



# First Capital Index, 2017

Business Activity Index for Rochester, NY and Monroe County

Produced and Published for the Greater Good by First Capital Business Solutions

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# Table of Contents

Overview .....	1
First Capital Index Case Study, 2016 – 2017 .....	1
First Capital Index Business Categories and Geographic Regions .....	3
Available Data .....	3
Method .....	3
Power and Threats to Validity .....	4
First Capital Business Solutions .....	5
First Capital Index, 2017 .....	6
First Capital Index, 2016 .....	7
2017 vs 2016 Index Comparison .....	8
Appendix .....	9

## Overview

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The First Capital Index<sup>®</sup> is a collection of indexes that use credit card processing data (sales), specifically monthly dollar amounts (volume) from a wide range of businesses, to measure economic trends in spending over time. The collection divides into three Business Category indexes relying on Merchant Category Codes (MCC)<sup>1</sup> data, and four geographic indexes using zip code data within Monroe County<sup>2</sup>. The purpose of the index is to inform business and public policy of these trends.

Each index does not indicate or suggest a total dollar amount of credit card sales for Monroe County. Instead, it uses an index value of 1.00 as its starting point and measures changes in credit card processing data from month to month to indicate growth or contraction, causing the index value to go up or down over time.

Our method of calculating each index value for each month begins with selecting from a group of businesses to be included in the calculation based on their category, region, and sales history. For a given month, we compare each business's credit card sales (volume) with the previous month, we then weight the volume based on the number of transactions for that business, and arrive at an index value based on how much all the businesses in the category or region grew or shrank in weighted volume.

The First Capital Index<sup>®</sup> Has several strengths and weaknesses based on its design and data set. One strength of the index is the use of empirical point-of-sale data over a period of time (as opposed to subjective or survey data). Another is the focus on changes of credit card spending over time, a measure that most concerns other business owners. One weakness is the self-selecting nature of the businesses in the index; all are clients of First Capital Business Solutions, and this will leave out credit card spending at large national retailers.

## First Capital Index Case Study, 2016 – 2017

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The First Capital Index results show several types of data. First is the **Index Value**, which shows the growth or decline in credit card sales from the preceding month. For example, a value of 1.06 for March represents an increase of 6% compared to February. The **Cumulative Index** shows the growth or decline since the beginning of the Index. For example, a Cumulative Index of 102% in August shows growth of 2% compared to December of the previous year. Finally, the **Merch Ct** gives the number of merchants included in that particular month and category (based on the methodology outlined below). Based on the results of the First Capital Index<sup>®</sup>, these data suggest the following noteworthy findings:

### First Capital Index, Overall Findings

- The greatest business activity for all indices was in the spring, specifically May and June
- October and December also experienced growth in business activity

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<sup>1</sup> The Merchant Category Codes that make up each Category Index can be seen in the Appendix

<sup>2</sup> The zip codes that make up each geographic region and map can be seen in the Appendix

- The lowest business activity for all indices was right after the holidays, specifically January and February. The Eating Places category showed less of a decline than Retail, and Services showed some growth
- These data suggest that businesses in the Eating Places Category Index experienced a slight improvement throughout 2016, while Retail and Service businesses experienced slightly decreased business activity. In 2017, Services improves to a greater degree than Eating Places, while Retail remains stagnant

### **Center City Business District**

- The Center City Business District experienced slightly decreased business activity in December 2016 compared to December 2015
- From 2016 to 2017, Center City sees the best improvement in business activity among the 4 regions
- March, October, and December are substantial growth months that are preceded and followed by months with declines in business activity
- Among regional indexes, the Center City Business District saw the mildest declines during the post-holiday winter months for both 2016 and 2017
- The region saw the most improvement in 2017 relative to 2016

### **Northeast**

- The Northeast region experienced the largest cumulative gains through 2016 among our indexes, but saw flat business activity for 2017
- The region experienced the worst performance relative to 2016

### **Northwest**

- The worst downward swing in business activity was experienced by the Northwest region during January 2016.
- The region also experienced the biggest upward improvement in business activity in May of 2016 with an index value of 1.20
- Despite having the most variance from month to month, the Northwest finished at roughly the same level of business activity at the end of 2016 as it did in the beginning of 2016 and was almost as flat for 2017

### **South**

- This region has the most index values above 1.00 for both 2016 and 2017, showing more consistent growth in business activity compared to the other regions
- The South region also experienced the least amount of variation and fluctuation in index values

## First Capital Index Business Categories and Geographic Regions

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The First Capital Index<sup>®</sup> is divided into the following business categories:

- **Retail Business Category Index** – Retail businesses which are operationally defined as places of business in which merchandise is sold primarily to ultimate consumers;
- **Eating Places Business Category Index** – This index will be places where people pay to sit and eat meals that are cooked and served on the premises; and
- **Service Business Category Index** – This index will be businesses that perform work, but do not produce a tangible commodity.

### Available Data

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First Capital Business Solutions has credit card sales records for over 120 *Merchant Category Codes* (“MCC”), and the number of businesses who are clients of First Capital Business Solutions is increasing. With access to the data from these businesses, First Capital Business Solutions is able to conduct analytics on over \$360 million and over 12 million transactions in annual business activity in the Retail, Restaurant, and Service industries. These data are from both debit and credit card point of sale transactions, and do not include cash transactions.

The clients of First Capital Business Solutions are located in the Rochester, New York metropolitan area; throughout the mid-Atlantic region; and, in the Tampa Bay, Florida metropolitan area.

### Method

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The First Capital Index<sup>®</sup> is a measure business activity growth and decline by business type and geographic region. This index shows the percentage change in the average credit card sales volume weighted by tickets from the current month to the previous month, represented by the index value. The greatest value of the First Capital Index<sup>®</sup> is as a tool to examine trends in business activity over time.

The eight indexes comprising the First Capital Index<sup>®</sup> have been created by selecting individual businesses in each MCC and geographic region. The businesses were selected based on:

- **MCC** – Including as many business types as possible;
- **Location** – Targeting every zip code within Monroe county, categorized into an appropriate geographic region; and,
- **Processing Timeframe** – Limiting inclusion for a given month so long as each business for a given month processed the month after the current month and before the previous month (a check of four months total). This ensures the two months compared for each business were full months and not months that the business opened or closed their account.

Point-of-sale data for each business, including MCC code and zip code, is matched with monthly credit card sales data. Each month, businesses are selected to be part of the calculation group that determines the index value based on whether they meet the Processing Timeframe criteria outlined above, and the MCC and Location criteria for the relevant sub-indexes. By selecting businesses that meet these criteria, the index

eliminates business that have either just started or just ended processing credit card sales (a very large threat to validity because a business just starting in month 1 would create the erroneous impression of large growth in month 2, and vice versa for a business that ended in month 2). This selection process would result in the number of businesses included in the index during a given month to be between 409 and 431.

The downside of controlling for this threat to validity is that there is a one-month lag for new businesses before their credit card sales data begins to be reflected in the index. However, the First Capital Index<sup>®</sup> is best used as a longitudinal measure of economic development, rather than a snapshot in time; this lag was worth the potential downside.

The algorithm for the index is as follows:

$$1.00 - [(Month Y - Month X) / Month X]$$

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## Power and Threats to Validity

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The United States Department of Commerce releases a similar index called the Advance Monthly Sales for Food and Retail, which is a measure of consumer's personal consumption across retail industries and tracks growth or deceleration of personal consumption spending, which makes of two-thirds of the annual United States economy. The Association for Investment Management and Research Journal lists the *Advance Monthly Sales for Food and Retail Index* among the Top 10 vital economic indicators.

The *Advance Monthly Sales for Food and Retail index* released monthly by the United States Department of Commerce is a:

*...stratified random sampling method is used to select 4,700 retail and food services firms whose sales are then weighted and benchmarked to represent the complete universe of over three million retail and food services firms.<sup>3</sup>*

The United States Department of Commerce also recently partnered with MetLife to produce the *Small Business Index: The Voices of Small Business Owners*. This quarterly report is a summary of a survey of 1,000 small business owners. There are 10 questions in the survey. Rochester is not a target city in this survey.

The First Capital Index<sup>®</sup> is not a randomized sample because the companies in the index are First Capital Business Solutions clients, and this is arguably a threat to validity. However, the clients chosen are a random sampling among current First Capital Business Solutions clients. In addition, the First Capital Index<sup>®</sup> is a powerful indicator of Rochester's economic vitality.

- The population of First Capital Business Solutions customers is a robust sample among companies in Monroe County, and the intention is for this number to grow (while rescaling the index to maintain reliability).
- The First Capital Index<sup>®</sup> is more than retail and food service, and thus **represents more than two thirds of the local economy**.
- The First Capital Index<sup>®</sup> provides geographic and industry-specific indicators of economic trends of First Capital Business Solutions customers.

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<sup>3</sup> U.S. Census Bureau, "Advance Monthly Sales for Retail and Food Services, December 2017", Release Number: CB18-05, [https://www.census.gov/retail/marts/www/marts\\_current.pdf](https://www.census.gov/retail/marts/www/marts_current.pdf).

- The First Capital Index<sup>®</sup> is more robust than a 10-question survey of small-business owners. The index is supported with longitudinal empirical point-of-sale data from businesses in the greater Rochester metropolitan area.

## **First Capital Business Solutions**

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First Capital Business Solutions is a credit card processor in Rochester, New York specializing in comprehensive payment processing solutions for businesses accepting credit cards, including point-of-sale payment processing. First Capital Business Solutions has unique access to point-of-sale trend data that can provide data about economic activity in the greater Rochester metropolitan area.

These data can be analyzed in myriad ways to provide business owners, policy makers, and other key stakeholders with valid and reliable information about business activity trends in neighborhoods across the metropolitan area. This analysis can be used as one source of information to make business and policy decisions from a data-driven context.

First Capital Business Solutions has access to vital data analytics at the individual transaction level, such as customer age, zip code, gender, etc... but this data is only accessible to individual merchants. This level of data is available on our credit card processing platform as an extra service.

# First Capital Index, 2017

## First Capital Index, 2017 -- By Business Category

	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
<b>Eating Places</b>													
Index	1.00	0.88	0.97	1.14	1.07	1.02	0.96	0.99	0.98	0.97	1.06	0.91	1.16
Cumm Index	100%	88%	85%	97%	103%	106%	101%	101%	98%	95%	101%	92%	107%
Merch Ct	121	121	121	127	128	146	148	145	147	147	145	145	142
<b>Retail</b>													
Index	1.00	0.66	1.08	1.12	1.19	1.14	0.89	0.88	0.94	0.97	1.10	0.88	1.35
Cumm Index	100%	66%	71%	80%	94%	107%	96%	85%	79%	77%	85%	75%	101%
Merch Ct	123	123	120	119	122	125	135	134	135	133	138	142	139
<b>Service</b>													
Index	1.00	1.16	1.01	1.13	0.89	1.04	1.02	0.93	1.19	0.92	1.18	0.91	0.87
Cumm Index	100%	116%	117%	132%	118%	122%	124%	116%	138%	126%	148%	136%	118%
Merch Ct	141	141	141	139	138	141	139	137	139	137	133	131	110

## First Capital Index, 2017 -- By Region

	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
<b>Center City</b>													
Index	1.00	0.99	1.02	1.13	0.98	1.00	1.00	0.97	1.03	0.94	1.13	0.91	1.10
Cumm Index	100%	99%	100%	113%	111%	112%	112%	108%	111%	105%	118%	107%	118%
Merch Ct	111	111	108	116	118	131	136	132	137	138	141	145	141
<b>Northeast</b>													
Index	1.00	0.77	0.95	1.10	1.14	1.05	0.98	0.97	0.95	0.98	1.07	0.92	1.20
Cumm Index	100%	77%	73%	80%	92%	96%	95%	92%	88%	86%	92%	84%	101%
Merch Ct	74	74	74	72	73	76	79	80	80	80	79	77	71
<b>Northwest</b>													
Index	1.00	0.77	1.04	1.18	1.08	1.16	0.89	0.92	0.96	0.99	1.02	0.93	1.15
Cumm Index	100%	77%	81%	95%	103%	120%	107%	99%	95%	94%	95%	89%	102%
Merch Ct	120	120	121	119	118	120	121	115	115	117	116	113	104
<b>South</b>													
Index	1.00	0.82	1.02	1.09	1.07	1.07	0.98	1.00	1.02	0.95	1.16	0.86	1.11
Cumm Index	100%	82%	84%	91%	98%	105%	102%	102%	104%	99%	114%	99%	109%
Merch Ct	86	86	86	85	86	92	93	96	95	88	86	89	81



# First Capital Index, 2016

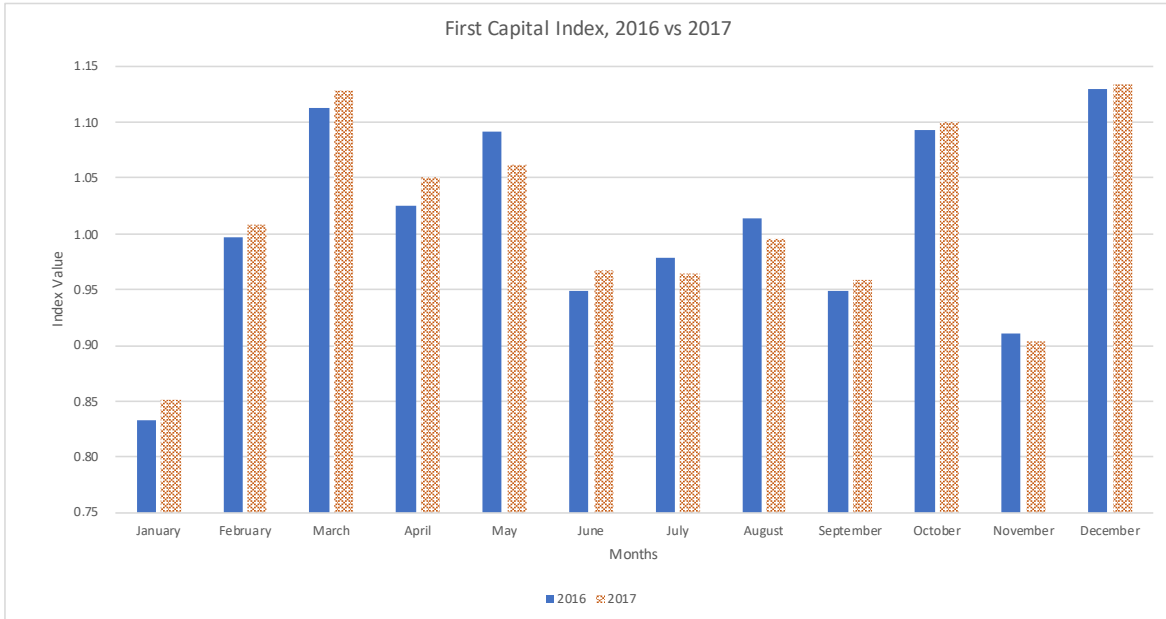
## First Capital Index, 2016 -- By Business Category

	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
<b>Eating Places</b>													
Index	1.00	0.91	0.99	1.08	1.05	1.04	0.95	1.03	0.98	0.94	1.11	0.90	1.14
Cumm Index	100%	91%	89%	97%	102%	106%	101%	104%	102%	96%	107%	96%	110%
Merch Ct	145	145	141	138	143	149	151	148	145	146	146	144	141
<b>Retail</b>													
Index	1.00	0.59	1.07	1.13	1.08	1.28	0.84	0.88	0.95	1.04	1.11	0.89	1.29
Cumm Index	100%	59%	63%	71%	77%	98%	83%	72%	69%	71%	79%	70%	90%
Merch Ct	106	106	111	111	113	120	122	123	129	128	127	124	123
<b>Service</b>													
Index	1.00	1.02	0.97	1.16	0.92	1.01	1.00	0.93	1.14	0.87	1.02	0.96	0.91
Cumm Index	100%	102%	99%	115%	106%	108%	108%	100%	115%	100%	102%	98%	89%
Merch Ct	159	159	151	153	153	149	149	147	141	141	145	148	148

## First Capital Index, 2016 -- By Region

	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
<b>Center City</b>													
Index	1.00	0.92	0.98	1.15	0.96	1.04	0.94	0.99	1.06	0.93	1.03	0.96	1.05
Cumm Index	100%	92%	90%	103%	99%	103%	97%	96%	102%	94%	97%	93%	98%
Merch Ct	123	123	125	121	124	133	128	122	120	121	120	120	121
<b>Northeast</b>													
Index	1.00	0.85	0.96	1.09	1.06	1.12	0.97	0.98	1.03	0.95	1.10	0.94	1.19
Cumm Index	100%	85%	81%	88%	93%	104%	102%	100%	102%	98%	107%	101%	120%
Merch Ct	85	85	82	79	79	78	79	78	78	79	81	79	76
<b>Northwest</b>													
Index	1.00	0.72	1.03	1.09	1.08	1.20	0.92	0.94	0.96	0.96	1.10	0.91	1.19
Cumm Index	100%	72%	74%	81%	87%	105%	96%	90%	87%	84%	92%	84%	100%
Merch Ct	114	114	108	109	115	120	128	129	130	128	131	131	127
<b>South</b>													
Index	1.00	0.83	1.04	1.08	1.07	1.02	0.99	1.01	0.99	0.97	1.19	0.80	1.13
Cumm Index	100%	83%	87%	94%	100%	102%	101%	102%	101%	98%	116%	93%	105%
Merch Ct	98	98	98	100	98	95	96	96	93	92	91	91	93

## 2017 vs 2016 Index Comparison



First Capital Index, 2016 vs 2017 -- All Regions and Categories Combined

	January	February	March	April	May	June	July	August	September	October	November	December
2016	0.83	1.00	1.11	1.03	1.09	0.95	0.98	1.01	0.95	1.09	0.91	1.13
2017	0.85	1.01	1.13	1.05	1.06	0.97	0.96	1.00	0.96	1.10	0.90	1.13

## Appendix

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### Geographic Region Categories: Classification of Zip Codes

- **Center City Business District:** 14604, 14605, 14607, 14608, 14609, 14611, 14613, 14614, 14619, 14620, 14621
- **Northeast:** 14445, 14526, 14580, 14617, 14618, 14622, 14625
- **Northwest:** 14420, 14464, 14468, 14514, 14559, 14606, 14612, 14615, 14616, 14624, 14626
- **South:** 14428, 14450, 14467, 14472, 14506, 14511, 14534, 14543, 14546, 14586, 14623

### Business Categories: Classification of MCC Codes

#### Retail Businesses

4457 - Boat Rentals and Leases	5611 - Men's and Boy's Clothing and Accessories Stores
4468 - Marinas, Marine Service, and Supplies	5621 - Women's Ready-to-Wear Stores
5013 - Motor vehicle supplies and new parts	5651 - Family Clothing Stores
5045 - Computers, Computer Equipment, Software	5655 - Sports Apparel, Riding Apparel Stores
5072 - Hardware Equipment and Supplies	5691 - Men's and Women's Clothing Stores
5094 - Precious Stones and Metals, Watches and Jewelry	5697 - Tailors, Seamstress, Mending, and Alterations
5099 - Durable Goods, Not Elsewhere Classified	5712 - Home Furnishings (Except Appliances)
5131 - Piece Goods, Notions, and Other Dry Goods	5713 - Floor Covering Stores
5193 - Florists' Supplies, Nursery Stock and Flowers	5718 - Fireplace, Fireplace Screens, and Accessories Stores
5198 - Paints, Varnishes, and Supplies	5722 - Household Appliance Stores
5231 - Glass, Paint, and Wallpaper Stores	5732 - Electronic Sales
5251 - Hardware Stores	5733 - Music Stores, Instruments, Sheet Music
5261 - Nurseries – Lawn and Garden Supply Store	5734 - Computer Software Stores
5310 - Discount Stores	5912 - Drug Stores and Pharmacies
5331 - Variety Stores	5921 - Package Stores – Beer, Wine, and Liquor
5399 - Misc. General Merchandise	5931 - Used Merchandise and Secondhand Stores
5411 - Grocery Stores, Supermarkets	5932 - Antique Shops
5422 - Meat Provisioners – Freezer and Locker	5940 - Bicycle Shops – Sales and Service
5441 - Candy, Nut, and Confectionery Stores	5941 - Sporting Goods Stores
5462 - Bakeries	5942 - Book Stores
5499 - Misc. Food Stores, Specialty Markets, etc...	5943 - Stationery Stores, Office and School Supplies
5511 - Auto Dealers (New and Used) Sales, Service, etc...	5944 - Watch, Clock, Jewelry, and Silverware Stores
5521 - Auto Dealers (Used Only)	5945 - Hobby, Toy, and Game Shops
5532 - Automotive Tire Stores	5947 - Card Shops, Gift, Novelty, and Souvenir Shops
5533 - Automotive Parts, Accessories Stores	5949 - Sewing, Needle, Fabric, and Price Goods Stores
5542 - Automated Fuel Dispensers	5970 - Artist's Supply and Craft Shops
5561 - Recreational and Utility Trailers, Camp Dealers	5971 - Art Dealers and Galleries
5571 - Motorcycle Dealers	5972 - Stamp and Coin Stores
5599 - Miscellaneous Auto Dealers	5975 - Hearing Aids – Sales, Service, and Supply Stores
	5992 - Florists
	5993 - Cigar Stores and Stands

5995 - Pet Shops, Pet Foods, and Supplies Stores  
5996 - Swimming Pools – Sales, Service, and Supplies  
5999 - Miscellaneous and Specialty Retail Stores  
7641 - Furniture, Furniture Repair, and Refinishing

#### **Travel & Entertainment**

7011 - Lodging – Hotels, Motels, Resorts, etc...  
7032 - Sporting and Recreational Camps  
7033 - Trailer Parks and Camp Grounds  
7297 - Massage Parlors  
7922 - Theatrical Producers (Except Motion Pictures)  
7929 - Bands, Orchestras, and Misc Entertainers  
7941 - Commercial Sports, Athletic Fields, etc...  
7991 - Tourist Attractions and Exhibits  
7992 - Golf Courses – Public  
7994 - Video Game Arcades/Establishments  
7996 - Amusement Parks, Carnivals, Circuses, etc...  
7997 - Clubs: Recreation, Athletic, Country, etc...  
7999 - Recreation Services (Not Elsewhere Classified)

#### **Eating Places**

5812 - Eating places and Restaurants  
5814 - Fast Food Restaurants

#### **Service Businesses**

1520 - General Contractors-Residential and Commercial  
1711 - Air Conditioning Contractors, Full Service  
1750 - Carpentry Contractors  
1771 - Contractors – Concrete Work  
1799 - Contractors – Not Elsewhere Classified  
4121 - Taxicabs and Limousines  
4215 - Courier Services – Air or Ground, Freight forwarders  
4225 - Public warehousing, Storage  
4789 - Transportation Services, not elsewhere classified)  
4899 - Cable and other pay television  
5541 - Service Stations (with or without ancillary services)  
5811 - Caterers  
5935 - Wrecking and Salvage Yards  
6300 - Insurance Sales, Underwriting, and Premiums  
6513 - Real Estate Agents and Managers - Rentals  
7210 - Laundry, Cleaning, and Garment Services

7216 - Dry Cleaners  
7221 - Photographic Studios  
7230 - Barber and Beauty Shops  
7251 - Repair Shops, Shoe Shine Parlors, Hat Cleaning Shops  
7261 - Funeral Service and Crematories  
7276 - Tax Preparation Service  
7277 - Counseling Service – Debt, Marriage, Personal  
7296 - Clothing Rental – Costumes, Formal Wear, Uniforms  
7298 - Health and Beauty Shops  
7299 - Misc. Personal Services (not elsewhere classifies)  
7311 - Advertising Services  
7379 - Computer Maintenance/Repair  
7523 - Automobile Parking Lots and Garages  
7531 - Automotive Body Repair Shops  
7534 - Tire Re-treading and Repair Shops  
7538 - Automotive Service Shops  
7542 - Car Washes  
7549 - Towing Services  
7622 - Radio Repair Shops  
7631 - Watch, Clock, and Jewelry Repair  
7692 - Welding Repair  
7699 - Repair Shops and Related Services –Misc  
7829 - Motion Pictures and Production/Distribution  
7832 - Motion Picture Theaters  
8011 - Doctors and Physicians (Not Elsewhere Classified)  
8021 - Dentists and Orthodontists  
8041 - Chiropractors  
8042 - Optometrists and Ophthalmologists  
8043 - Opticians, Opticians Goods and Eyeglasses  
8049 - Podiatrists and Chiroprodists  
8062 - Hospitals  
8099 - Medical Services and Health Practitioners  
8111 - Legal Services and Attorneys  
8299 - Schools and Educational Services  
8398 - Charitable and Social Service Organizations  
8911 - Architectural – Engineering and Surveying Services  
8931 - Accounting, Auditing, and Bookkeeping Services  
8999 - Professional Services (not elsewhere defined)