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STEPHEN S. FULLER INSTITUTE
for Research on the Washington Region's Economic Future

Migration in the Washington Region: Trends between 2000 and 2015 and Characteristics of Recent Migrants

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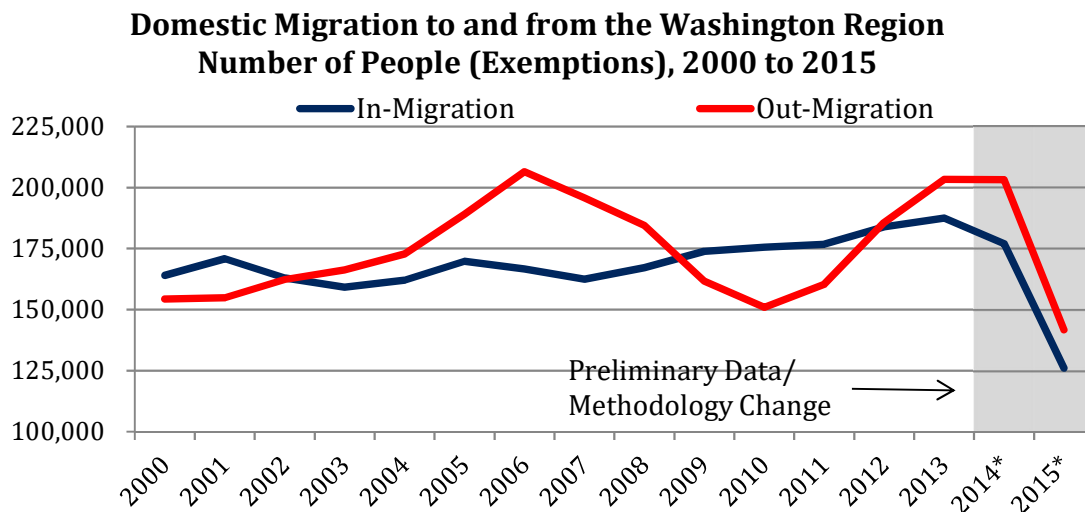
Executive Summary

Between 2000 and 2016, the population in the Washington region increased from 4.86 million people to 6.13 million people. This change was the result of three factors: the natural increase (births minus deaths), net domestic migration, and net foreign migration. During this period, population gains occurred from the natural increase and net foreign migration while the region lost population from net domestic migration.

Population growth that results from the natural increase is relatively predictable and primarily based on an individual's life cycle. As such, the patterns over time and the characteristics of new residents (babies) are stable and depend upon the characteristics of current residents. By contrast, migration is more dependent upon external factors, like economic opportunity, cost of living, and quality of life. These factors change, both in the Washington region and elsewhere, resulting in differing patterns over time.

Domestic Migration

Net domestic migration consists of the number of people moving to the Washington region from elsewhere in the U.S. (inflows) and the number of people moving out of the Washington region to elsewhere in the U.S. (outflows). Net domestic migration in the Washington region resulted in population losses during the 2000-2015 period, overall, but was positive during two periods: 2000-2002 and 2009-2011.



Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

During the periods of population gains from net domestic migration, the number of residents leaving the Washington region decreased, but the number of residents moving to the Washington region was stable. Positive net domestic migration (net domestic in-migration) reflected periods when the region was better able to retain

its existing residents, not periods when the region became more attractive to new potential in-migrants. Decreased domestic outflows also corresponded with periods when the region's job growth outperformed the growth in the rest of the nation and job growth in the rest of the nation was either negative or following a downward trajectory.

Combined, this suggests that the region's ability to retain existing residents was dependent upon economic factors. However, its ability to attract new residents was less tied to shifts in economic conditions and may be more dependent upon the overall level of economic opportunity in the Washington region. Other findings in this report support that conclusion:

- The Washington region lost population to metros with relatively strong job growth, to metros close the region with lower costs of living, and to metros that are typically attractive to retirees.
- The Washington region gained population from a geographically dispersed set of metros that had lagging economic growth, smaller economies or higher costs of living.
- In-migrants were more likely to be younger, highly educated and employed in higher wage sectors including Professional, Scientific, & Technical Services & Management and the Federal Government.
- Out-migrants were more likely to be of retirement age, not employed or employed in lower wage sectors of Retail Trade and Leisure & Hospitality.

Domestic in-migration was a key source for new residents and workers in the Washington region, but out-migration flows resulted in net losses. These losses were a result of accelerated outflows during periods of strong national employment growth that likely provided more options for residents in the region who may have been looking to leave for either work or retirement.

Foreign Migration

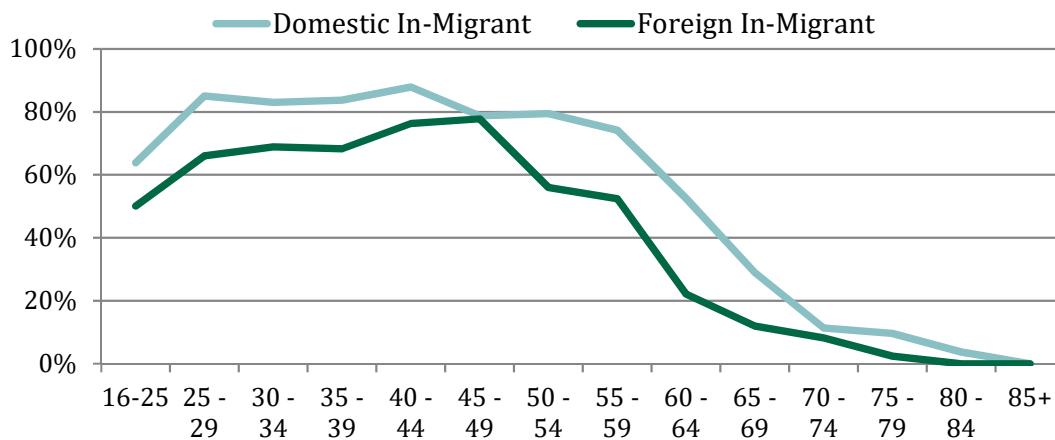
Net foreign migration consists of the number of people moving to the Washington region from abroad (inflows) and the number of people moving out of the Washington region to places outside of the U.S. (outflows). Net foreign migration in the Washington region was stable between 2000 and 2015 and resulted in net population gains during every year of the period. These gains were the result of relatively small inflows and outflows, which were also stable over this period. Foreign migration patterns seem to be less affected by regional economic trends and the modest variation in flows is likely tied to national and international trends.

Overall, foreign in-migrants to the greater Washington region fell into two categories:

- U.S.-born in-migrants, those born in the U.S., who were somewhat older and more likely to be employed by the Federal Government as compared to domestic in-migrants, and
- foreign-born in-migrants who were more likely to be older, less educated, and less attached to the labor force.

U.S.-born in-migrants tended to have higher labor force participation rates than those born abroad, but the overall rates fell far below that of domestic in-migrants. Foreign in-migrants of every age group were less likely to be employed or looking for a job compared to domestic in-migrants.

**Labor Force Participation Rate of In-Migrants by Age Group
Greater Washington Region, 2013-2015 Average**



Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

Even though net foreign in-migration was an important source of population growth for the Washington region, it has had a significantly smaller impact on the region's workforce. Foreign migration inflows and outflows were also less sensitive to changes in the region's job growth.

Future Implications

As the Washington region enters a period of economic uncertainty, domestic out-migration is likely to accelerate as it has in the past, with future out-migration driven in part by the retirement of the Baby Boomers. Domestic in-migration was steady during the 2000-2015 period but weaker economic growth, diminishing quality of life, and a smaller Generation Z may subdue future inflows.

The Washington region's reliance on the natural increase, which results in babies, and foreign migration for population growth will likely continue in the near-term, possibly with slower population growth as a result of increased net domestic out-migration. The upcoming generational changes may result in a tightening of the labor pool and present challenges not only for the workforce, but also for the housing market and traditional patterns of growth.

Table of Contents

Introduction	1
Migration in the Washington Region: 2000 to 2015	3
Migration Patterns: 2000 to 2015	3
Domestic Migration Trends Over Time	4
Foreign Migration Trends over Time	7
Average Household Income and Income Per Capita.....	9
Geography of Domestic Migration Flows	13
Largest Metro Areas.....	14
Sender Metro Areas.....	18
Receiver Metro Areas	22
Characteristics of Migrants in the Greater Washington Region: 2013-2015 Period.	25
Characteristics of Domestic In- and Out-Migrants.....	25
Age	25
Educational Attainment.....	26
Role in the Workforce.....	27
Characteristics of Foreign In-Migrants.....	29
Place of Birth.....	30
Age	32
Educational Attainment.....	33
Role in the Workforce.....	34
Conclusion	37
About These Data.....	39
Internal Revenue Service Data.....	39
American Community Survey Data.....	40
Comparison of Data Sources.....	40
Domestic Migration	41
Foreign Migration	43
Geographies	45

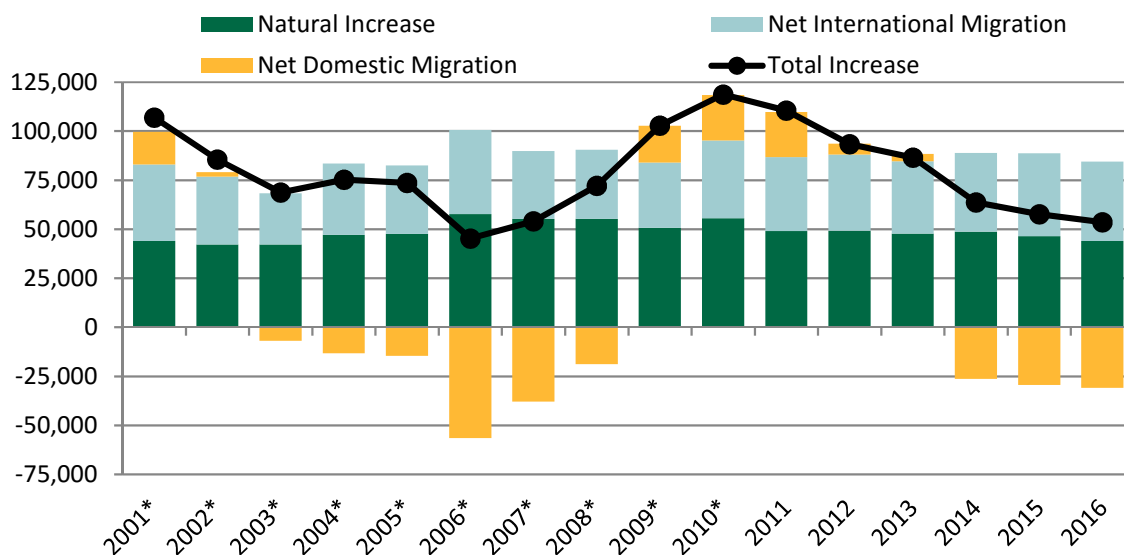
Migration in the Washington Region: Trends between 2000 and 2015 and Characteristics of Recent Migrants

Introduction

Between 2000 and 2016, the population in the Washington region increased from 4.86 million people to 6.13 million people. This change was the result of the natural increase (births minus deaths), net domestic migration, and net foreign migration. During this period, population gains occurred from the natural increase and net foreign migration, while the region lost population from net domestic migration.

As shown in Figure 1, the natural increase was the most stable source of population gains in the Washington region. Between 2000 and 2016, there were an average of 81,200 births and 32,300 deaths per year in the Washington region. Combined, the population increased by an average of 48,900 people each year from these naturally occurring vital events. The population growth from the natural increase is relatively predictable and driven primarily by a person's life cycle.

Figure 1. Population Growth by Component, Washington Region, 2000 to 2016



Source: U.S. Census (Vintage 2009, Intercensal, and Vintage 2016 Population Estimates); The Stephen S. Fuller Institute at the Schar School, GMU *Estimate

Foreign and domestic migration were less predictable than the natural increase, resulting in variations in both net changes and the characteristics of migrants. Compared to the natural increase, migration is more dependent upon external factors, like economic opportunity, cost of living, and quality of life. These factors change, both in the Washington region and elsewhere, resulting in differing patterns over time.

Net migration consists of two components: the number of people moving into the Washington region (inflow) and the number of people leaving the Washington region (outflow). Foreign migration is the movement of people between the Washington region and other countries and domestic migration is the movement of people between the Washington region and other parts of the U.S.

Between 2000 and 2016, the Washington region gained residents as a result of foreign migration, but lost residents to domestic migration. The gains from net foreign migration were relatively stable and consistently positive. In contrast, net domestic migration was variable including two periods when it resulted in population gains with alternating periods of sharp losses.

The reliance on the natural increase and net foreign migration for population growth was not unique to the Washington region but has several implications, both for the near-term and the long-term. In particular, domestic migrants had the largest effect on the region's workforce in the short- to median-term, as demonstrated by their high labor force participation rates. The labor force participation rate of the new residents resulting from the natural increase was zero, or potentially negative, as newborns replace older adults (overall). The labor force participation rate of foreign in-migrants to the Washington region was lower than that of domestic in-migrants (See section Characteristics of Foreign In-Migrants on page 29 for more).

In addition to its effect on the workforce, net domestic migration also created volatility in the Washington region's population growth. The natural increase and net foreign migration resulted in population gains consistently between +1.4 percent and +1.9 percent each year between 2000 and 2016. Combined with domestic migration trends, population growth in the Washington region ranged from +0.9 percent and +2.2 percent.

This report focuses on migration, the less predictable components of population growth, and is divided into two main sections. First, the migration flows between 2000 and 2015 are examined. This section includes analyses of domestic and foreign migration flows, as well as the key metro areas of domestic movers to/from the Washington area. The first section uses data on tax filings from the Internal Revenue Service (IRS), which allow for an analysis of top-line trends over time but do not include detailed characteristics of movers.

In the second section of this report, the American Community Survey is used to examine the characteristics of recent migrants, using an average of the 2013-2015 period. This survey includes demographic and economic details but is best used as a "snapshot" for these characteristics, and no trends over time are included for these characteristics. This survey is also only administered within the U.S., so no characteristics of foreign out-migrants (U.S. residents moving to foreign countries) are included.

Migration in the Washington Region: 2000 to 2015

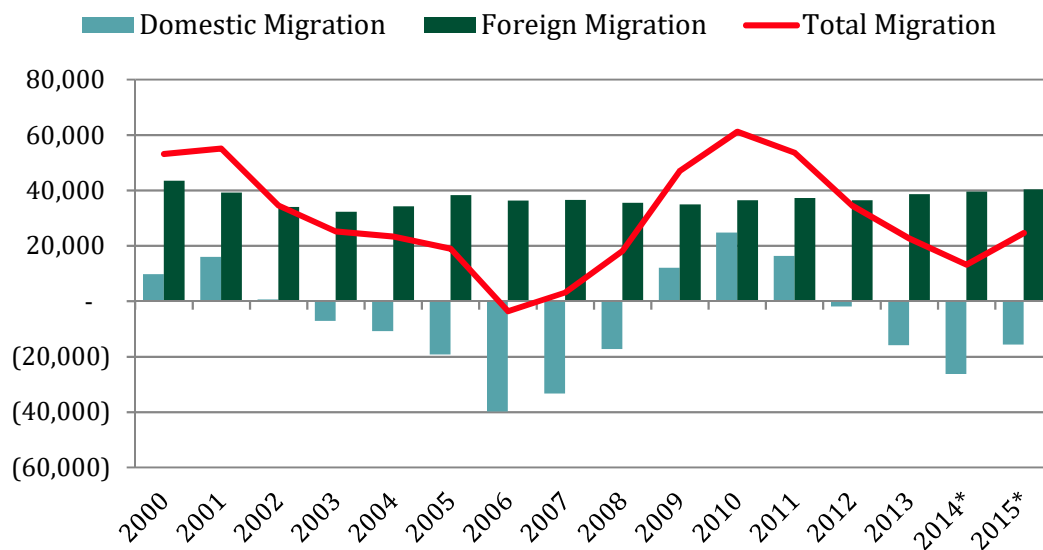
This section examines the migration of people to and from of the Washington region using tax filing records from the Internal Revenue Service (IRS). While these data may under-estimate the migration flows, it allows for detailed, consistent comparisons over time in a way that other datasets cannot and is used here to measure changes over time. (See About These Data on page 39 for more.)

Migration Patterns: 2000 to 2015

Between 2000 and 2015, the Washington region lost residents as a result of migration. This decline was driven entirely by domestic migration, the movement of people within the country. Foreign migration, the movement of people to and from other countries, resulted in a net increase during this period. Domestic migration was variable and corresponded to shifts in the region's and the nation's job growth.

The losses from net domestic migration were not consistent; the region had two periods of net gains followed by two periods of sharper and more prolonged losses (Figure 2). Net domestic in-migration occurred when the regional economy was performing well relative to the rest of the nation and reflected subdued outflows, rather than an acceleration of inflows.

Figure 2. Net Migration in the Washington Region, 2000 to 2015



Source: Internal Revenue Service (County Migration Files) [Domestic Migration]; U.S. Census (2005 to 2015 1-Year American Community Survey, Vintage 2016 Population Estimates) [Foreign Migration]; The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

By contrast, net foreign migration was stable over the 2000-2015 period and resulted in overall population gains. Foreign migration inflows and outflows followed similar patterns, suggesting that factors that exert a similar force on both flows, like national and international conditions, play a larger role than local ones.

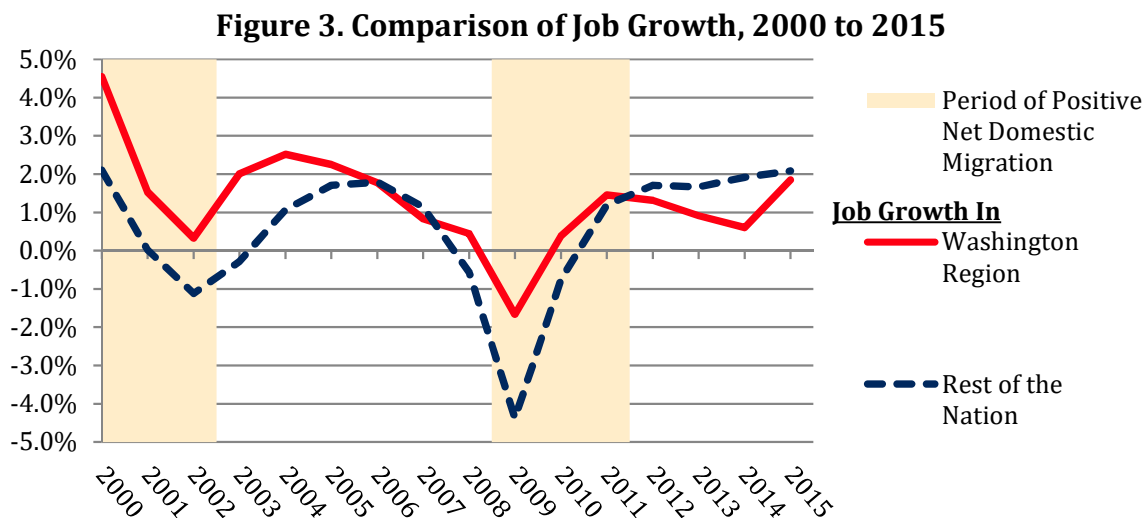
Domestic Migration Trends Over Time

The Washington region's domestic migration had four phases between 2000 and 2015 and these phases corresponded to patterns of job growth in the Washington region and in the nation. During the two periods of net domestic in-migration, job growth in the Washington region outperformed the rest of nation's and the job growth in the rest of the nation was either negative or following a downward trajectory.

During these periods of net gains, fewer residents left the Washington region for other parts of the country and the outflows were subdued. Inflows, the number of people moving into the Washington region, were relatively stable throughout the 2000-2015 period. Employment growth patterns appear to play a larger role in shifting, or delaying, the decision to leave the region but seem to have a smaller effect on in-migrants decisions.

NET DOMESTIC MIGRATION AND EMPLOYMENT GROWTH

Between 2000 and 2015, the Washington region had four distinct phases of domestic migration consisting of two periods of positive net migration alternating with two periods of negative net migration. During both periods of positive net migration, the Washington region's economy outperformed that of the rest of the nation.



Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU

However, the region's economy also outperformed the rest of nation's during the first period of net domestic out-migration. This suggests that economic performance, alone, is not sufficient for net domestic in-migration. Instead, the trajectory of the national economy seems to play a role in domestic migration patterns: when the national economy has positive and accelerating gains, the Washington region is

more likely to lose residents to elsewhere in the nation, regardless of its relative economic performance.

Positive Domestic Net Migration: 2000 to 2002

From 2000 to 2002, the Washington region had net domestic in-migration and the regional economy outperformed the rest of the nation's (Figure 3). This phase extends back to 1998¹ and includes the 2001 recession. During the 1997-2002 period, the number of jobs in the Washington region increased 2.6 percent per year, while those in the rest of the nation increased just 1.2 percent annually. Net domestic migration became increasingly positive, peaking in 2001 at 16,000 residents. In 2002, job growth in the Washington region slowed to 0.3 percent and net domestic migration gains moderated to 655 residents.

Negative Domestic Net Migration: 2003 to 2008

Between 2003 and 2008, the Washington region lost residents as a result of net domestic out-migration. During the early years of this phase (2003-2005), employment growth in the Washington region exceeded the gains elsewhere in the nation. During this same period, net domestic out-migration accelerated. This suggests that strong job growth relative to the rest of the nation is not necessarily sufficient to cause net domestic in-migration. Instead, the growth trajectory of the national economy may be a factor in migration patterns. The national economy was gaining strength during this time, which may influence a household's assumptions about a move.

In 2006, job growth in the Washington region matched that of the rest of the nation. Net domestic out-migration also peaked in 2006 and the region lost nearly 40,000 people as a result of net domestic migration. In the following years, job growth in both the Washington region and the rest of the nation slowed.

In 2008, at the beginning of the great recession, job growth occurred in the Washington region despite a decline in the rest of the nation. While net domestic out-migration slowed in 2008, it did not become positive until 2009. This delayed shift in migration patterns indicates that these patterns are slower to shift in favor of the Washington region, especially when compared to the quick pivot away from the region during the national recovery in 2003.

Positive Domestic Net Migration: 2009 to 2011

Once migration patterns shifted in 2009, net domestic migration was positive for the three years in which the regional economy outperformed the rest of the nation's. During this time, the Washington region gained more than 53,000 net new residents through domestic migration.

¹ Sturtevant, Lisa and Maurice B. Champagne. 2012. "Domestic Migration to and from the Washington DC Metropolitan Area, 1985-2010." George Mason University Center for Regional Analysis Working Paper 2012-1.

Negative Domestic Net Migration: 2012 to 2015

By 2012, employment growth in the rest of the nation surpassed that in the Washington region, and domestic out-migration flows again exceeded in-migration flows. Net domestic migration became increasingly negative in 2013 and 2014, mirroring the slowdown in job growth relative to the nation.

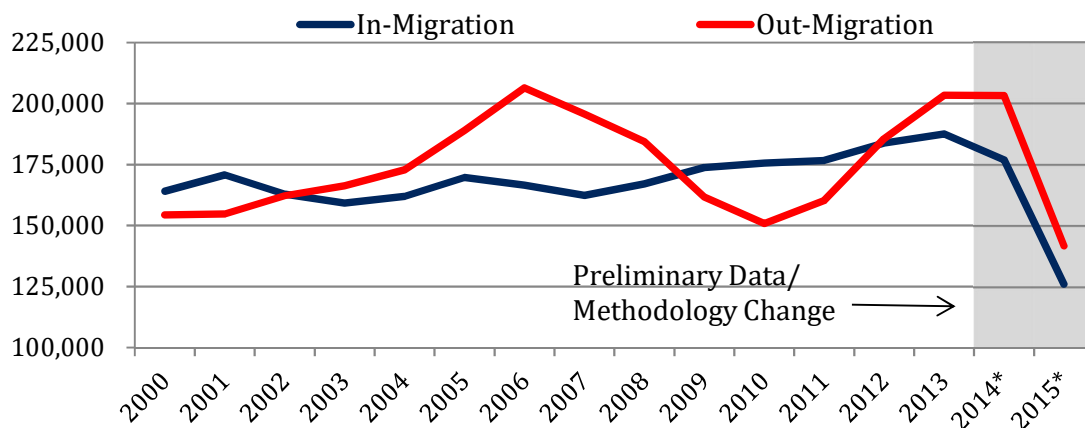
Based on job growth in 2016 and forecasted job growth through 2020, net domestic migration is likely to continue to be negative in the Washington region unless the nation enters a recession.

DOMESTIC MIGRATION FLOWS

Net domestic migration is a function of the region's ability to attract new residents from elsewhere in the country (inflows) and the region's ability to retain its existing residents (outflows). Between 2000 and 2015, domestic inflows to the Washington region were relatively stable, while outflows varied considerably and corresponded to regional and national job growth patterns. This suggests that the region's ability to attract new residents was consistent but the region's ability to retain existing residents changed over time and depended upon the strength of the regional job market and the strength and trajectory of the national job market. In particular, the region was better able to retain residents during the 2008 recession, when the regional economy was performing well and the national economy was in decline.

Domestic migration inflows were steady between 2000 and 2013, indicating that the region did not become significantly more or less attractive to new residents over this time (Figure 4). During this same period, the number of people leaving the region for other parts of the country was far more changeable. The decrease in both flows in 2014 and 2015 is due to changes in IRS methodology and should not be interpreted as a substantive deviation from the prior years (see About These Data on page 39 for more).

**Figure 4. Domestic Migration to and from the Washington Region
Number of People (Exemptions), 2000 to 2015**



Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

Between 2000 and 2013, an average of 170,164 people moved each year to the Washington region from other parts of the nation with only minor variation between years. Between 2000 and 2001, domestic inflows increased modestly before falling in the following two years. Overall in-migration reached its lowest level of this period in 2003, at 159,184 people. This pattern repeated between 2003 and 2007, with two years of modest growth followed by two years of similar declines. Inflows had relatively stronger growth between 2007 and 2013, rising an average of 2.4 percent annually. In 2013, overall domestic in-migration reached the highest level for of the 16-year period, at 187,503 people. Compared to its 2003 low, inflows were 17.8 percent higher (+28,319 people) in 2013.

Net domestic migration primarily reflects shifts in domestic out-migration flows. Domestic outflows were more volatile and had two peaks between 2000 and 2013. Out-migration flows increased each year between 2000 and 2006, rising a total of 34.4 percent and by 52,155 people. This increase corresponded with accelerating job growth in the rest of the country. After peaking in 2006, out-migration flows from the Washington region moderated, mirroring the downward trend of job growth elsewhere in the nation. Between 2006 and 2010, out-migration flows decreased a total of 26.9 percent (-55,569 people). This trend reversed in 2011 and outflows accelerated through 2013, rising 34.8 percent (+52,454 people). The increased out-migration flows coincided with both the national economic recovery and the Washington region's economic underperformance.

Based on economic trends and changes to absolute migration flows, during times of national economic downturn or uncertainty, existing residents in the Washington region remain in the region at great rates. Conversely, the Washington region does not appear to be more attractive to new residents from outside the region even during times of comparatively strong economic performance. Periods of net domestic in-migration are largely the result of the region becoming less unattractive to potential domestic out-migrants, rather than become more attractive to new domestic in-migrants.

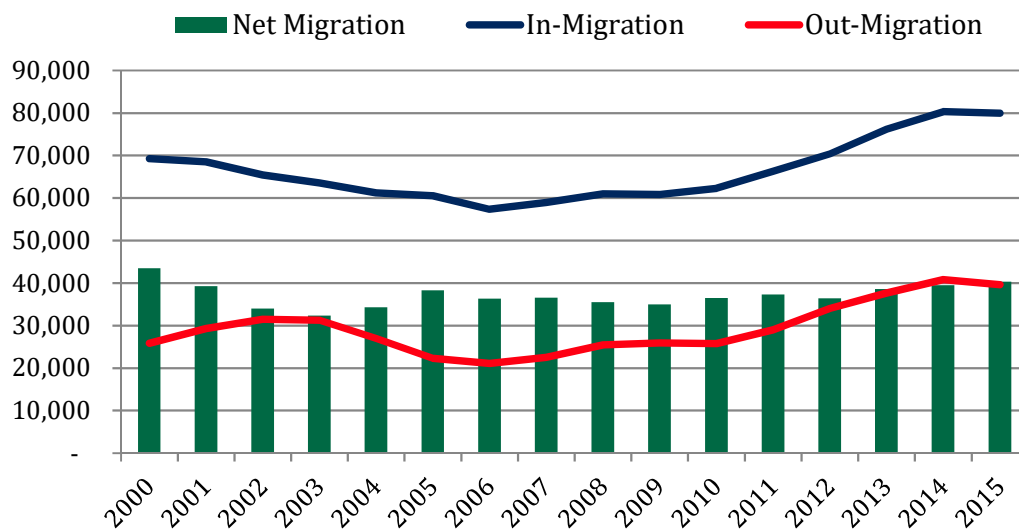
Foreign Migration Trends over Time

Net foreign migration led to steady population gains for the Washington region between 2000 and 2015. These gains were the result of relatively small inflows and outflows, which were also stable over this period. Foreign migration patterns seem to be less affected by regional economic trends and the modest variation in flows may be tied to national and international factors.

Net foreign migration was positive and stable for all years between 2000 and 2015, averaging a gain of 37,000 net new residents per year (Figure 5) ¹. The net gain from foreign migration was consistently larger than that from domestic migration, despite having significantly smaller flows. The flows were less equally matched than domestic flows: for every Washington resident who moved abroad, the Washington region gained over two new residents who had been living outside of the U.S. For domestic migration, an average of 0.98 residents moved in from elsewhere in the U.S. for every domestic out-migrant.

An average of 66,000 residents moved into the Washington region from abroad each year between 2000 and 2015, compared to 170,164 domestic in-migrants. The flow of foreign in-migrants fell modestly between 2000 and 2006, but grew each year through 2014. Foreign in-migration flows in 2015 were flat compared to 2014.

Figure 5. Estimate of Foreign Migration to and from the Washington Region, 2000 to 2015



Source: U.S. Census (2005 to 2015 1-Year American Community Survey, Vintage 2016 Population Estimates); Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU

An average of 29,000 residents in the Washington region moved abroad each year between 2000 and 2015, or about one-sixth the level of the average domestic out-migration flow. Foreign outflow trends mirrored foreign in-migration flows: falling modestly between 2003 and 2006 before rising during the 2007-2014 period and flattening in 2015.

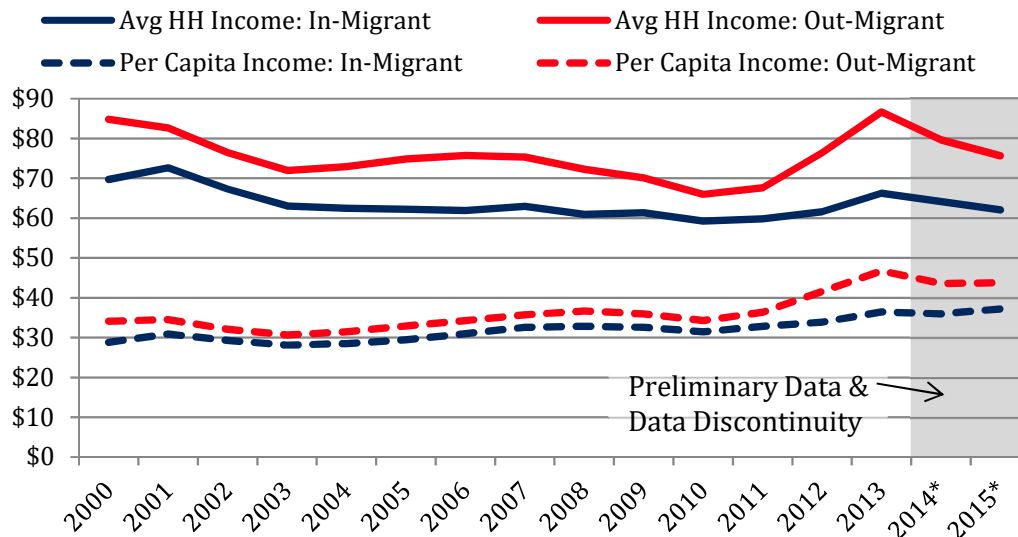
¹ The estimate in Figure 5 incorporates the 2005 to 2015 1-Year American Community Survey, the Vintage 2016 Population Estimates and IRS data. IRS data only include households who file U.S. tax returns while living abroad and captures between 20 and 40 percent of movers measured in the Census data. The majority of the foreign migration to and from the Washington region in the IRS data is likely to be the movement of U.S.-born people working for the Federal Government. See Characteristics of Foreign In-Migrants starting on page 32 for more detail.

The concurrent movement of foreign inflows and outflows suggests that the relative attractiveness of the Washington region, overall, did not shift during this period. Furthermore, the simultaneous movement may indicate that the flows are more influenced by national or international trends than by regional trends. This pattern is likely to continue in the upcoming years, with the national and international economies and policies playing a larger role than regional ones.

Average Household Income and Income Per Capita

The average household income¹ of domestic in-migrants to the Washington region was lower than that of domestic out-migrants during the 2000-2015 period. Similarly, the average household size of domestic out-migrants was smaller than that of domestic in-migrants, with fewer suggested average workers, which may drive part of this difference. The trend was the same for foreign migrants during the 2000-2009 period but reversed in 2010. The average household income of foreign in-migrants exceeded that of out-migrants between 2010 and 2015, as did average household size. Domestic in-migrant households had higher average household incomes than foreign in-migrant households between 2000 and 2009. In 2010, the average household income of foreign in-migrants increased sharply and surpassed that of all other in- and out-migrants.

**Figure 5. Income of Domestic Migrants
Washington Region, 2000 to 2015 (000s of 2015 \$s)**



Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

NOTE: Measures Adjusted Gross Income per tax return in the year after the household moves.

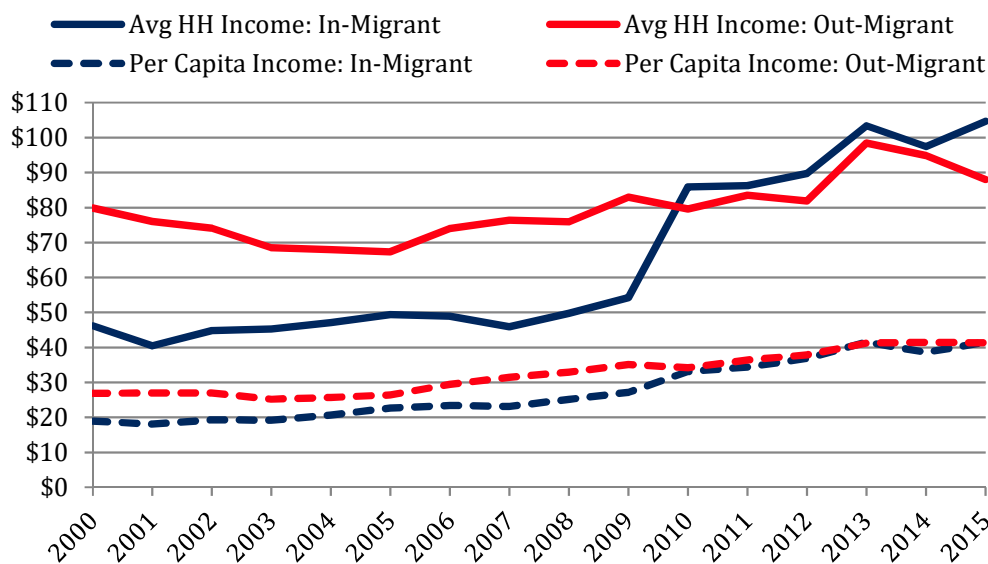
¹ The average household income is measured by the Adjusted Gross Income per tax return earned during the year post-migration.

Between 2000 and 2015, the average household income for domestic in-migrants to the Washington region was \$63,614 in constant 2015 dollars (Figure 5). During the 16-year period, domestic out-migrants had an average household income of \$75,574 in the year after their move, or \$11,960 more (+18.8 percent) than the average domestic in-migrant household. Though the average household income of both in- and out-migrants fluctuated between 2000 and 2015, the difference between the two remained similar, ranging from +11.4 percent in 2010 to +30.7 percent in 2013.

The average household size of a domestic in-migrant household was 1.7 throughout the 2000-2015 period. Domestic out-migrant households had an average of 1.8 people, 4.3 percent more than in-migrants. Larger households generally have more workers, on average, than smaller households. Similarly, the difference in the average household income per person was smaller. The average household income per capita for in-migrants was \$31,994 between 2000 and 2015, while the income per capita for out-migrants was \$36,534, or 13.9 percent higher.

As shown in Figure 6, foreign out-migrants had an average household income that was 57.4 percent higher than foreign in-migrant households between 2000 and 2009. In 2010, the average household income of foreign in-migrant households increased sharply and surpassed the average household income of out-migrants. The average household size of in-migrant households increased as well, so per capita income did not mirror this trend. Between 2010 and 2015, the average household income of foreign out-migrants was 7.2 percent lower than in-migrants.

Figure 6. Income of Foreign Migrants
Washington Region, 2000 to 2015 (000s of 2015 \$s)



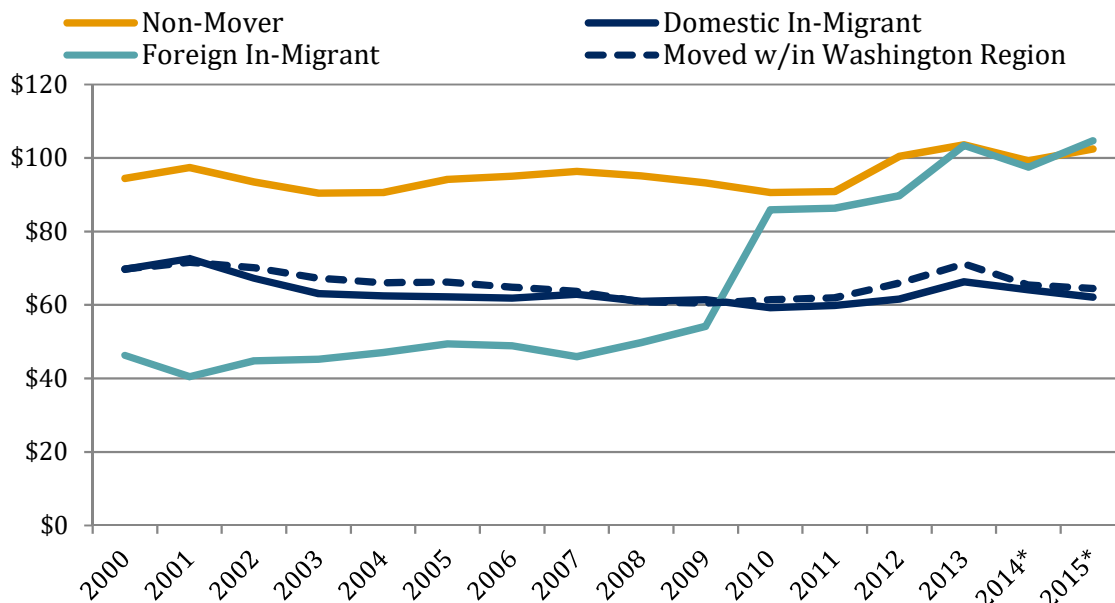
Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU

NOTE: Measures Adjusted Gross Income per tax return in the year after the household moves.

Between 2000 and 2009, per capita income of foreign out-migrants was an average of 31.9 percent higher than the per capita income of foreign in-migrants. Between 2010 and 2015, this difference was only 2.9 percent, but out-migrant per capita income was higher than in-migrant per capita income for all years except 2013 and 2015, when it was less than 0.5 percent lower.

Of the households living in the Washington region, households that did not move had the highest average household incomes during the 2000-2014 period (Figure 7). The average household incomes of domestic in-migrants and households that moved to another jurisdiction within the Washington region were nearly identical during the 2000-2015 period and were about 50 percent less than non-mover households.

**Figure 7. Average Household Income in the Washington Region
2000 to 2015 (000s of 2015 \$s)**



Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

NOTE: Measures Adjusted Gross Income per tax return in the year after the household moves.

Foreign in-migrants began the period with the lowest average household incomes of these mover groups. Foreign in-migrant incomes in 2000 were one-half (48.9 percent) that of non-mover households and one-third (33.7 percent) lower than domestic in-migrants. The average household incomes of foreign in-migrants increased modestly over the next nine years. In 2010, the average income of foreign in-migrant household increased sharply, as did average household size. The concurrent increase in both suggests that foreign in-migrant households in later periods had more workers contributing to the increased average income. As a result of the increase, foreign in-migrant households had higher average incomes than domestic in-migrants and households that moved within the region beginning in

2010. Foreign in-migrant incomes continued to climb and in 2015 they surpassed that of the non-mover households in the region.

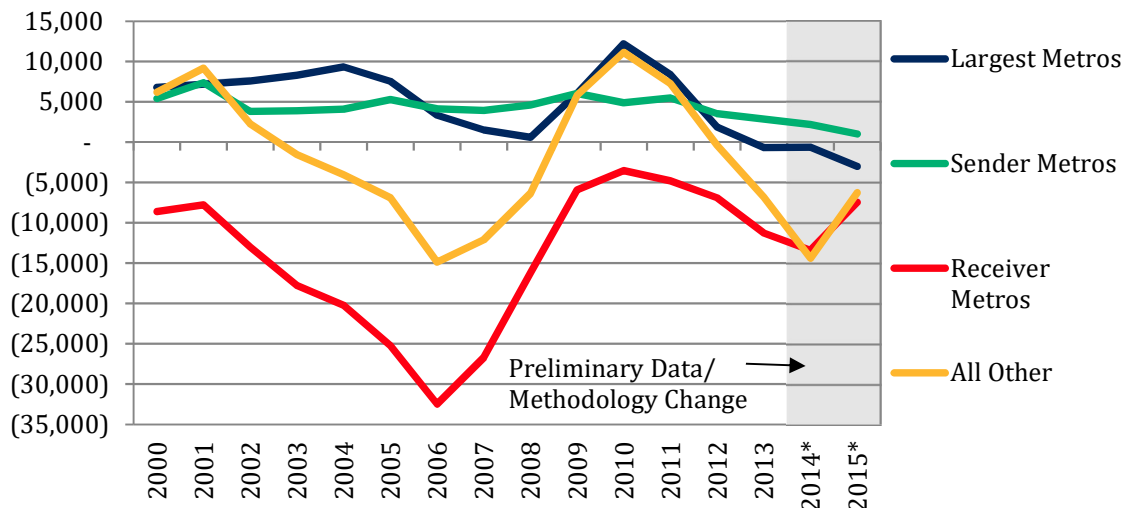
While in-migrants to the Washington region had lower average household incomes than out-migrants, this reflects the number of workers per household and, at least in recent years, a somewhat younger age distribution (see pages 25 and 32). The average household incomes of foreign in-migrants tracked by the IRS data surpassed the incomes of domestic in-migrants during the 2010-2015 period, which possibly reflects the increased value of this sub-set of foreign in-migrants (those filing taxes in the U.S. both before and after a move from abroad).

Geography of Domestic Migration Flows

Three sets of metro areas contributed one-half¹ of the migration flows to and from the Washington region between 2000 and 2015: 1) the 14 largest metro areas,² 2) the top 15 smaller metro areas that were net senders of residents to the Washington region (sender metros), and 3) the top 15 smaller metro areas that were net receivers of residents from the Washington region (receiver metros). The migration patterns of these geographies differed over time. Migration to and from largest metros and the receiver metros mirrored the variability of the overall migration pattern, while migration flows to and from the sender metros were more stable.

As shown in Figure 8, the net migration of the largest metros was positive for every year between 2000 and 2012 and followed the same peaks and troughs as overall net domestic migration. Each of the 14 largest metros did not follow the same trends and only one-half of the metros within this group were net senders during this period. Overall, the Washington region gained over 76,500 net residents from migration with the largest metro between 2000 and 2015.

**Figure 8. Net Domestic Migration by Select Geography
Washington Region, Number of People (Exemptions), 2000 to 2015**



Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

The top 15 sender metros had positive and stable net migration with the Washington region. Both inflows and outflows were stable and migration to and from these metros was less influenced by relative economic changes than either the

¹ The metros examined account for about 75 percent of all identified flows. The IRS suppresses county-to-county flows with fewer than 10 tax returns in a given year. About 30 percent of inflows to the Washington region did not have a disclosed county of origin. Similarly, about 31 percent of outflows from the Washington region did not have a disclosed destination county.

² As measured by Gross Regional Product

largest metros or the receiver metros. In total between 2000 and 2015, the Washington region gained over 68,600 net residents from these sender metros.

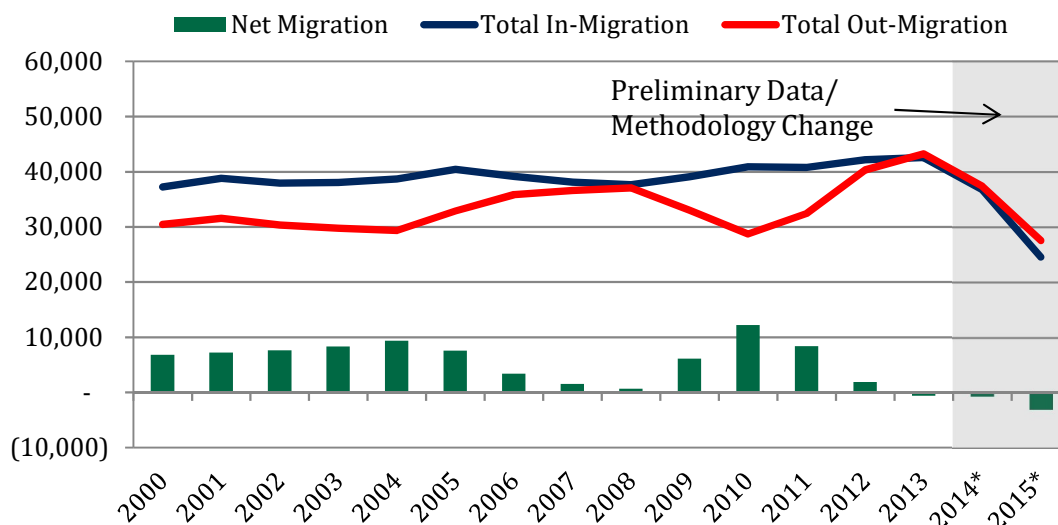
The net migration of the top 15 receiver metros was significantly negative between 2000 and 2015. Each of these metros exhibited similar patterns and had peaks and troughs that followed the overall net domestic migration trend. Between 2000 and 2015, the Washington region lost a total of about 221,200 net residents to these metros.

Largest Metro Areas

The Washington region gained population from the largest metros between 2000 and 2015. Similar to the overall migration pattern, migration inflows from the largest metros were relatively stable and outflows fluctuated. While the largest metros collectively contributed net residents to the Washington region during this period, this gain was driven by only one-half of these metros. The seven metros that contributed net residents to the Washington region had lagging job growth during this period. Migration patterns suggest that geography and job growth play a role in the flows between each individual metro.

The Washington region is one of the 15 largest metro areas, as measured by Gross Regional Product. These metros are the Washington region's economic peers and the migration flows between the largest metros is largely tied to economic and employment opportunities. The metros are shown in Figures 10 – 12.

**Figure 9. Domestic Migration to and from the Washington Region
Largest Metro Areas, Number of People (Exemptions), 2000 to 2015**



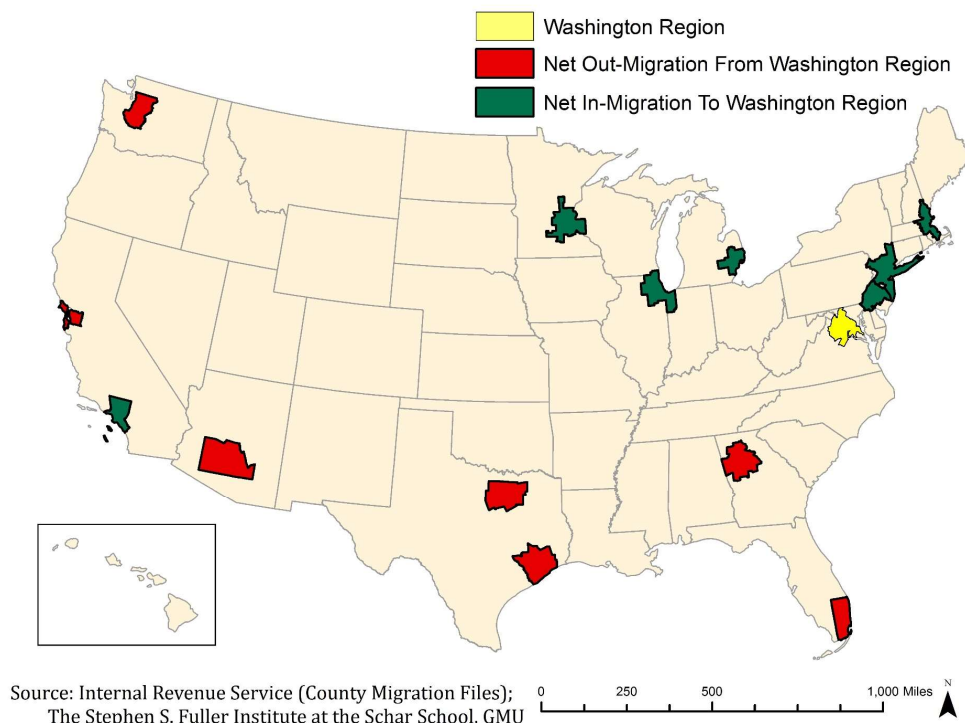
Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

As shown in Figure 9, the net migration with the largest metros resulted in population gains for the Washington region for each year between 2000 and 2012, with net in-migration becoming weaker between 2004 and 2008 before increasing sharply in 2009. Starting in 2013, the Washington region lost residents to the largest metros, likely as a result of the region's weak job growth in comparison to these metros.

Similar to the overall migration inflows, in-migration flows from these metros were stable between 2000 and 2013 and the variation in net migration was driven by out-migration flows. The largest metros had increased out-migration between 2005 and 2008 and subdued out-migration during 2009-2011. In recent years, out-migration accelerated, corresponding to strong job growth in the largest metros. However, compared to the overall shifts in out-migration flows, out-migration flows to the largest metros were relatively stable during this 16-year period.

While the Washington region gained net residents from these 14 metros combined, not all of these metros contributed to this gain. The largest metros were evenly split between net senders and net receivers. As shown in Figure 10, the metros that contributed to the overall population growth were primarily Northern and higher-cost metros, while the Washington region lost residents to the largest metros in the South and those with relatively lower costs.

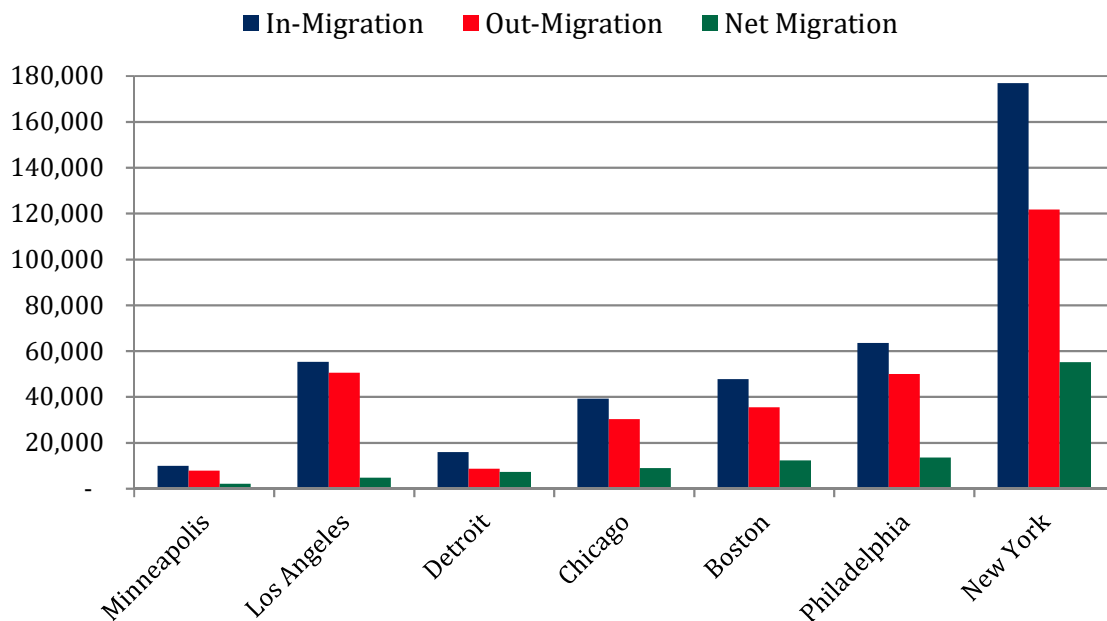
**Figure 10. Largest Metro Areas
By Net Migration to/from the Washington Region, 2000-2015**



The largest metros that were net senders of residents to the Washington region also had larger absolute migration flows to and from the Washington region over the 2000-2015 period (Figure 11). New York had the largest in-migration and out-migration flows and also had the largest total net domestic in-migration during this period. Migration to and from the New York metro resulted in an additional 55,186 residents in the Washington region during the 16- year period, over four times the amount as Philadelphia, which ranked second.

Nearly all of the largest metros that were net senders also had positive net migration for nearly every year during this period. Five had positive net domestic in each year between 2000 and 2015: New York, Philadelphia, Boston, Chicago and Detroit. Los Angeles and Minneapolis have had net decreases in recent years; the Washington region had net out-migration to Los Angeles starting in 2013 and to Minneapolis in 2015.

**Figure 11. Domestic Migration, Largest Metro Areas
Net Senders to the Washington Region
Number of People (Exemptions), 2000 to 2015 (Total)**

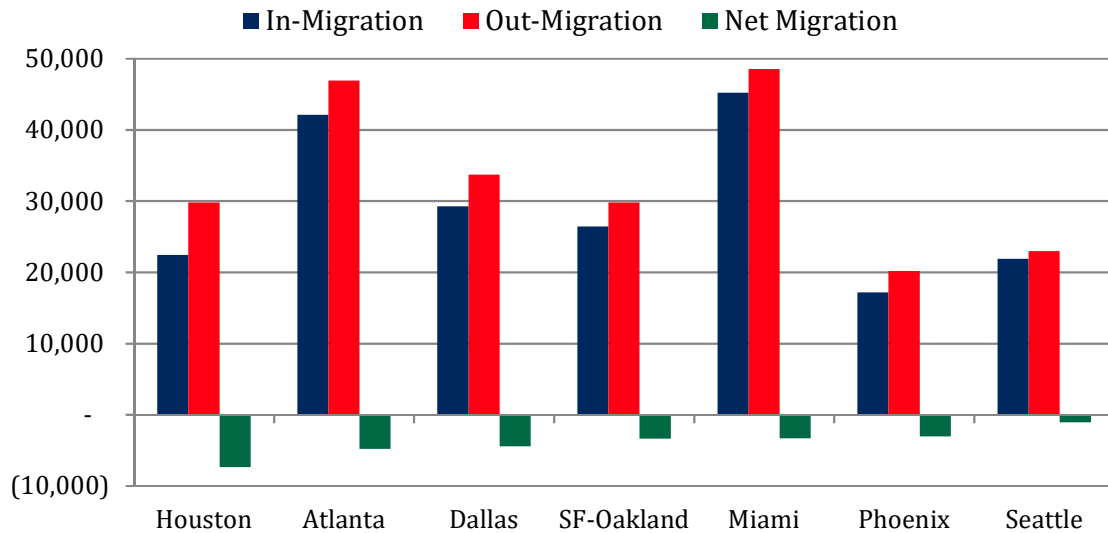


Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU

The largest metros that were net receivers from the Washington region had more varied trends over the 2000-2015 period. As shown in Figure 12, Houston was the largest net recipient of the Washington region's residents during 2000-2015 period as a result of consistent net out-migration from the Washington region for all years between 2006 and 2015. Atlanta was the second largest net recipient as a result of net out-migration from Washington in 2004-2008, 2014 and 2015. The third largest recipient, Dallas, had 11 years with annual net out-migration from the Washington

region (2005-2015). None of these metros were net receivers in all years and the year-to-year flows appear to be more responsive to relative economic conditions.

Figure 12. Domestic Migration, Largest Metros, Net Receivers from the Washington Region, Number of People (Exemptions), 2000 to 2015 (Total)



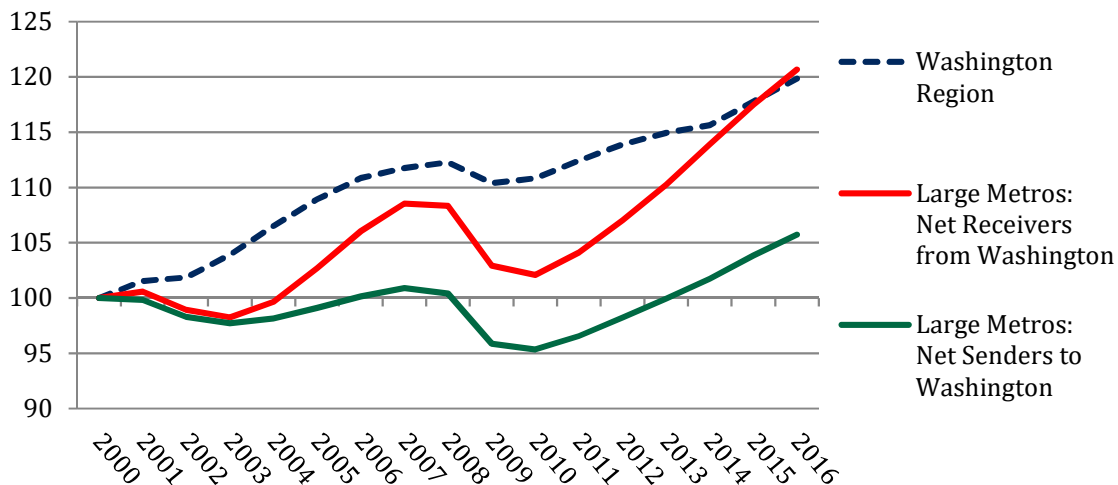
Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU

The Washington region's migration patterns were in line with the overall migration trends within this set of metro areas. The largest metros that were net receivers from the Washington area also gained population from the other largest metros between 2008 and 2015. Houston, Dallas, Atlanta, Phoenix, SF-Oakland, Seattle and Miami were all net gainers from the other largest metros and the Washington region did not disproportionately affect these flows.

As shown in Figure 13, the largest metros that were net senders to the Washington region had less job growth during the 2000-2016 period. Collectively, these metros had a slower recovery following the 2001 recession and this recovery was short-lived as a result of the 2008 recession. Altogether, jobs in these metros only increased 5.6 percent between 2000 and 2016; jobs in the Washington region increased 19.8 percent.

The largest metros that were net receivers of residents from the Washington region had stronger job growth than the net senders. Between 2000 and 2016, the number of jobs in the net receivers increased 23.0 percent, but job growth in these metros did not surpass the growth of the Washington region until 2016. However, annual job growth in these metros exceeded the Washington region's from 2005 to 2007 and from 2011 to 2016, aligning with the periods of higher rates of out-migration to these metros from the Washington region.

Figure 13. Job Growth in the Largest Metros, 2000 to 2016
100=2000



Source: Bureau of Labor Statistics; The Stephen S. Fuller Institute at the Schar School, GMU

Of the largest metros, those with larger absolute inflows and outflows typically resulted in net gains for the Washington region's population. This may be a result of a combination of their geographic proximity, more similar economic structure and relatively higher (or similarly high) costs of living. Job growth in these metros also lagged the gains in the Washington region, bolstering inflows from these metros.

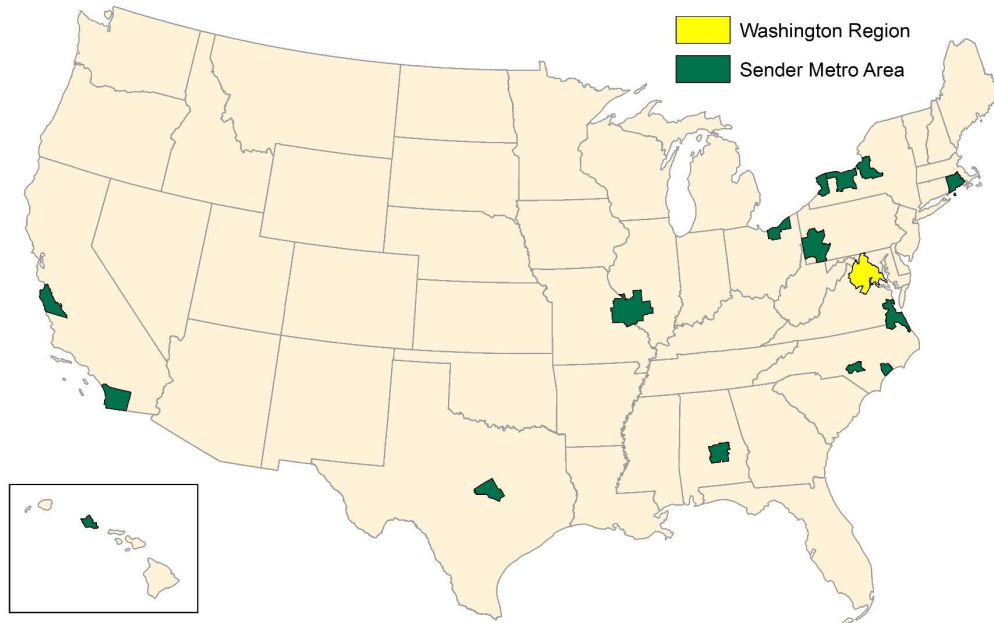
Of the largest metros, those that gained residents from the Washington region as a result of net domestic migration generally had lower levels of absolute flows and less consistent patterns during the 2000-2015 period. When the Washington region lagged these metros in job growth, the outflows from the Washington region into the net receiver metros also increased, indicating that relative job growth plays a role in migration patterns within this set of metros.

Sender Metro Areas

Migration to and from the smaller sender metros resulted in about 4,300 net new residents in the Washington region each year between 2000 and 2015. These metros consistently contributed residents to the Washington region during this period. In contrast with migration flows overall, the sender metros had stable inflows and outflows of residents throughout the period. The comparative job growth in these metros seems to be playing a role and the economy of sender metros underperformed the Washington region's economy throughout the 16-year period.

As shown in Figure 14 and Table 1, the top 15 sender metros were geographically dispersed but predominantly in the North East. These metros consisted of a mix of metros including several near to the region, metros with lagging job growth and metros with relatively high costs.

Figure 14. Top 15 Sender Metro Areas



Source: Internal Revenue Service (County Migration Files);
The Stephen S. Fuller Institute at the Schar School, GMU

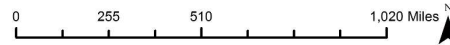


Table 1. Top 15 Sender Metro Areas
Ranked by Net Migration to the Washington Region from 2000 to 2015 (Total)

Metro Area	Net In-Migration To Washington Region
Virginia Beach-Norfolk-Newport News, VA-NC	14,110
Urban Honolulu, HI	7,145
Pittsburgh, PA	6,361
Salinas, CA	5,151
Fayetteville, NC	3,953
Rochester, NY	3,857
Montgomery, AL	3,825
Providence-Warwick, RI-MA	3,682
Buffalo-Cheektowaga-Niagara Falls, NY	3,437
Cleveland-Elyria, OH	3,337
Jacksonville, NC	2,956
Killeen-Temple, TX	2,910
St. Louis, MO-IL	2,892
San Diego-Carlsbad, CA	2,581
Syracuse, NY	2,431

Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU

Of the smaller metros, the Washington region gained the most net new residents from the Virginia Beach-Norfolk-Newport News, VA metro area (Newport News). Of all the metros in the U.S., Newport News was the second largest net sender to the Washington region, behind only New York. The geographic proximity and the military presence in both the Newport News and the Washington region may be contributing to this exchange.

The Washington region gained 7,145 net new residents from the Honolulu, HI metro area between 2000 and 2015. Of the smaller metros, Honolulu was the second largest net sender to the Washington region. Of all the metros, Honolulu ranked seventh, sending nearly as many net new residents as Detroit. In 2015, Honolulu had the highest cost of living of all the metros areas in the U.S. and was 4.5 percent more expensive than the Washington region.¹ This cost of living differential likely contributed to the inflow of residents from Honolulu to the Washington region.

The remaining sender metros were varied but broadly include metros with lagging job growth (Figure 16). The majority of these sender metros had lower levels of inflows and outflows. Aside from Newport News and Honolulu, only San Diego, CA, Pittsburgh, PA and Jacksonville, NC had migration inflows into the Washington region of more than 1,000 people per year.

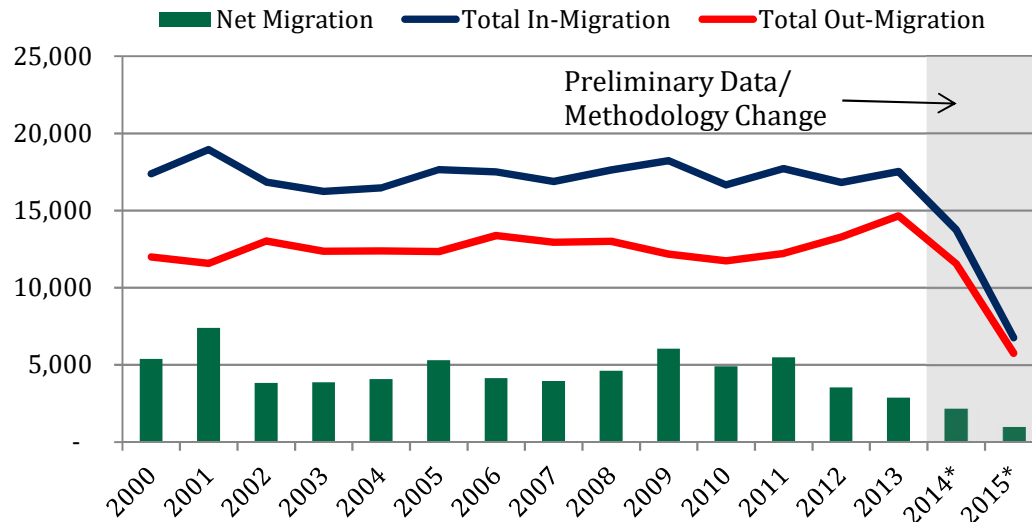
Sender metros had net domestic in-migration to the Washington region for all years between 2000 and 2015. Net in-migration from these metros increased modestly during the 2009 recession and weakened starting in 2012, but net migration was unusually steady among these metros. Within this group of metros, each metro had net positive migration to the Washington region for nearly every year between 2000 and 2015 and the inflows and outflows of the individual metros generally followed the same pattern as the group as a whole.

As shown in Figure 15, inflows from the sender metros to the Washington region were steady between 2000 and 2013. The apparent decline in 2014 and 2015 is the result of changes to methodology and should not be interpreted as a deviation from the prior trend. Migration inflows from the sender metros were consistent with the overall trend during this period. Between 2000 and 2013, about 17,300 people moved from the sender metros into the Washington region each year.

The migration outflows from the Washington region to the net sender metros were unusually steady between 2000 and 2013, especially in comparison with the outflows to other places in the country. This stability suggests that the Washington region was consistently attractive for residents in these metros. Between 2000 and 2013, about 12,600 people per year moved from the Washington region to sender metros.

¹ U.S. Bureau of Economic Analysis (Regional Price Parity)

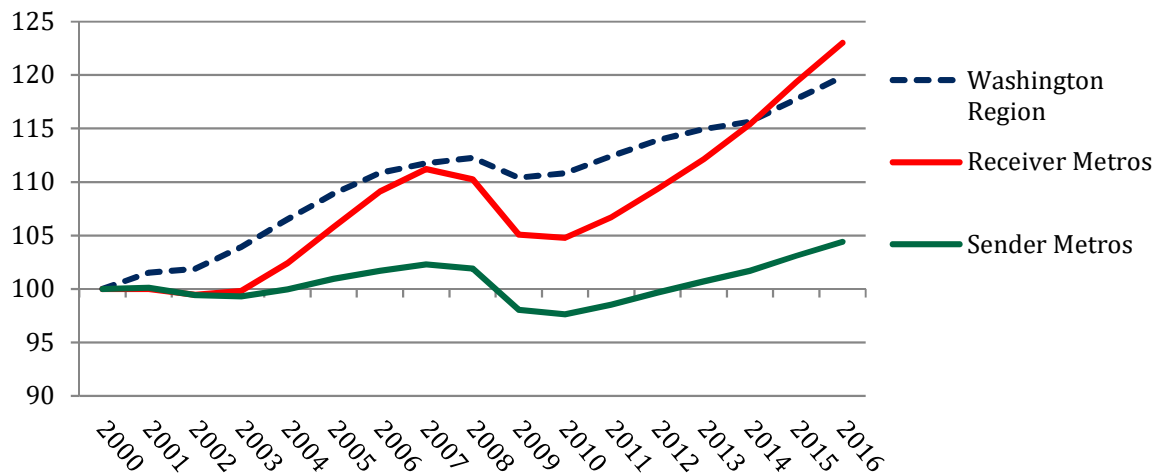
**Figure 15. Domestic Migration to and from the Washington Region
Sender Metro Areas, Number of People (Exemptions), 2000 to 2015**



Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

As shown in Figure 16, the Washington region's job growth far exceeded that of the sender metros. Between 2000 and 2016, the number of jobs in the sender metros increased 4.4 percent, while those in the Washington region increased 19.8 percent. Migration flows of the sender metros did not shift concurrently with changes in job growth, either in the Washington region or in the sender metros. This indicates that migrants were less sensitive to short-term changes in jobs growth and the absolute level of jobs and the long-term likelihood of growth may be a key determinant for migration flows with these metros.

Figure 16. Job Growth in the Sender and Receiver Metros, 2000 to 2016
100=2000



Source: Bureau of Labor Statistics; The Stephen S. Fuller Institute at the Schar School, GMU

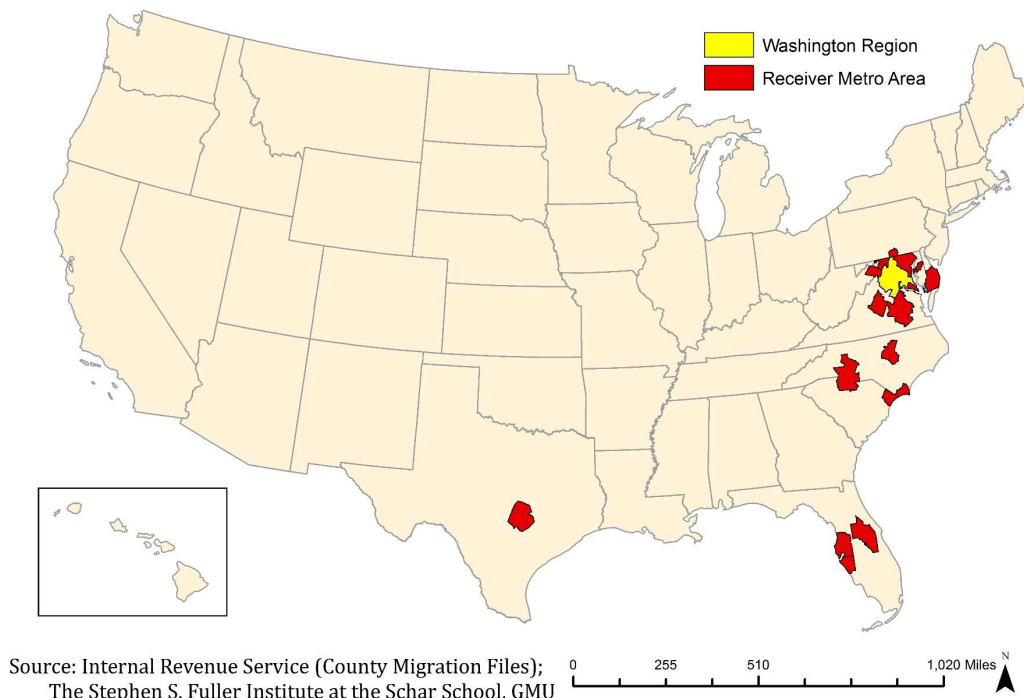
Migration trends of sender metros were more robust than any other group of metros during the 2000-2015 period. Despite the relatively small levels of absolute flows, these metros consistently sent significantly more residents to the Washington region than they received. This exchange resulted in net population gains for the Washington region that nearly equaled the gains from the large metros. Migrants from these smaller sender metros are likely younger and driven by the Washington region's long-term employment opportunities and the flows do not vary in response to short-term shifts in job growth.

Receiver Metro Areas

The 15 small metros that were the largest net recipients of the Washington region's residents gained an average of 13,800 residents from the region each year between 2000 and 2015. Both net migration and migration outflows were more varied than either the largest metros or the sender metros and appeared to be more reactive to other factors, including job growth in the receiver metros and relative housing costs.

As shown in Figure 17 and Table 2, the receiver metros were predominantly smaller metro areas in the mid-Atlantic region, especially those nearer to the region, but also included several metros in Florida that may attract retirees from the Washington region.

Figure 17. Top 15 Receiver Metro Areas



**Table 2. Top 15 Receiver Metro Areas
Ranked by Net Out-Migration from the Washington Region: 2000 - 2015
(Total)**

Metro Area	Net Out-Migration From Washington Region
Baltimore-Columbia-Towson, MD	(77,007)
Hagerstown-Martinsburg, MD-WV	(35,512)
Winchester, VA-WV	(16,174)
Richmond, VA	(13,734)
Charlotte-Concord-Gastonia, NC-SC	(10,608)
Salisbury, MD-DE	(10,553)
Tampa-St. Petersburg-Clearwater, FL	(8,925)
Raleigh, NC	(8,536)
California-Lexington Park, MD	(8,530)
Myrtle Beach-Conway-North Myrtle Beach, SC-NC	(8,508)
Austin-Round Rock, TX	(5,620)
Orlando-Kissimmee-Sanford, FL	(4,937)
North Port-Sarasota-Bradenton, FL	(4,772)
Gettysburg, PA	(3,973)
Charlottesville, VA	(3,803)

Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU

Each of top ten net receiver metros gained more net residents from the Washington than any of the largest metro areas, despite their relatively small size. The four largest net receivers were adjacent to the Washington region: Baltimore, Hagerstown-Martinsburg, Winchester and Richmond. Along with California-Lexington Park, MD and Gettysburg, PA, every metro with a shared boundary with the Washington region was in the top 15 receiver metros.

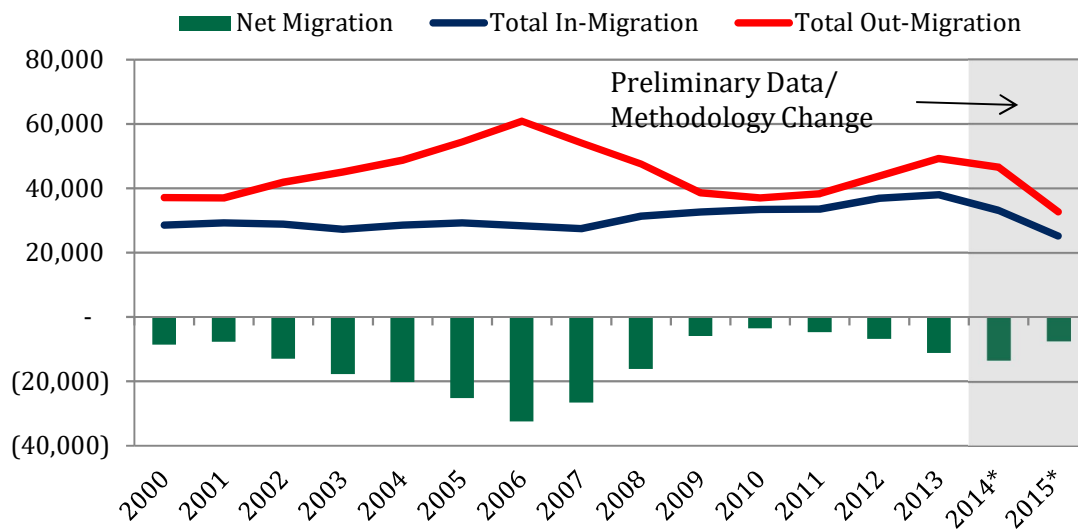
The net out-migration to the metros nearest to the Washington region may reflect quality of life and cost of living differentials but, collectively, the receiver metros also had comparatively strong job growth (Figure 16 on page 21). Other receiver metro areas include coastal regions in the Carolinas and Florida, which may be attractive to retirees from the Washington region, and smaller southern metros that had fast job growth and relatively lower costs of living.

As shown in Figure 18, receiver metros had significant variation in net domestic migration between 2000 and 2015. Net domestic out-migration accelerated between 2002 and 2006. In addition to relatively strong job growth in these metros, homeownership opportunities in the adjacent areas and increased rates of retirement to the coastal areas may have also contributed to this increased net out-migration.

Between 2006 and 2010, net domestic out-migration from these metros lessened, and several metros in this group had modest net in-migration to the Washington

region. In 2011, net out-migration increased and became increasingly negative through 2014. Each of the 15 receiver metros followed a similar trajectory during this period with some variation in degree.

Figure 18. Domestic Migration to and from the Washington Region Receiver Metro Areas, Number of People (Exemptions), 2000 to 2015



Source: Internal Revenue Service (County Migration Files); The Stephen S. Fuller Institute at the Schar School, GMU *Preliminary. See About These Data for details.

Like the in-migration flows from other areas, the receiver metros had stable migration inflows from the Washington region. Between 2000 and 2013, an average of 30,400 people moved from the receiver metros to the Washington region each year; the flows in 2014 and 2015 reflect a methodological change and are not comparable to the prior period.

Out-migration flows from the Washington region to the receiver metros were more variable than either the largest metros or the sender metros. Out-migration flows to receiver metros accelerated sooner after the 2001 recession and at a greater rate than average. The increase continued to 2006, peaking at over 60,800 people. Conversely, out-migration to these metros declined more sharply between 2006 and 2010 compared to the average flow. Between 2011 and 2013, the number of people leaving the Washington region increased modestly but did not surpass its mid-2000s peak.

Receiver metros received more residents from the Washington region than they sent each year between 2000 and 2015. This suggests that these metros were consistently attractive to the Washington region's existing residents throughout the period. Receiver metros gained residents from the Washington region at a greater rate during periods of strong national economic performance, possibly reflecting increased rates of retirement or flight to higher quality of life (and homeownership) during these periods.

Characteristics of Migrants in the Greater Washington Region: 2013-2015 Period

This section examines the characteristics of migrants in the greater Washington region¹ using the American Community Survey. The recent characteristics of movers are shown averaging the responses from the 2013, 2014 and 2015 surveys to create a more robust estimate. Domestic migration flows are larger in this survey when compared to the IRS data. Net domestic out-migration is also larger in this survey but the overall trend is in alignment with the IRS data. The survey is conducted within the U.S. and the U.S. territories so characteristics of foreign out-migrants are not included. Foreign in-migration flows are larger in this survey than in the IRS data. (See About These Data on page 39 for more.)

Characteristics of Domestic In- and Out-Migrants

During the 2013-2015 period, the Washington region lost residents as a result of net domestic migration. However, characteristics of domestic in-migrants and domestic out-migrants differed. Domestic in-migrants to the greater Washington region were somewhat younger, more educated, more likely to be in the labor force or working in higher wage industry than out-migrants. Conversely, residents leaving the Washington region were somewhat more likely to be of retirement age, out of the labor force, unemployed or working in lower-wage industries.

As a result of the differences between in-migrants and out-migrants, domestic migration resulted in net increases in the number of residents in the region with a doctorate degree, in the military, and working in the higher-value add industries of Professional & Business Services and the Federal Government during this period. The net losses of residents were most acute for retirees, residents without a bachelor's degree, unemployed residents and those working in low wage sectors like Retail or Leisure & Hospitality.

Age

During the 2013-2015 period, the greater Washington region lost residents as a result of net domestic migration in all age groups younger than 80 years old, reflecting the overall out-migration during this period. However, in-migrants were more likely to be younger than out-migrants and the region lost relatively fewer young residents due to domestic migration. Older residents left the region at greater rates than moved in, especially for adults around retirement age.

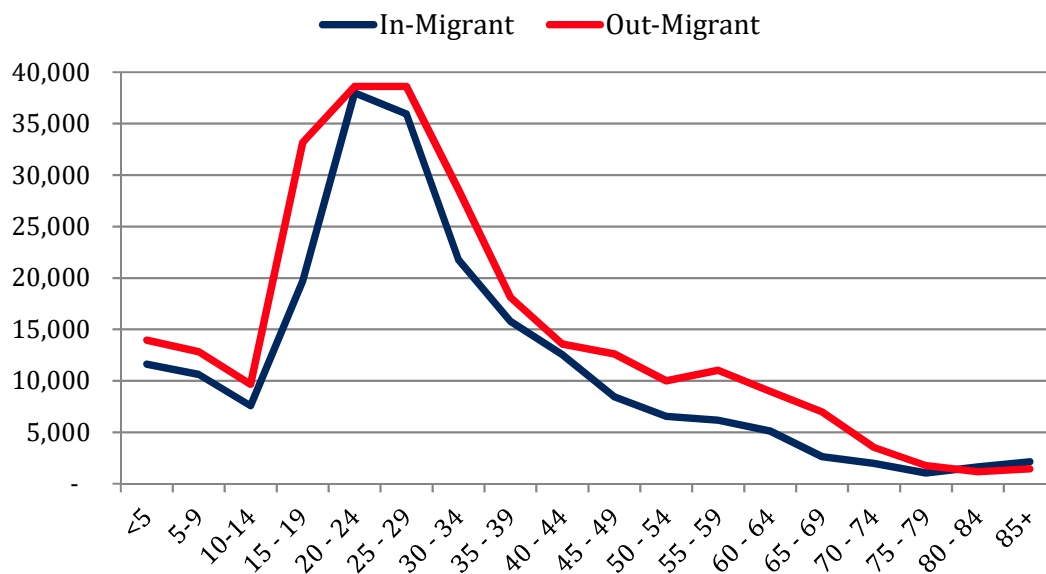
In general, younger people were more likely to move either to or from the greater Washington region and the absolute flows of migrants aged 20 to 29 were the

¹ The greater Washington region includes St. Mary's County, MD, King George, Caroline, Madison and Orange counties in Virginia and excludes Jefferson County, WV and Warren and Clarke counties in Virginia.

largest share of both in-migrants and out-migrants (Figure 19). The number of out-migrants in this age group was nearly equal to the number of in-migrants and for every resident lost to out-migration, the region gained 0.96 residents from in-migration. Similarly, a larger percentage of in-migrants were younger compared to out-migrants. Adults aged 20 to 29 accounted for 35.3 percent of in-migrants to the greater Washington region but only 29.3 percent of residents who left during this period.

The highest rates of net out-migration occurred for residents aged 65-69, indicating that recent retirees are more likely to leave the region than enter. For every out-migrant in this age group, the region only gained 0.38 in-migrants. More broadly, a larger percentage of domestic out-migrants were between 45 and 74 years old than in-migrants. One-fifth (20.1 percent) of domestic out-migrants were in this age group but only 14.8 percent of domestic in-migrants were.

**Figure 19. Domestic Migration by Age Group
Greater Washington Region, 2013-2015 Average**



Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

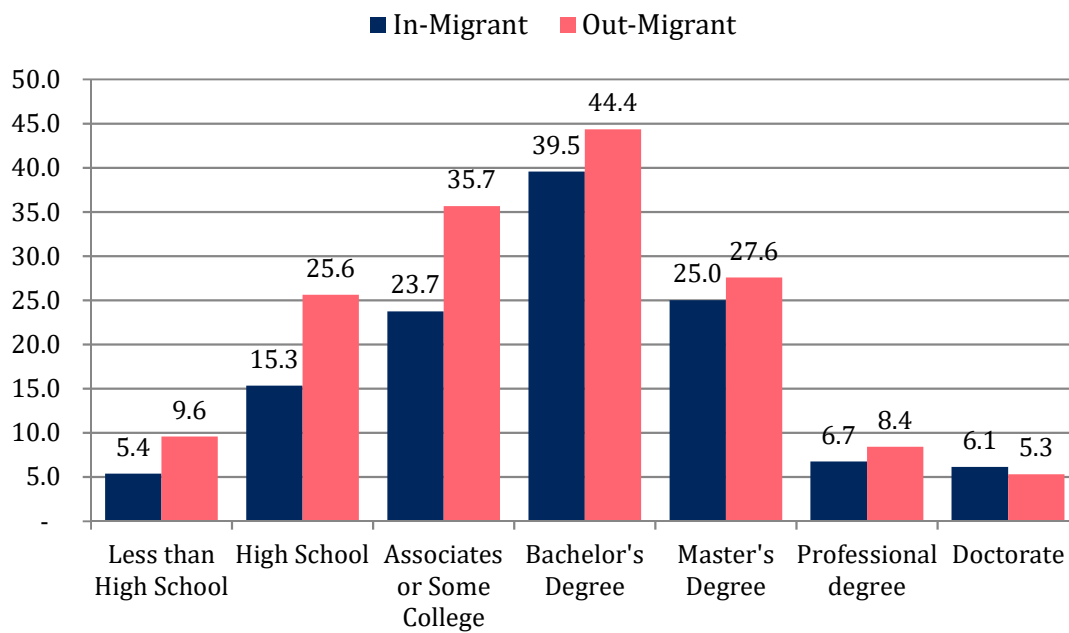
The greater Washington region seems to be relatively more attractive to younger workers, but less attractive to residents and families in their later career or in retirement. The differences in age of in- and out-migrants may be partially reflected in the average household incomes as measured by the IRS data.

Educational Attainment

Of residents over 25 years old, the greater Washington region gained residents with a doctorate degree due to domestic migration during the 2013-2015 period (Figure

20). No other group gained residents in absolute terms but the losses resulting from net out-migration were smaller for more educated residents. The greater Washington region gained about 71,300 residents with a bachelor's, master's or professional degree each year during the 2013-2015 period and lost about 80,400 residents to out-migration. For every out-migrant with at least a bachelor's degree but less than a doctorate, the region added 0.89 in-migrants. Comparatively, for every out-migrant over 25 years old with less than a bachelor's degree, the region only gained 0.63 in-migrants. The relatively high out-migration of lesser educated residents may be a result of the region's high cost of living.

**Figure 20. Domestic Migration by Educational Attainment
Population over 25, Greater Washington Region, 2013-2015 Average (000s)**



Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

Of migrants under 25 years old, out-migrants were more likely to be in school and 74.0 percent were. Only 64.8 percent of in-migrants were enrolled in school. However, in-migrants in this age group were more likely to have at least a bachelor's degree (17.0 percent compared to 8.1 percent of out-migrants). In-migrants and out-migrants under 25 years old were equally as likely to have less than a bachelor's degree and not be enrolled in school and just 18 percent were.

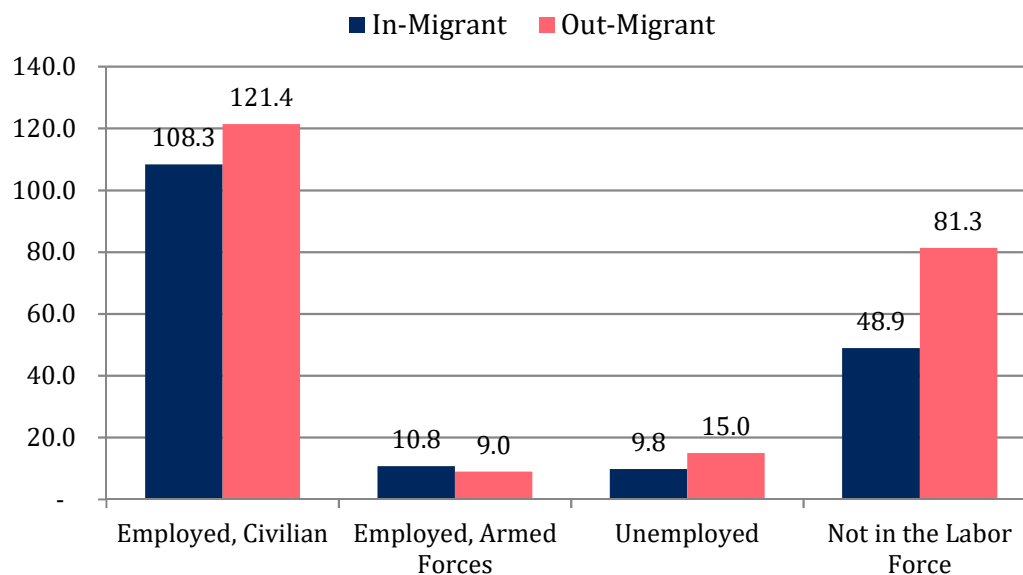
Role in the Workforce

Domestic in-migrants were more likely to be in the labor force than out-migrants and those in the labor force were less likely to be unemployed. As a result of net domestic migration, the greater Washington region gained net workers in the military and both the Professional, Scientific, & Technical Services & Management

and the Federal Government industries but lost workers in resident-serving industries.

As shown in Figure 21, the greater Washington region gained residents who were employed in the military due to domestic migration during the 2013-2015 period. The region lost residents who were not in the labor force at the greatest rates. The labor force participation rate of in-migrants during this period was 72.5 percent, 8.4 percentage points higher than that for out-migrants. The inflows and outflows of employed civilians and unemployed residents were more closely matched. In-migrants were less likely to be unemployed than out-migrants and their unemployment rate that was nearly three percentage points lower.

Figure 21. Domestic Migration by Labor Force Status
Population over 16, Greater Washington Region, 2013-2015 Average (000s)



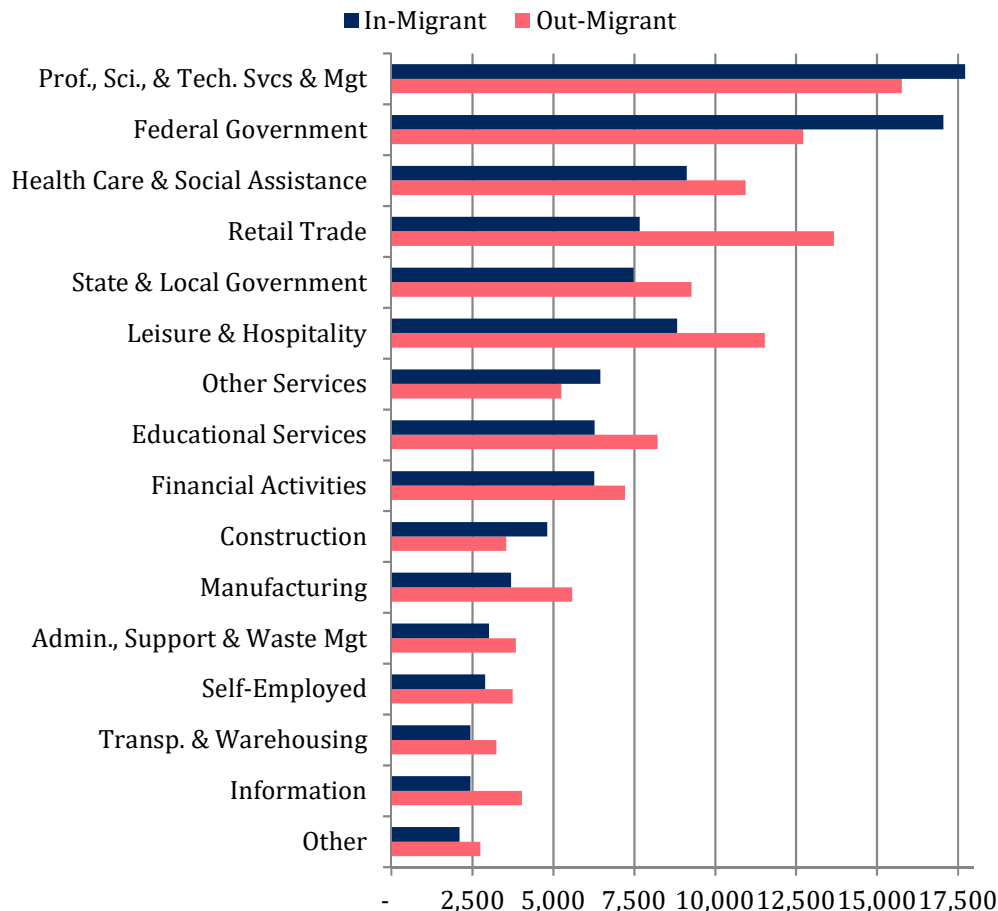
Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

Domestic out-migrants who were not in the labor force were more likely to be of retirement age than in-migrants. Of migrants who were not in the labor force, out-migrants were more likely than in-migrants to be between 50 and 69 years old and 22.3 percent were. By contrast, only 14.8 percent of in-migrants who were not in the labor force were aged 50 to 69, and in-migrants were more likely to be between 20 and 29 years old. This indicates that out-migrants were more likely to be retirees while in-migrants were more likely to be younger adults who may enter the labor force in upcoming years.

As shown in Figure 22, the region gained more civilian employees than it lost in two key industries: Professional, Scientific, & Technical Services & Management, and the Federal Government. These two industries had the highest net in-migration of any industry, suggesting that in-migrants may be moving to the region for a job in one of

these industries. The region also had higher in-migration from workers in the Other Services (including associations) and Construction industries. The highest levels of net out-migration occurred in the Retail Trade and Leisure & Hospitality industries. Losses also occurred in the Educational Services, Manufacturing and Information industries.

**Figure 22. Domestic Migration of Civilian Workers by Industry
Greater Washington Region, 2013-2015 Average (in 000s)**



Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

Even during the 2013-2015 period of net domestic out-migration, domestic inflows served as a source of net new workers in the region's higher value-add industries. Domestic outflows were disproportionately from retirees, residents not in the labor force or unemployed, or residents employed in lower-wage sectors.

Characteristics of Foreign In-Migrants

The greater Washington region had an average of 81,380 in-migrants from abroad each year during the 2013-2015 period. Foreign out-migration was about one-half the size of foreign in-migration and net foreign migration was a key source of

population growth for the Washington region between 2000 and 2015. The characteristics of people who leave the U.S. are not covered by U.S.-based surveys, so the differing characteristics of in- and out-migrants cannot be compared. However, the characteristics of foreign in-migrants can be compared to domestic in-migrants to suggest the implications of relying on foreign migration for population growth.

Overall, foreign in-migrants to the greater Washington region fell into two categories: those born in the U.S., who more closely resemble domestic in-migrant traits, and those born abroad, who differ more significantly from domestic in-migrants. Foreign migration tracks the movement of people based on the last home location. U.S.-born students, members of the military, and those working overseas for the Federal Government are included in this component. During the 2013-2015 period, foreign in-migrants to the greater Washington region were very likely to have been born in the U.S. and a large share of these movers held a job in the Federal Government upon their return. These migrants were older than domestic in-migrants, but similarly well-educated with high labor force participation rates.

In-migrants coming from outside the U.S. who were also born elsewhere had an older age distribution compared to domestic in-migrants. Foreign-born foreign in-migrants were also more likely to have less than a high school education than domestic in-migrants and were also less attached to the labor force. Of those who were employed within a year of moving to the U.S., foreign-born foreign in-migrants were more likely to work in the Other Services, which includes both personal services and civic and business associations, and Retail Trade sectors or be self-employed.

Place of Birth

Foreign in-migration includes all people moving from outside the U.S., regardless of nationality, citizenship or place of birth. The largest share of foreign in-migrants to the greater Washington region during the 2013-2015 period were born in the U.S. or in U.S. territories (Table 3). Over 21,800 foreign in-migrants to the region were born in the U.S. and an additional 1,243 in-migrants were born in U.S. Territories (U.S.-born in-migrants). These residents may have been overseas for work or school and lived outside of the U.S. in the year prior to the survey. The largest number these residents lived in Germany or Japan (about 2,000 each) and may reflect the U.S. military presence in these countries.

The greater Washington region also had relatively large flows of foreign in-migrants who were born in India, China, Ethiopia, El Salvador or the Philippines. These residents were not necessarily living in these countries prior to migration to the greater Washington region in the 2013-2015 period but were more likely than U.S.-born residents to have been born in and migrated from the same country. Combined, these five countries accounted for nearly one-fifth (19.5 percent) of the foreign in-migrants to the greater Washington period between 2013 and 2015. The remaining

in-migrants were more dispersed, with those born elsewhere in Latin American and the Caribbean or in Sub-Saharan Africa accounting for the same amount of in-migration as the top five countries combined.

**Table 3. Foreign In-Migration by Place of Birth,
Greater Washington Region, 2013-2015 Average**

	Foreign In-Migrants	% of Total Foreign In-Migration
U.S. & U.S Territories		
U.S.	21,810	26.8%
U.S. Territories*	1,243	1.5%
<i>U.S. & U.S Territories, Total</i>	<i>23,054</i>	<i>28.3%</i>
Top Five Countries		
India	4,917	6.0%
China	3,882	4.8%
Ethiopia	2,780	3.4%
El Salvador	2,651	3.3%
Philippines	1,638	2.0%
<i>Top 5 Countries, Total</i>	<i>15,868</i>	<i>19.5%</i>
All Other Regions¹		
Latin America & the Caribbean	8,593	10.6%
Sub-Saharan Africa	7,044	8.7%
Western Asia	3,947	4.9%
Southern Asia	3,649	4.5%
Western Europe	3,100	3.8%
Eastern Asia	2,380	2.9%
Northern Europe	2,201	2.7%
South-Eastern Asia	1,893	2.3%
Southern Europe	1,853	2.3%
Eastern Europe	1,772	2.2%
Northern Africa	1,765	2.2%
Canada	693	0.9%
Other	3,570	4.4%
<i>All Other Regions, Total</i>	<i>42,459</i>	<i>52.2%</i>
Total Foreign In-Migration	81,380	100.0%

Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

*Guam, Northern Mariana Islands, Puerto Rico, or U.S. Virgin Islands

The large share of foreign in-migrants who were born in the U.S. or U.S. territories likely reflects the internationally-focused work being performed in the region. The in-migrants who moved to, or returned to, the greater Washington region after being overseas differed from other foreign in-migrants as is examined in the sections below.

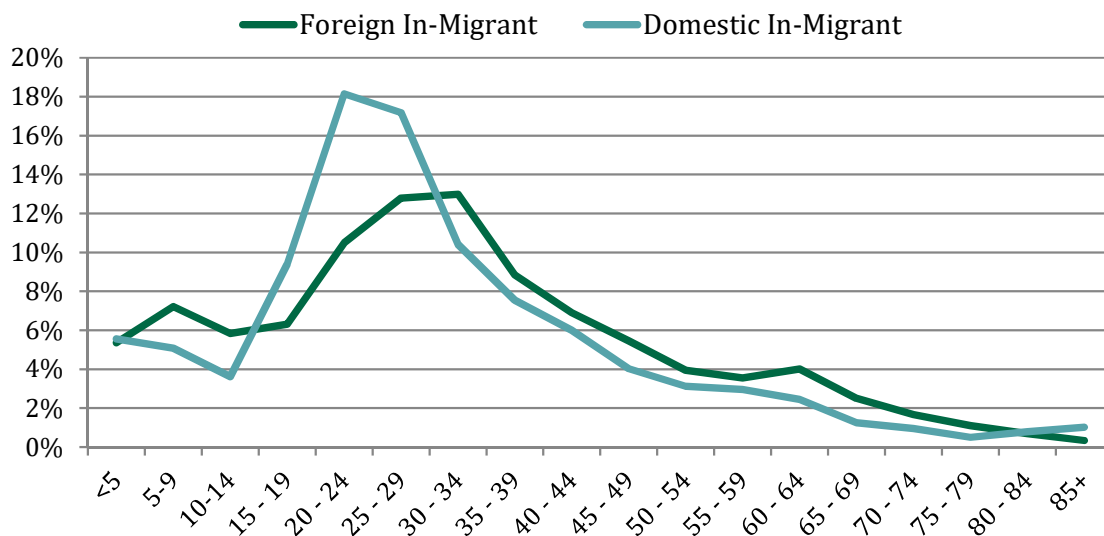
¹ Regions delineated by <https://unstats.un.org/unsd/methodology/m49/overview/>

Age

Foreign in-migrants were less likely to be between 15 and 29 years old compared to domestic in-migrants (Figure 23). Foreign-born in-migrants from abroad had broadly the same age distribution as U.S.-born in-migrants, except U.S.-born in-migrants were more likely to be children.

Of the five-year age groups, foreign in-migrants were the most likely to be aged 30 to 34 and 13.0 percent were during the 2013-2015 period. Among domestic in-migrants, only 10.4 percent were 30-34 years old. Domestic in-migrants were far more likely to be 20 to 24 years old and 18.1 percent were compared to just 10.5 percent of foreign in-migrants. Similarly foreign in-migrants were less likely to be 25-29 years old than domestic in-migrants: 12.8 percent of foreign in-migrants were and 17.2 percent of domestic in-migrants were.

**Figure 23. In-Migration Distribution by Age Group
Greater Washington Region, 2013-2015 Average**



Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

Over one-half (51.0 percent) of foreign in-migrants were aged 30-79; 39.2 percent of domestic in-migrants were. Foreign in-migrants born in the U.S. were somewhat more likely to be aged 40 to 54 while those born abroad were more likely to be 55 to 79 years old. Despite having an older age distribution than domestic in-migrants to the Washington region, foreign in-migrants to the Washington region appear to be younger when compared to all foreign in-migrants into the U.S., as a whole, and in comparison to the typical age distribution of all international movers.¹

¹

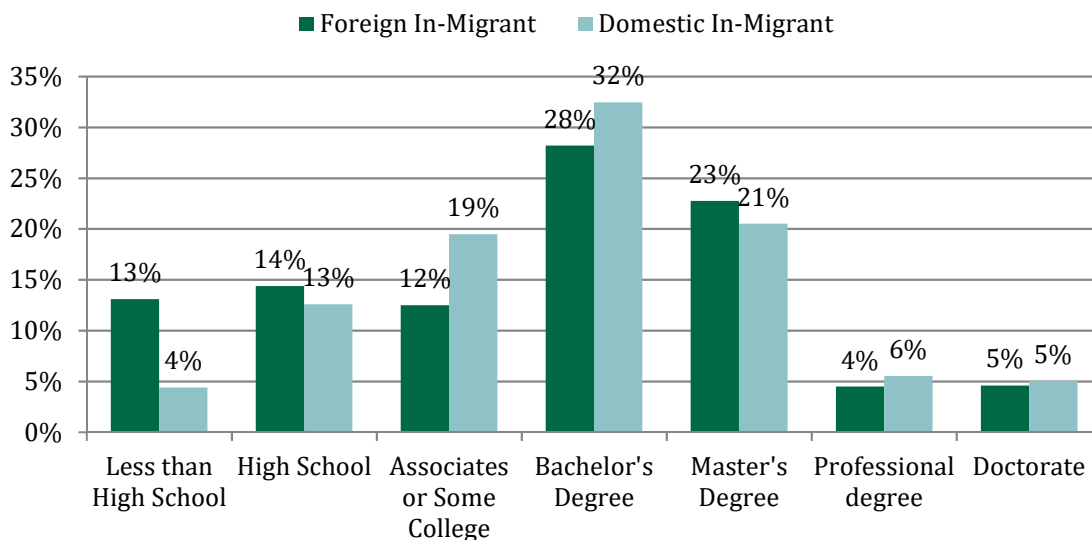
<http://www.un.org/en/development/desa/population/migration/data/estimates2/estimatesage.shtml>

U.S.-born in-migrants and foreign-born in-migrants from abroad were older than in-migrants from elsewhere in the U.S. This suggests that foreign in-migrants were less likely to be students or younger workers than domestic in-migrants. The age distribution of foreign in-migrants who were born in the U.S. indicates a larger share of mid-career workers, with families and children. While the age distribution of foreign-born foreign in-migrants was similar to their U.S.-born counterparts, this age distribution may also indicate legal and logistical impediments for migration at an earlier age.

Educational Attainment

Foreign in-migrants were more likely to have either a master's degree or less than a high school diploma when compared to domestic in-migrants in the 2013-2015 period (Figure 24). U.S.-born foreign in-migrants were the most likely to have master's degree, and 31.2 percent did. One-fifth (19.7 percent) of foreign-born foreign in-migrants had a master's degree, nearly matching the proportion of domestic in-migrants who did (20.5 percent). Foreign in-migrants were nearly three times as likely to not have a high school diploma when compared to domestic in-migrants, primarily due to the educational attainment of foreign-born in-migrants from abroad.

**Figure 24. In-Migration Distribution by Educational Attainment
Population over 25, Greater Washington Region, 2013-2015 Average**



Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

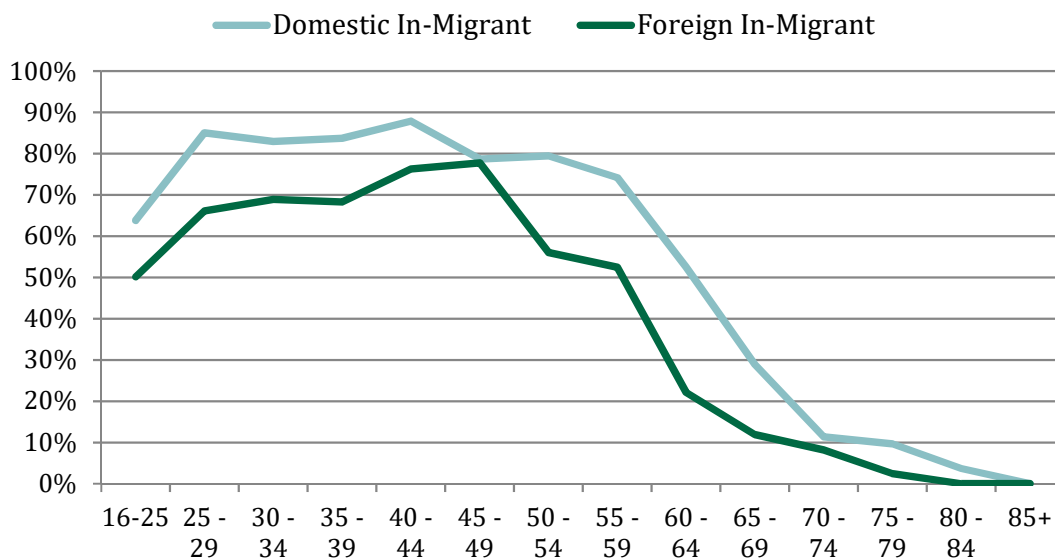
Foreign in-migrants under 25 years old were somewhat more likely than domestic in-migrants to be in school (68.5 percent vs 64.8 percent). Both U.S.-born and foreign-born foreign in-migrants were more likely to be enrolled in school as compared to domestic in-migrants. However, of in-migrants under 25 years old who

were not in school, foreign in-migrants were far less likely to have at least a bachelor's degree than their domestic in-migrant counterparts. Nearly one-quarter (23.1 percent) of foreign in-migrants under 25 who were not enrolled in school held a bachelor's degree or higher. For domestic in-migrants, this rate was 48.4 percent.

Role in the Workforce

Foreign in-migrants were less likely to be in the labor force than domestic in-migrants during the 2013-2015 period (Figure 25). Over forty percent (42.6 percent) of foreign in-migrants over 16 years old were not in the labor force. Among domestic in-migrants, this rate was just 27.5 percent. This difference existed for nearly all age groups but was most pronounced for 50 to 69 year olds with the largest difference for 60 to 64 year olds. Domestic in-migrants in this age group had a labor force participation rate of 52.5 percent while only 22.2 percent of foreign in-migrants were in the labor force. The overall difference was driven by foreign-born in-migrants and U.S.-born foreign in-migrants had nearly identical labor force participation rates as domestic in-migrants.

**Figure 25. Labor Force Participation Rate of In-Migrants by Age Group
Greater Washington Region, 2013-2015 Average**



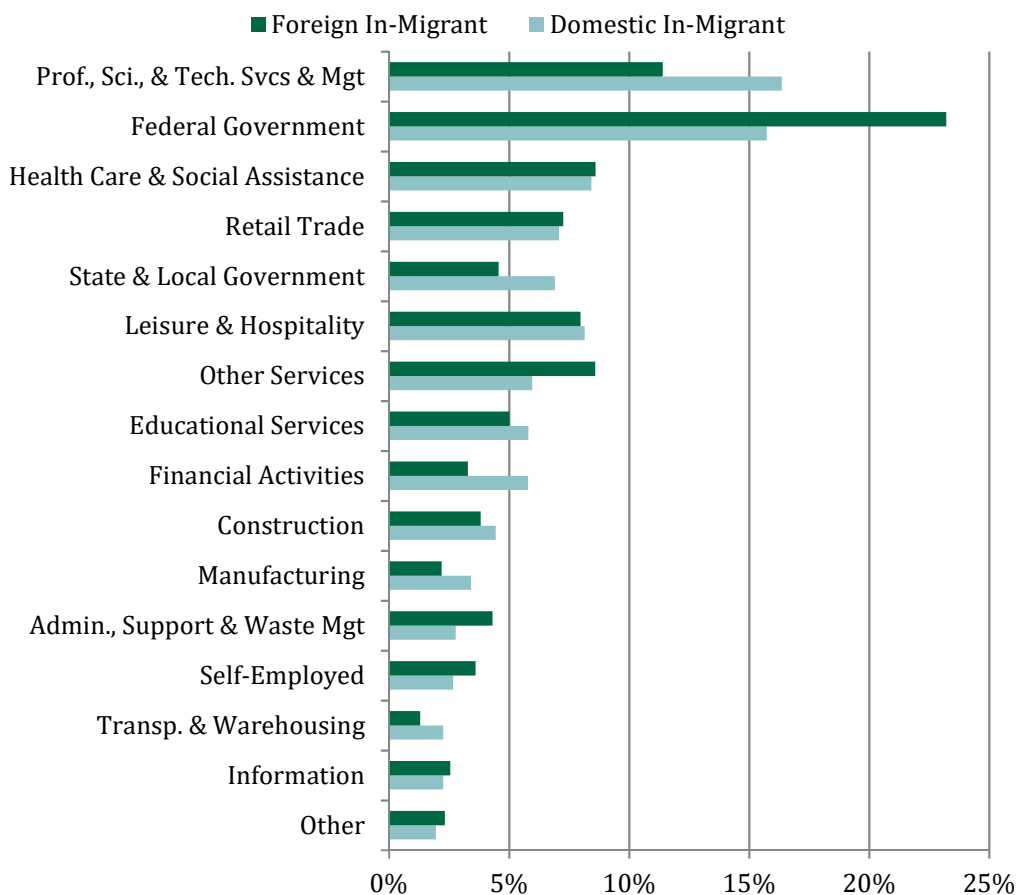
Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

As shown in Figure 26, foreign in-migrants who were civilian employees were significantly more likely to be employed in the Federal Government than domestic in-migrants and nearly one-quarter (23.2 percent) were during the 2013-2015 period. This is largely a result of in-migration from abroad of U.S.-born residents and 37.1 percent of these in-migrants were employed in the Federal Government (compared to 15.8 percent of foreign-born foreign in-migrants). It is likely that many of these employees were employed by the Federal Government while living

outside of the U.S. but some may also have transitioned into the civilian federal workforce after working abroad in either the private sector or the military.

A larger share of foreign in-migrants were also employed in the Other Services sector, which includes both personal services and civic and business associations. Foreign-born in-migrants drove this difference. Foreign in-migrants were more likely to be employed in the Retail Trade industry, also a due to a higher share of foreign-born in-migrants in this sector. Lastly, foreign in-migrants were more likely to be self-employed in an unincorporated business than domestic in-migrants. While both foreign-born and U.S.-born foreign in-migrants were somewhat more likely to be self-employed than domestic in-migrants, the difference was greatest between who were also born outside of the U.S.

**Figure 26. In-Migration Distribution of Civilian Workers by Industry
Greater Washington Region, 2013-2015 Average**



Source: American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

Compared to domestic in-migrants, foreign in-migrants were generally less educated, less attached to the workforce and more likely to work in relatively low-wage industries after excluding the U.S.-born in-migrants. Likely due to the

numerous federal and international agencies with an international presence in the greater Washington region, a large share of foreign in-migrants were U.S.-born, highly educated and employed. The dual profiles of foreign in-migrants to the greater Washington region means that population gains from net foreign migration likely follow a similar pattern and are heavily dependent upon the mix of these migrants within the flows.

Conclusion

Between 2000 and 2015, population growth in the Washington region was driven by the natural increase and net foreign migration. The natural increase is relatively predictable and dependent primarily on an individual's life cycle. By contrast, migration is less predictable, resulting in differing patterns over time. Within the Washington region, domestic migration varied considerably between 2000 and 2015, while foreign migration was relatively stable.

Net domestic migration was varied and resulted in gains when the region's economy outperformed the nation's and the national economy was either in decline or following a downward trajectory. During these periods, the Washington region lost fewer existing residents, suggesting that the region's ability to retain residents is dependent upon national economic conditions. However, the number of residents moving into the Washington region from other places in the U.S. remained relatively stable, indicating that the region has not gotten significantly more, or less, attractive to new potential residents in the past 16 years.

Similarly, domestic migration flows to and from the Washington region have clustered around three sets of metro areas: the largest metros, a set of smaller metros from which the region has consistently gained net residents and a set of smaller metros to which the region has consistently lost net residents.

Based on the characteristics of domestic migrants, the Washington region was relatively more attractive to younger, well-educated movers with high employment rates. These in-migrants seem less deterred by short-term changes in the regional and national economy and may be motivated by the absolute level of economic opportunities in the region. As a result, the Washington region tended to gain residents from a geographically disperse set of metros including those with relatively high costs of living and relatively fewer employment opportunities.

Conversely, domestic out-migrants were more likely to be of retirement age, less educated, not in the labor force, unemployed or working in lower-wage sectors. These out-migrants appear to be more sensitive to economic conditions. Out-migration flows to other parts of the U.S. increased when the national economy was on an upswing and decreased with conditions outside of the Washington region were less certain. These movers may be balancing the trade-offs associated with the region's cost of living and relative economic stability. The Washington region lost residents to metros that may be attractive to retirees, including metros in Florida and the Carolinas, and to metros close to the region with relatively lower costs of living.

Foreign migration between 2000 and 2015 was far more stable than domestic migration. Both inflows and outflows moved in concert and were less responsive to regional and national economic conditions. In part, this stability may reflect the

large percentage of U.S.-born movers, who were likely moving overseas as part of a job and a large share of in-migrants from overseas into the region were employed by the Federal Government.

Foreign in-migrants to the Washington region who were not born in the U.S. were older, less well-educated and less likely to be in the workforce than domestic in-migrants. Of those with jobs, workers were more likely to be in the Other Services (including both personal services and associations) and Retail Trade sectors, or be self-employed.

Altogether, the findings in this report highlight several key challenges for the region going forward.

- Foreign migration has been a key source of population growth, but foreign in-migrants are less likely to be employed. This suggests that there are factors impeding employment, especially education.
- The upcoming wave of Baby Boomers reaching retirement age will likely increase net domestic out-migration from the Washington region. This would slow population growth and result in a transitioning labor and housing market.
- The Washington region has been consistently attractive to new residents, but has been unable to retain them, especially when the national economy is gaining strength. This suggests that the region's economic opportunity does not fully compensate for quality of life issues.

Being able to address these challenges will be instrumental in the region's success, both in the short-term and in the long-term. These challenges are not new for the region, but the upcoming demographic changes will intensify them over the next decade. Baby Boomers will all be of retirement age by 2029, accelerating domestic outflows. Similarly, all Millennials will be over 30 years old by 2030 and the majority of that generation will have entered their next phase of life, a phase that has been traditionally dominated by marriage, children, homeownership. As this shift occurs, many will leave the region in response to high housing costs, long commutes and other quality of life issues that they may solve by moving to a near-in metro.

Lastly, Generation Z, who will be between 10 and 30 years old in 2030, is likely to be smaller and have a smaller presence in this region. This next generation may not fully take the place of the larger generation of Millennials, similar to Generation X. This shift would potentially make foreign migration a more important source of potential workers. Over the next 10-15 years, these large shifts will occur simultaneously, exacerbating these upcoming challenges.

About These Data

Internal Revenue Service Data

Internal Revenue Service (IRS) publishes migration data based on tax returns. The returns are used match filers across years and all county-to-county flows with more than ten households are typically released. This report presents the number of exemptions, which are a proxy for people; returns are a proxy for the number of households. Adjusted Gross Income is used to estimate average household income.

The IRS data used was as of May 2017. Based on conversations with staff at the IRS Statistics of Income, the 2013/2014 and 2014/2015 data will be re-issued in the upcoming months due to duplicates (2013/2014) and unmatched flows (2013/2014 and 2014/2015). The duplicates were removed in this analysis in the 2013/2014 data but some inconsistencies between the flows remain.

Limitations: Residents who did not file taxes during the two-year period or did not file in one of the two years are excluded from the data. Households that do not have earnings that exceed the standard deduction plus one exemption typically are not required to file taxes. The exclusion of low-income households likely underestimates the number of movers in any given year.

Prior to the 2011/2012 data, only the main tax filer was matched which excluded potential changes within the household due to tax filing status, i.e. only one member of a household that was newly married, filing together, or newly divorced, filing separately, could be matched. Starting with the 2011/2012 data, all members of a household were matched allowing for changes of family structure and, in particular, the matching of first time tax filers who had previously been dependents. A change in tax filing status (marriage or divorce) or first time tax filers (college-aged or newly graduated young adults) seem more likely have moved than all other households, so the 1999/2000 through 2010/2011 data likely underestimates the number of movers.

For more information on the 2011/2012 methodological change, see
Pierce, Kevin. 2015. "SOI Migration Data: A New Approach." IRS Statistics of Income Summer Bulletin. Available at <https://www.irs.gov/pub/irs-soi/soi-a-inmig-id1509.pdf>

County-to-county migration flows with fewer than ten households are not disclosed and combined into "all other flows: same state" or "all other flows: different state." The different state flows are grouped by region but were not analyzed in this report. The "other flows" were not examined in this report and may include some counties within the select metros (largest, senders, receivers).

Time of Move: In order to be considered movers, the tax filer must have moved in between filing his/her taxes in each year. Prior to the 2011/2012 data, those who filed taxes after September were excluded. More than one move within the same year cannot be recorded.

Data and documentation are available at
<https://www.irs.gov/uac/soi-tax-stats-migration-data>.

American Community Survey Data

The American Community Survey (ACS) is a survey conducted by the U.S. Census Bureau that includes questions on economic status and demographics, as well as where the respondent(s) lived one year ago. The data used in this report is an average of the 2013, 2014 and 2015 public use microdata sample (PUMS).

Limitations: The survey is subject to sampling error and the PUMS data provides replicate weights to calculate the standard deviations and margins of error for estimates. No margins of error are presented in this report. Three years of data is used to reduce the margins of error.

PUMS geographies must include 100,000 or more people and often include more than one county or county-equivalent. The geographies changed in 2012 so data prior to 2012 are not comparable with later data.

Time of Move: Respondents are asked if he/she lived in the same house or apartment 1 year ago. The survey is conducted continuously throughout the year. More than one move within the same year cannot be recorded.

Data and documentation are available at <https://www.census.gov/programs-surveys/acs/data/pums.html>.

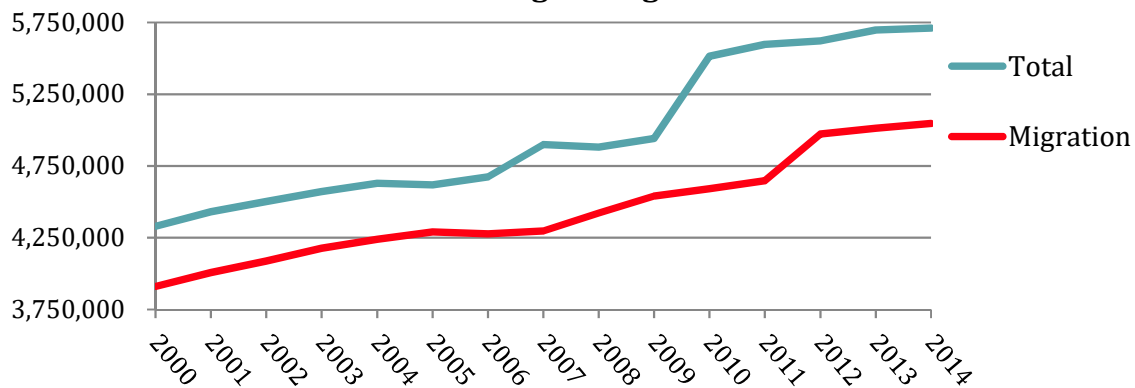
Comparison of Data Sources

Information on migration is covered at a local level by three main datasets: the IRS migration data, the ACS, and the U.S. Census's Population Estimates. No single data source is both comprehensive and inclusive of migrant characteristics. This section compares the sources to illustrate strengths and weaknesses between these datasets. Methodological differences between the sources will account for some of the variation so this section and this section should be used only to measure differences between the data sources.

Domestic Migration

IRS data excludes filers who cannot be matched between years. In order to estimate the magnitude of this omission, the total number of tax exemptions from the IRS's County Income data summary is compared with the number of exemptions in the IRS's County Migration data in Figure A1. Between 2000 and 2014, about 90 percent of the people covered by tax returns in the Washington region appear to be matched, omitting an average of 540,000 people during this period.

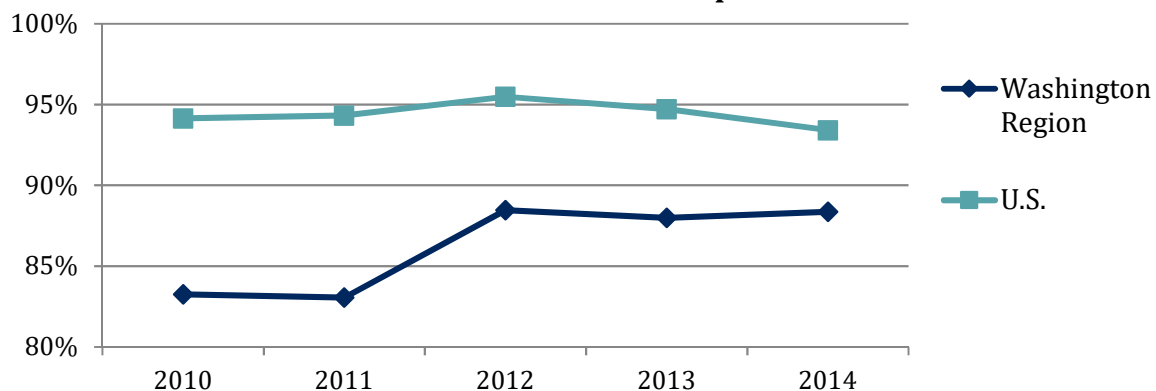
Figure A1. Total Exemptions and (Matched) Exemptions in Migration Data, Washington Region



Source: Internal Revenue Service (County Migration Files and County Income Data); The Stephen S. Fuller Institute at the Schar School, GMU

Nationally, a larger percentage of exemptions were matched between 2010 and 2014, indicating that the under-reporting of moves as a result of unmatched filers in the Washington region may be higher than for the nation overall (Figure A2).

Figure A2. (Matched) Exemptions in Migration Data as a Percent of Total Exemptions

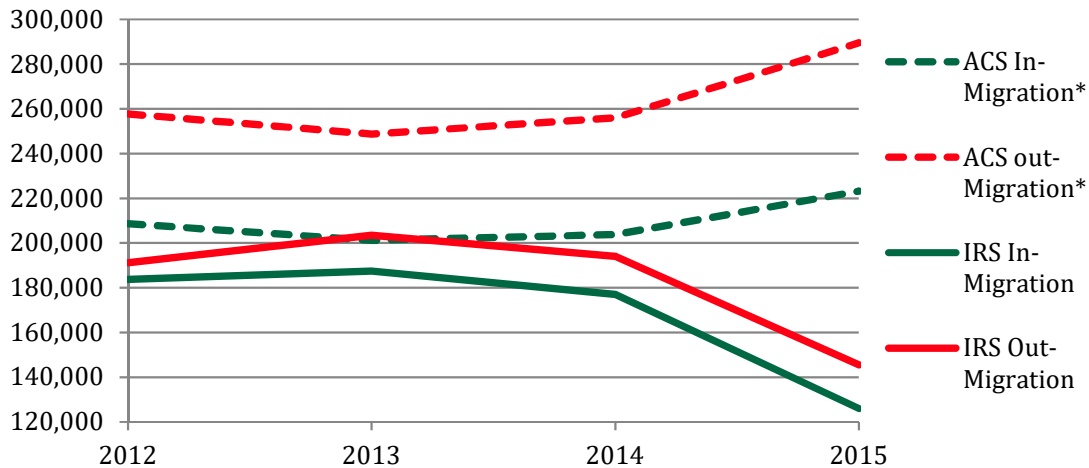


Source: Internal Revenue Service (County Migration Files and County Income Data); The Stephen S. Fuller Institute at the Schar School, GMU

In addition to under-reporting from non-matched filers, the IRS excludes households that do not file taxes. As a result of the two exclusions, the total in-

migration and out-migration flows reported via the ACS were 12 and 30 percent higher, respectively, during the 2012-2014 period (Figure A4). Starting in 2014, the IRS and ACS data flows diverge, with the IRS flows decreasing and the ACS flows increasing.

Figure A4. Comparison of Domestic Migration Flows, IRS and ACS

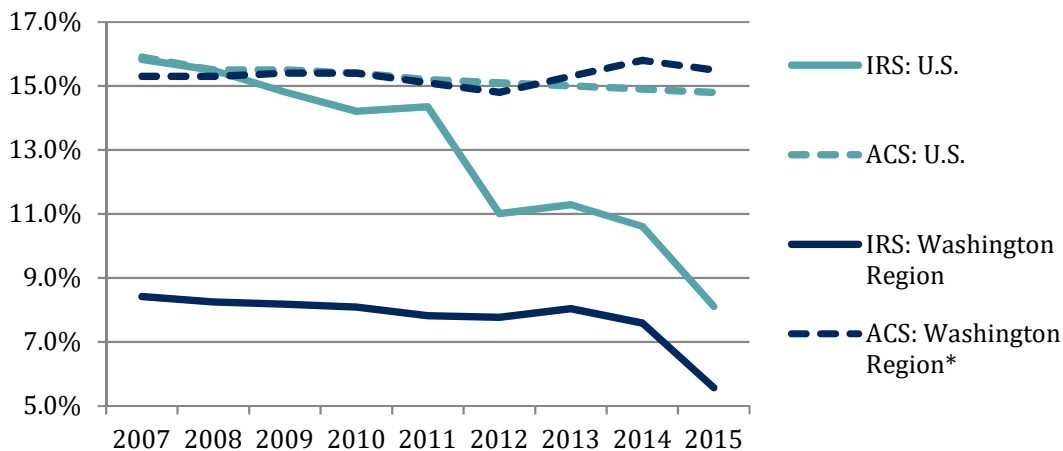


Source: Internal Revenue Service (County Migration Files); American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

*Greater Washington Region geography

This downward trajectory occurs both regional and nationally (Figure A5) and IRS staff attribute it a reduction in identity theft detection methods, as identity theft frequently will result in a “move.” Nationally, the decline was sharper than it was within the Washington region. However, it appears that moving is more under-represented in the Washington region in the IRS data.

**Figure A5. Comparison of Percent of Movers
(includes all in-migrants and movers within the nation or region)**

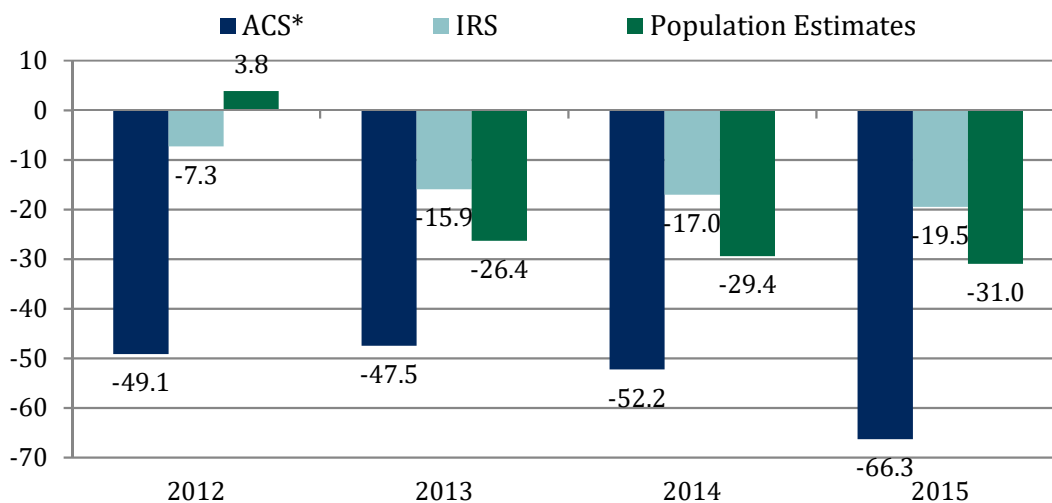


Source: Internal Revenue Service (County Migration Files); American Community Survey (1-Year data from the FactFinder); The Stephen S. Fuller Institute at the Schar School, GMU

*2007-2012 excludes Culpeper County, VA and Rappahannock County, VA; FactFinder data, cannot be used for detailed characteristics of movers

The Population Estimates are typically considered by researchers to be the most comprehensive estimates on net migration change. These incorporate administrative data (IRS and social security) to model the population as of July 1 of each year between the Decennial Censuses, including the component of change that results in the increase over the prior year. The components of change only include net totals by county and do not include any population characteristics. These estimates act as a useful comparison with other available datasets, but cannot be used for in-depth analysis. Net domestic migration from the three main data sources is in Figure A6. The net domestic migration reported by the Population Estimates is generally in between the IRS and the ACS estimates for the 2013-2015 period, but diverges in 2012.

Figure A6. Comparison of Net Domestic Migration by Source



Source: Internal Revenue Service (County Migration Files); American Community Survey (2013, 2014 and 2015 microdata, average); U.S. Census Population Estimates (Vintage 2016); The Stephen S. Fuller Institute at the Schar School, GMU

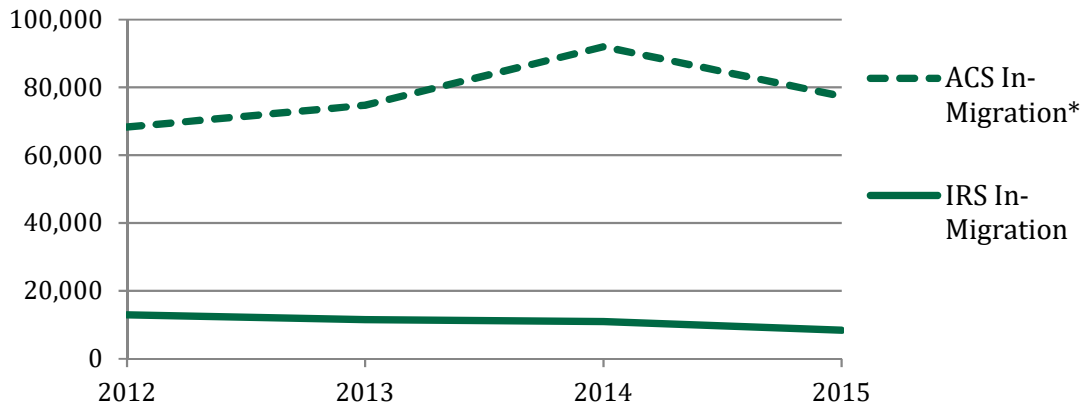
*Greater Washington Region geography

Foreign Migration

The IRS data only reports foreign migration when taxes are filed in two consecutive years, including the year abroad. While living abroad, most households will only file taxes in the country in which that income was earned so the IRS data significantly under-estimates foreign migration.

The ACS is not conducted internationally so only foreign in-migration can be estimated using these data. A comparison of foreign in-migration as estimated in the IRS data and the ACS data is shown in Figure A7 for the 2012-2015 period. The in-migration as reported by the IRS is approximately 14 percent of what is estimated by the ACS over this period, but there has been a downward trend; in 2015, IRS foreign in-migration was just 11 percent of that estimated by the ACS.

Figure A7. Comparison of Foreign In-Migration Flows, IRS and ACS

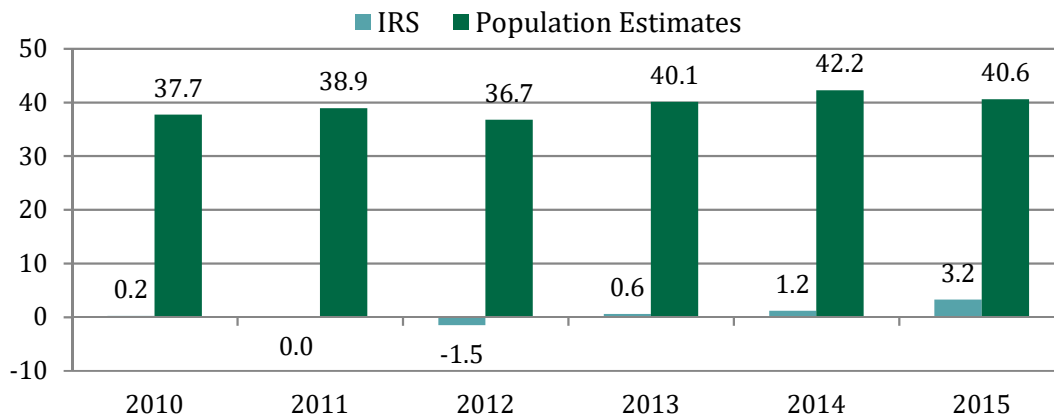


Source: Internal Revenue Service (County Migration Files); American Community Survey (2013, 2014 and 2015 microdata, average); The Stephen S. Fuller Institute at the Schar School, GMU

*Greater Washington Region geography

Net foreign migration estimated by the Population Estimates was significantly higher than what was reported in the IRS data (Figure A8). The net foreign migration was over three times as high as the total reported in-migration from the IRS data. The IRS data should be treated with caution and the ACS and Population Estimate data is likely to be more accurate.

Figure A8. Comparison of Net Foreign Migration by Source



Source: Internal Revenue Service (County Migration Files); U.S. Census Population Estimates (Vintage 2016); The Stephen S. Fuller Institute at the Schar School, GMU

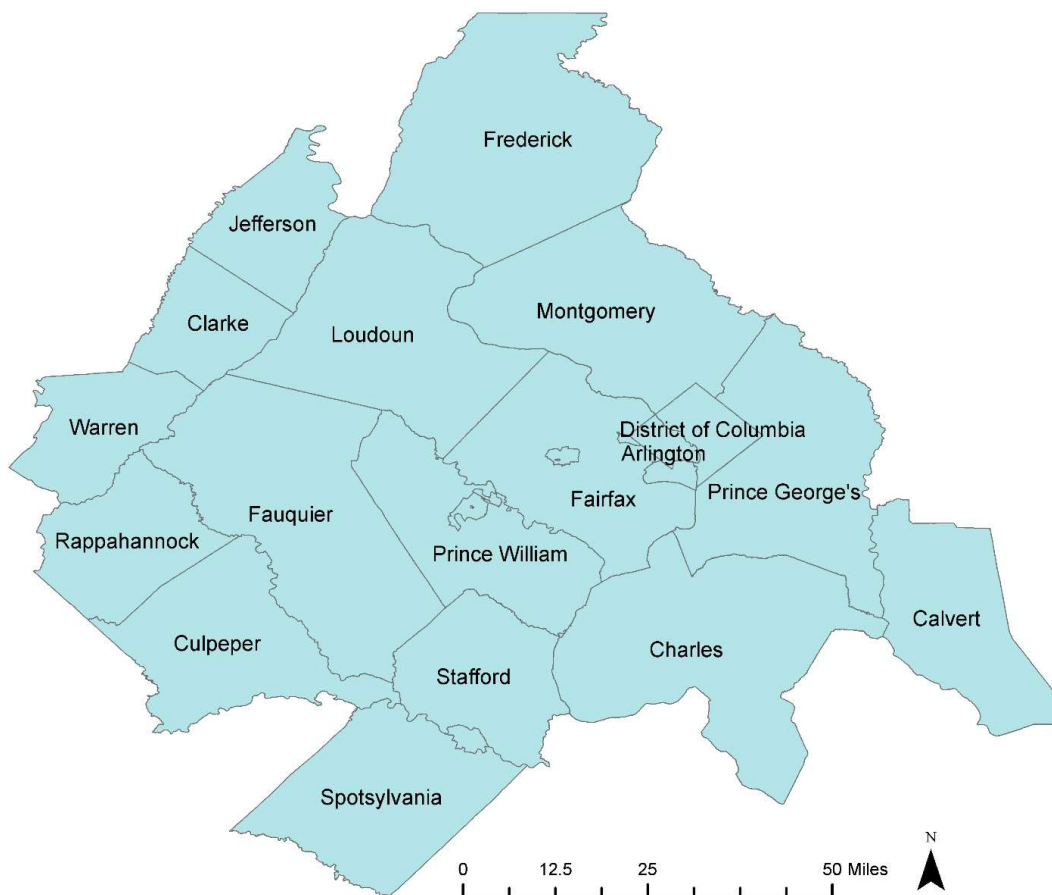
The estimates in Figure 5 of this report were based primarily on the ACS inflows (2005-2015 1-Year) for the Washington region and the outflows were derived using the Population Estimates net foreign migration. The inflows from 2000 and 2005 also used the IRS inflows and assumed that these inflows represented one-quarter of the true inflows, as it did during the 2005-2009 period. For the net changes, years 2011-2016 used the Vintage 2016 estimates and the prior years were based on the Vintage 2009 estimates that were re-weighted to match the 2000-2010 Intercensal

estimate totals. Because of the ACS margins of error and the derived nature of the Population Estimates, both estimates were smoothed across years.

Geographies

The metropolitan statistical areas as defined by the Office of Management and Budget in February 2013 were used for all IRS data. The Washington region is shown in Figure A9.

Figure A9. Washington Region (Washington Metropolitan Statistical Area)



The greater Washington region in Figure A10 was used for the 2013-2015 ACS data. The public use microdata area geographies do not align with metropolitan areas and the closest proxy was used.

Figure A10. Greater Washington Region

