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Our Economy is Evolving: Shouldn't the Way We Measure It Evolve Too?

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Our Economy is Evolving: Shouldn't the Way We Measure It Evolve Too?

Abstract

The Local Consumer Commerce Index is a measure of local economic activity parsed by a variety of consumer and merchant characteristics. By leveraging an administrative database of over 24 billion debit and credit card transactions made by over 64 million de-identified customers, this index from the JPMorgan Chase Institute addresses the lack of data series with sufficient spatiotemporal and demo/firmographic resolution to support tactical decision making in local economies.

Each transaction carries the age and income of the consumer, the merchant size and type of product it sells, as well as the zip code of both. Using these characteristics we construct a measure of year-over-year spending growth by consumers at merchants located in 14 major metropolitan areas in the US. The index data are screened and weighted to represent population-wide spending levels. This unique lens on local economies is freely provided to the public in accordance with the Institute's mission of advancing the public good.

We have also extended this data asset beyond its use for reporting and economic monitoring. One extension has been our research that measures intra-city demand. By measuring the distance between where consumers live and the merchants at which they shop, we have lent nuance and granularity to policy discussions surrounding intra-city inequities in economic vitality.

We hope to socialize the power of leveraging administrative data for the public good, in hopes that other administrative data-owners are encouraged to also furnish analyses based on their administrative data to help inform the public policy process.

Comments

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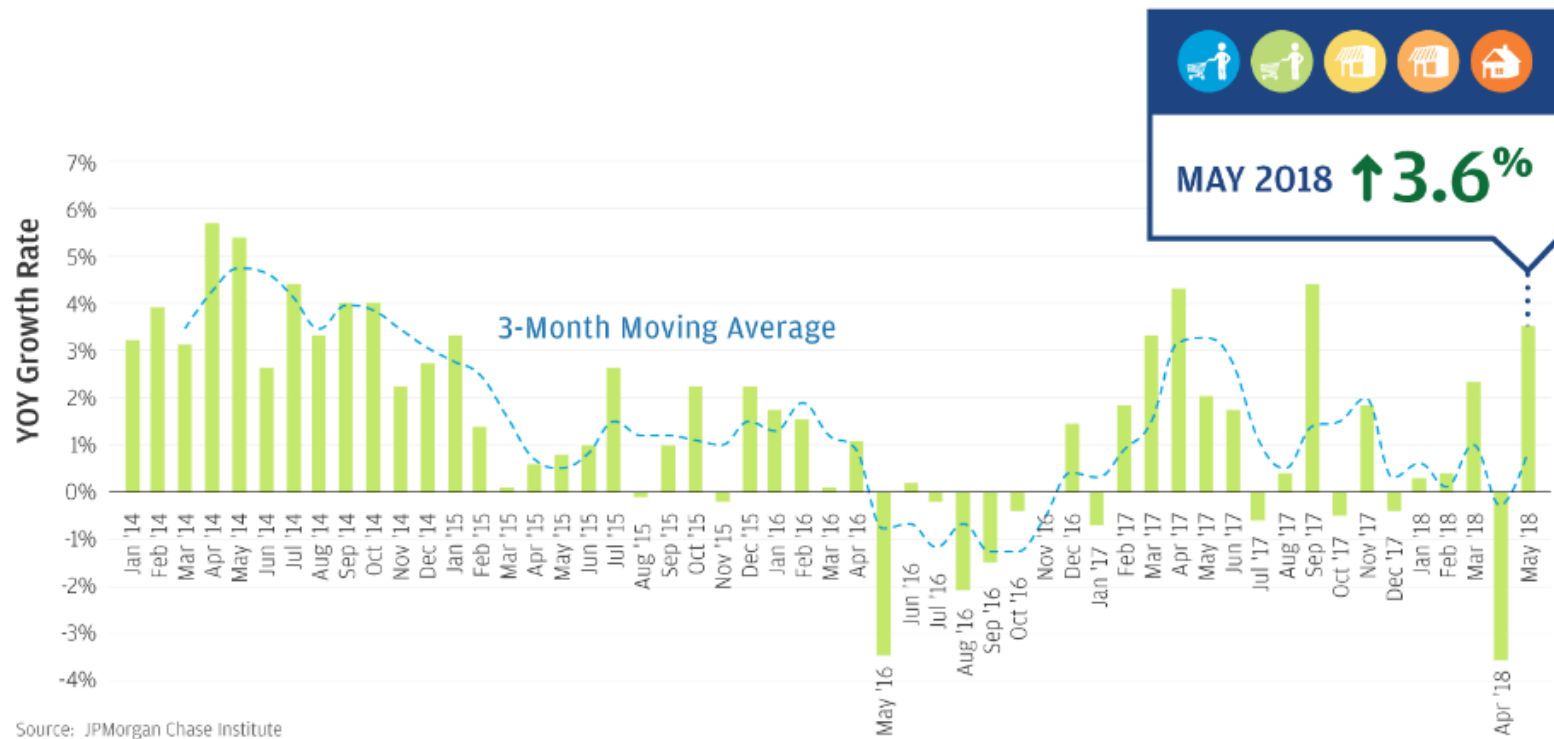
**A GLOBAL THINK TANK DEDICATED TO
DELIVERING DATA-RICH ANALYSES AND
EXPERT INSIGHTS FOR THE PUBLIC GOOD**

JPMORGAN CHASE & Co.

INSTITUTE

Agenda

- JPMCI Overview
- Motivation to Analyze Local Commerce
- Analytical Approach
- Report Findings



Source: JPMorgan Chase Institute

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The **JPMorgan Chase Institute** is a global think tank dedicated to delivering data-rich analyses and expert insights for the public good.

Institute Research Themes

Household Income and Spending

Research focused on the income and expense dynamics of US consumers.



Household Debt

Research focused on the various forms of household debt, including credit cards and mortgages.



Healthcare

Research focused on out-of-pocket healthcare spending among US households to analyze the relationship between cash flows and healthcare expenditures.

Labor Markets



Research focused on income from labor including labor market trends, growth of the Online Platform Economy, and the financial impacts of job loss.

Small Business



Research focused on the financial volatility of small business cash flow management, inflow and net flow, and overall health of US small businesses.

Cities and Local Communities



Research focused on local commerce, resident spending, and the economic vibrancy of cities and local communities.

Financial Markets



Research focused on institutional investor behavior.

Institute Data

The JPMorgan Chase Institute leverages de-identified data from:

- JPMC's \$2.5 Trillion Balance Sheet
- 70+ Million Retail Customers
- 2.5 Million Small Businesses
- 395 Million Trades by 44,000 Institutional Investors

INDIVIDUAL TRANSACTIONS
Information on amount, day and time, zip code, merchant and channel

Daily & Monthly Level from 2012 - Present

MONTHLY BALANCES
Checking account, savings account, credit card, mortgage and home equity loans and auto loans

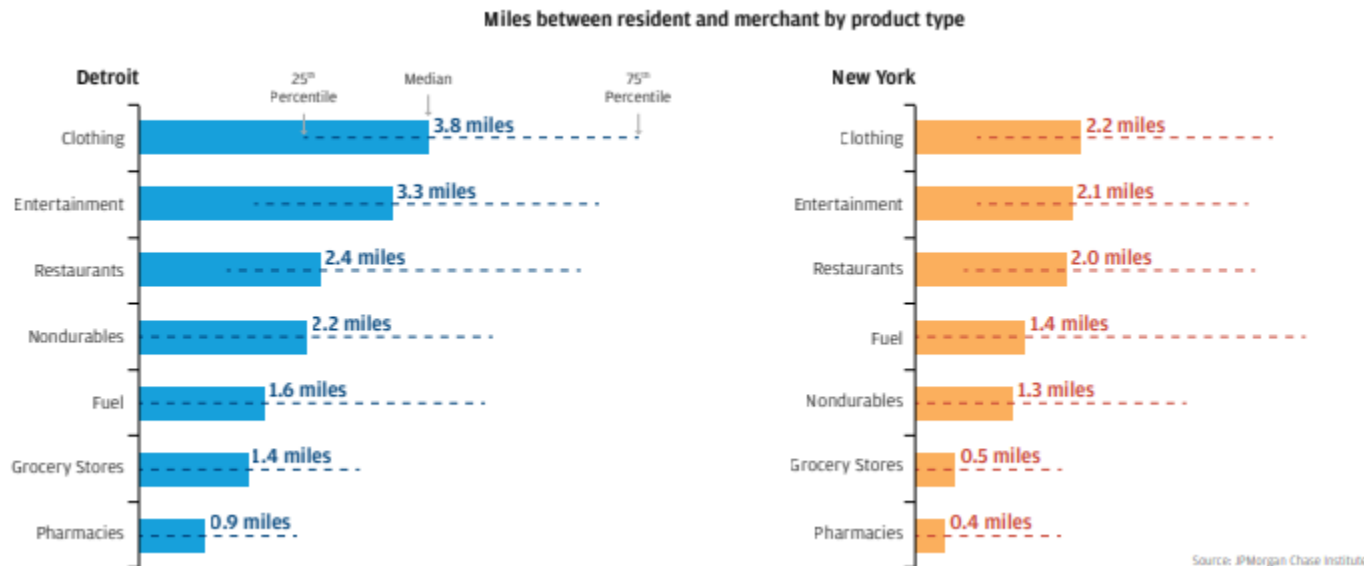
CREDIT BUREAU DATA
Estimate of monthly payments as well as current outstanding balances and delinquency statistics for credit cards, mortgages and other lines of credit

DEMOGRAPHIC CHARACTERISTICS
On an entirely de-identified sample: gender, age and zip code

INSTITUTIONAL INVESTORS
institutional investors across all asset classes and regions globally

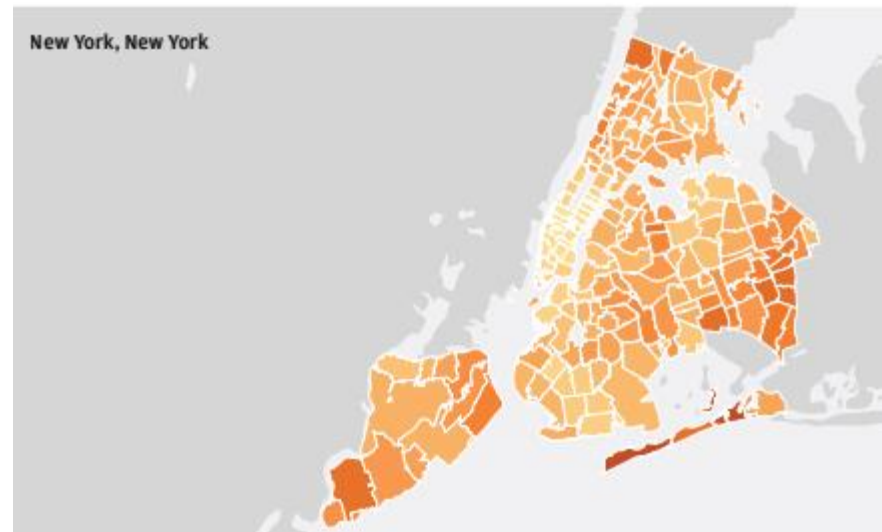
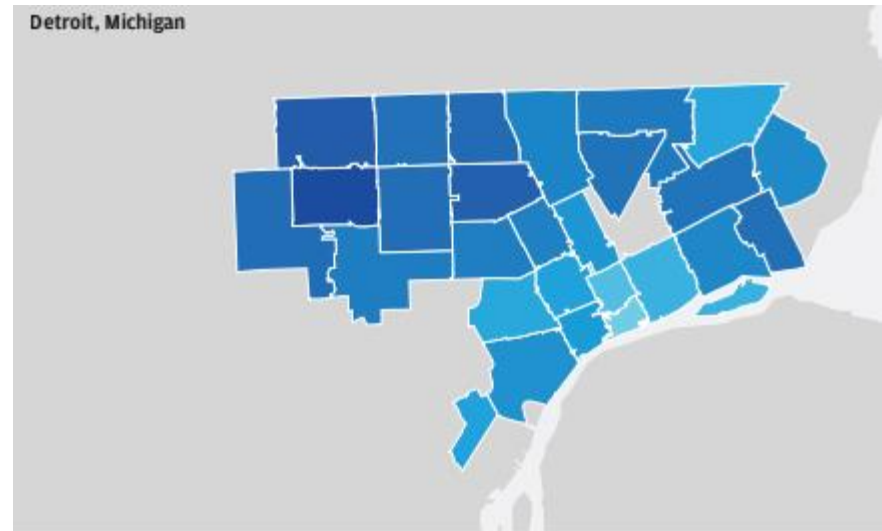
Why study Local Commerce (LC)?

- LC enables measurement of **local consumption activity** as realized through credit and debit card purchases (consumer card products, as opposed to business card products)
- Card purchases offer electronic records that contain granular information about the timing and location of transactions, relative to other data sources
- Taken together, high frequency observations and spatial granularity allow stakeholders to better understand the impact of events, investments, and policy interventions
- Transactions also **tie together attributes of the consumer and the merchant**



The Local Commerce Asset

- As of October 2018, the LC asset is built upon a universe containing the following:
 - 79.7 million unique customers
 - 96 billion card transactions
- We have **several drivers based upon customer, merchant, and transaction attributes** that can be extracted from the components of the asset:
 1. Customer Age
 2. Customer Income
 3. Customer Location
 4. Merchant Location
 5. Merchant Size
 6. Product Type
 7. Transaction Channel



The near-term goal for the group is to introduce a **freely** available data asset that provides the public with a means to conduct their own analysis

- The near-term goal with our upcoming report has been to establish **basic descriptive facts** at a very high level
 - LC spending has grown significantly over time, particularly in 2016
 - Online spending is the primary driver of growth
 - We see evidence of increased market integration across metro areas

Across 14 Metro Areas

Where is everyday spending growing?

Use the timeline to the left to view changes in the growth of local consumer commerce across 14 selected US metro areas over 24 months. Choose a selected city to view detailed information on Age, Income, Consumer residence relative to business, Business size, and Product type.

[Read the Report](#) [Download the Data](#) 

[See National Drivers](#)

The LC indices are measures of year-over-year spending growth

Previous Updates

APR 2018 **↓3.6%**

[Read the report >](#)

MAR 2018 **↑2.3%**

[Read the report >](#)

FEB 2018 **↑0.4%**

[Read the report >](#)

Archives by Year

[All LCCI Reports ▼](#)

- The most recent data asset captures spending from credit and debit card customers across the country
- We currently report **year-over-year growth rates, year-over-year growth contributions, and observed spend share** with each update of the existing index
- We focus on intensive growth at the current time, to avoid the need to separate population growth from growth in market share
 - Isolation of intensive growth relies on our use of a stable cohort
- Growth is measured both overall and by metro area (center city cuts are available in the existing “merchant view” index)
- We also measure growth for each driver category (e.g. consumers between 35-44)

We have created a “consumer view” to complement the existing “merchant view”

Table 1: Inclusion criteria for transactions

		Merchant	
		Resident	Non-Resident
Consumer	Resident	Residents Spend in CBSA	Residents Spend Remotely
	Non-Resident	Non-Residents Spend in CBSA	

Dimensions of Local Consumer Commerce

1. Location of the Consumer
2. Location of the Merchant
3. Transaction Channel (online vs offline)

- The construction of the integrated data asset opens the door for more targeted questions, **enabling more rigorous evaluation of policies and investments**:
 1. How does consumption inequality vary over time and space?
 2. To what extent do consumers purchase goods and services from non-local services?
 3. What is the impact of online commerce on local economies?

Finding 1: Between April 2015 and March 2018, the LCC-Consumer Index averaged 4.2% in Year-over-Year growth

- Resident spending growth increased substantively in 2016, and remained elevated during the remaining months
- Among public data sources, LCC spending is most conceptually similar to the Monthly Retail Trade Survey

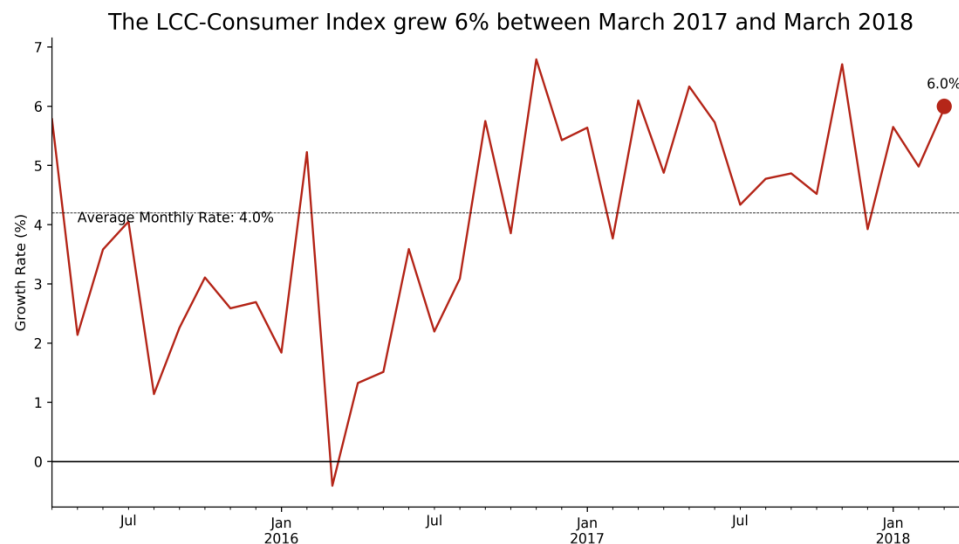
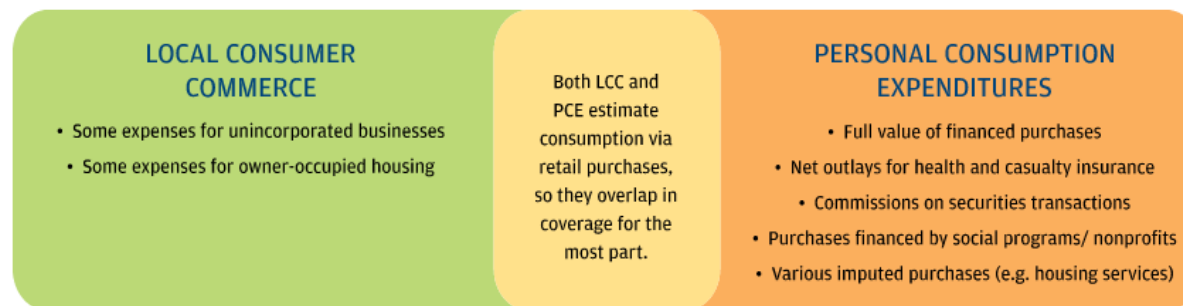
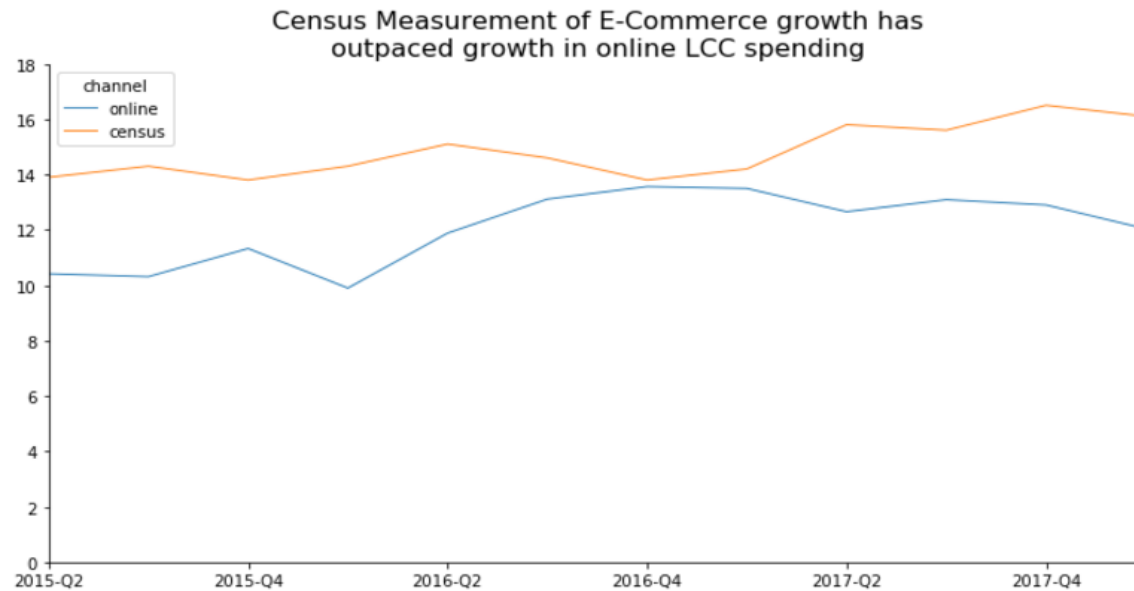
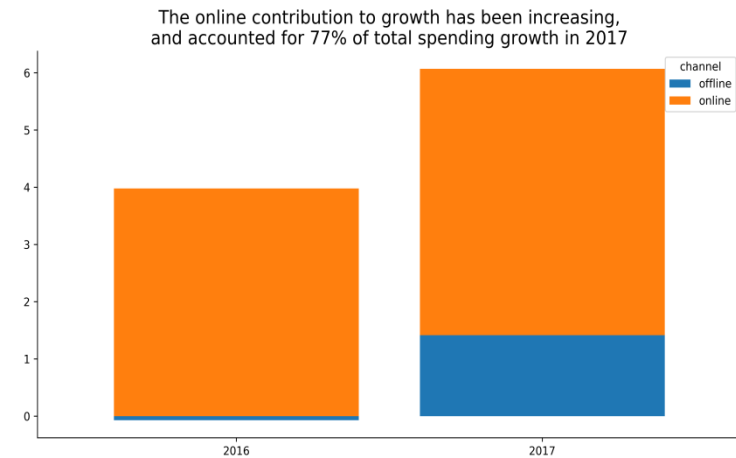


Figure 2 - Differences between LCC and PCE

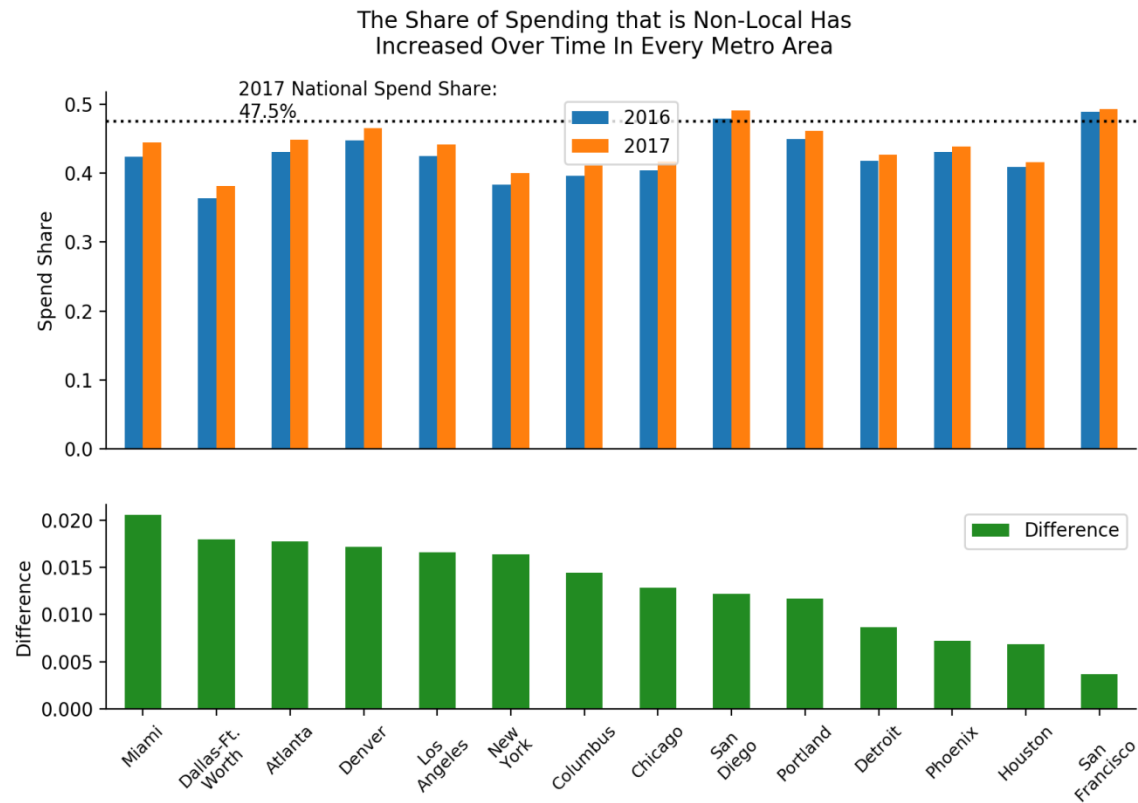


Finding 2: Online growth has driven overall growth, though offline spend grew materially in 2017

- Resident spending growth is driven by online commerce (4.0 and 4.7 pp in 2016 and 2017, respectively)
- Online LCC spending grew slower on average relative to the Census E-Commerce series between Q2 2015 and Q2 2018



Finding 3: Non-local shares of LCC spending are increasing in every metro we track

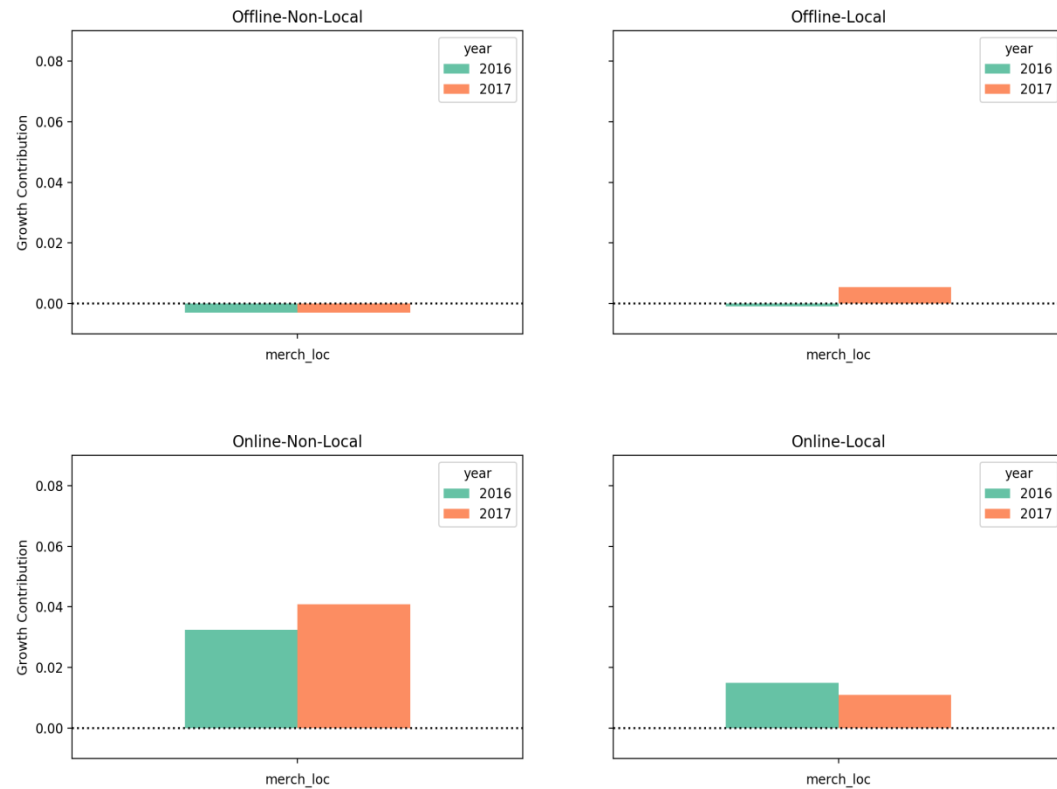


- The share of resident spending that took place at non-local merchants increased from 45.5% in April 2014 to 48.9% in March 2018 in the metros we tracked
- We saw 47.5% of overall LC spending occur at non-local merchants

Finding 4: Online commerce growth is driven by contributions from non-local merchants

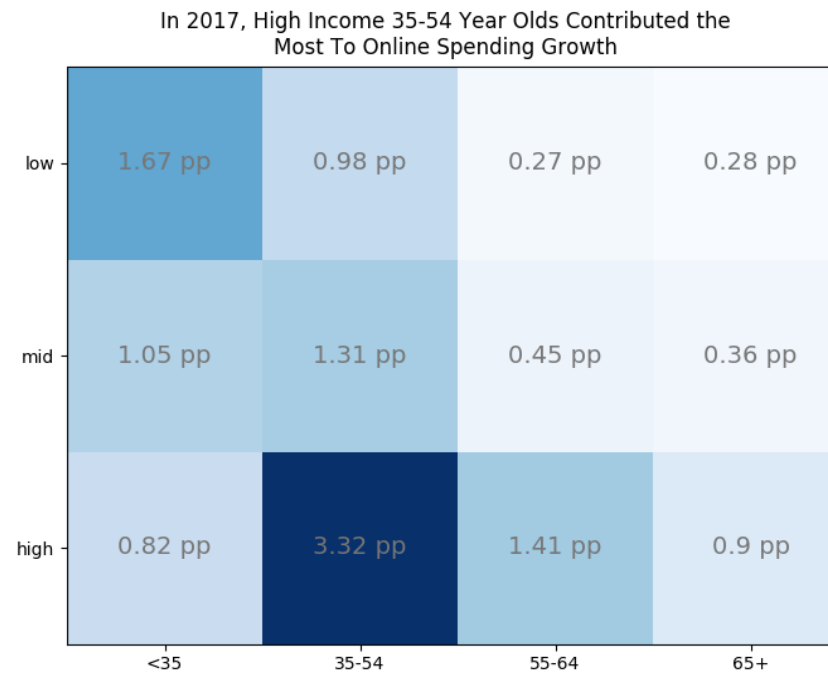
- Online spending at non-local merchants contributed 3.2 and 4.1 pp to overall growth in 2016 and 2017
- By contrast, offline spending at non-local merchants actually fell in both years

Online spending at non-local merchants was the dominant contributor to overall growth



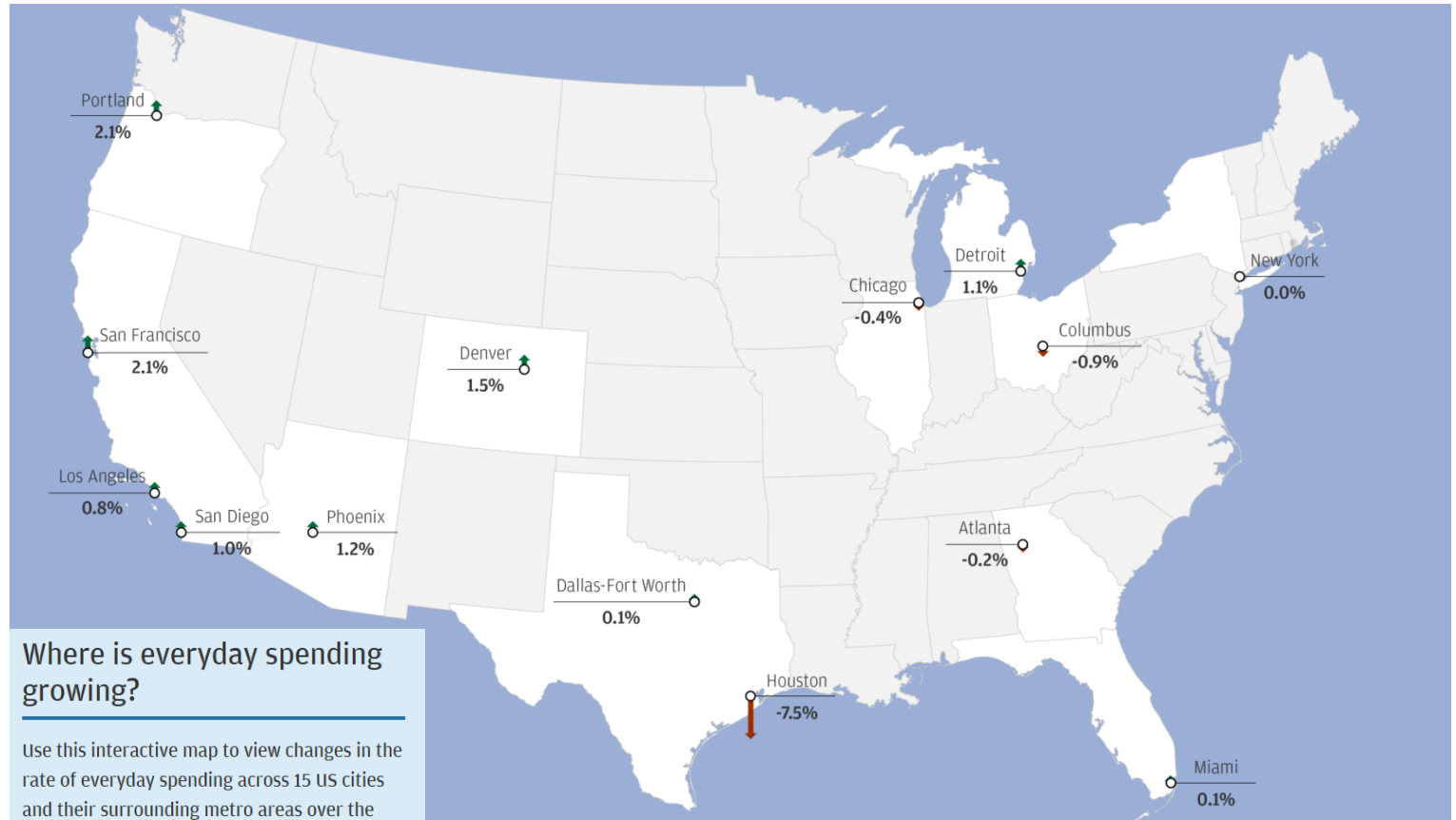
Finding 5: Online spending growth is driven by high income consumers between the ages of 35 and 54

- Compared to the next largest contributor, high income 35-54 year olds nearly double the contribution to online spending growth
- These consumers hold the largest market share among online spenders



We currently cover 14 metro areas for metro-specific cuts, but we are testing a potential expansion to 20

- Under Consideration**
- Austin, TX
 - Cincinnati, OH
 - Cleveland, OH
 - Dayton, OH
 - Grand Rapids, MI
 - Indianapolis, IN
 - Las Vegas, NV
 - Louisville, KY
 - Milwaukee, WI
 - New Orleans, LA
 - Oklahoma City, OK
 - Orlando, FL
 - Oxnard, CA
 - Riverside, CA
 - Sacramento, CA
 - Salt Lake City, UT
 - San Antonio, TX
 - San Jose, CA
 - Tampa, FL
 - Tuscon, AZ



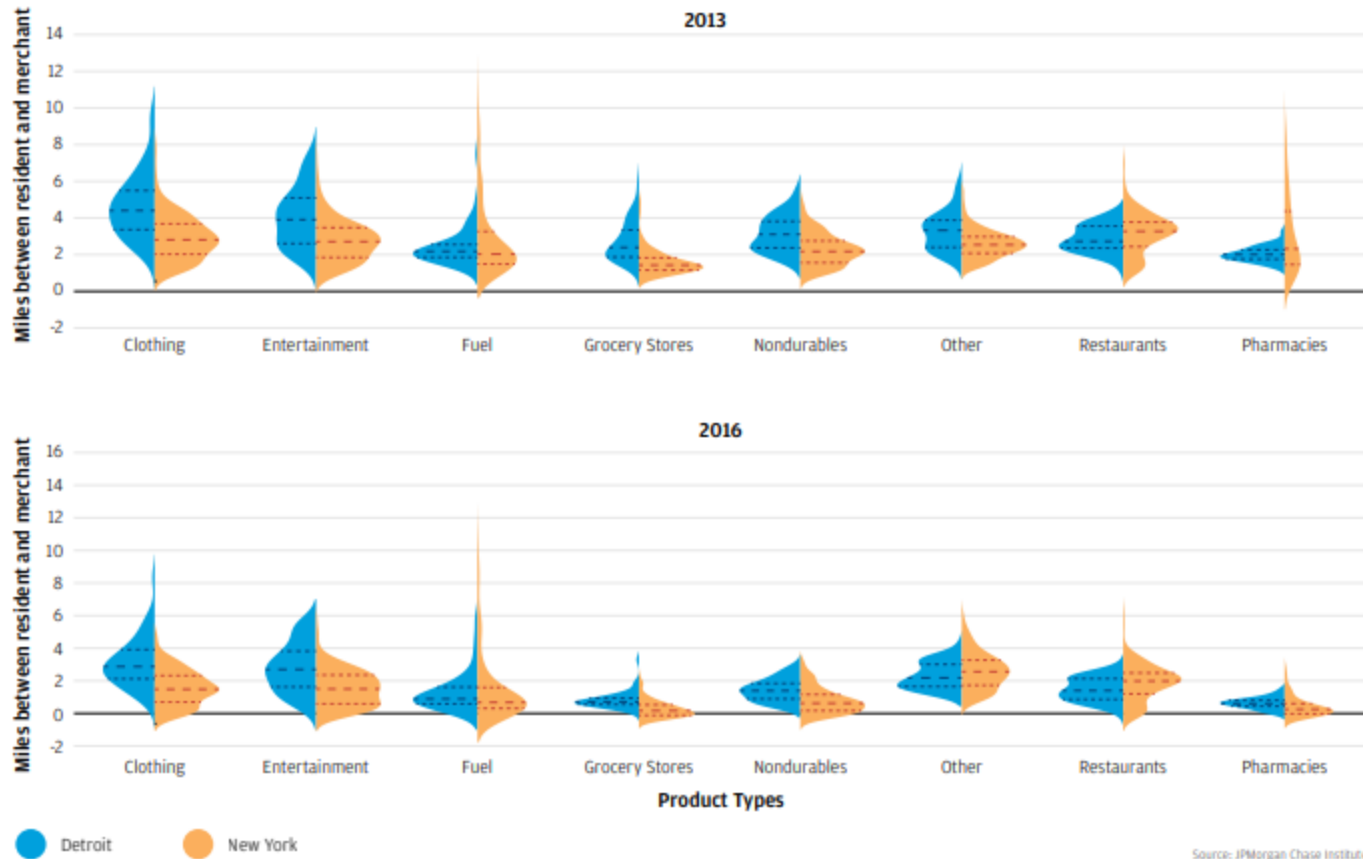
Where is everyday spending growing?

Use this interactive map to view changes in the rate of everyday spending across 15 US cities and their surrounding metro areas over the past 24 months. Get even more information by viewing these data at the individual city level.

[View the Map >](#)

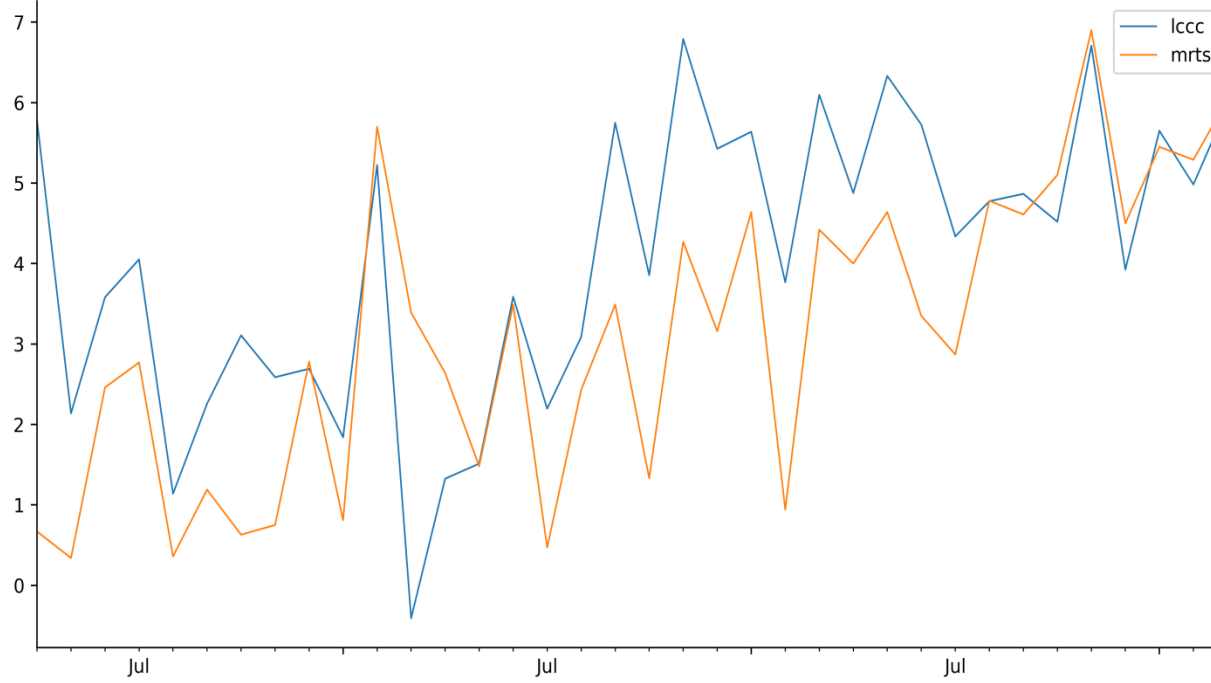
Our new asset will allow us to not only produce the indices, but also “merchant distance” and other novel data streams

Figure 11: The distributions of merchant distances tightened for most product types between 2013 and 2016

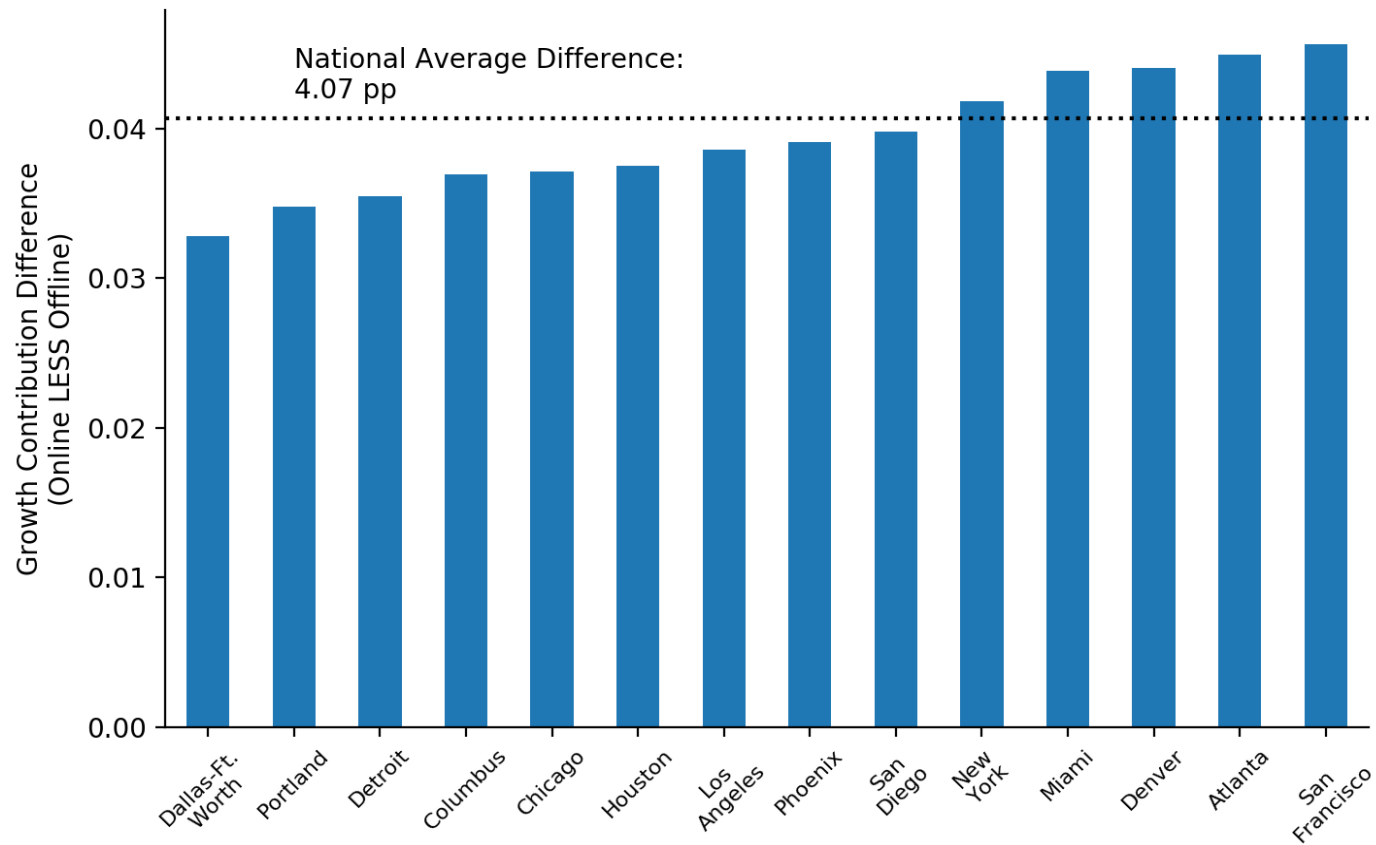


APPENDIX

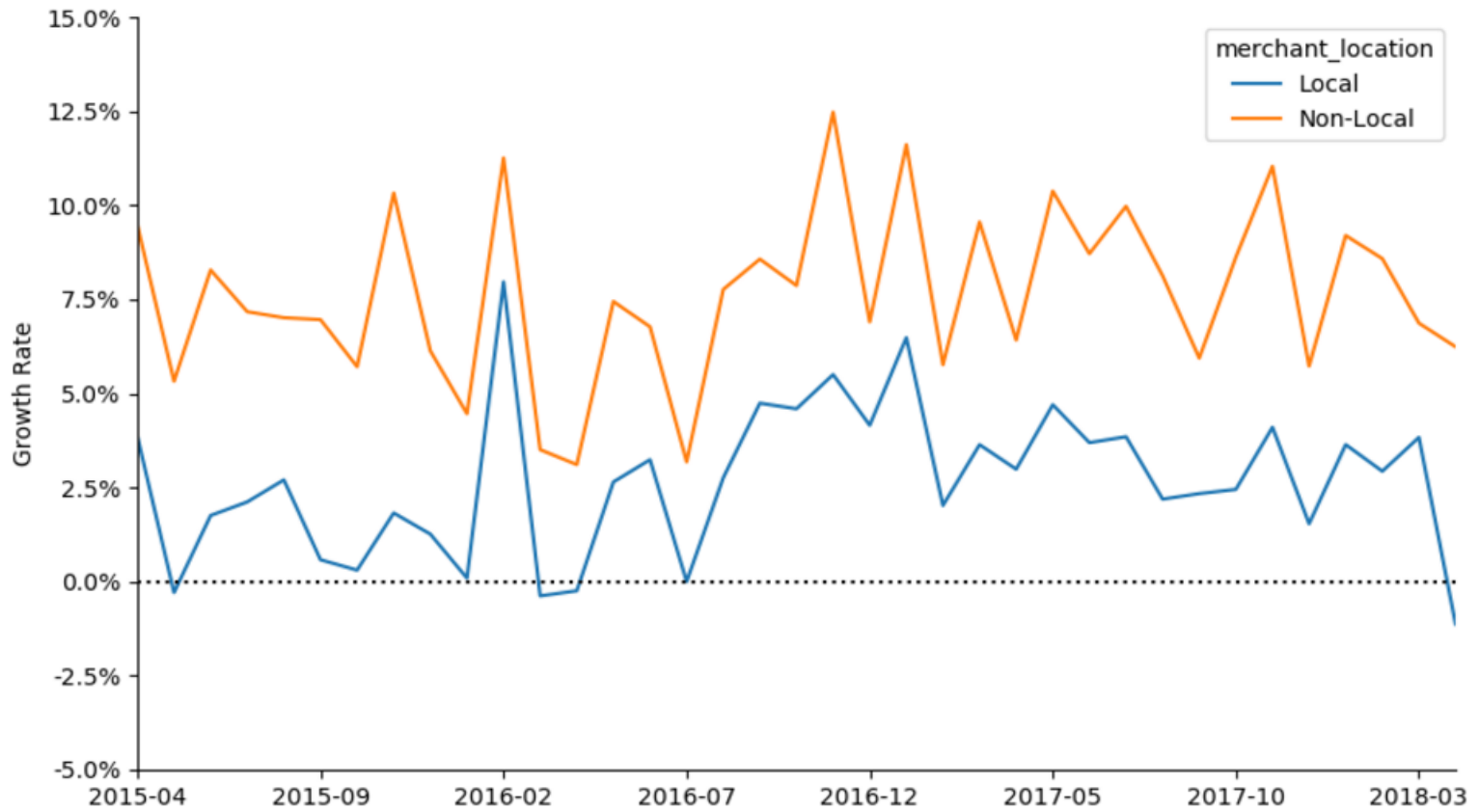
Increases in YoY Growth in the MRTS Are More Gradual Than Increases in the LCC-Consumer Index



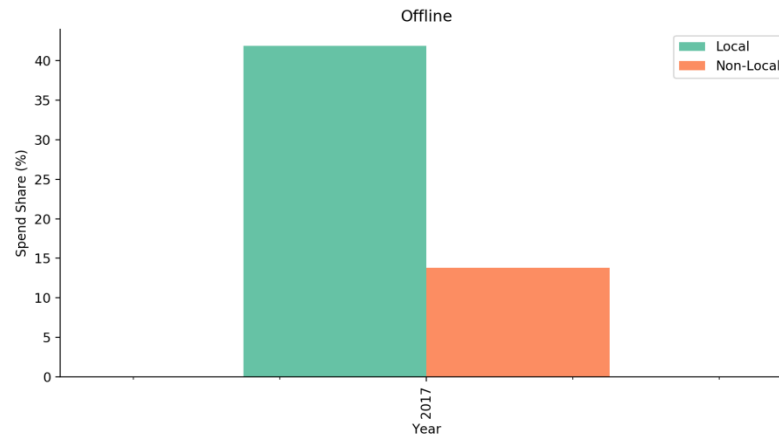
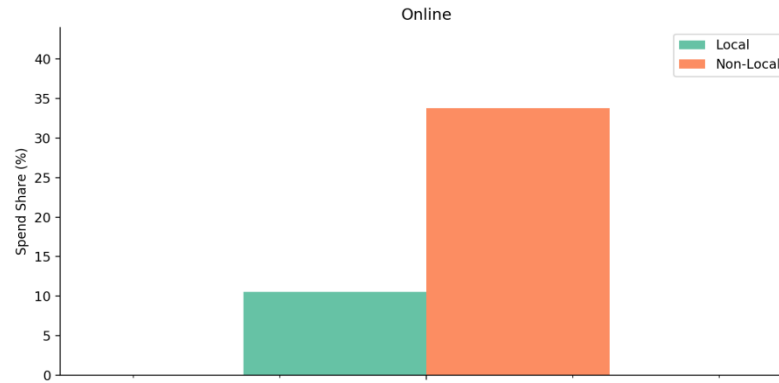
Online Growth Contributions Outpaced Offline Contributions In All 14 Metro Areas in 2017



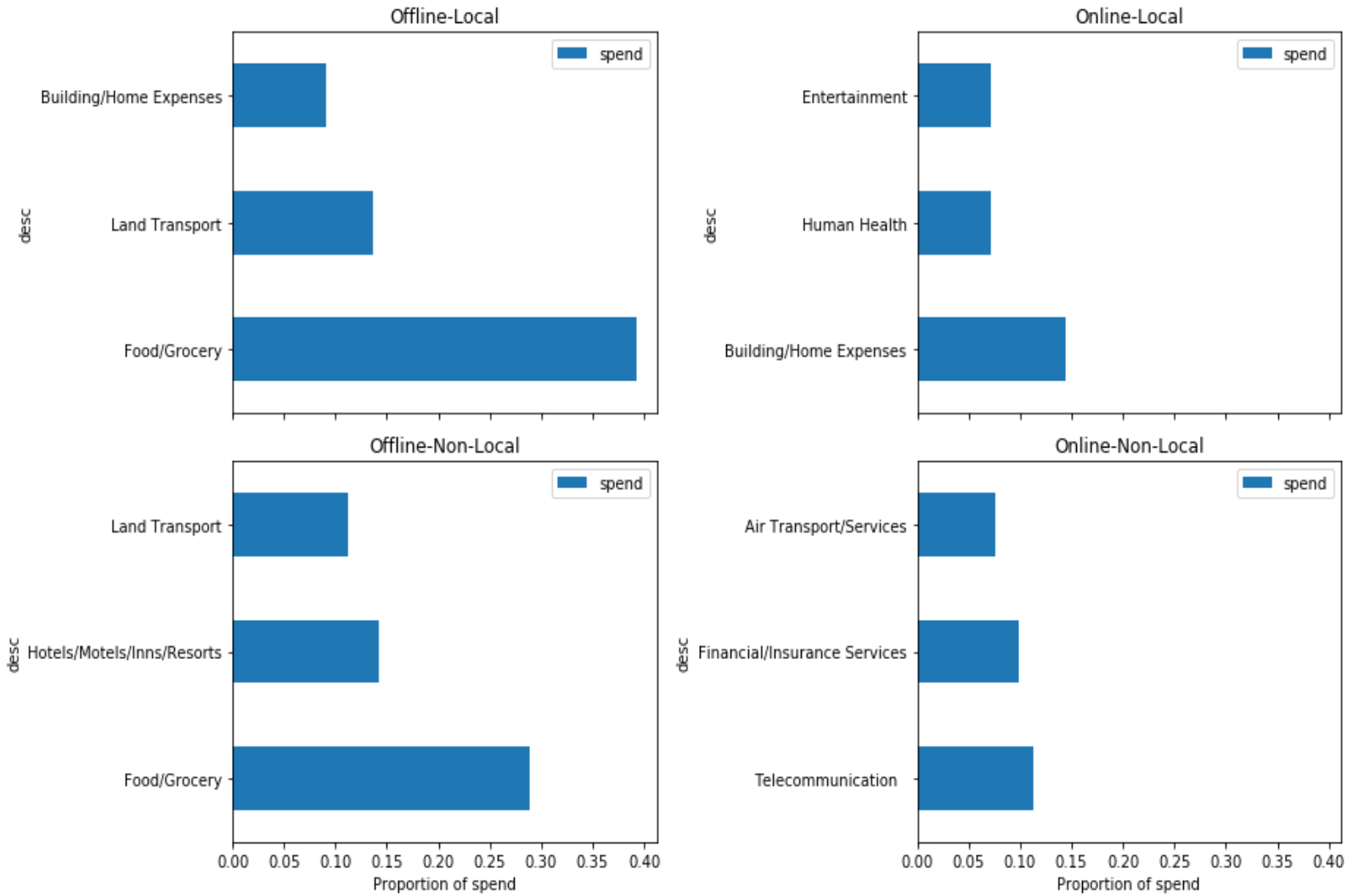
Non-Local Spending Consistently Grows Faster Than Local Spending



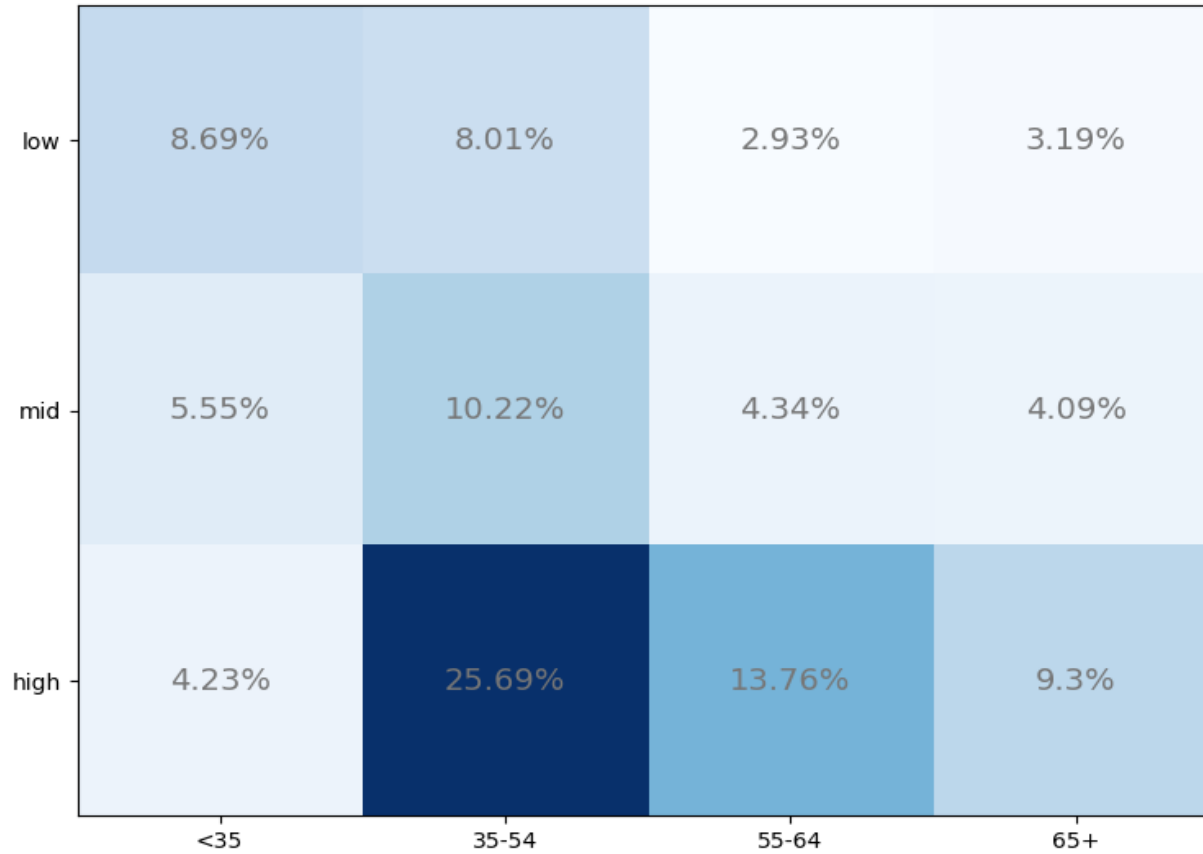
In 2017 local merchant spend-share is dominant in the offline space, while non-local merchants spend-share is dominant in the online space



Food and grocery purchases dominate offline spending at both local and non-local merchants in 2017



In 2017, High Income 35-54 Year Olds Constituted the Largest Share of Online Spending



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