Regional Economic Analysis of Mecklenburg County, NC

Maryam Khabazi

PhD Candidate

Department of Geography & Earth Sciences, University of North Carolina at Charlotte, United States

5.1.2017

1. Regional Scan

Located in the state of North Carolina, Mecklenburg county is among the ten fastest growing counties in the United States (Carmen et al., 2010). As of 2010 census data the population of the county is 919,628, with an estimated population of 1,034,070 in 2015. The city of Charlotte, that covers the most area of Mecklenburg county, is the largest city in NC with close to 700,000 residents, and the seventeenth largest city in the US. Mecklenburg county is part of the NC-SC Metropolitan Statistical Area (MSA) of Charlotte, Concord, Gastonia.

546 square miles (1,410 km²) of Mecklenburg county is land and 22 square miles (57 km²) is water (US Census Bureau). Adjacent counties include: Iredell county, Cabarrus county, Union county, Gaston county, Catawba county, Lincoln county, Lancaster county (SC), and York county (SC).

Charlotte is home of a large banking industry and several Fortune 500 companies (Carmen et al., 2010). The banking industry makes Charlotte the second largest financial center in the US after New York and has one of the highest median wages in the region (Kozar, 2010). Another large industry in Charlotte is finance, insurance, and real estate, and the headquarters of several national corporations located in Charlotte (Bacot, 2008). Five Fortune 500 Companies that have their headquarters in Mecklenburg County are: Bank of America, Nucor, Sonic Automotive, Duke Energy, and Family Dollar (Dollar Tree) (Fortune, 2016).

Education is another large economic sector in North Carolina due to having the largest public school system and a regional state university in this area (Bacot, 2008); these schools include: UNC Charlotte, Davidson College, Queens University, Johnson & Wales University, Wake Forest University (School of Business) Charlotte Center, Johnson C. Smith University, Southern Evangelical Seminary, Central Piedmont Community College, and Belmont Abbey College.

Other large employers in Mecklenburg county are Charlotte Mecklenburg Hospital, Charlotte-Mecklenburg Board of Education, Wells Fargo Bank (A Corp), Bank of America, and US Air Inc (NC Department of Commerce, 2015, 4th quarter).

Charlotte-Douglas International Airport is the main airport in the region that is the 5th busiest airport in the nation in 2015, and the 6th busiest in the world (Portillo, 2016). This airport is the hub for US Airways and American Airlines that have been merged in 2013, to become the second busiest hub for the combined carrier (Portillo, 2015).

Charlotte, like other parts of the US, has been affected by the economic recession that started in 2007. Many job losses and unemployment expanded in all sectors of the economy. The banking industry that was the largest industry in the region was specifically affected by the recession, leaving the region with high unemployment (NC Department of Commerce, 2015, 4th quarter). However, one of the strongest assets of Charlotte economy is its diversity of employment, that even at the time of distress, would sustain its economy (Kozar, 2010).

2. Population and Labor Force

2.1. Overall Trends

Based on table 2.1., that displays the annualized growth rate and considers the adjustment for difference in time periods, Mecklenburg County population grew at a relatively faster rate during 2000-2010 (2.83%) than 2010-2015 (2.37%). Also, population grew at a relatively faster rate than the state (on average) for both time periods of (00-10 and 10-15).

According to the annualized growth rate of county and state projections for the time periods of 2010-2020 and 2010-2030, Mecklenburg County population will continue to grow in an upward trajectory however this growth is at slightly slower rate than what we have seen in the last few years (10-15) (table 2.1.).

Table 2.1. Annualized Growth Rate in Population,
Source: 2000 and 2010 from the Census (SF1 100% data); 2015 (ACS) and projections from NC OSBM

Area	Annualized Growth Rate			
	2000-2010	2010-2015	2010-2020	2010-2030
Mecklenburg County	2.83%	2.37%	2.21%	1.99%
North Carolina	1.71%	1.04%	1.05%	1.00%

Based on the county migrations statistics 2010-2014, Mecklenburg County is gaining population from migration. The number of inbound migration flows is 71,000 (39,495+24,338+7,167), while the number of outbound migration flows is 53,764 (28,133+25,631). These people are coming from different states and also other counties in North Carolina. More specifically, as the map (fig. 1) displays a lot of people are coming from the east and west coasts, and those who are leaving Mecklenburg County are moving mostly to the east and west coasts.

Figure 1: Inbound and Outbound Migration Flows for Mecklenburg County,
Source: <https://flowmapper.geo.census.gov/map.html>

Table 2.2.

County Statistics (2010-14)	
Mecklenburg County, North Carolina	
Population (1 yr and over):	956,307
Movers from a different state:	39,495
Movers to a different state:	28,133
Movers from a different county, same state:	24,338
Movers to a different county, same state:	25,631
Movers from abroad:	7,167

2.2. Demographic Changes

Figure 2.3. displays the change in age distribution in 2010 and 2015 in Mecklenburg County. Based on the graph there are no noteworthy changes have taken place from 2010 to 2015. In other words, the distribution looks very similar in 2015 to what did in 2010.

Figure 2.3. Age Structure in Mecklenburg County, Source: 2010 Decennial Census and 2015 from ACS

Mecklenburg County generally follows national trend in aging population. There are no noteworthy differences between the county and the nation (Fig. 2.5.). It appears that it has a slightly aging population since the percent point change in the county and the US becomes positive for 55 years old and older.

Figure 2.4. Percent Point Change by Age in Mecklenburg County, Source: 2010 Decennial Census and 2015 from ACS

Figure 2.5. Percentage point change in age structure of the population in Mecklenburg County and the US, Source: 2010 Decennial Census and 2015 from ACS.

2.3. Unemployment and Labor Force Participation Rates

Based on table 2.6., the unemployment rate in Mecklenburg County follows a similar trend as the state of North Carolina between 2000 and 2015, except from that it is higher by a very small amount of 1% to 2%. The unemployment rate went up between 2000 and 2010, and one of the reasons for this significant increase is likely the great recession in 2008.

In addition, based on table 2.7., the percentage point change in the unemployment rate displays that the Mecklenburg County had an upward trend in unemployment growth between 2000-2010, however, the trend became opposite between 2010-2015.

Table 2.6. displays that the labor force participation rate did not change a lot in the time periods of 2000-2015, and it is relatively higher than labor force participation rate in North Carolina (table 2.6.). Additionally, based on table 2.7., percentage point change in labor force participation rate confirms the same conclusion (table 2.7.).

Table 2.6. Comparison of annual unemployment rate and labor force rate for Mecklenburg County and NC in 2000, 2010, and 2015, Source: NC Department of Commerce LAUS

	2000		2010		2015	
	Meck	NC	Meck	NC	Meck	NC
Unemployment rate (%)	5.17%	3.67%	12.80%	10.85%	6.90%	5.74%
Labor force participation rate (%)	72.35%	65.78%	71.90%	63.35%	71.20%	61.05%

Table 2.7. Percentage point change in the unemployment and labor force participation rate between the periods 2000 to 2010 and 2010 to 2015 for Mecklenburg County and NC, Source: NC Department of Commerce LAUS

	Percentage/percentage point change			
	2000-2010		2010-2015	
	Meck	NC	Meck	NC
Unemployment rate (%)	7.63%	7.18%	-5.90%	-5.11%
Labor force participation rate (%)	-0.45%	-2.43%	-0.70%	-2.31%

Figure 2.6. Labor Force Participation Rate vs. Employment Rate

2.4. Educational Attainment

Mecklenburg County has improved in terms of educational attainment from 2010 to 2015. Figure 2.7. depicts that in 2015 compared to 2010, percentage of people with at least a bachelor's degree increased by around 4% and percentage of people with at least High School diploma increased by around 2%. Also, individuals without a high school diploma or equivalent has decreased by around 2% percent (fig. 2.7.).

Based on figures 2.7. and 2.8., Mecklenburg County in general did better in terms of educational level in 2015 compared with the state of NC, because the percentage of people with at least a bachelors' degree is about 43% in Mecklenburg county while the same degree level is just 30% in the State. Also, the percentage of people with at least a High School diploma is 89% in Mecklenburg county in 2015 while the same level of education is 87% in the state (fig 2.7. and 2.8.).

Figure 2.7. Change in Educational Attainment Mecklenburg County 2010-2015, Source: 2010 and 2015 from ACS, Census

Figure 2.8. Change in Educational Attainment North Carolina 2010-2015

Figures 2.9. and 2.10. display educational attainment in Mecklenburg County and North Carolina in 2015 for people in age of 25 years old and over. These figures also show the better situation of Mecklenburg County in terms of educational attainment in general compared to North Carolina.

Figure 2.9. Educational Attainment (25 years and over) Mecklenburg County 2015,
Source: ACS, Census

Figure 2.10. Educational Attainment (25 years and over) North Carolina 2015

3. Employment and LQ

3.1. Overall Employment Trends

Based on table 3.1., average annual employment rates and labor force participation rates in all three years of 2000, 2010, and 2015 in Mecklenburg County are higher than the average annual employment rates and labor force participation rates in the state of North Carolina. In 2010, the unemployment rate relatively higher compared to 2000 and 2015.

Table 3.1. Unemployment, Labor Force Participation, and Employment rate in 2000-2010-2015, Source: NC Department of Commerce LAUS

	2000		2010		2015	
	Meck	NC	Meck	NC	Meck	NC
Unemployment rate (%)	5.17%	3.67%	10.67%	10.85%	5.36%	5.74%
Labor force participation rate (%)	72.35%	65.78%	70.53%	63.35%	69.67%	61.05%
Employment rate (%)	68.61%	63.37%	63.01%	56.48%	65.93%	57.54%

By looking at figure 3.1., employment rate went down from 2000 to 2010, but it grew from 2010 to 2015. However, labor force participation rates have not been changed a lot. Table 3.2. indicates

that the working age population (16 years old and over) grew proportionally more than the labor force between 2000 and 2010 in Mecklenburg County. Working age population continued to grow more than the labor force between 2010 and 2015. Meaning that even if the working age population grew, few of them joined the labor force.

Figure 3.1. Labor Force Participation vs. Employment Rate

In table 3.2., considering the percentage point change in (unadjusted) employment between the periods 2000-2010 and 2010-2015 for Mecklenburg County and North Carolina, we can see that employment rate growth was negative in 2000-2010 and positive in 2010-2015. While the unemployment rate went down between 2010 and 2015, so did the labor force participation rate.

While Mecklenburg County employment trend follows the NC fairly closely, it has seen a relatively larger working age population (as well as labor force) increase in the two-time periods.

Table 3.2. Percent Point Change in Unemployment, Labor Force Participation, and Employment rate for 2000-2010, and 2010-2015, Source: NC Department of Commerce LAUS

	2000-2010 Percentage point change		2010-2015 Percentage point change	
	Meck	NC	Meck	NC
Labor force	28.96%	11.56%	11.97%	3.30%
Employed	21.48%	3.25%	18.63%	9.23%
Unemployed	166.11%	229.56%	-43.75%	-45.36%
Total population 16 years old and over	32.28%	15.84%	13.36%	7.21%
Unemployment rate (%)	5.50%	7.18%	-5.31%	-5.11%
Labor force participation rate (%)	-1.82%	-2.43%	-0.86%	-2.31%
Employment rate (%)	-5.60%	-6.89%	2.93%	1.06%

3.2. Industrial Composition

Table 3.3. displays the top 5 private nonfarm industries in terms of share of employment in Mecklenburg County in 2001 and 2015. As it is displayed, there is a jump to the first level for finance and insurance sector in terms of share of employment. Also, professional, scientific and technical services, and accommodation and food services jumped to the top 5 industries in 2015 compared to 2001 in Mecklenburg County.

Table 2.3. Top 5 private nonfarm industries in share of employment in Mecklenburg County in 2001 and 2015,
Source: BEA Regional Data

Top 5 (2001):	Top 5 (2015):
Retail trade	Finance and insurance
Finance and insurance	Retail trade
Administrative and support and waste management and remediation services	Administrative and support and waste management and remediation services
Manufacturing	Professional, scientific, and technical services
Professional, scientific, and technical services	Accommodation and food services

Figure 3.2. displays share of private nonfarm employment by industry in Mecklenburg County in 2001, 2010, and 2015. Share of construction, manufacturing, wholesale trade, and retail trade went down from 2001 to 2015. However, the share of some other industries such as finance and insurance, accommodation and food services, professional, scientific, and technical services, real estate and rental and leasing grew from 2001 to 2015.

Figure 3.2. Employment by Industry in Mecklenburg County, Source: BEA Regional Data

3.3. Location Quotients

Table 3.4. shows location quotients for Mecklenburg County and North Carolina (with US as reference area) in 2015 for 2-digit nonfarm industries. As you can see management of companies and enterprises by Location Quotient of 2.70 has the highest LQ in the county, it showed a low share of employment in the county in 2015. The second position is for Finance and insurance by Location Quotient of 1.71 which already had the highest share of employment in 2015 and has comparatively large presence in Mecklenburg County. And the third industry is information with LQ of 1.62. So, these three industries in the region have higher concentration than the nation.

On the other hand, Forestry, fishing, and related activities with a Location Quotient of 0.09, and Mining, quarrying, and oil and gas extraction with a Location Quotient of 0.15 have relatively smaller presence in Mecklenburg County in 2015 compared to the nation.

It is interesting to pay attention that Finance and insurance, and Professional, scientific, and technical services that have relatively low LQ in North Carolina, have relatively high LQ in Mecklenburg. It means that most of the employment in Finance and insurance, and Professional, scientific, and technical services in the State of North Carolina is concentrated in Mecklenburg County.

The largest share of employment in Mecklenburg County in 2015 is in the Finance and Insurance Industry with 77,102 jobs. The following industry is retail trade with 74,248 jobs.

Table 3.4. Location Quotient Mecklenburg County and NC for 2-digit nonfarm industries in 2015

Location Quotients	Employment 2015	LQ	Employment 2015	LQ
	Meck	LQ	NC	LQ
<i>Private nonfarm employment</i>	763086	-	4783768	-
Forestry, fishing, and related activities	403	0.09	26711	0.95
Mining, quarrying, and oil and gas extraction	1029	0.15	8523	0.19
Utilities	2056	0.75	15087	0.88
Construction	44789	0.96	318501	1.09
Manufacturing	35080	0.57	484595	1.26
Wholesale trade	45931	1.45	204929	1.03
Retail trade	74248	0.83	589655	1.05
Transportation and warehousing	38475	1.25	162547	0.84
Information	25576	1.62	92196	0.93
Finance and insurance	77102	1.71	245660	0.87
Real estate and rental and leasing	41755	1.02	246232	0.96
Professional, scientific, and technical services	71173	1.15	336806	0.87
Management of companies and enterprises	30704	2.70	86979	1.22
Administrative & support & waste management and remediation services	72896	1.30	403002	1.15
Educational services	19174	0.88	131690	0.96
Health care and social assistance	58381	0.59	557152	0.89
Arts, entertainment, and recreation	22850	1.14	120973	0.96
Accommodation and food services	60337	0.92	423852	1.03
Other services (except public administration)	41127	0.80	328678	1.02

4. Earnings and Income

4.1. Comparison of Earnings Trends

Figure 4.1. visualizes the change in Mecklenburg County's share of earnings by industry for all private nonfarm employment for the years 2001, 2010 and 2015. In other words, it displays industry earnings as percentage of total local private nonfarm earnings. Based on figure 4.1. Finance and insurance, Professional, scientific, and technical services, and Management of companies and enterprises have the highest share of earnings in Mecklenburg County in 2015.

By comparing the share of earning trends with the share of employment trends by industry in Mecklenburg County, (fig. 4.1. and 3.2.) we can see that finance and insurance is the top one for both. However, while Professional, scientific, and technical services, Management of companies and enterprises, wholesale trade, and Construction made to the top 5 in earnings, just the Professional, scientific, and technical services are also in top 5 employment in Mecklenburg County in 2015.

Figure 4.1. Share of earning by industry in Mecklenburg County in 2001-2010-2015

Table 4.1. summarizes top 5 industries in terms of share of earnings in 2001-2010-2015.

Table 4.3. Top 5 Earnings by Industry in 2001-2010-2015

2001 share	2010 share	2015 share
1. Manufacturing	1. Finance and insurance	1. Finance and insurance
2. Wholesale trade	2. Professional, scientific, and technical services	2. Professional, scientific, and technical services
3. Professional, scientific, and technical services	3. Management of companies and enterprises	3. Management of companies and enterprises
4. Management of companies and enterprises	4. Wholesale trade	4. Wholesale trade
5. Retail trade	5. Health care and social assistance	5. Construction

Tables 4.2. and 4.3. compare the earnings trends in Mecklenburg County with employment trends by industry in this same region in 2001 and 2015. Just considering table 4.3. in 2015, you can see that Finance and insurance is on top for employment and earnings in Mecklenburg County. While the second top employment is Retail trade, the top earnings is Professional, scientific, and technical services. Moreover, Administrative and support and waste management and remediation services is the third employment, while the third earning category is Management of companies and enterprises.

Table 4.2. Top 5 Employment vs. Earnings 2001 (Source: BEA)

<u>Top 5 Employment vs. Earnings 2001</u>
Retail vs. Manufacturing
Finance vs. Wholesale trade
Admin. vs. Professional, scientific, and technical services
Manufacturing vs. Management of companies and enterprises
Wholesale trade vs. Retail trade

Table 4.3. Top 5 Employment vs. Earnings 2015 (Source: BEA)

<u>Top 5 Employment vs. Earnings 2015</u>
Finance and insurance vs. Finance and insurance
Retail vs. Professional, scientific, and technical services
Admin. vs. Management of companies and enterprises
Professional, Scientific. vs. Wholesale trade
Accommodation vs. Construction

4.2. Wage and Employment Trends by Occupation

Based on the data from North Carolina Department of Commerce's Labor & Economic Analysis Division that has data on estimated employment and median annual wage for Mecklenburg County for each occupation categories in the years 2001 and 2015, we can see that the top 5 growing occupations in Mecklenburg County are Business & Financial Operations, Computer and Mathematical, Protective Service, Sales & Related, Healthcare Practitioners and Technical (table 4.4.). It is important to mention that while Protective Service made the top 5 growing occupations in Mecklenburg County, the median annual wage of this occupation has been declining (-1.40%).

Table 4.4. Growing Occupations in terms of employment 2001-2015, Source: calculated from the data in North Carolina Department of Commerce's Labor & Economic Analysis Division

Growing Occupations		Wage Change
1. Business & Financial Operations	3.89%	25.82%
2. Computer and Mathematical	2.05%	11.74%
3. Protective Service	1.93%	-1.40%
4. Sales & Related	1.47%	5.27%
5. Healthcare Practitioners and Technical	1.15%	8.37%

On the other hand, table 4.5 depicts 5 declining occupations in terms of employments in Mecklenburg County. These 5 occupations are Office and Administrative Support, Management, Production, Construction and Extraction, and Building & Grounds Cleaning & Maintenance. Although Office and Administrative Support, Management, and Production are declining in terms of number of employments, their wage change is positive. Specifically, management that has 42.56% increase in its wage.

Table 4.5. Declining Occupation in terms of employment 2001-2015, Source: calculated from the data in North Carolina Department of Commerce's Labor & Economic Analysis Division

Declining Occupations		Wage Change
1. Office and Administrative Support	-3.59%	5.96%
2. Management	-2.75%	42.56%
3. Production	-2.74%	0.96%
4. Construction and Extraction	-1.76%	-1.33%
5. Building & Grounds Cleaning & Maint.	-0.53%	-8.54%

Figure 4.2. visualizes the occupational mix of Mecklenburg County in 2015. Based on figure 4.2, we can extract top 5 dominant occupations in Mecklenburg County in 2015 (table 4.6.). These occupations are Office and Administrative Support Occupations, Sales and Related Occupations,

Figure 4.2. Occupational Mix in Mecklenburg County 2015, Source: calculated from the data in North Carolina Department of Commerce's Labor & Economic Analysis Division

Food Preparation and Serving Related Occupations, Business and Financial Operations Occupations, and transportation and Material Moving Occupations.

Table 4.6. Largest occupation categories in Mecklenburg County in 2015, Source: calculated from the data in North Carolina Department of Commerce's Labor & Economic Analysis Division

Largest Occupation Categories 2015	Employment Share (Change)	Median Annual Wage \$2010 (Change)
1. Office and Administrative Support Occupations	16.79% (-3.59%)	\$31,934.90 (5.96%)
2. Sales and Related Occupations	11.90% (1.47%)	\$30,160.85 (5.27%)
3. Food Preparation and Serving Related Occupations	9.55% (-0.01%)	\$17,580.90 (-6.28)
4. Business and Financial Operations Occupations	8.19% (3.89%)	\$64,736.53 (25.82)
5. Transportation and Material Moving Occupations	7.89% (-0.31%)	\$29,366.12 (2.13%)

Tables 4.7. and 4.8. display the top 5 occupations with increasing and decreasing trends in their median wage percent change. It is insightful to consider that while the median wage in Management and Architecture and Engineering is increasing, their employment changes are negative. This might indicate that labor supply has not kept up with labor demand, pushing wages up. Also, based on table 4.8. while the median wage in Legal, Healthcare Support, and Personal Care & Service is decreasing, their employment increase slightly.

Table 4.7. Top 5 occupations with increasing trend in their median wage percent change, Source: North Carolina Department of Commerce's Labor & Economic Analysis Division

Increasing Median Wage		Employment Change
1. Management	42.56%	-2.75%
2. Farming, Fishing, and Forestry	31.86%	0.03%
3. Business and Financial Operations	25.82%	3.89%
4. Architecture and Engineering	17.20%	-0.46%
5. Community & Social Services	12.51%	0.04%

Table 4.8. Top 5 occupations with decreasing trend in their median wage percent change, Source: North Carolina Department of Commerce's Labor & Economic Analysis Division

Decreasing Median Wage		Employment Change
1. Legal	-48.11%	0.02%
2. Healthcare Support	-20.26%	0.06%
3. Personal Care & Service	-12.53%	0.89%
4. Building & Grounds Cleaning & Maint.	-8.54%	-0.53%
5. Food Preparation and Serving Related	-6.28%	-0.01%

5. Economic Base Analysis

In this section, we analyze the economic base of Mecklenburg County based on making employment comparisons, analyzing industrial structure, and studying industry growth patterns, and doing some location quotients analysis for Mecklenburg County, North Carolina.

Figure 5.1. displays the 2015 LQ for each industry (x-axis) against the change in LQ for each industry between 2001 and 2015 (y-axis) in Mecklenburg County. The relative size of each bubble shows the number of employees within each respective industry in Mecklenburg County in 2015. In 2015, the highest LQs are respectively for Management, Finance, Info, and Wholesale, which show those industries that have a relatively larger presence in the local economy of Mecklenburg County by having $LQ > 1.25$. A high location quotient in a specific industry may mean there is a competitive advantage in that industry for the local economy. The share of employment in these industries is relatively higher than the nation.

Figure 5.3. 2015 LQ for each industry against the change in LQ for each industry between 2001 and 2015 in Mecklenburg County, Source: BEA

Looking back at previous sections, based on table 4.3. **the highest earning industries** in Mecklenburg County are *Finance and insurance, Professional, scientific, and technical services, Management, Wholesale trade, and Construction*. While **the highest employment industries** are *Finance and insurance, Retail trade, Administrative and support and waste management and remediation services, Professional, scientific, and technical services, and Accommodation and food services*.

On the other hand, however, **the growing occupations in terms of employment** are *Business & Financial Operations, Computer and Mathematical, Protective Service, Sales & Related, Healthcare Practitioners and Technical* (table 4.4.). And **the growing occupations in terms of their median wage** are *Management, Farming, fishing, and forestry, Business and financial operations, Architecture and engineering, and Community and social services* (table 4.7.).

Moreover, based on figure 5.1., **the highest increase in LQ (or change in LQ)** is respectively for *Education, Arts, Info, Professional, scientific, and technical services, and health* and it displays the relative concentration of these industries in the Mecklenburg County economy (fig 5.1.).

Since we assume those industries with $LQ_i < 1$ are non-basic industries, consequently *utility, construction, manufacturing, retail, education, health, and accommodation* are considered **non-basic industries** for Mecklenburg County.

Therefore, based on these comparisons and analyses, industries that showed up in more than one category are *Professional, scientific, and technical services, Finance and insurance, Management of companies and enterprises, Business & Financial Operations*.

6. Target Industry Analysis

6.1. Top 25 industries in four metrics of economic activity

Considering four metrics of economic activity; total industrial output, employment, labor income, and total value added, fifteen industries made the top 25 industries in all four metrics of economic activity (table 6.1).

Table 6.1. Fifteen industries in top 25 industries in all four metrics of economic activity, Source: industry summary data IMPLAN

Sector	Industry	Output (\$)	Share of Total (%)	Employment	Share of Total (%)	Income (\$)	Share of Total (%)	Total Value Added (\$)	Share of Total (%)
395	Wholesale trade	9328416992	12.4%	41857	10.5%	3485928589	10.9%	6191266846	19.3%
411	Truck transportation	1658724121	2.2%	10457	2.6%	605178665.2	1.9%	741947359.1	2.3%
433	Monetary authorities and depository credit intermediation	9450167969	12.6%	25592	6.4%	3355082397	10.5%	7120356552	22.2%
434	Nondepository credit intermediation and related activities	3707676514	4.9%	8647	2.2%	3269936523	10.2%	3138037483	9.8%
436	Other financial investment activities	2527373779	3.4%	13058	3.3%	1147680115	3.6%	1115731997	3.5%
437	Insurance carriers	2982262451	4.0%	7949	2.0%	717833271.8	2.2%	1371274129	4.3%
438	Insurance agencies, brokerages, and related activities	1303721680	1.7%	8064	2.0%	544764473	1.7%	669567657.5	2.1%
440	Real estate	7963526367	10.6%	31192	7.8%	846378204.3	2.6%	6591093170	20.6%
449	Architectural, engineering, and related services	1277979858	1.7%	7748	1.9%	732993793.5	2.3%	741639102	2.3%
454	Management consulting services	1801594971	2.4%	14231	3.6%	1205290176	3.8%	1197751532	3.7%
461	Management of companies and enterprises	6862419434	9.1%	26887	6.7%	3733640043	11.7%	4628263227	14.4%
464	Employment services	1975736206	2.6%	25771	6.4%	1166532901	3.6%	1690075921	5.3%
475	Offices of physicians	1579286011	2.1%	10323	2.6%	1149581833	3.6%	1145355665	3.6%
533	* Employment and payroll of local govt, non-education	2875360596	3.8%	30665	7.7%	2483411621	7.8%	2875360687	9.0%
534	* Employment and payroll of local govt, education	1168110840	1.6%	19210	4.8%	1009461243	3.2%	1168110794	3.6%

As it is displayed in figure 6.1. wholesale trade, monetary authorities, and depository credit intermediation, nondepository credit intermediation and related activities, real estate, management of companies and enterprises, and employment and payroll of local government, non-education

are relatively high in their percentage in all 4 metrics of economic activity. Economic activity of wholesale trade is usually high in any place, since it includes basic needs of the population. Employment and payroll of local government, non-education is also relatively high everywhere since it is part of the governmental system. However, *monetary authorities and depository credit intermediation, nondepository credit intermediation and related activities, real estate, management of companies and enterprises* can be exclusive to Mecklenburg County and play a significant role for it.

Figure 6.1. Fifteen Industries Showed up in Top 25 Industries in All 4 Metrics of Economic Activity, Source: industry summary data IMPLAN

6.2.

Based on table 6.2., other major household appliance manufacturing has the largest concentration in Mecklenburg County. Following that are Software and other prerecorded and record reproducing, Surface active agent manufacturing, and Air and gas compressor manufacturing.

Based on tables 6.1. and 6.2., **Monetary authorities and depository credit intermediation and Non-depository credit intermediation and related activities**, that are in top 25 LQ list, are also in top 25 industries across the four metrics of economic activity. **Data processing, hosting, and related services** that is in top 25 LQ is also in labor income, TVA, and output economic activity metrics (table 6.1.).

Table 6.2. Top 5 industry sectors by LQ, Source: IMPLAN

Sector	Industry	LQ
331	Other major household appliance manufacturing	19.1
324	Software and other prerecorded and record reproducing	18.3
181	Surface active agent manufacturing	15.0
288	Air and gas compressor manufacturing	15.0
283	Turbine and turbine generator set units manufacturing	12.2

6.3.

Based on table 6.3., the top three industries in productivity in Mecklenburg County are water, sewage, and other systems, soybean and other oilseed processing, and toilet preparation manufacturing, nonetheless, employment in these industries is very low.

Based on table 6.4., top three industries in terms of job quality in Mecklenburg County are water, sewage, and other systems, toilet preparation manufacturing, and Electric power generation – Solar manufacturing, however, the employment in these industries is again very low.

Surface active agent manufacturing, Electric power generation – Solar, and other major household appliance manufacturing are in both top 25 LQ list and productivity list. Moreover, Electric power generation – Solar, Non-depository credit intermediation and related activities, Software and other prerecorded and record reproducing, and Blank magnetic and optical recording media manufacturing are in both top 25 LQ list and job quality list.

Table 5.3. Top 5 industries by Productivity (Output per Worker), Source: IMPLAN

Sector	Industry	US (\$)	North Carolina (\$)	Meck (\$)	Employment (Meck)
51	Water, sewage and other systems	277174	285599	13893844	4
71	Soybean and other oilseed processing	4447203	4451657	4415676	50
182	Toilet preparation manufacturing	736614	1075357	3743515	4
161	Petrochemical manufacturing	3281536	3385894	3462587	17
181	Surface active agent manufacturing	2175765	2957988	3415730	218

Table 6.4. Top 5 industries by Job Quality, Source: IMPLAN

Sector	Industry	US (\$)	North Carolina (\$)	Meck (\$)	Employment (Meck)
51	Water, sewage and other systems	92684	103127	13576042	4
182	Toilet preparation manufacturing	90893	74776	3337108	4
44	Electric power generation - Solar	166185	179503	3281059	3
158	Asphalt shingle and coating materials manufacturing	250675	112019	2486902	0
147	Paper mills	96614	86739	965212	1

6.4.

Based on table 6.5., the largest exporting industries in Mecklenburg County are **monetary authorities and depository credit intermediation, wholesale trade, management of companies and enterprises, real estate, and non-depository credit intermediation and related activities**, respectively. Intermediate imports are also reported in this table to provide insights into the degree to which that industry's product is being imported into the region.

Based on table 6.6., the largest importing industries in Mecklenburg County are **air transportation, wholesale trade, management of companies and enterprises, truck transportation, and wireless telecommunications carriers (except satellite)**.

None of the top three industries in terms of productivity, job quality, and LQ in Mecklenburg County made the top 25 industries in export and import. However, twelve industries out of fifteen that are in all four metrics of economic activity are in the top 25 export industries.

Among those 12 are Monetary authorities and depository credit intermediation, and Non-depository credit intermediation and related activities which are also among the top 25 in terms of LQ. Monetary authorities show up again among the top importers in the county.

Two of these industries, Monetary authorities and depository credit intermediation, and Non-depository credit intermediation and related activities are also in the top 25 LQ list. Moreover, seven industries out of fifteen that are in all four metrics of economic activity are in the top 25 import industries:

- Monetary authorities and depository credit intermediation
- Wholesale trade
- Real estate
- Management of companies and enterprises
- Insurance carriers
- Other financial investment activities
- Truck transportation

Table 6.5. Top 15 Mecklenburg County export industries, Source: IMPLAN

Sector	Industry	Total Exports (\$)	Intermediate Imports (\$)	Employment	Labor Income Per Worker (\$)
433	Monetary authorities and depository credit intermediation	7161862483	307622615	25592	131099
395	Wholesale trade	5457662842	790003752	41857	83282
461	Management of companies and enterprises	5214275635	600830584	26887	138865
440	Real estate	3571434693	296244076	31192	27135
434	Nondepository credit intermediation and related activities	2831641493	118319876	8647	378172
408	Air transportation	1978152557	956620633	6863	73239
430	Data processing, hosting, and related services	1773254395	403724097	7237	113825
437	Insurance carriers	1220403509	341726056	7949	90308
464	Employment services	1055790996	54516324	25771	45265
436	Other financial investment activities	1011685440	214998286	13058	87890
454	Management consulting services	992845185.7	143159064	14231	84695
283	Turbine and turbine generator set units manufacturing	911055939.5	380555605	1447	114995
411	Truck transportation	836127613.7	479865158	10457	57875
181	Surface active agent manufacturing	732571444.8	143495820	218	170346

Table 6.6. Top 15 Mecklenburg County import industries, Source: IMPLAN

Sector	Industry	Total Exports (\$)	Intermediate Imports (\$)	Employment	Labor Income Per Worker (\$)
408	Air transportation	1978152557	956620633	41857	83282
395	Wholesale trade	5457662842	790003752	1041	128884
461	Management of companies and enterprises	5214275635	600830584	0	0
411	Truck transportation	836127614	479865158	6863	73239
428	Wireless telecommunications carriers (except satellite)	516029403	476690347	4148	88762
430	Data processing, hosting, and related services	1773254395	403724097	1137	67826
283	Turbine and turbine generator set units manufacturing	911055940	380555605	376	103605
437	Insurance carriers	1220403509	341726056	13058	87890
426	Cable and other subscription programming	526245574	338184446	10457	57875
61	Construction of other new residential structures	293336	326540708	3022	68054
433	Monetary authorities and depository credit intermediation	7161862483	307622615	7237	113825
427	Wired telecommunications carriers	459349892	303725367	1578	169719
441	Owner-occupied dwellings	61	298674115	31192	27135
49	Electric power transmission and distribution	305593872	296876823	961	129915
440	Real estate	3571434693	296244076	7949	90308

6.5.

Based on this analysis, since two of these industries, **Monetary authorities and depository credit intermediation, and Management of companies and enterprises** are in the top 25 industries across the four metrics of economic activity, and also in the list of largest importing and exporting industries in Mecklenburg County, it appears that these two industries are particularly important to the local economy of Mecklenburg County.

The top three importing industries are **Air Transportation, Wholesale Trade, and Management of Companies and Enterprises**. Two industries that I identified are **Monetary authorities and depository credit intermediation, and Management of Companies and Enterprises**. Table 6.7. displays the top imported commodities for these industries.

The top 3 importing industries also show up in the top export industries (see table 6.5.). Management of companies and enterprises, and whole sale trade show up in all four metrics of economic activity and Air transportation shows up in three metrics of economic activity (industry output, labor income, TVA) (see table 6.1. and appendix).

From two industries, I identified in section 6.5., (Monetary authorities and depository credit intermediation, and Management of Companies and Enterprises), Management of companies and enterprises is one of the main importing industries that shows in industry import matrix. However, it is not part of the suppliers of the importing industries.

Based on table 6.7. two main imported commodities for Monetary authorities and depository credit intermediation, and Management of Companies and Enterprises are Advertising, public relations, and related services and Noncomparable imports. Advertising, public relations, and related services is also the biggest imported industry for Wholesale trade. Noncomparable imports is also one of the main imported industries for Air transportation. Refined petroleum products also is the main imported commodity for Air transportation, Wholesale trade, and Management of companies and enterprises.

Thus, based on these analyses, Management of companies and enterprises is a strong industry for the county, also, Air transportation has shown its importance for Mecklenburg County with its imports, and as a hub, they worth targeting for further study.

Importing Industry	Code	Commodities Imported	Estimated Imports (\$)
Air transportation	3156	Refined petroleum products	565400367
	3530	Noncomparable imports	207533324
	3414	Scenic and sightseeing transportation services and support activities for transportation	85372614
	3445	Commercial and industrial machinery and equipment rental and leasing services	33045132
	3359	Other aircraft parts and auxiliary equipment	18482973
Wholesale trade	3457	Advertising, public relations, and related services	98076803
	3416	Warehousing and storage services	56647494
	3156	Refined petroleum products	47985272
	3414	Scenic and sightseeing transportation services and support activities for transportation	35745910
	3415	Couriers and messengers services	34128564
Management of companies and enterprises	3457	Advertising, public relations, and related services	112929424
	3530	Noncomparable imports	39908749
	3156	Refined petroleum products	30847030
	3446	Leasing of nonfinancial intangible assets	27726511
	3447	Legal services	22671967
Monetary Authority and Depository	3457	Advertising, public relations, and related services	50789700.97
	3515	Business and professional services	30907723.84
	3062	Maintained and repaired nonresidential structures	24355968.84
	3499	Hotels and motel services, including casino hotels	20725167.37
	3530	Noncomparable imports	18529721.09

Figure 6.7. Industry import matrix: top 5 imported commodities for the top three importing industries and the industries are identified in section 6.5., Source: IMPLAN

7. SWOT

- growing population
- high rate of labor force
- decreasing unemployment rate
- educational attainment
- industry mix, occupational mix
- transportation infrastructure: air, highway, rail
- largest occupations: OfficeAdmin, Sales, Food, BusinessFinance, Transportation
- high share of Output, Emp, LI, TVA: Monetary, RealEstate, Management, nondepository
- high export industries: Monetary, Wholesale, Management

S

- aging population
- educational attainment
- developing region not a developed region
- declining occupations: OfficeAdminSup., Management, Production, Construction, Building Maint., ...
- high import industries: Air transport, Wholesale, Management

W

- growing population
- decreasing unemployment rate
- education
- increasing employment rate
- industry mix
- transportation infrastructure: air, highway, rail
- growing occupations: BusinessFinance, Computer, Protective services, Sales, Healthcare
- increasing median wage occupations: Management, Farming, Business, Architecture, CommunityService
- Increasing LQ: Educ, Arts, Info, Prof, Health, Accomod, Finance
- high export industries: Monetary, Wholesale, Management
- educational attainment
- developing region not a developed region
- declining occupations: OfficeAdminSup., Management, Production, Construction, BuildingMaint.
- high import industries: Air transport, Wholesale, Management, Monetary

O

- growing population
- aging populaiton
- declining occupations: OfficeAdminSup., Management, Production, Construction, Building Maint., ...
- decreasing median wage occupations: Legal, healthcare, PersonalCare, Building, Food
- decreasing LQ: Management, Wholesale, Transport, Manufacturing

T

8. summary

The Mecklenburg County economy is strong and robust. There are several industries that are dominant in the region including Office and administrative services, Sales, Food, Business and financial, Transportation with high share of employment, and Monetary, Real Estate, Management, non-depository with high share of four metrics of economic activity and Monetary, Wholesale, Management with high share of export. However, a number of industries have shown significant growth over the past few years.

Looking into the future, it does not appear that manufacturing in general to be the engine of new economic growth that it once was. As we see in the growing occupations, Mecklenburg County moves toward more service oriented industries such as business and financial operations, Protective services, Sales and related.

Throughout this analysis, we found some disconnects in the local economy. Disconnects are instances where local production is not being used to satisfy local demand. One large disconnect identified in this study is between the Management of companies and enterprises and legal services. While management of companies and enterprises imports legal services, at the same time legal services are exported to out of the region.

When there is a large demand in the local economy for a product or service, and they are not supplied locally, industries need to import those commodities, and it means that there is a gap in the local economy. One gap identified in this study is in the refined petroleum products and it is not locally available and must be imported. Another gap is advertising, public relations, and related services.

We have used several tools and sources to identify local strengths and weaknesses and figure out the points of opportunities and threats. Based on the analysis through the entire report, and the

SWOT analysis, those areas with the opportunity of further development are those ones that we have the strength for them in the county. Since Mecklenburg County has a growing population, high rate of labor force, increasing employment rate, industry mix, and access to infrastructure such as air transportation and highway and rail roads, we can target those industries that are highly important and need to import a lot of commodities. These industries include **air transportation, management of companies and enterprises, and monetary authority and depository**. These are the largest importing industries in the region that we use as a target for economic development. By locally providing the demand for these industries we can reduce the amount of money that is spent out of the region and keep and use it for the local economy.

Some of the weaknesses of the region that might affect the success of these targeted industries are the aging population of the county and relatively low educational attainment. Also, some threats that may put the region at risk are decreasing location quotient of management, wholesale trade, and transportation which make the process of improving at difficulty.

9. Appendix:

Sector	Industry	Output (\$)	Share of Total (%)
433	Monetary authorities and depository credit intermediation	9450167969	12.6%
395	Wholesale trade	9328416992	12.4%
440	Real estate	7963526367	10.6%
461	Management of companies and enterprises	6862419434	9.1%
434	Non-depository credit intermediation and related activities	3707676514	4.9%
441	Owner-occupied dwellings	3587953369	4.8%
437	Insurance carriers	2982262451	4.0%
533	* Employment and payroll of local govt, non-education	2875360596	3.8%
436	Other financial investment activities	2527373779	3.4%
408	Air transportation	2439408691	3.2%
430	Data processing, hosting, and related services	2370623047	3.1%
464	Employment services	1975736206	2.6%
454	Management consulting services	1801594971	2.4%
428	Wireless telecommunications carriers (except satellite)	1759413818	2.3%
427	Wired telecommunications carriers	1666092651	2.2%

411	Truck transportation	1658724121	2.2%
49	Electric power transmission and distribution	1591802124	2.1%
475	Offices of physicians	1579286011	2.1%
502	Limited-service restaurants	1385435669	1.8%
426	Cable and other subscription programming	1370865723	1.8%
451	Custom computer programming services	1349580444	1.8%
438	Insurance agencies, brokerages, and related activities	1303721680	1.7%
447	Legal services	1291736084	1.7%
449	Architectural, engineering, and related services	1277979858	1.7%
534	* Employment and payroll of local govt, education	1168110840	1.6%

Figure 9.1. Top 25 industries by output, Source: IMPLAN

Sector	Industry	Employment	Share of Total (%)
395	Wholesale trade	41857	10.5%
440	Real estate	31192	7.8%
533	* Employment and payroll of local govt, non-education	30665	7.7%
461	Management of companies and enterprises	26887	6.7%
464	Employment services	25771	6.4%
433	Monetary authorities and depository credit intermediation	25592	6.4%
501	Full-service restaurants	22058	5.5%
534	* Employment and payroll of local govt, education	19210	4.8%
502	Limited-service restaurants	18604	4.6%
454	Management consulting services	14231	3.6%
436	Other financial investment activities	13058	3.3%
503	All other food and drinking places	12737	3.2%
405	Retail - General merchandise stores	11101	2.8%
468	Services to buildings	11090	2.8%
411	Truck transportation	10457	2.6%
475	Offices of physicians	10323	2.6%
532	* Employment and payroll of state govt, education	9942	2.5%
509	Personal care services	9062	2.3%
400	Retail - Food and beverage stores	8766	2.2%
434	Non-depository credit intermediation and related activities	8647	2.2%
438	Insurance agencies, brokerages, and related activities	8064	2.0%
437	Insurance carriers	7949	2.0%
467	Investigation and security services	7774	1.9%
449	Architectural, engineering, and related services	7748	1.9%
58	Construction of other new nonresidential structures	7340	1.8%

Figure 9.2. Top 25 industries by employment, Source: IMPLAN

Sector	Industry	Income (\$)	Share of Total (%)
461	Management of companies and enterprises	3733640043	11.7%
395	Wholesale trade	3485928589	10.9%
433	Monetary authorities and depository credit intermediation	3355082397	10.5%
434	Non-depository credit intermediation and related activities	3269936523	10.2%
533	* Employment and payroll of local govt, non-education	2483411621	7.8%
454	Management consulting services	1205290176	3.8%
464	Employment services	1166532901	3.6%
475	Offices of physicians	1149581833	3.6%
436	Other financial investment activities	1147680115	3.6%
435	Securities and commodity contracts intermediation and brokerage	1009795303	3.2%
534	* Employment and payroll of local govt, education	1009461243	3.2%
440	Real estate	846378204.3	2.6%
430	Data processing, hosting, and related services	823700832.4	2.6%
462	Office administrative services	812234380.7	2.5%
449	Architectural, engineering, and related services	732993793.5	2.3%
451	Custom computer programming services	719865711.2	2.2%
437	Insurance carriers	717833271.8	2.2%
447	Legal services	629217506.4	2.0%
411	Truck transportation	605178665.2	1.9%
448	Accounting, tax preparation, bookkeeping, and payroll services	594390686	1.9%
438	Insurance agencies, brokerages, and related activities	544764473	1.7%
532	* Employment and payroll of state govt, education	521366455.1	1.6%
408	Air transportation	502637621.5	1.6%
501	Full-service restaurants	481771518.7	1.5%
482	Hospitals	481528781.9	1.5%

Figure 9.3. Top 25 industries by labor income, Source: IMPLAN

Sector	Industry	Total Value Added (\$)	Share of Total (%)
433	Monetary authorities and depository credit intermediation	7120356552	14.0%
440	Real estate	6591093170	13.0%
395	Wholesale trade	6191266846	12.2%
461	Management of companies and enterprises	4628263227	9.1%
434	Non-depository credit intermediation and related activities	3138037483	6.2%
533	* Employment and payroll of local govt, non-education	2875360687	5.7%
441	Owner-occupied dwellings	2427774017	4.8%
464	Employment services	1690075921	3.3%
437	Insurance carriers	1371274129	2.7%
454	Management consulting services	1197751532	2.4%
534	* Employment and payroll of local govt, education	1168110794	2.3%
475	Offices of physicians	1145355665	2.3%

436	Other financial investment activities	1115731997	2.2%
408	Air transportation	1099424426	2.2%
430	Data processing, hosting, and related services	1063047564	2.1%
447	Legal services	1023029287	2.0%
451	Custom computer programming services	951346504.2	1.9%
462	Office administrative services	789926774.5	1.6%
502	Limited-service restaurants	789318014.1	1.6%
448	Accounting, tax preparation, bookkeeping, and payroll services	753782935.1	1.5%
411	Truck transportation	741947359.1	1.5%
449	Architectural, engineering, and related services	741639102	1.5%
49	Electric power transmission and distribution	724951213.6	1.4%
427	Wired telecommunications carriers	697248844	1.4%
438	Insurance agencies, brokerages, and related activities	669567657.5	1.3%

Figure 9.4. Top 25 industries by total value added, Source: IMPLAN

10. Reference:

- Bacot, Hunter. 2008. "Civic Culture as a Policy Premise: Appraising Charlotte's Civic Culture." *Journal of Urban Affairs* 30 (4): 389–417. doi:10.1111/j.1467-9906.2008.00405.x.
- Carman, Joanne G., Suzanne M. Leland, and Amanda J. Wilson. 2010. "Crisis in Leadership or Failure to Plan?" *Nonprofit Management and Leadership* 21 (1): 93–111. doi:10.1002/nml.20014.
- Weinstein, Jeffrey M. 2016. "The Impact of School Racial Compositions on Neighborhood Racial Compositions: Evidence from School Redistricting." *Economic Inquiry* 54 (3): 1365–82. doi:10.1111/ecin.12329.
- Charlotte Energy Sector, Charlotte Chamber's Economic Development
- Charlotte Douglas International Airport:
<http://www.cltairport.com/AboutCLT/Pages/EconomicImpact.aspx>