

Working Paper No. 2013-10

**Understanding of the Immigration Flow and
Stock in Washington Metropolitan Area:
Observations from Panel Data**

By

Xiaochu Hu

Graduate Research Assistant

George Mason University

Center for Regional Analysis

December 2013



Understanding of the Immigration¹ Flow and Stock in Washington Metropolitan Area: Observations from Panel Data

Working Paper 2013-10

by

Xiaochu Hu

Executive Summary

This research takes an innovative approach to the investigation the foreign-born population in the Washington DC Metropolitan Area (WMA): it distinguishes (1) the immigrant (and nonimmigrant) flows to the area (by examining the annual snapshot data provided by Department of Homeland Security (DHS)) and (2) the immigrant stocks (by examining Census data provided by American Community Survey (ACS) and Census of Bureau). The immigration data from these two main sources complement each other. The analyses of both immigration flows and stocks provide a comprehensive description of the WMA's foreign-born population and labor pool.

Key findings from examination of the flow data are:

- In 2012 1,165,318 (person/time) foreign nationals entered the United States under nonimmigrant status through the WMA, making it the 13th largest entry port for nonimmigrants among all metropolitan areas, accounting for 2.2 percent of all nonimmigrant admission into the U.S.;
- In 2012 the WMA ranked fourth in the U.S. in terms of the issuance of Legal Permanent Residence Status: there were 38,518 LPRs issued in the region in 2012; accounting for 3.7 percent of all LPRs issued in the U.S.; and,
- In 2012 the WMA ranked fourth in the U.S. in terms number of naturalizations. 31,601 foreign nationals were naturalized, representing about four percent of the national total. About 11 percent of them are of African origin.

Key findings from examination of the stock data are:

- In 2010, the WMA ranked as the seventh largest in terms of total immigrant population as well as for the immigrant share of total population. Its 10-year increase in foreign-born population is behind only two metro areas, and it has the largest growth rate in terms of concentration of immigrants;
- With a median duration in the U.S. of 13 years, immigrants in the WMA have arrived in the U.S. more recently compared to those in other metro areas; and,
- The WMA has the highest concentration of high-skilled immigrant labors.

¹ An immigrant is defined as a foreign-born individual who was born to non-U.S. parents. An "immigration" in this paper, is used interchangeably with a "foreign-born individual".

Introduction

This report is the third in a series of papers studying foreign-born population in the Washington DC Metropolitan Area (WMA) produced by the George Mason University Center for Regional Analysis (CRA). The first study (CRA Working Paper 2012-2) examined immigration in the Washington D.C. Metropolitan Area's labor market and the second study (CRA Working Paper 2013-1) investigated foreign-born and international students in higher education in this area. This research provides a comprehensive description of the WMA's foreign-born population using data from the DHS, ACS and the Bureau of the Census². With both area (large metropolitan areas) and time (2000-2010) comparisons, this research builds on the understanding of the foreign-born population's flow and stock and identifies regional competitive advantages and demonstrates the historical trends of immigration in the region over the past decade.

Washington MSA as a Gateway: Nonimmigrant and Immigrant Flows

The Washington metropolitan area is experiencing active flows of foreign-born population under nonimmigrant status each year. In 2012, with 1,165,318 foreign nationals entering the United States under nonimmigrant status, the WMA was the 13th largest entry port for nonimmigrants among all metropolitan areas, accounting for 2.2 percent of all nonimmigrant admission into the U.S. (Table 1). As nonimmigrant data are collected by person by entry, a person entering the U.S. multiple times during a fiscal year will be counted multiple times.

This nonimmigrant foreign-born population flow includes a variety of people: tourists, business travelers, temporary workers and their families, foreign students and exchange scholars, and diplomatic representatives. The majority of these nonimmigrant foreign nationals do not intend to work or live permanently in the U.S. and will tour or attend school locally and/or in other parts of U.S. before returning to their home countries. A small portion of non-immigrants (such as temporary workers) will join the local or national labor market for a short period depending on their status.

Table 2 shows the composition of the non-immigrant flow by admission category and state indicated as their destinations. DHS only reports this information by state (not by metropolitan area) so the Virginia and Maryland numbers shown include the non-metropolitan parts of the states³. Not surprisingly, the Washington D.C. Metropolitan Area receives 36 percent of all diplomats and other representatives coming to the U.S. Other over-represented categories in the WMA include students and exchange visitors (4.6 percent), tourists and business visitors (3.7 percent) and temporary workers and families (2.4 percent).

² Immigration flow data are from the DHS Immigration Yearbook 2000-2012 and DHS annual reports. Stock analysis data come from the American Community Survey (ACS) 2005 and 2010, and the 2000 Decennial Census, accessed via IPUMS (Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010).

³ DHS reports the total non-immigration admission in Washington D.C. Metropolitan Area in 2012 is 1,165,318. This means the total including non-metro parts of MD and VA is only 1.6% over-estimated.

Table 1
Nonimmigrant Admissions by Port of Entry: Fiscal Years 2012

Rank	Port of entry	Number	Percent
	Total of largest 13 ports	53,887,286	100.00%
1	New York, NY	5,744,877	10.66%
2	Miami, FL	5,115,113	9.49%
3	Los Angeles, CA	3,905,034	7.25%
4	Newark, NJ	2,088,591	3.88%
5	San Ysidro, CA	2,082,911	3.87%
6	Honolulu, HI	1,892,134	3.51%
7	San Francisco, CA	1,859,836	3.45%
8	Chicago, IL	1,606,615	2.98%
9	Houston, TX	1,382,759	2.57%
10	Atlanta, GA	1,379,717	2.56%
11	Otay Mesa, CA	1,303,897	2.42%
12	Juarez-Lincoln Bridge, TX	1,302,120	2.42%
13	Washington, DC	1,165,318	2.16%

Source: DHS Annual Flow Report: Nonimmigrant Admissions to the United States: 2012
(http://www.dhs.gov/sites/default/files/publications/ois_ni_fr_2012.pdf)

Table 2
Non-immigration Admissions Nonimmigrant Admissions (I-94 Only) in Washington D.C. Metropolitan Area: Fiscal Year 2012

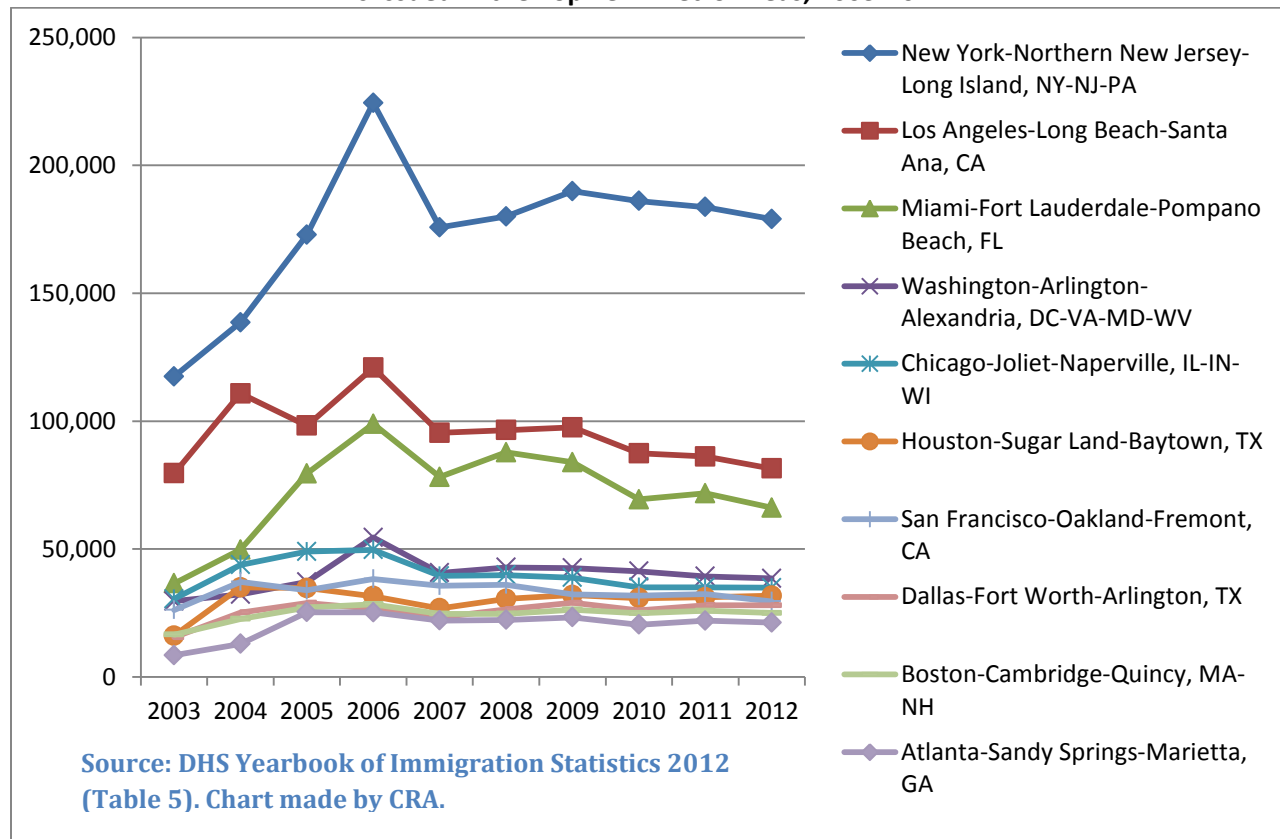
State of destination	Total	Tourists and Business	Students and exchange visitors	Temporary workers and families	Diplomats and other representatives	All other classes	Unknown
U.S. total	53,887,286	47,730,594	2,128,808	3,049,419	365,779	469,495	143,191
District of Columbia	405,915	302,388	24,470	13,184	63,909	751	1,213
Virginia*	434,129	315,340	41,323	36,687	36,787	2,398	1,594
Maryland*	327,081	236,292	32,569	24,147	30,108	2,855	1,110
WMA total	1,167,125	854,020	98,362	74,018	130,804	6,004	3,917
WMA %	2.17%	3.65%	4.62%	2.43%	35.76%	1.28%	2.74%

*including non-metropolitan parts of the states.

Source: DHS Yearbook of Immigration Statistics 2012 (Table 30). Metropolitan statistics calculated by CRA.

The WMA ranked fourth in the U.S. in terms of the issuance of Legal Permanent Residence Status (LPR, commonly known as “Green Card”): there were 38,518 LPRs issued in the region in 2012. LPR status allows foreign nationals to live in the U.S. and participate in the local labor market on a permanent basis. Compared to the top three metro areas (New York, Los Angeles and Miami), which have experienced the greatest fluctuations in LPR during the recent decade, the annual LPRs issued in the WMA have been relatively stable (Figure 1). The 10-year growth rate of LPRs issued in the Washington D.C. Metropolitan Area was 30 percent, which trails those of the Atlanta (150 percent), Houston (97 percent), Miami (81 percent), Dallas (80 percent), New York (52 percent) and Boston (51 percent) metro areas.

Figure 1
LPRs Issued in the Top Ten⁴ Metro Areas, 2003-2012



The WMA is also experiencing increased numbers of naturalization. In 2012, there were 31,601 naturalizations in the WMA, representing about four percent of the national total. The top ten countries of origin for these new citizens were El Salvador (2,526), Ethiopia (2,302), India (1,938), Philippines (1,255), South Korea (1,177), Peru (1,155), Pakistan (1,079), Bolivia (1,063), Ghana (848) and Nigeria (833). Interestingly, with 825 and 647 nationals naturalized in 2012 in Washington D.C. Metropolitan Area, neither China nor Mexico made this top ten country list, though they are two of the most important immigrant-exporting countries. With 11 percent of newly naturalized citizens originating from countries in Africa, naturalized citizens of African origin are over-represented in this area.

⁴ Ranked by 2012 LPR flow.

Figure 2
Top Ten⁵ Metro Areas with Largest Numbers of Persons Naturalized, 2003-2012

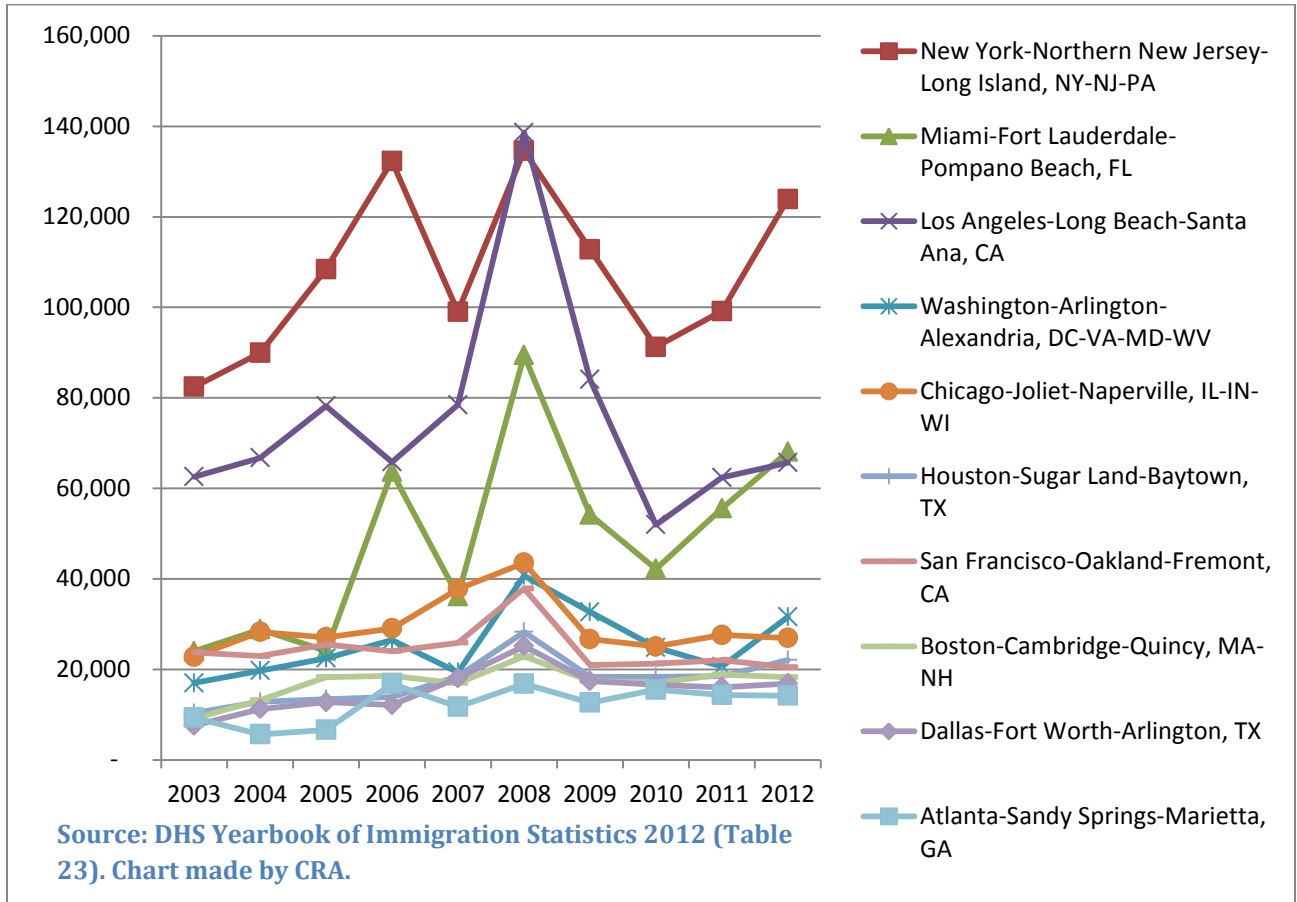


Figure 2 shows that the overall number of naturalizations peaked in 2008, due in large part to “a surge of in applications in 2007 in advance of a fee increase and efforts to encourage eligible immigrants to naturalize”⁶. The 10-year rate of increase of persons naturalized in the WMA was 86 percent, which lags behind four other major metropolitan areas: Miami (184 percent), Dallas (123 percent), Houston (113 percent), and Boston (99 percent).

In sum, compared to other leading metropolitan areas, the Washington D.C. metropolitan Area not only is an important port of entry for temporary immigrant (nonimmigrants), but it is becoming increasingly important in terms of issuing LPRs to and naturalizing foreign nationals to become U.S. citizens.

⁵ Ranked by 2012 Naturalization Data.

⁶ Lee, James. 2009. Naturalizations in the United States: 2009. Annual Flow report. DHS. http://www.dhs.gov/xlibrary/assets/statistics/publications/natz_fr_2009.pdf

Washington MSA as a Destination: Immigrant Stock

The above nonimmigrant, LPR and naturalization analyses reflect the one-year snapshot of the foreign-born population flow. The flow data are important in terms of capturing the most recent responses of foreign-born population to the U.S. and world economies in terms of tourism, consumption, national security and immigration control. However, once a foreign-born national is admitted into the U.S. as nonimmigrant, that person can travel and visit other parts of the country. If an immigrant receives an LPR or is naturalized, that person is free to change residences within the country. Therefore, in order to examine the deeper relationships between immigration and the host country's socio-economic changes, it is important to understand the immigrant stock in the regional labor force.

Table 3
Leading MSAs as Home of Foreign-Born Population, 2000-2010

Rank in 2000	MSA	2000 FB pop (FB share)	2005 FB pop (FB share)	2010 FB pop (FB share)	10-y FB pop Change (FB share change)
1	New York-Northern New Jersey-Long Island, NY-NJ-PA	4,741,217 (0.27)	4,957,379 (0.29)	5,332,576 (0.30)	0.12 (0.09)
2	Los Angeles-Long Beach-Santa Ana, CA	4,311,160 (0.35)	4,428,872 (0.35)	4,396,424 (0.34)	0.02 (-0.02)
3	Chicago-Joliet-Naperville, IL-IN-WI	1,455,681 (0.17)	1,623,067 (0.18)	1,642,651 (0.18)	0.13 (0.09)
4	San Francisco-Oakland-Fremont, CA	1,223,334 (0.26)	1,287,684 (0.28)	1,415,079 (0.29)	0.16 (0.10)
5	Miami-Fort Lauderdale-Pompano Beach, FL	1,138,868 (0.51)	1,159,884 (0.51)	1,284,646 (0.52)	0.13 (0.02)
6	Houston-Sugar Land-Baytown, TX	867,836 (0.20)	1,090,105 (0.22)	1,295,106 (0.23)	0.49 (0.17)
7	Washington-Arlington-Alexandria, DC-VA-MD-WV	824,116 (0.17)	1,007,549 (0.20)	1,217,620 (0.22)	0.48 (0.26)
8	Dallas-Fort Worth-Arlington, TX	779,452 (0.15)	1,009,911 (0.18)	1,116,318 (0.18)	0.43 (0.16)
9	Riverside-San Bernardino-Ontario, CA	609,463 (0.19)	836,279 (0.22)	932,718 (0.22)	0.53 (0.17)
10	San Diego-Carlsbad-San Marcos, CA	604,450 (0.22)	664,471 (0.23)	736,807 (0.24)	0.22 (0.10)
	Top ten total	16,555,577	18,065,201	19,369,945	0.17
	U.S.A				

Source: Estimates from Census 2000 5% Sample Survey, ACS 2005, 2010. Calculated by CRA.

Table 3 presents characteristics of the foreign-born population and labor force for the ten largest U.S. metropolitan areas⁷ in 2000, 2005 and 2010. In 2010, the Washington D.C. Metropolitan Area ranked the seventh largest in terms of total immigrant population as well as for the immigrant share of total

⁷ Defined in terms of largest resident populations.

population (22 percent). With a 10-year increase of 48 percent in immigrant population, this region had the third greatest increase in immigration among the leading ten metro areas, behind only Riverside-San Bernardino-Ontario (53 percent) and Houston-Sugar Land-Baytown (49 percent). The WMA's concentration of immigrants increased 26 percent between 2000 and 2010, the fastest growth rate among this group. The WMA is clearly attracting an increasing number of immigrants over time compared to other large metro areas.

Immigrants are overly represented in the labor force in all 10 major metro areas. In the WMA in 2010, immigrants accounted for 28 percent of the total labor force, but only 22 percent of total population (Table 3).

Table 4
Selective Immigrant Characteristics in Leading MSAs, 2000-2010

MSA	Percent naturalized citizen in total FB			Percent FB in labor force			Percent high-skilled FB in labor force			Median years since migration		
	2000	2005	2010	2000	2005	2010	2000	2005	2010	2000	2005	2010
New York-Northern New Jersey-Long Island, NY-NJ-PA	0.45	0.51	0.51	0.32	0.36	0.37	0.09	0.11	0.11	13	15	17
Los Angeles-Long Beach-Santa Ana, CA	0.38	0.42	0.47	0.40	0.44	0.43	0.09	0.10	0.11	14	17	20
Chicago-Joliet-Naperville, IL-IN-WI	0.40	0.43	0.44	0.19	0.23	0.23	0.05	0.06	0.06	12	14	16
San Francisco-Oakland-Fremont, CA	0.48	0.52	0.53	0.29	0.33	0.35	0.10	0.12	0.13	14	16	18
Miami-Fort Lauderdale-Pompano Beach, FL	0.47	0.49	0.50	0.60	0.62	0.63	0.12	0.15	0.15	16	17	17
Houston-Sugar Land-Baytown, TX	0.31	0.34	0.34	0.22	0.28	0.30	0.05	0.06	0.07	11	13	14
Washington-Arlington-Alexandria, DC-VA-MD-WV	0.39	0.41	0.45	0.20	0.24	0.28	0.08	0.10	0.11	11	13	13
Dallas-Fort Worth-Arlington, TX	0.26	0.27	0.32	0.17	0.22	0.23	0.03	0.04	0.05	10	10	13
Riverside-San Bernardino-Ontario, CA	0.37	0.39	0.41	0.23	0.29	0.30	0.03	0.04	0.05	15	18	21
San Diego-Carlsbad-San Marcos, CA	0.42	0.45	0.45	0.23	0.28	0.28	0.06	0.07	0.08	15	16	18

Source: Estimates from Census 2000 5% Sample Survey, ACS 2005, 2010. Calculated by CRA.

As of 2010, 45 percent of the immigrants living in the WMA were naturalized U.S. citizens (Table 4). The naturalized citizens' share has increased over time in most metro areas, except for New York, Houston and San Diego, where the shares of naturalized citizens did not change between 2005 and 2010. The

naturalized citizens' share in the WMA experienced an increase of six percentage points between 2000 and 2010.

Finally, with a median duration in the U.S. of 13 years (2010), immigrants in the WMA tend to have arrived more recently than in other areas. Only Dallas has immigrants with comparably short durations in the U.S. Immigrants living in the WMA are also better educated than in other areas: 11 percent of the WMA's labor force consists of immigrants with at least a college degree, trailing only Miami (15 percent) and San Francisco (13 percent). The WMA also has the highest ratio of high-skill versus non-high-skilled immigrant labor force (11:17)⁸ among the ten leading host metro areas of immigrants.

Summary of Findings and Future Research Direction

The examination of the immigration flow data with comparisons to other leading metropolitan areas reveals that the Washington D.C. Metropolitan Area plays a relatively more important role in terms of issuing LPRs and naturalizing foreign nationals than serving as an entry port. The WMA is also an attractive destination for immigrants relocating from elsewhere in the U.S. Analysis of immigration stock data finds that the WMA has experienced a steady increase in its immigrant labor force and its immigrant population is a relatively better educated and more recently arrived group.

These patterns provide a comprehensive portrait of the immigrant population and workforce in the Washington D.C. Metropolitan Area. These patterns appear to be correlated with the nature of the sectoral structure and labor demand in the WMA. For example, federal and professional and business services jobs, the region's two largest sectors, require higher education and more citizenship status than other types of jobs. This hypothesis should be further tested in future occupational and sectoral analyses.

⁸ Percent of non-high-skilled FB in labor force is calculated by subtracting Column "percent high-skilled FB in labor force" in Table 4 from Column "percent FB in labor force".