New Yorkers on the Move: 
Recent Migration Trends for the City and Metro Area

Frank Donnelly, Anastasia Clark, Janine Billadello*

Summary
1. The population of New York City and the New York Metropolitan Area increased significantly between 2010 and 2016, but annually growth has slowed due to greater domestic out-migration.

2. Compared to other large US cities and metro areas, New York's population growth depends heavily on foreign immigration and natural increase (the difference between births and deaths) to offset losses from domestic out-migration.

3. Between 2011 and 2015 the city had few relationships where it was a net receiver of migrants (receiving more migrants than it sends) from other large counties. The New York metro area had no net-receiver relationships with any major metropolitan area.

4. The city was a net sender (sending more migrants than it received) to all of its surrounding suburban counties and to a number of large urban counties across the US. The metro area was a net sender to metropolitan areas throughout the country.

1. Introduction

New York is a global city, and has consistently been the largest city in the United States from the time the first census was conducted in 1790 up to the present day. With 8.5 million people, its population is more than double that of Los Angeles, which occupies the second spot in America's urban hierarchy. After a period of stagnation and decline during the mid-twentieth century, the city rebounded by the century's end and was the only large Northeastern city to hit its population peak in 2010, a distinction it shared with growing Sunbelt cities in the South and West (Short and Mussman, 2014). The city's population growth since 2010 has been particularly strong (Roberts, 2014).

While New York's resurgence is regarded as a major success story, there are signs of growing strain. A lack of affordable housing, high commercial rents, and a deteriorating mass transit system may be pushing New Yorkers to greener pastures. Based on a comparison of the prices of 160 goods and services in 133 cities, New York was the ninth most expensive city in the world in 2016 (The Economist, 2017).

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Recent media stories provide conjectural evidence that Millennials are fleeing to Los Angeles (Williams, 2015), African Americans are continuing to return to the South (Allen, 2017), and middle class workers are commuting from Philadelphia where the cost of living is lower (Robbins, 2016). But headlines suggesting that New Yorkers are suddenly fleeing in droves are misleading. In reality the city’s net domestic migration has actually been negative for the past several decades, with more US residents moving out than moving in. This loss has always been offset by natural increase (the difference between births and deaths) and a steady stream of foreign immigrants, and the rate of the city’s population growth is often influenced by the degree to which domestic migration loss is high or low (NYC Planning, 2017b; NYC IBO, 2009).

So are more New Yorkers leaving than staying, and where are they going? In this paper we study recent migration trends using data from the Census Bureau’s Population Estimates Program and the Internal Revenue Service’s migration data. We examine population change and movement at two geographic scales: migration between New York City and other counties, and migration between the New York Metropolitan Area and other metropolitan areas.

### 2. Scope of Study

We begin with examining population estimates from the US Census Bureau from 2010 to 2016 (US Census Bureau, 2016) to see how the various components of change (natural increase, domestic and foreign migration) have influenced overall population growth. Then we study county to county and metro to metro area population flows using IRS migration data to better understand domestic migration. Taking a cue from other studies, we do not use the IRS data to examine foreign migration but rely on the population estimates instead (Chapman, 2017).

The IRS data that we are using was compiled by the GIS Lab at Baruch College CUNY (2017). Over the decades the IRS has modified how it structures the data and has released it in a number of different formats. The lab has packaged all of the data into one SQLite database which makes it easier to access and query. In order to avoid comparing data that was collected using different methodologies, we examine IRS data from 2011 to 2015 (the latter is the latest data that’s available).

In this paper we adopt the language that is typically used in other research when referring to the IRS migration dataset, where the number of tax filers whose address changed from one year to the next is equated with number of households, and the number of exemptions is equated with number of persons. We explore where New Yorkers are coming from and where they are going at two different geographic scales. New York City (NYC) competes with the surrounding suburban counties for residents, and with other large cities in the country that attract urban dwellers. Migration at this scale affects the city’s ability to raise revenue through income and property taxes.

At a higher level, NYC and the surrounding counties are part of a larger metropolitan area held together by a common labor market and shared social and cultural institutions. The New York Metropolitan Area (NYMA) competes with other metros across the country for jobs and residents, and its ability to attract and retain people is based on the health of its economy and a variety of quality of life issues. Migration at this scale has an impact on the metro area’s ability to remain competitive within the national economy. The NYMA consists of twenty-five counties: twelve in New York State (including the five counties that are NYC’s boroughs), twelve in New Jersey, and one in Pennsylvania.¹

¹ We are using the most recent definitions for core based statistical areas (which includes metropolitan and micropolitan areas) that were released by the US Office of Management and Budget in July 2015.
3. Datasets for Studying Migration

Three datasets are commonly used to study internal migration patterns in the US: estimates from the Census Bureau’s Population Estimates Program (PEP), the Internal Revenue Service’s migration data produced by the Statistics of Income Division (IRS), and the Census Bureau’s American Community Survey (ACS). Researchers at the real estate company Zillow have written a thorough summary of the strengths and weaknesses of each source (Terrazas, 2016). The PEP is generally regarded as the best source for estimating total migration. The IRS tends to under-estimate migration while the ACS tends to over-estimate it. Recent studies on Washington DC and Philadelphia have examined all three sources (Chapman, 2017; Eichel and Schmitt, 2016; Eichel, 2010). In this paper we focus just on the PEP and the IRS².

Census Population Estimates

The Census Bureau’s Population Estimates Program (PEP) uses the latest decennial census as a baseline and produces annual estimates of the US population. There are two components of population change: natural increase and migration. The Bureau gathers data on births and deaths from the National Center for Health Statistics to calculate natural increase. The Bureau uses data from the IRS (for the population under 65) and the Medicare enrollment program (for the population 65 and over) to generate estimates for domestic migration. Calculations for foreign migration are based on data from the ACS and are more complex, as different components are calculated separately: immigration to the US, immigration from the US, immigration to and from Puerto Rico, and movements of the armed forces overseas.

Net migration is calculated for both domestic and foreign categories (as the difference between in-flows and out-flows), and between each category to yield whether overall migration is positive or negative. The estimated change in population for each year is the difference between natural increase and net migration. Data is produced at the county level and is rolled up to highergeographies (states and metropolitan areas) and is broken down to smaller geographies (municipalities).

IRS Migration Data

The Internal Revenue Service generates state to state and county to county data to illustrate migration flows. The IRS takes two consecutive years of tax returns and compares the address on the forms; if the address has changed that filer is counted as having moved, and a move is recorded between the former and new county of residence. The number of filers, the number of exemptions claimed on the returns, and aggregate gross income is recorded.

In order to protect privacy, the IRS only publishes a county to county flow if at least twenty people moved. The twenty filer rule was implemented in calendar years 2013-14; prior to that time the minimum number was ten filers. If a county flow does not meet the minimum requirement, those movers are aggregated into two larger categories: the number of people who moved from that county and to a county in the same state, or to a county in a different state. Foreign migrants are tabulated in a separate series of categories, and filers who did not move are recorded as non-migrants. The IRS made a number of tabulation improvements beginning with calendar years 2011-12 (Pierce, 2015). First, they began comparing returns from the first year to all returns filed from January to December of the following year; previously they had used September 30th as a cut-off date. More significantly, they began identifying changes in address for all tax identification numbers on a form, when previously they had only looked at the primary filer’s address. So if a secondary filer’s status changed due to marriage or divorce, or a dependent suddenly started filing their own return, these filers are now captured and their movement is recorded if their address changed. Given this difference in methodology, data collected prior to 2011-12 under-estimates the number of moves.

² The ACS is the Census Bureau’s primary program for collecting detailed demographic and socio-economic data on the US population. It contains questions on residency and place of birth and is useful for understanding the characteristics of migrants, as neither the PEP nor the IRS capture this information. It is less useful for measuring overall migration patterns as it tends to over-estimate. Examining the ACS is beyond the scope of this paper: the Population Division at the NYC Department of City Planning has published a brief that highlights recent trends NYC Planning (2017b).
Despite these improvements, IRS data from any year will still under-estimate actual migration. Not all residents file tax returns; households whose earnings are less than the standard deduction plus one exemption usually are not required to file. As a result, the number of low-income households that move is likely under-represented. Filers that cannot be matched between two years of returns for whatever reason are also missing. The size of this group can be estimated by measuring how many filers are included in the IRS migration dataset relative to the total number of tax filers in each year. The IRS publishes a separate county-level data file which sums the total number of filers, exemptions, and other variables for each tax year (Internal Revenue Service, 2017). Data on in-migrants and non-movers from the IRS migration dataset can be summed and divided by the total number of filers or exemptions from the county dataset to create a coverage estimate.

Even though the IRS captures the change of address of some foreign movers, it is not considered to be a reliable source for measuring foreign migration. For foreign migrants to appear in the dataset they must have two consecutive years of returns, and one of the years must represent a year when they filed from abroad. Immigrants to the US often do not begin filing taxes until they arrive, so there is often no form filed from abroad, while emigrants might stop filing US taxes after they leave the country.

4. Population Trends & Components of Change

The City of New York grew by over 362,000 residents between 2010 and 2016, a growth rate of 4.4% (Table 1). City officials consider this to be among the strongest periods of growth in the last half century (NYC Planning, 2017a). The population grew by 402,000 people through natural increase, and net foreign migration added an additional 500,000 residents. Net domestic migration was -524,000, as more people moved out of the city than moved in. If foreign and domestic migrants are considered together, approximately one person moved out for every person that moved in. The greater NYMA has approximately 20.2 million people and grew by three percent during this period, adding over 586,000 residents. Approximately 672,000 people were added through natural increase while foreign migration added an additional 849,000. The metro lost 903,000 people from domestic out-migration. NYC is a major driver of the metro area’s population change; 62% of the metro’s net population growth occurred within the city.

<table>
<thead>
<tr>
<th>Total Population</th>
<th>Natural Increase</th>
<th>Migration</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2010</td>
<td>2016</td>
<td></td>
</tr>
<tr>
<td>New York City</td>
<td>8,175,133</td>
<td>8,537,673</td>
<td>401,943</td>
</tr>
<tr>
<td>New York Metro</td>
<td>19,567,410</td>
<td>20,153,634</td>
<td>671,717</td>
</tr>
</tbody>
</table>

Even though NYC has grown throughout this period, the rate of growth has slowed. The line in Figure 1 indicates positive change but at a steadily declining rate, while the bars for each year indicate what is influencing this change. While natural increase has gradually declined it has been offset by increased foreign in-migration. Overall population growth has slowed due to increasing domestic out-migration.
Table 2 compares the components of population change between 2012 and 2016. \(^3\) NYC grew by 77,000 people between 2011 and 2012 but only added 21,000 people between 2015 and 2016. Natural increase declined by fifteen percent while net foreign migration increased by twelve percent. Domestic migration has pulled down the city’s overall rate of growth; net change in out-migration went from over 65,000 people between 2011 and 2012 to over 121,000 people between 2015 and 2016.

The NYMA exhibits a similar pattern (Figure 2). Declines in natural increase were offset by growth in foreign in-migration, while increasing domestic out-migration has slowed population growth. The NYMA added almost 114,000 people between 2011 and 2012 but only 36,000 people between 2015 and 2016. The only substantive difference between NYC and the NYMA is the difference in domestic out-migration: between 2012 and 2016 out migration increased by 56% for the NYMA but grew by 86% for NYC.

\(^3\) We decided not to use 2011 for comparison; while it was the strongest year for growth, it is a bit of an anomaly. City officials believe that the Census Bureau under counted the population in the 2010 census by at least 65,000 people (NYC Planning, 2017a) and thus some portion of the 2011 estimate represents people who were missed in the count. Also, 2011 represents change for a fifteen month period between April 1, 2010 and July 1, 2011, while the other estimates represent a twelve month period measured from July 1st.
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How does NYC compare to the nation’s other big cities? Do they exhibit similar patterns of population change? We compared NYC to nine other counties that are home to cities that have over one million people. Figure 3 shows the components of change and population growth rates from 2010 to 2016 for each of these largest city / counties. NYC ranked seventh in overall population change. It grew slightly faster than Los Angeles County and Philadelphia, but was outpaced by Sunbelt cities in the South and West. Bexar and Harris counties (San Antonio and Houston) topped the list and grew by over twelve percent.

NYC stands out given the magnitude of its population components and the large difference between high positive natural increase and foreign migration and high negative domestic migration. Los Angeles County is the only other large urban area that exhibits a similar pattern, although natural increase is a bigger driver in keeping its growth positive relative to foreign migration. Cook County’s (Chicago) domestic out-migration is large enough that it offsets the other components and results in relatively no population change, while Philadelphia is noteworthy for the small magnitude of its components. In contrast, the rapidly growing Sunbelt cities experienced either positive domestic migration or relatively small negative domestic migration.

We compared the NYMA to the fourteen largest metro areas that have over four million people (Figure 4). The NYMA ranks eleventh in population change with three percent growth, just behind the Los Angeles metro and right before metro Philadelphia. Sunbelt metro areas had the most growth; Houston and Dallas topped the list, growing at 14% and 13% respectively. The neighboring Snowbelt metro areas of Boston and Washington DC grew faster than the NYMA and had lower levels of domestic out-migration. The pattern for the NYMA is similar to that of NYC; components are large in magnitude with positive natural increase and foreign migration offset by large negative domestic migration. Los Angeles metro is the only other big metro that has a similar pattern, although foreign migration is smaller relative to the NYMA.

Figure 3: Components of Population Change for Largest Cities 2010-2016

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4 With the exception of NYC and Philadelphia, all of the cities in this list are located within counties that also contain areas that are not part of the city. NYC is the only city in the US composed of several counties in their entirety. Philadelphia is one of a few cities where the city and county are the same entity.
It is not surprising that NYC and the greater NYMA are not experiencing the high levels of growth that are evident in places like Houston or Phoenix. NYC is the most densely populated city in the United States and lacks significant quantities of vacant, develop-able, and inexpensive land that these growing Sunbelt cities have. US migration patterns have followed a consistent trend for quite some time as people move from the Northeast and Midwest to the South and West, and foreign immigrants arrive primarily in the Northeast, Midwest, California, and Florida (Klein, 2012, 174-181, 217-219). Recent data shows that this trend slowed during the Great Recession but has picked up again (Frey, 2017). NYC and the NYMA do display distinct patterns in their components of population change that differs from most other large urban areas.

5. Domestic Migration Flows: Trends & Context

Total Flows

Based on the IRS migration data, 656,000 people moved from other parts of the US to NYC between 2011 and 2015 (inflow), while 953,000 people left NYC for other parts of the country (outflow), resulting in net out-migration of 296,000 people (Table 3). Inflows consistently declined over this period, while outflows were steady then declined in 2014-15. (Figure 5). Net out-migration grew during the first three years and was highest in 2013-14 at 86,000, but then declined in 2014-15 to 62,000 people. For the NYMA, domestic inflows were 904,000 and outflows were 1.3 million, resulting in net out migration of 443,000. Inflows consistently declined over the period, while outflows fluctuated then declined in 2014-15 (Figure 6). Net out migration was highest in 2013-14 at 131,000 people and lowest in 2014-15 with 96,000.

Table 3: IRS Domestic Migration Flows 2011 to 2015

<table>
<thead>
<tr>
<th></th>
<th>In Flows</th>
<th>Out Flows</th>
<th>Net Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York City</td>
<td>656,421</td>
<td>952,613</td>
<td>-296,192</td>
</tr>
<tr>
<td>New York Metro</td>
<td>904,138</td>
<td>1,347,562</td>
<td>-443,424</td>
</tr>
</tbody>
</table>
Domestic out-migration for 2011 to 2015 as reported by the IRS for both NYC and the NYMA (296,000 and 443,000 respectively) is lower than domestic out-migration reported in the PEP (330,000 and 579,000) due to methodological differences and limitations of the IRS data described previously. One way to account for these discrepancies is to measure how many filers are matched and included in the IRS migration dataset relative to the total number of tax filers in each year, and then multiply the percentage covered by the PEP estimate. For NYC, 88% of all exemptions filed for each year were matched and included in the IRS migration database, while 89% of all exemptions for the NYMA were covered. These differences in coverage could account for much of the discrepancy between the PEP and IRS for NYC (330,000 multiplied by 88% yields 290,400, a difference of only 5,600 people). A larger portion of the NYMA estimate is unexplained (579,000 times 89% yields 515,300, a difference of 72,300).

The abrupt decline in flows in 2014-15 may also be attributed to changes in methodology and data limitations. The IRS recently implemented new measures to detect fraud, which they believe has led to a decrease in “moves” that are really the result of identity theft. There were also problems with unmatched flows in this year. For details see the recent report on Washington DC’s migration trends (Chapman, 2017, 39-43). As noted earlier, the IRS data is useful for studying flows between places, while the PEP is better for estimating overall change.

Migration Flows for New York City: Origins & Destinations

The top fifteen sending and receiving counties for 2011 to 2015 are shown in Figure 7. The top five counties for inflows and outflows to NYC were consistent from year to year, and are all suburban counties that border the city: Nassau and Suffolk counties on Long Island, Westchester county immediately to the north of the city, and Hudson and Bergen counties in New Jersey. Los Angeles County, the nation’s largest county with ten million people, consistently holds the number six position. Following it are a mix of nearby suburban counties like Essex and Middlesex NJ and Fairfield CT, and other large urban counties like Miami-Dade and Philadelphia.

5 The term “suburban” is applied somewhat loosely here as counties in the NYMA that are not part of NYC. Some of these counties are quite urban and contain their own cities.
We can calculate the net flow between NYC and each place by subtracting NYC’s outflow from its inflow for each location. Counties that are net receivers gain more migrants from NYC then they lose, while net senders are counties that lose more people to NYC than they gain.

NYC has a lopsided relationship with the rest of the nation, as the number of net receivers outweighs net senders by far (Table 4). Nassau and Westchester counties are the largest net receivers, with Nassau gaining approximately 39,000 more residents from NYC than it lost, and Westchester gaining almost 25,000. The next three top receivers were all suburban counties in NJ: Hudson, Bergen, and Essex which gained between nine and eleven thousand people. Los Angeles County had a net gain of 8,700 residents from NYC, followed by Fairfield CT and Suffolk County NY. Other large net receivers included several counties in Florida, Travis and Harris counties in Texas (home to Austin and Houston), and Philadelphia.

There is a distinction between the top inflow and outflow counties and the top net receivers. In many cases, the top flow counties also appear in the top receivers list. For example, 92,817 people moved from NYC to Nassau while 54,230 moved in the other direction, resulting in a large net gain of 38,587 for Nassau. In contrast, 12,921 people moved from NYC to Philadelphia while 10,079 moved in reverse, resulting in a smaller net gain of 2,842 for Philadelphia. Some counties, like Miami-Dade and Cook County IL (Chicago) exchange a lot of movers with NYC, but since the exchange is more equivalent they do not appear in the top net receivers list; 10,506 people moved from NYC to Cook County while 9,879 moved in reverse, for a net gain to Cook of 627 people. In contrast, Harris County, TX (Houston) appears as a top net receiver, because it gained a lot more people (8,446) from NYC than it lost (4,095), but the overall exchange is small enough that it does not appear as a top flow county.

Figure 7: Top Origins and Destinations for NYC Migration 2011-2015
The top twenty counties that are net receivers from NYC were consistent over the four year period; the relative position or rank of each county did not fluctuate by more than a few positions. Exceptions include Suffolk County on Long Island, which has had consistent increases in net flow from NYC, and Union County, NJ which has had consistent decreases. Travis County, TX (Austin) suddenly emerged as an important destination for New Yorkers during this period, with a net gain of 7,620. For every resident that it lost to NYC, it gained two.

Suburban counties within the NYMA were the source of 36% of the city’s inflows and the destination for 39% of its outflows. The suburban counties accounted for 46% of NYC’s net out migration. A map of suburban net out-migration is shown in Figure 8.

In contrast, the list of top net senders to NYC is short and the numbers are small compared to the top receivers (Table 5). The District of Columbia was the top net sender to NYC, having lost 1,300 people between 2011 and 2015. Suffolk (Boston) and Middlesex (Cambridge) counties in Massachusetts rank second and third, losing 600 and 400 people respectively. The remaining net senders represent a mix of mid-size counties from across the country. With the exception of the top three counties plus Arlington County, VA, there is little to no consistency as to how net senders rank from year to year.

**Table 4: Top Net Receivers of Migrants from NYC 2011-2015**

<table>
<thead>
<tr>
<th>County</th>
<th>Net Gain From NYC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nassau County, NY</td>
<td>38,587</td>
</tr>
<tr>
<td>Westchester County, NY</td>
<td>24,660</td>
</tr>
<tr>
<td>Hudson County, NJ</td>
<td>10,977</td>
</tr>
<tr>
<td>Bergen County, NJ</td>
<td>10,600</td>
</tr>
<tr>
<td>Essex County, NJ</td>
<td>8,819</td>
</tr>
<tr>
<td>Los Angeles County, CA</td>
<td>8,697</td>
</tr>
<tr>
<td>Fairfield County, CT</td>
<td>7,708</td>
</tr>
<tr>
<td>Suffolk County, NY</td>
<td>7,639</td>
</tr>
<tr>
<td>Travis County, TX</td>
<td>7,620</td>
</tr>
<tr>
<td>Orange County, NY</td>
<td>5,840</td>
</tr>
</tbody>
</table>

**Table 5: Top Net Senders of Migrants to NYC 2011-2015**

<table>
<thead>
<tr>
<th>County</th>
<th>Net Loss to NYC</th>
</tr>
</thead>
<tbody>
<tr>
<td>District of Columbia, DC</td>
<td>1,293</td>
</tr>
<tr>
<td>Suffolk County, MA</td>
<td>604</td>
</tr>
<tr>
<td>Middlesex County, MA</td>
<td>435</td>
</tr>
<tr>
<td>Tompkins County, NY</td>
<td>197</td>
</tr>
<tr>
<td>Arlington County, VA</td>
<td>187</td>
</tr>
<tr>
<td>Leon County, FL</td>
<td>168</td>
</tr>
<tr>
<td>Utah County, UT</td>
<td>159</td>
</tr>
<tr>
<td>Grafton County, NH</td>
<td>108</td>
</tr>
<tr>
<td>Washtenaw County, MI</td>
<td>107</td>
</tr>
<tr>
<td>Summit County, OH</td>
<td>97</td>
</tr>
</tbody>
</table>
Migration Flows for the New York Metropolitan Area: Origins & Destinations

The top inflows and outflows between the NYMA and other metro areas are shown in Figure 9. The list is diverse and includes smaller metro areas that are located nearby (such as Bridgeport, Allentown, and Trenton) as well as large neighboring and distant metros. The Miami and Philadelphia metros consistently hold the top positions for total inflows and outflows. The Washington DC, Los Angeles, and Bridgeport metros rank third, fourth, and fifth for top outflows but their ranks are the inverse for top inflows.
The Miami metro is also the top net receiver of NYMA migrants; about 88,000 people left the NYMA for the Miami metro and only 58,000 moved in the opposite direction, resulting in a net gain of 30,000 (Table 6). The Philadelphia metro holds the fourth spot among net receivers, having gained 18,000 more people than it sent. In between Miami and Philadelphia are Orlando and Bridgeport, whose total flows were smaller than Philadelphia’s but whose net gains were slightly higher. The Atlanta and Los Angeles metros occupy the next positions, having gained between 15,000 and 16,000 residents. Many of the metros in the South and West gained two migrants for every migrant they lost to the NYMA.

As before, there are some differences between the top inflows and outflows and the top net receivers. The Chicago and Boston metros do not appear among the top net receivers, as their exchanges with the NYMA are more equivalent. In contrast, three “resort” metros (Cape Coral, FL, Myrtle Beach SC, and North Port FL) appear as top net gainers but do not have the largest absolute flows. While the District of Columbia was a net sender to NYC, the Washington DC metro is a net receiver from the NYMA, having gained about 10,000 residents.

The metropolitan areas that are the top net receivers of NYMA migrants are a diverse mix that include several “retirement” metros in Florida, rapidly growing metros in the South (Atlanta, Austin, Houston, Charlotte), the big California metros (Los Angeles and San Francisco), large neighbors in the Northeast Corridor (Philadelphia, Baltimore, Washington DC), and small neighbors in closer proximity (Bridgeport, Allentown, Albany). These areas are mapped in Figure 10.

The ranks for inflows and outflows were relatively consistent from year to year. Annual ranks for net receivers tended to fluctuate more compared to total metro flows. The Tampa and Cape Coral metros in Florida consistently grew in importance as net receivers over the period.

**Table 6: Top Net Receivers of Migrants from NYMA 2011-2015**

<table>
<thead>
<tr>
<th>Net Gain From NYMA</th>
<th>Net Gain From NYMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miami-Fort Lauderdale-West Palm Beach, FL</td>
<td>Allentown-Bethlehem-Easton, PA-NJ 11,129</td>
</tr>
<tr>
<td>Orlando-Kissimmee-Sanford, FL</td>
<td>Dallas-Fort Worth-Arlington, TX 10,421</td>
</tr>
<tr>
<td>Bridgeport-Stamford-Norwalk, CT</td>
<td>San Francisco-Oakland-Hayward, CA 10,025</td>
</tr>
<tr>
<td>Philadelphia-Camden-Wilmington, PA-NJ-DE-MD 17,664</td>
<td>Washington-Arlington-Alexandria, DC-VA-MD-WV 9,860</td>
</tr>
<tr>
<td>Atlanta-Sandy Springs-Roswell, GA 15,769</td>
<td>Raleigh, NC 8,114</td>
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<tr>
<td>Los Angeles-Long Beach-Anaheim, CA 14,576</td>
<td>Baltimore-Columbia-Towson, MD 6,137</td>
</tr>
<tr>
<td>Austin-Round Rock, TX 14,368</td>
<td>Cape Coral-Fort Myers, FL 5,591</td>
</tr>
<tr>
<td>Tampa-St. Petersburg-Clearwater, FL 13,151</td>
<td>Myrtle Beach-Conway-North Myrtle Beach, SC-NC 5,517</td>
</tr>
<tr>
<td>Houston-The Woodlands-Sugar Land, TX 12,273</td>
<td>Albany-Schenectady-Troy, NY 5,387</td>
</tr>
<tr>
<td>Charlotte-Concord-Gastonia, NC-SC 11,732</td>
<td>North Port-Sarasota-Bradenton, FL 5,260</td>
</tr>
</tbody>
</table>

**Table 7: Top Net Senders of Migrants to NYMA 2011-2015**

<table>
<thead>
<tr>
<th>Net Loss to NYMA</th>
<th>Net Loss to NYMA</th>
</tr>
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<tbody>
<tr>
<td>Ithaca, NY</td>
<td>Akron, OH 110</td>
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<tr>
<td>Tallahassee, FL</td>
<td>Ann Arbor, MI 107</td>
</tr>
<tr>
<td>Provo-Orem, UT</td>
<td>Gainesville, FL 88</td>
</tr>
<tr>
<td>State College, PA</td>
<td>Champaign-Urbana, IL 84</td>
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<tr>
<td>Madison, WI</td>
<td>Atlantic City-Hammonton, NJ 63</td>
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</tbody>
</table>
In sharp contrast, migration from the net senders to the NYMA was trivial (Table 7). The largest net senders to the NYMA were the Ithaca and Tallahassee metro areas, with about 300 migrants each. The next five metros in the list lost between 100 and 200 people. Many of these metros are home to large research universities, and their flows are probably influenced by returning students or recent graduates seeking employment. These areas are mapped in Figure 11.

Figure 10: Net Out-migration from NYMA to other Metro Areas 2011-2015

Figure 11: Net In-migration to NYMA from other Metro Areas 2011-2015
Placing Domestic Migration Flows in Context

Is it unusual that NYC and the NYMA have greater domestic outflows than inflows, and that they (the metro area in particular) lack any significant net sender relationships with other places in the country? Every city and metro area is going to have distinct migration patterns based on their size in area and population, geographic location and distance to neighbors, and economic composition and specialization. Exploring this fully is beyond the scope of this paper, but we can look briefly at three areas to provide some insight.

First, we can compare total domestic inflows and outflows for the ten largest city / counties (Figure 12) and the fourteen largest metropolitan areas (Figure 13). Maricopa (Phoenix), Bexar (San Antonio), and Harris (Houston) are the only three counties that have more inflows than outflows. NYC, Los Angeles County, and Cook County (Chicago) are the only three counties where outflows are substantively larger than inflows. Of the fourteen metro areas, six (Houston, Dallas, Phoenix, Atlanta, Riverside, and San Francisco) have more inflows than outflows. Once again, the nation’s three largest metros (New York, Los Angeles, and Chicago) have much greater outflows than inflows. New York’s neighboring metros (Boston, Philadelphia, and Washington) also have more outflows than inflows but not to the same degree as New York.

Second, we could compare the flows between other areas to New York’s flows. The recent report on the Washington DC metro compared its net flows from 2000 to 2015 in two parts: the flows between Washington and fourteen large metro areas, and then between Washington and all other metros (Chapman, 2017). Compared to the NYMA, the Washington metro had a diverse set of net sender and receiver relationships. The seven big metros in the Northeast and Midwest plus Los Angeles were net senders while the other seven big metros in the South and West were net receivers. Among the nation’s other metros, net senders included medium-sized cities across the country while net receivers included neighboring metros as well as metros in Florida.
Since Los Angeles County and the Los Angeles metro area (LA) have similar characteristics to New York in terms of total population, components of population change, and total flows, we examined LA's aggregate net flows from 2011 to 2015. Both LA county and the metro area had different patterns from New York. Like NYC, LA County's largest net receivers included counties that were adjacent to it, and the more distant counties were on the same coast or in Texas. Unlike NYC, LA County had many net senders that included large counties on the East Coast and in the Midwest, including many counties in the NYMA. Except for NYC and Cook County (Chicago), the number of net migrants from these places was modest, between 200 and 800 people. The pattern for the LA metro is quite different from the NYMA. LA's largest net receiver by far was neighboring Riverside, which gained 89,000 migrants, followed by Las Vegas which gained 18,000. No other metro received more than 10,000 migrants from LA. In contrast thirteen metros received more than 10,000 migrants from the NYMA. All of the largest net receiver metros for LA were in the West, while NYMA's were spread across the country. LA metro's net senders included many of the major metro areas in the East including Chicago, Boston, Philadelphia, Miami, and Washington which sent between 1,000 and 6,000 people. Seventeen other large metros were net senders to LA, sending between 200 and 1,000 people. In contrast, the NYMA had no net senders from any major metro.

Third, we can examine the past. The New York City Independent Budget Office published a report in 2009 that studied the IRS migration data for the city between 1991 and 2007 (NYC IBO, 2009). It is difficult to make direct comparisons with this report given the change in data tabulation practices that began in 2011, and because the report studied filers (equated with households) as opposed to exemptions (equated with individual people) that we used in this report. But we can say something about overall trends. Just as it’s true today, NYC’s domestic out-migrants have always outnumbered in-migrants. The overall trend for this longer period was a steady and sustained increase in in-migration. As inflows doubled between 1991 and 2007 and outflows grew more slowly, net out-migration declined by two-thirds. In contrast, inflows steadily declined while outflows remained stable over the recent four-year period we examined, resulting in higher net out-migration.
The origins and destinations of the past were also similar to the present. Nassau and Westchester counties were the top senders and receivers to NYC, followed by Suffolk, Hudson, and Bergen counties. The report did not break out statistics for other counties, but noted that Florida, California, Connecticut, and Pennsylvania were important destinations for out-migrants. Massachusetts was the only state where in-migrants to NYC exceeded out-migrants. Today, NYC continues to have few places in the country where it is a net-receiver of migrants.

In summary, NYC and the NYMA are not the only places in the country where outflows exceed inflows and net domestic migration is negative. Historically, NYC has persistently had negative domestic migration. New York is unique in that it has few domestic net-sender relationships with any major county or metro area.

6. Conclusion
New York City and the greater New York Metropolitan Area have grown significantly since the 2010 Census. The rate of growth has been declining as domestic out-migration from both the city and the metro area has increased. Foreign in-migration has increased, but it has only been enough to offset a decline in natural increase. Compared to other large cities and metro areas, population growth in New York depends more on natural increase and especially foreign migration to offset domestic out-migration.

New Yorkers are indeed leaving for Los Angeles, the South, and Philadelphia, among many other places. For every US resident that moved to the New York area (either the city or metro) three people left. The suburban counties of Nassau, Westchester, Hudson, Bergen, and Essex are the top net receivers of NYC migrants, as is Los Angeles County. The only significant net senders to NYC are the District of Columbia and two counties in the Boston area. Thirteen large metro areas from throughout the country were net receivers of 10,000 or more residents from the NYMA, while the largest net sender of residents to the NYMA was the Ithaca, NY metro with 300 migrants. NYC and the NYMA are not the only places where domestic out-migration exceeds in-migration, and it’s not unusual that, like other Eastern and Midwestern cities, New York continues to lose people to the South and West. But New York is unique in that it has few net senders of migrants among other large counties or major metro areas.

It is important to remember that when foreign migration is included with domestic migration, about one person leaves New York for every person who arrives. Foreign migration is a larger element of the city and metro’s population growth relative to other places. Indeed, in 2015 approximately 40% of the city’s residents were foreign-born immigrants who hailed from 150 different countries (NYC Comptroller, 2017). It seems that one of New York’s roles in America’s urban hierarchy is to receive large flows of foreign migrants and to redistribute people across the nation. Given the federal government’s increasingly hostile stance towards foreign immigration, it remains to be seen whether New York City and the greater metro area will continue to grow at the same pace in the near future.

Data for This Paper
The code that was written for this analysis, as well as the source and output data, are available on GitHub at https://github.com/anastasiac Clark/irs_nyc_migration. The population estimates data and IRS migration inflows and outflows for NYC and the NYMA are provided in CSV format. The analysis was conducted using the Python programming language with the Pandas data module in a Jupyter Notebook.
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