Is there correlation between immigration, unemployment and GDP in America?

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Abstract

This research finds if immigration impacts the American Economy, its GDP and the unemployment rate. Immigration has added to the overall GDP and has aided in small amounts to the economic growth. Immigrants are adding more prestige to America through their scholastic accomplishments as well. However, the foreign born population is impacting America in negative ways also. Research shows that immigration has brought down wage rates for low paying jobs and has increased the unemployment rate for that select group of native born workers. This research that has been conducted is a more in-depth look into the correlation between immigration and the direction the American economy moves.
Introduction

In America, it is perceived that the economy is doing good or bad and there are several variables that allow this to happen. Could immigration contribute to the direction of the economy? What affect does immigration have on America as a whole? We will begin to look into these questions after we analyze our primary question. “Is there correlation between immigration, unemployment and GDP in America?” Depending upon the results of that question we can then begin to discuss immigrations affects on America. A statistical program was used to analyze the data used to give the precise correlation between the variables.

Immigration Facts

In the early 1900’s immigrants were a pillar in growing and developing America. A survey from the 1900’s found that 60% of 500,000 wage rate workers were immigrants (Bergman (2007))¹. Traditionally immigrants have taken a roll in manual labor and working blue collar jobs. More recently, in a ten-year span immigration has increased by 1.1 million between the years 1994-2004. Due to this influx there has been a decrease in native workers employed in low paying blue collar jobs. For those native born workers whom work in this division, employment has decreased from 9 million to 7.6 million. Most would think that since immigrants are decreasing the amount of jobs available to native workers that it means unemployment is increasing as well. Although immigrants make up 14% of the labor force it does not mean that they have a significant relation to the unemployment rate (Anrig (2004))².

¹ This source looks at how Barry Chiswick analysis immigration from early 1900’s to current times.

² Ms. Anrig’s journal focuses in on asking if immigration impacts the economy in negative ways.
Immigration Correlation

From comparing the data that I have found there is very little correlation between immigration and the unemployment rate. Over the 47 year period that I researched the mean unemployment rate has been 5.82%. Through that same time frame there has been an average of 665,485 immigrants that come into this country per year. Figure 1 and Figure 2 give a visual to determine the lack of correlation between immigration numbers and unemployment rate.

The reason being is that immigrants are taking the jobs that native workers do not want any more and are basically competing against themselves. Immigrants have a lower unemployment rate than native born workers; immigrant unemployment was at 4.6% in 2005 compared to 5.2% of United States born workers (Orrenius (2006))³. Although, several

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³ Pia Orrenius served on the President’s Council of Economic Advisers for the year 2004-2005.
immigrants are helping America gain prestige; “Compared to a foreign born population of 12% in 2000, 26% of U.S. based Nobel Prize recipients from 1990-2000 were immigrants.” (Hunt (2008))4. Furthermore, of those receiving a Ph. D., 40% are foreign born citizens. Another 40% of entrepreneurs in America are foreign born too (Immigration (2007)).

There is so many new innovations from this group of people that they are in some ways creating jobs from different ends of the financial spectrum. Google, which is the world’s largest search engine, was co-founded by a young man, Sergey Brin whose parents were immigrants. He states that 8% of Google’s employees are immigrants (Elstrom (2007))5. Many of the popular features that Google offers were created by their foreign born employees. Immigrants are also creating more jobs for themselves where native workers would not typically work either. Immigrants are now going from house to house cleaning and doing lawn work. Most native born workers shy away from those type of jobs, so immigrants are creating their own work (Lowenstien, (2006))6.

**GDP Correlation to year**

Since it has been addressed that immigration does not have much significance on the unemployment rate we will look at immigration and its impact on Gross Domestic Product. Gross Domestic Product, (GDP) is defined as the total market value of all final goods and services produced in a given year (McConnell (2006))7. GDP is the primary measure of the economy’s performance. The GDP8

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4 Jennifer Hunt writes for the National Bureau of Economic Research.
5 Elstrom’s article argues that work related visas should be distributed with more ease to immigrants working in America.
6 Lowenstien is a financial journalist who has written for the *Wall Street Journal* for over a decade.
7 Author of *Macroeconomic Measurements and Basic Concepts* the 17th edition.
8 Real GDP was used for analyzing the data for in this research instead of nominal GDP because price can be adjusted to desired year. Total Real GDP is divided by person in the U.S. to get GDP per Capita.
is calculated per person and is adjusted to the year in which it is suggested. We will use the year 2005 for the adjusted GDP.

It is clear to see from the figure 3 that GDP has generally always risen. Now when looking into the graph we need to compare GDP to the number of immigrants coming into America and see if there is correlation between the two.

Immigrants have lowered the annual wages of low-skilled native workers by about 2.4% below where it would be if immigrants were not employed. After immigration increased the labor supply by 11% for working men the annual wage rate of native workers decreased by 3.2%. There was an even more significant decrease in wage for workers with low education standards (Anrig (2006)).

Many facts seem to lead towards there being significant correlation between immigration and GDP. To the right, Table 1 shows that there is correlation. The <.0001 states that the data is significant. Above <.0001 is a number, .7487 and that means there is strong positive correlation between GDP and immigration; because the greater number is signifies better correlation. “[The] National Academy of Sciences found that a typical immigrant and his or her descendants will pay an estimated $80,000 (in 1996 dollars) more in taxes than they will receive combined local, state, and federal benefits over their lifetime” (Anrig (2006)). Dr. George Borjas finds in his research that immigrants contribute $7 billion to the economy; but America is
a $7 trillion economy so immigration has a relatively low impact (Borjas (1995))\(^9\). Then Borjas also discovered that in the 1980’s there may have been a positive relation between wages and immigration. The research and graphs both point to the fact that GDP is correlated with immigration, but it does not always lead to causation. Meaning that the numbers for GDP and Immigration may change in the same direction, but it doesn’t mean that one specifically determines the other. It just shows that the two are moving the same direction as there is stronger correlation. Realizing that there is correlation between Immigration and GDP but not much correlation between Immigration and unemployment, we can ask, “Is correlation between GDP and Unemployment significant?”

**Correlation of GDP and Unemployment**

From the research it is found that there is low correlation between GDP and unemployment. Table 2 shows that the correlation between the unemployment rate and GDP to be insignificant and have very low correlation. The -.12678 shows that there is very little correlation between the two variable, but the small correlation moves in opposite directions. As GDP grows unemployment would typically go down. The number below -.12678, which is .3958 needs to be lower because it has such a high number that proves the correlation is not significant. The answer is “no” to the question about correlation between GDP and unemployment; but we can begin explain how immigration can be used to improve the correlation in the right direction. Although immigration is not directly correlated to unemployment, it can be used to possibly push the correlation between GDP and unemployment in a

\(^9\) Dr. George J. Borjas is a renowned economist professor at Harvard University.
good way for the economy. Immigration could be used to lessen the unemployment rate while increasing the GDP further.

It has been a common theme from economists that people with higher education levels contribute more financially to the economy. “Canada and Australia admit immigrants primarily on the basis of skill, and one thing the economists agree on is that high earners raise the national income by more than low earners” (Lowenstien (2006)). If the United States ever decided to taper some of their admissions of immigrants just as Canada and Australia have done, it can prove to be better for the American economy. This could be a future solution that America could begin to look into especially with how the economy is currently. Though there would be many cost and benefits to changing the immigration policy to that of America’s foreign counterparts. A benefit would be a speculated increase in the American economy. The major down fall of that would be that many Americans in general would not like this policy change and that would lead to trouble for the government.

Conclusion

Overall, there is some correlation between the Immigration and the American economy. There is not much correlation between immigration and unemployment, but there is between GDP and immigration. The correlation between the two may just be there by coincidence while only having little impact on the actual economy. Even with little effect on the economy, 90% of native-born workers have gained from immigration (Immigration (2007))\textsuperscript{10}. There are also facts showing that the overall average annual wage gains are being attributed to immigration. From research to well accomplished economist; we can answer the question that there is little correlation between the direction of the American economy and immigrants.

\textsuperscript{10} This journal focuses mainly on immigrants and how they have assisted America as a whole and not just the economy.
REFERENCES


DATA SOURCES

