (the retirement years). The total working age dependency ratio for this figure is 52.5%; in other words, for every 100 workers, about 53 people (under 16 or over 64) are dependent on them.

In 2011, the total working age dependency ratio in the United States was 52.5%; in other words, for every 100 workers, about 53 people were dependent them.

At 21.8%, the total dependency ratio for the foreign-born is extremely low; they are typically not dependent, but are working.

But how are immigrants figuring into US population pyramids and dependency ratios? Figure 2 offers a visualization of both how immigrants are distributed within the age/sex pyramid and how they might figure into dependency ratios. Within the population pyramid, we have highlighted the foreign-born (1st generation) in yellow, the 2nd generation (native-born, but at least one parent foreign-born) in light green, and 3rd generation or more (native born with both

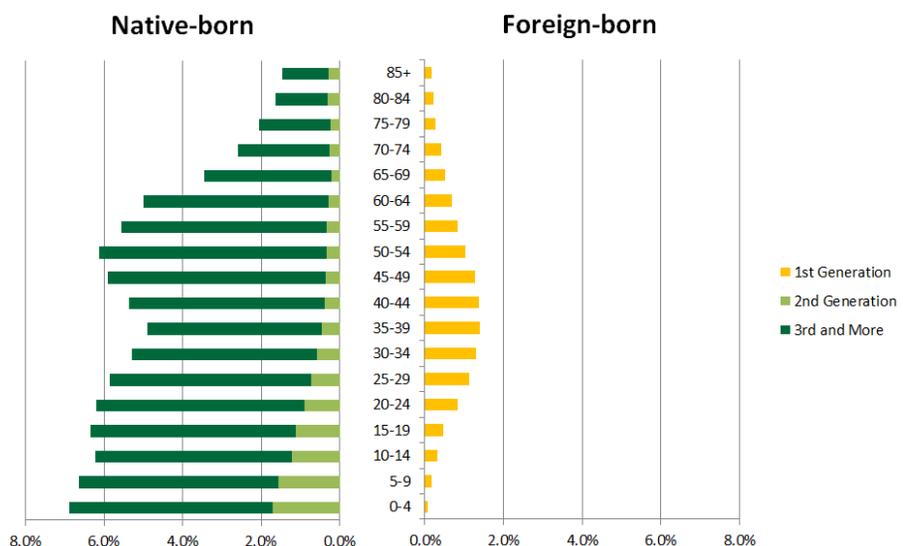**Figure 2 - US Population Pyramid with Immigrant Generations, 2011**
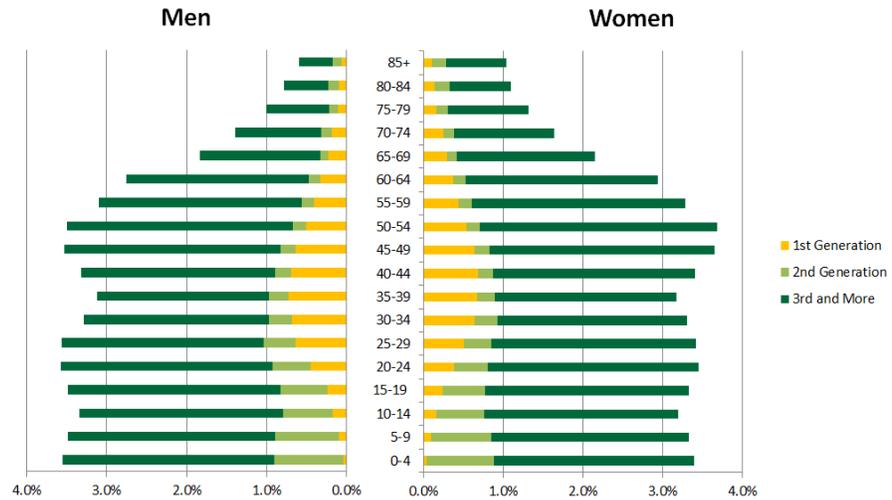
Source: US Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2011.[3]

parents native-born) in green. Again, along the horizontal-axis is the percentage of the total population and age is on the vertical axis. We can see that the foreign-born, in yellow, are mostly of working age; the 2nd generation, in light green, are mostly in their younger years, and the 3rd generation or more, in dark green, are more evenly distributed throughout different ages.

Figure 3, removes the sex distinction and depicts the native-born (2nd

Figure 3 - Combined Pyramid with Immigrant Generations, 2011

Source: US Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2011.[3]

82.1% of the foreign-born are of working age compared to 63.2% of the native-born.

generation and higher) on the left half of the pyramid and the foreign-born (1st generation) on the right. This figure accentuates the foreign-born (yellow) concentration in the working age years and also accentuates the way 2nd generation immigrants (light green) will complement the future US workforce.

There are two important facts to be noted about the foreign-born (yellow), firstly, they are rarely children: only 5.1% of the foreign-born is under the age of 16, compared to 24.0% for the native-born.[4] At 21.8%, the total dependency ratio for the foreign-born is extremely low, compared to 58.2% for the native-born; the foreign-born are typically not very dependent, but are working; put another way, 82.1% of the foreign-born is of working age compared to 63.2% of the native-born.[3] This difference is also reflected in survey data for labor force participation: in 2011, though the foreign-born made up 13.0% of the general population, they consisted of 16.4% of the labor force.[5] Secondly, as the foreign-born usually migrate to the US in their working years (i.e., in 2011, 68.9% of the new immigrants were between the ages of 18 and 64), their childhood educational costs are paid by another country and another set of workers.[6] These adult immigrants, then, were not dependent on the US workforce when they were children, of educational age, and, consequently, were not, at that time, figured into US dependency ratios/

Labor Force Dependency

There is another way to analyze dependency, not by people's ages, but by labor force participation. There is variation in when people work over the course of their lives, i.e., students may attend school far beyond the age of 16 or, at the other end of the life-course, people may retire before or after the age of 65. Therefore, survey data on labor force participation rates should give a more accurate accounting of who is or is not in the work force.[7]

For labor force information we turn to the [American Community Survey].[5] The labor force dependency ratio is calculated by dividing those who are not in the labor force by those who are in the labor force, therefore, a higher ratio would represent greater dependency on those who are in the labor force.[8] In 2011, the foreign-born had a labor force dependency ratio of 56.8%, whereas the native-born were nearly double this figure at 105.8%. These differences are illustrated in Figures 2 and 3: first generation (foreign-born) immigrants are less dependent and, as can be presumed for those of working age, they and their activities are more greatly concentrated in the working age labor force. But what are the details beneath these figures?

In Figure 4 (next page) while distinguishing native-born citizens from naturalized and non-citizens, we chart labor force participation and note that for those of all ages there is a rise in labor force participation from native-born citizens to non-citizens of 48.6% to 62.9% respectively. However, for those from 16 to 64 years old, naturalized citizens have the highest labor force participation rate with 80.0% and non-citizens are the lowest with 71.7%.
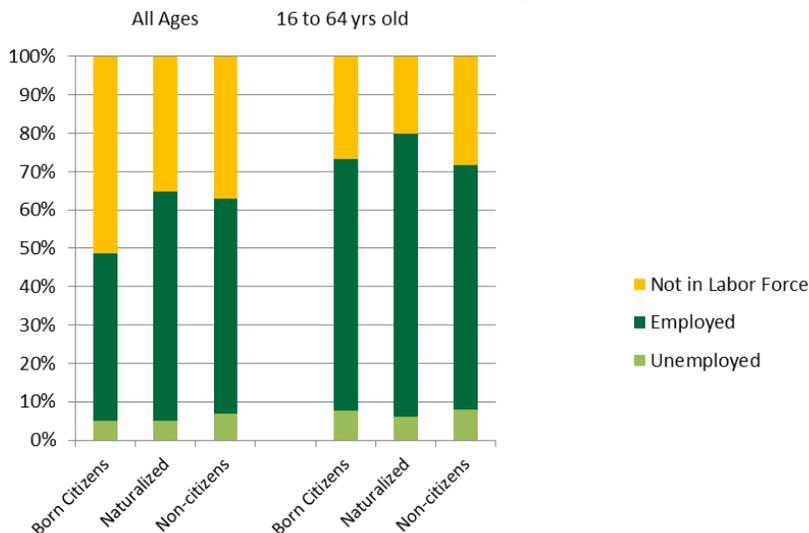
Though labor force participation figures confirm the lower immigrant

In 2011, the most recent survey data, the foreign-born in the US had a workforce dependency ratio of 56.8%, whereas the native-born were nearly double this figure at 105.8%.

For those from 16 to 64 years old, naturalized citizens have the highest labor force participation rate with 80.0%.[8]

Figure 4 - Labor Force Participation, 2011

All Ages   16 to 64 yrs old

- Not in Labor Force
- Employed
- Unemployed

As we move from those who are born citizens to those who are non-citizens, we find what appears to be a growing "gender gap": the difference in labor force non-participation and school enrollment rates grows between women and men.

dependencies as depicted in Figures 2 and 3, what are the details beneath the low labor force participation rate of the 16 to 64 year old, non-citizens, in Figure 4? Who are these non-citizens who are not working?

Figure 5 depicts sex, citizenship status, and school enrollment for 16 to 64 year olds who are not in the labor force and suggests that immigrants enact more traditional gender roles. As we move from those who are born citizens to those who are non-citizens, we find what appears to be a growing "gender gap": the difference in labor force non-participation and school enrollment rates grows between women and men. Though there is a "dip" for naturalized citizens, which reflects their higher labor force participation rates, the percentage of women who are not in the labor force (green) increases from 29.7% to 42.0%

Figure 5 - Labor Force Non-Participation, 2011

- % of Women
- % of Men
- % of Women in School
- % of Men in School
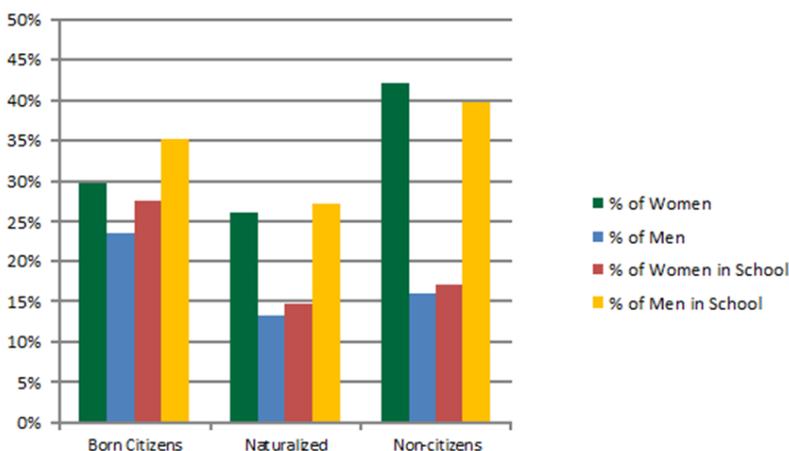
respectively while the percentage of men (blue) decreases from 23.6% to 15.8%.[5] This differential is also present in school enrollment: the percentage of

men in school (yellow) increases while the comparative percentage of women in school (red) decreases (again, with a notable dip for those naturalized). The data does suggest, then, that immigrants enact more traditional gender roles, with men more inclined to be both in the workforce and enrolled in school. Naturalized citizens also appear to be something of a special case which warrant further research.

Conclusion

As baby boomers successively retire and fertility rates are historically low, a larger segment of the US population becomes more and more dependent on those of working age and those in the workforce. Analyses of both working age and workforce dependencies demonstrate that immigrants serve to reduce societal dependencies in the US: they are less of a "social burden" than the native-born are to themselves. Immigrants are generally of working age, they are often educated at another country's expense, and a greater proportion of them are in the labor force. These are important facts and should be a salient factor in any efforts to reform immigration policies in the United States. In general, immigrants currently reduce societal dependencies and will do so in the future. They make a positive contribution to the US economy and will be an important factor in maintaining future socio-economic stability in the United States.

Notes
1. Population Reference Bureau. Fact Sheet: The Decline in US Fertility. Retrieved November 19, 2013. http://www.prb.org/Publications/Datasheets/2012/world-population-data-sheet/fact-sheet-us-population.aspx
2. Photo source: UNIFEM East and Southeast Asia Region. Improving Statistics on Gender Issues in the Asia-Pacific Region. Retrieved January 27, 2014 from http://www.unwomen-eseasia.org/projects/improvinggendestat.htm
3. United States Census Bureau's Current Population Survey: 2011 Annual Data Tables. Retrieved November 19, 2013 from http://www.census.gov/cps/
4. Keeping in mind that though the foreign-born do not usually come to the United States as children, their children, when born in the U.S., become part native-born population.
5. American Community Survey data sourced from the Integrated Public Use Microdata Series of the Minnesota Population Center, University of Minnesota. Retrieved November 19, 2013. https://usa.ipums.org/usa/sda/
6. We arrive at this figure on new immigrants with the 2012 ACS data, by those who responded that they migrated to the U.S. in 2011. Moreover, only 4.1% of the new immigrants in 2011 were 65 years old or older.
7. This is a cross sectional analysis, only 2011, recent trend analysis estimates that 1 of every 2 new workers is foreign-born. See: Mosisa, Abraham T. 2013. *Foreign-born Workers In The U.S. Labor Force.* Washington, DC: US Bureau of Labor Statistics. Retrieved February 4, 2013 from http://www.bls.gov/spotlight/2013/foreign-born/pdf/foreign-born.pdf
8. Workers who are unemployed are still considered part of the labor force.

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