

# Measuring changes in everyday consumer purchases in real time

Leo Feler August 1, 2024



#### Introduction



Leo Feler leo.feler@numerator.com

- Chief Economist at Numerator and Visiting Economist with the Federal Reserve Bank of Chicago
- Previously a senior economist at UCLA Anderson School of Management and assistant professor at Johns Hopkins University
- PhD in economics from Brown University



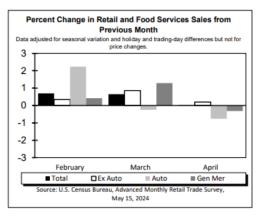
#### ADVANCE MONTHLY SALES FOR RETAIL AND FOOD SERVICES, APRIL 2024

Release Number: CB24-74

Notice of Revision: Monthly retail sales estimates were revised on April 23, 2024 based on the results of the 2022 Annual Retail Trade Survey and the Service Annual Survey. The Annual Revision of Monthly Retail and Food Services showing revised estimates can be found on our website at <a href="https://www.census.gov/retail/mrts/historic\_releases.html">https://www.census.gov/retail/mrts/historic\_releases.html</a>

May 15, 2024 — The U.S. Census Bureau announced the following advance estimates of U.S. retail and food services sales for April 2024:





#### Advance Estimates of U.S. Retail and Food Services

Advance estimates of U.S. retail and food services sales for April 2024, adjusted for seasonal variation and holiday and trading-day differences, but not for price changes, were \$705.2 billion, virtually unchanged (±0.4 percent)\* from the previous month, but up 3.0 percent (±0.5 percent) above April 2023. Total sales for the February 2024 through April 2024 period were up 3.0 percent (±0.5 percent) from the same period a year ago. The February 2024 to March 2024 percent change was revised from up 0.7 percent (±0.5 percent) to up 0.6 percent (±0.1 percent).

Retail trade sales were virtually unchanged (±0.4 percent)\* from March 2024, but up 2.7 percent (±0.5 percent) above last year. Nonstore retailers were up 7.5 percent (±1.6 percent) from last year, while food services and drinking places were up 5.5 percent (±2.1 percent) from April 2023.

Data Inquiries
Economic Indicators Division, Retail Indicator Branch
301-763-2713
eld.retail.indicator.branch@census.gov

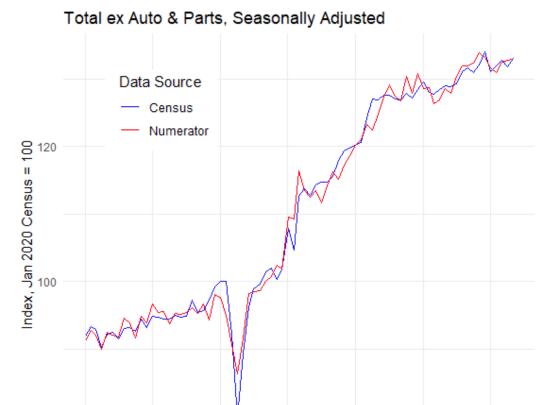
Media Inquiries Public Information Office 301-763-3030 pio@census.gov





#### Numerator data closely matches Census data on retail sales

The US Census "top-down" and Numerator "bottom-up" approach of collecting and analyzing retail sales data match closely

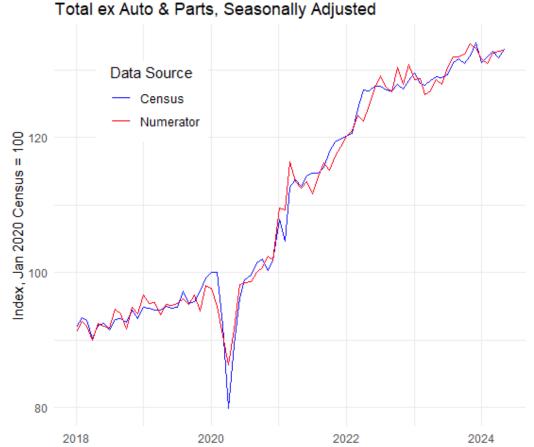




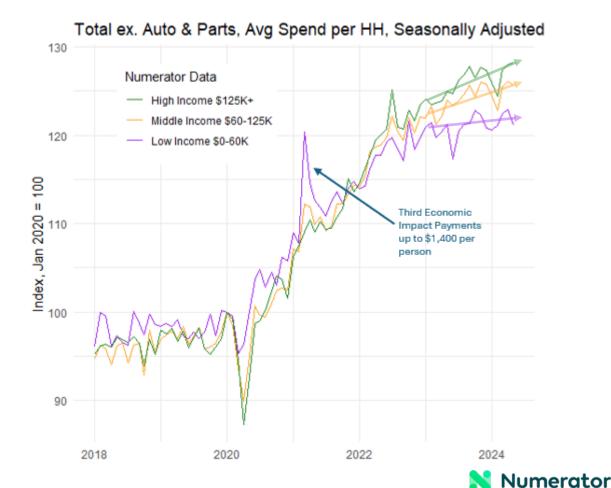
# But Numerator data allows us to disaggregate retail sales by consumer demographics

The US Census "top-down" and Numerator "bottom-up" approach of collecting and analyzing retail sales data match closely

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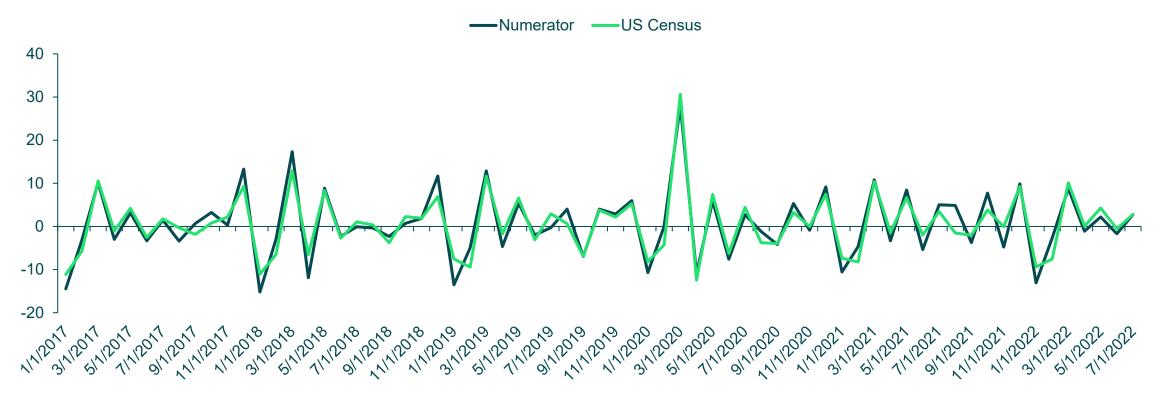


Numerator data shows retail spending has stalled for lower-income households but continues to increase for middle and higher-income households



## Numerator data tracks MOM % changes in Census retail sales especially closely for food & beverage stores...

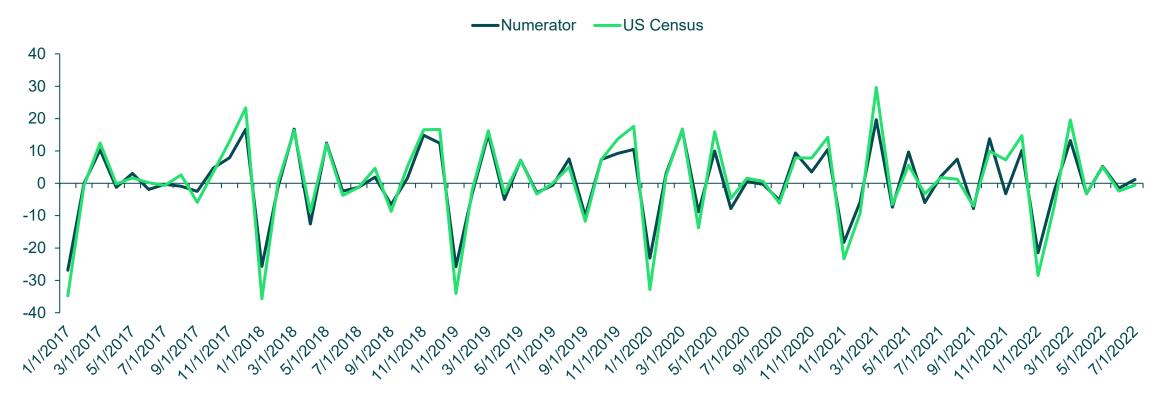
Sales for Food & Beverages (Census) versus Food & Beverages\* (Numerator) (% Change MOM)





#### ...For general merchandise stores (Walmart, Dollar Stores, Club Stores)

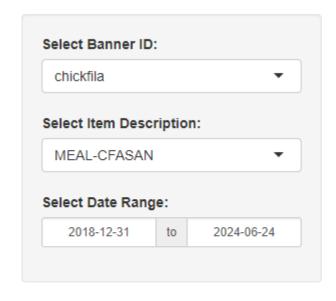
Sales for General Merchandise (Census) versus General Merchandise\* (Numerator) (% Change MOM)





#### What are prices paid for certain fast-food items?

#### Prices at LSR

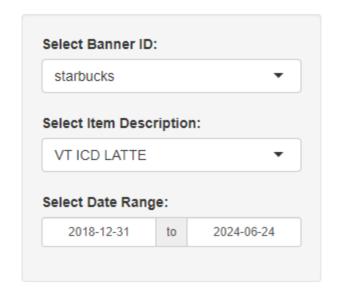






#### What are prices paid for certain fast-food items?

#### Prices at LSR









Numerator data closely tracks changes in consumer prices measured by the CPI

#### What can Numerator data track?

- Food
- Household furnishings, appliances, tools & hardware, cleaning supplies (part of commodities less food & energy)
- Apparel
- Alcoholic beverages

#### ~ 23% of CPI

The remainder of the CPI is housing, used/new cars, health care services, education services, energy & utilities, personal care services (child care, hair cuts, etc.)

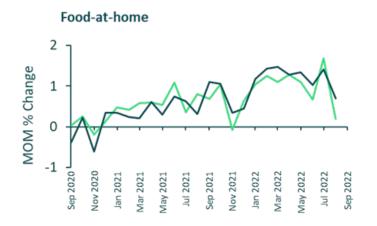
Table 1. Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, by expenditure category, November 2022

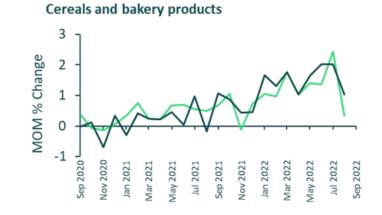
[1982-84=100, unless otherwise noted]

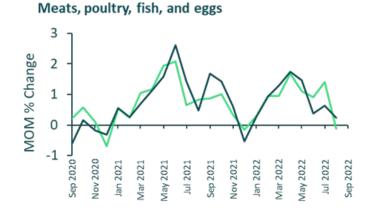
Expenditure category	Relative impor- tance Oct. 2022	Unadjusted indexes			Unadjusted percent change		Seasonally adjusted percent change		
		Nov. 2021	Oct. 2022	Nov. 2022	Nov. 2021- Nov. 2022	Oct. 2022- Nov. 2022	Aug. 2022- Sep. 2022	Sep. 2022- Oct. 2022	Oct. 2022- Nov. 2022
All items.	100.000	277.948	298.012	297.711	7.1	-0.1	0.4	0.4	0.1
Food	13.744	285.507	315.323	315.857	10.6	0.2	0.8	0.6	0.5
Food at home	8.520	266.384	298,401	298.284	12.0	0.0	0.7	0.4	0.5
Cereals and bakery products	1.107	295.909	341.492	344.393	16.4	0.8	0.9	0.8	1.1
Meats, poultry, fish, and eggs	1.907	299,228	321,271	319,444	6.8	-0.6	0.4	0.6	-0.2
Dairy and related products	0.805	233.157	269.355	271.307	16.4	0.7	0.3	-0.1	1.0
Fruits and vegetables	1.424	318.436	348.021	349.462	9.7	0.4	1.6	-0.9	1.4
Nonalcoholic beverages and beverage									
materials	0.983	185.119	210.121	209.507	13.2	-0.3	0.6	0.5	0.7
Other food at home	2.294	229.643	262.814	261.583	13.9	-0.5	0.5	0.9	-0.1
Food away from home <sup>1</sup>	5.225	315.481	340.532	342.266	8.5	0.5	0.9	0.9	0.5
Energy	8.059	259.100	300.359	292.953	13.1	-2.5	-2.1	1.8	-1.6
Energy commodities	4.448	302.635	351.065	339.663	12.2	-3.2	-4.7	4.4	-2.0
Fuel oil <sup>1</sup>	0.180	333.899	543.915	553.234	65.7	1.7	-2.7	19.8	1.7
Motor fuel	4.195	297.841	341.954	329.954	10.8	-3.5	-4.8	4.0	-2.1
Gasoline (all types)	4.096	296.571	339.017	326.649	10.1	-3.6	-4.9	4.0	-2.0
Energy services	3.611	227.874	264.188	260.220	14.2	-1.5	1.1	-1.2	-1.1
Electricity	2.640	227.588	262.100	258.864	13.7	-1.2	0.4	0.1	-0.2
Utility (piped) gas service	0.971	224.225	264.774	258.872	15.5	-2.2	2.9	-4.6	-3.5
All items less food and energy	78.197	282.754	299.315	299.600	6.0	0.1	0.6	0.3	0.2
Commodities less food and energy commodities	21.026	159.426	166.601	165.291	3.7	-0.8	0.0	-0.4	-0.5
Apparel	2.458	122.383	129.414	126.728	3.6	-2.1	-0.3	-0.7	0.2
New vehicles	4.060	164.511	176,157	176.354	7.2	0.1	0.7	0.4	0.0
Used cars and trucks	3.726	200.209	199.176	193.530	-3.3	-2.8	-1.1	-2.4	-2.9
Medical care commodities <sup>1</sup>	1.468	379.483	390.614	391.360	3.1	0.2	-0.1	0.0	0.2
Alcoholic beverages	0.871	264.957	278.009	279.629	5.5	0.6	0.0	0.8	0.2
Tobacco and smoking products <sup>1</sup>	0.516		1,371.864		6.3	0.7	0.0	0.3	0.7
Services less energy services	57.171	358.722	381.580	383.179	6.8	0.7	0.2	0.5	0.7
Shelter	32.706	339.997	362.093	364.195	7.1	0.4	0.7	0.8	0.4
Rent of primary residence	7.378	354.526	379.436	382.562	7.9	0.8	0.7	0.7	0.8
Owners' equivalent rent of	7.576	334.320	373.430	302.302	7.5	0.0	0.0	0.7	0.0
residences <sup>2</sup>	24.043	349.152	371.450	374.040	7.1	0.7	0.8	0.6	0.7
Medical care services	6.832	577.076	606.839	602.333	4.4	-0.7	1.0	-0.6	-0.7
Physicians' services <sup>1</sup>	1.805	408.843	414.897	415.048	1.5	0.0	0.5	0.0	0.0
Hospital services <sup>3</sup>	2.134	367.479		378.209	2.9		0.1		
Transportation services	5.994	327.749	373.098	374.248	14.2	0.3	1.9	0.8	-0.1
Motor vehicle maintenance and									
repair <sup>1</sup>	1.072	325.076	358.597	363.195	11.7	1.3	1.9	0.7	1.3
Motor vehicle insurance	2.501	568.239	637.103	644.317	13.4	1.1	1.6	1.7	0.9
Airline fares	0.633	215.159	294.340	292.656	36.0	-0.6	8.0	-1.1	-3.0

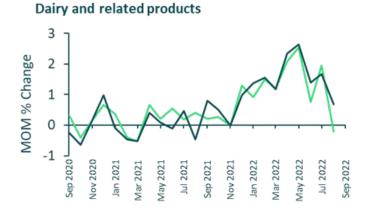
#### Calculate inflation in real-time using Numerator data

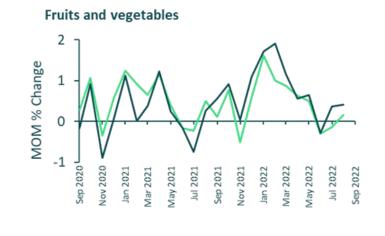
For now, focus on food-at-home; over time, expand to all major consumer categories





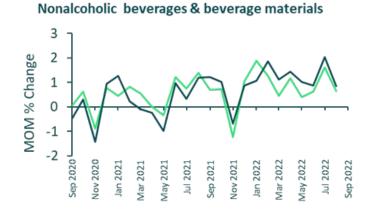


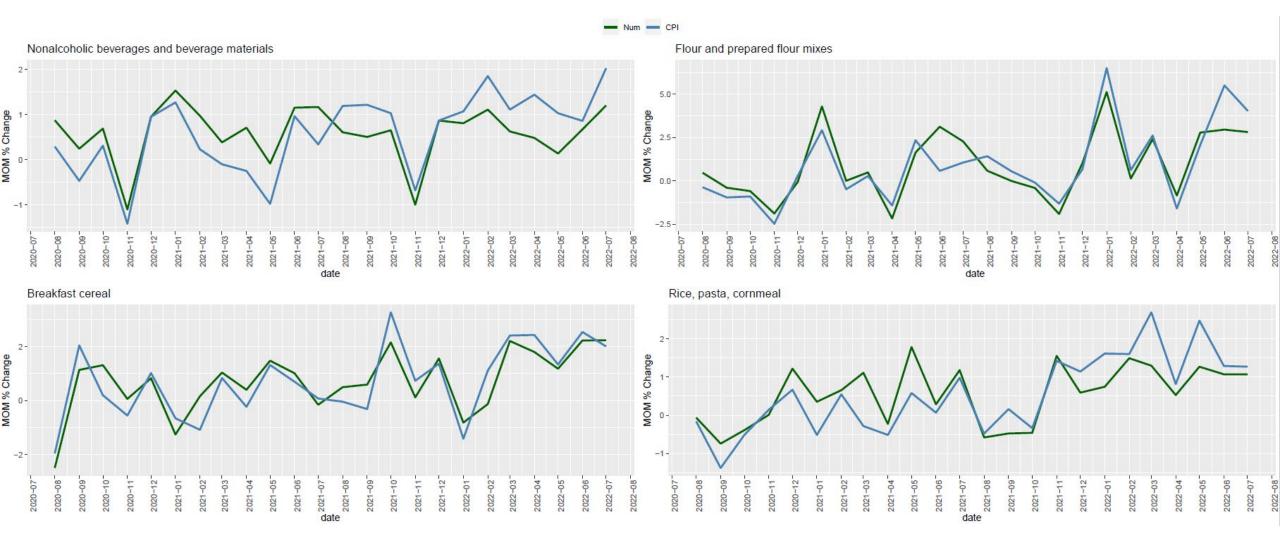


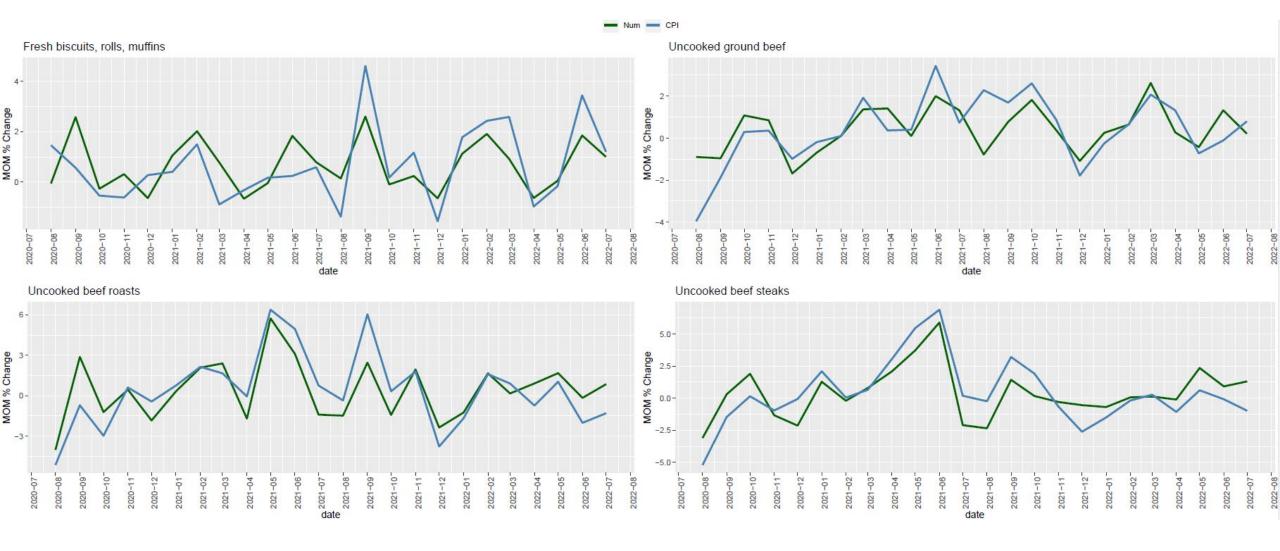


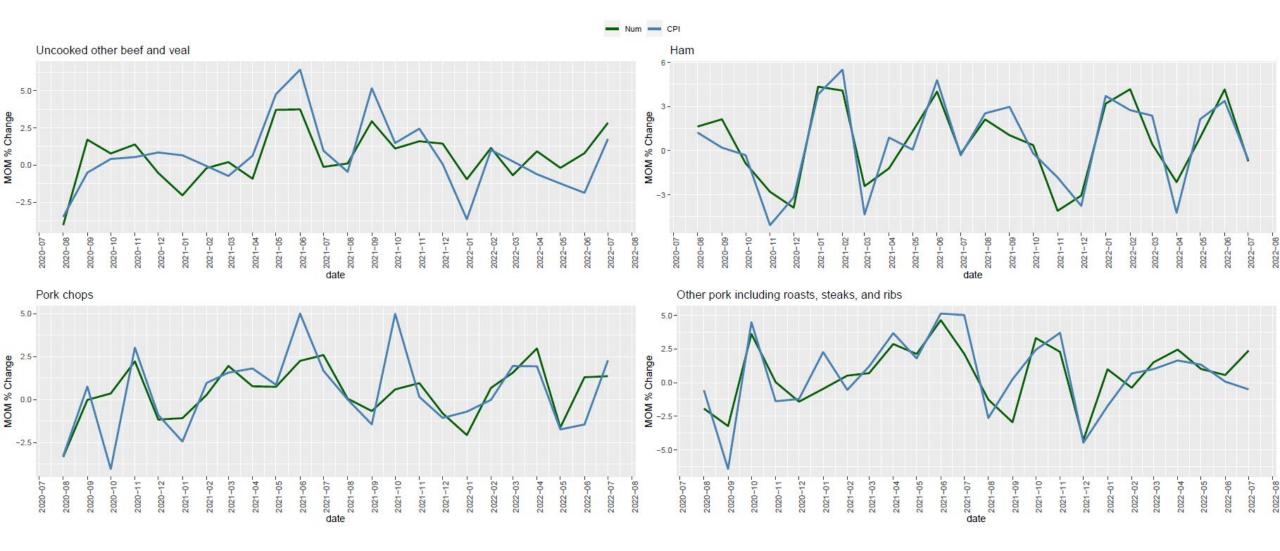
Numerator

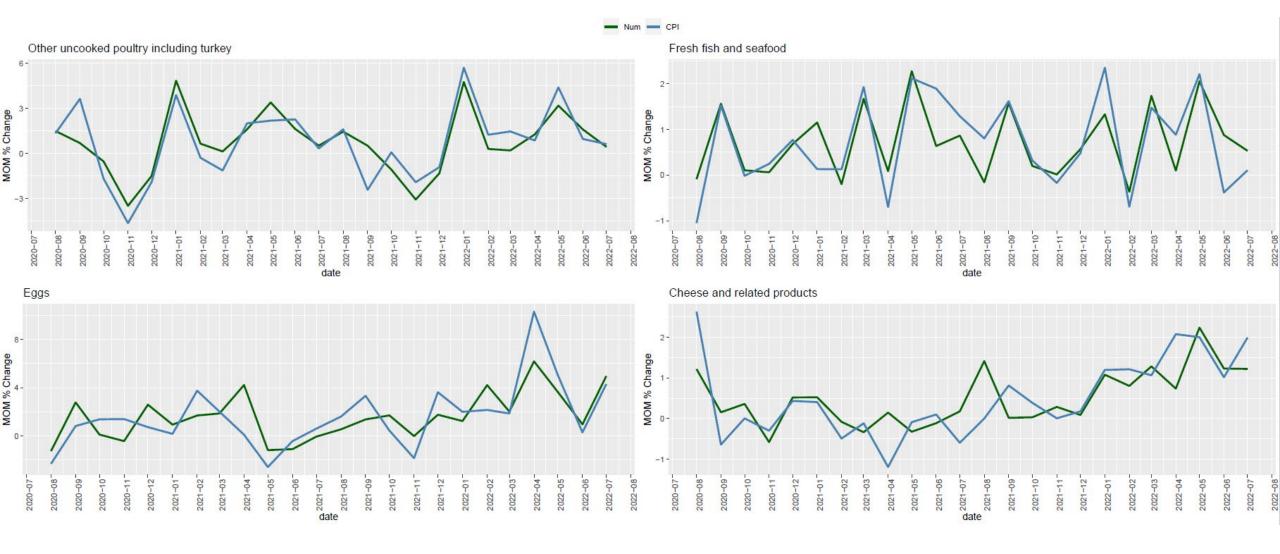
CPI

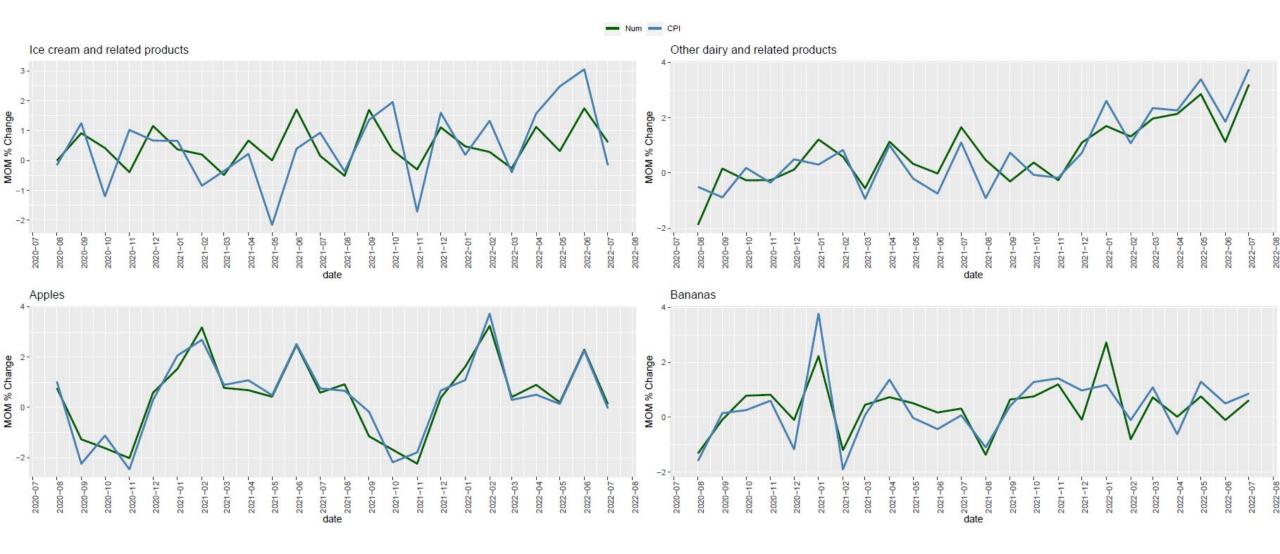


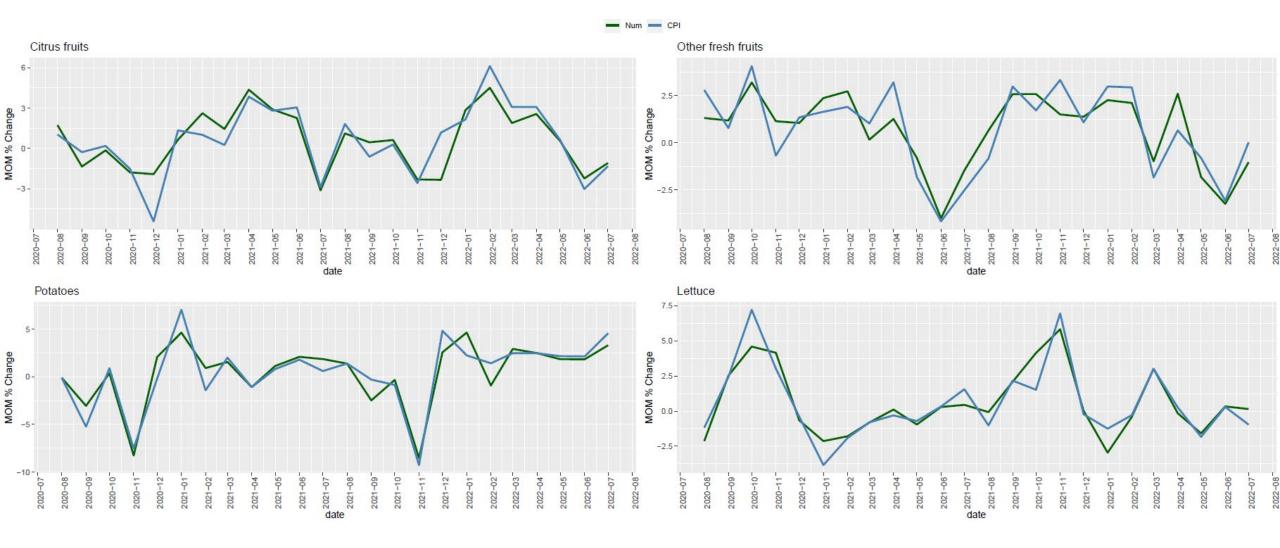


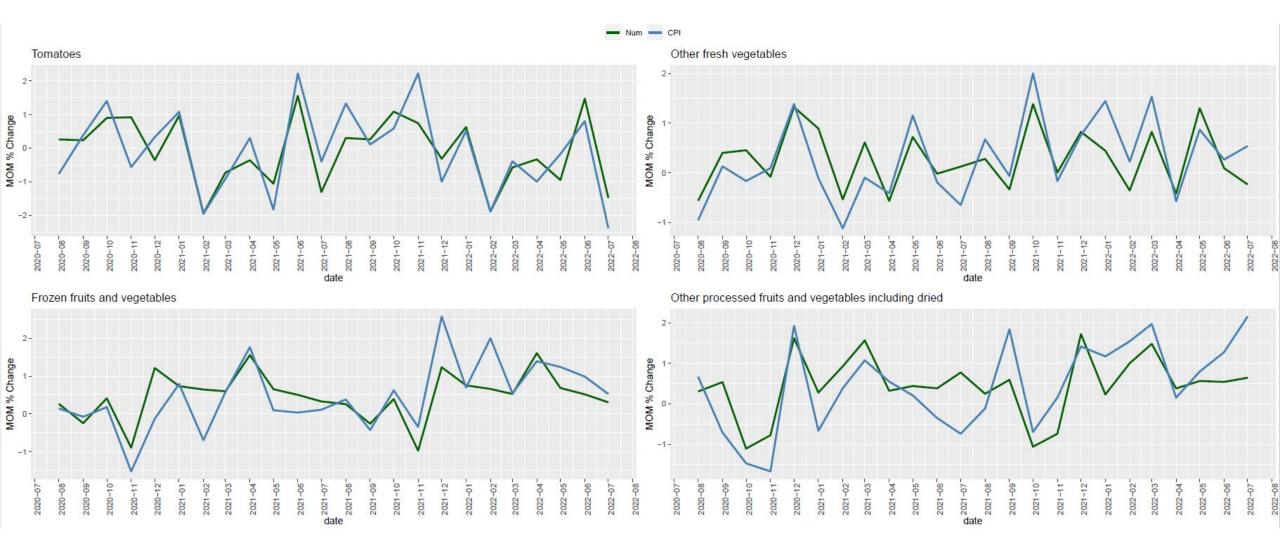


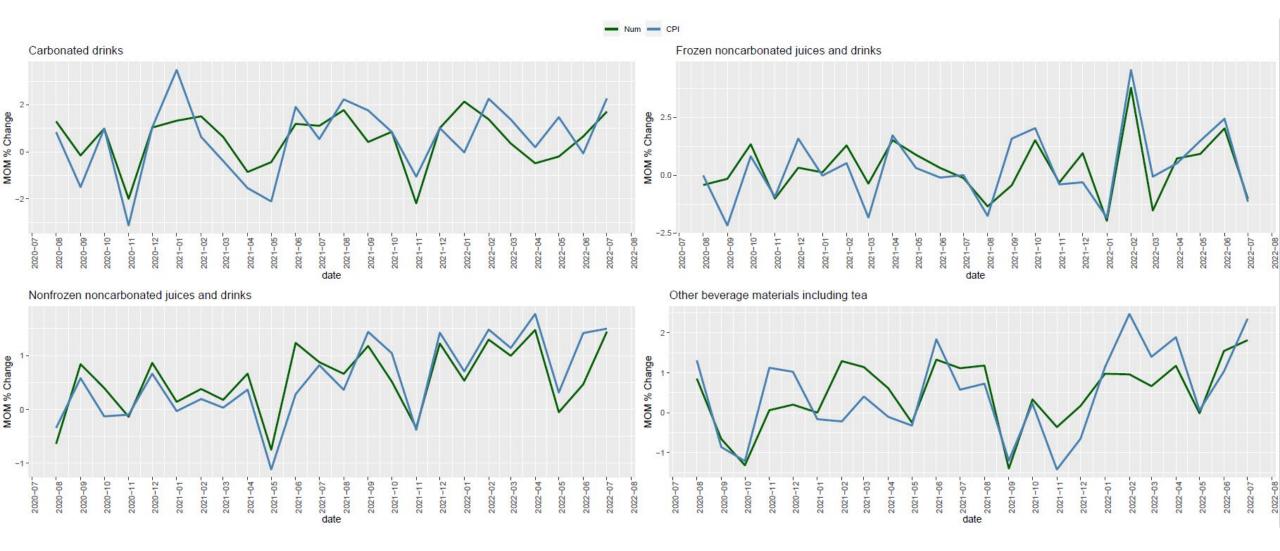


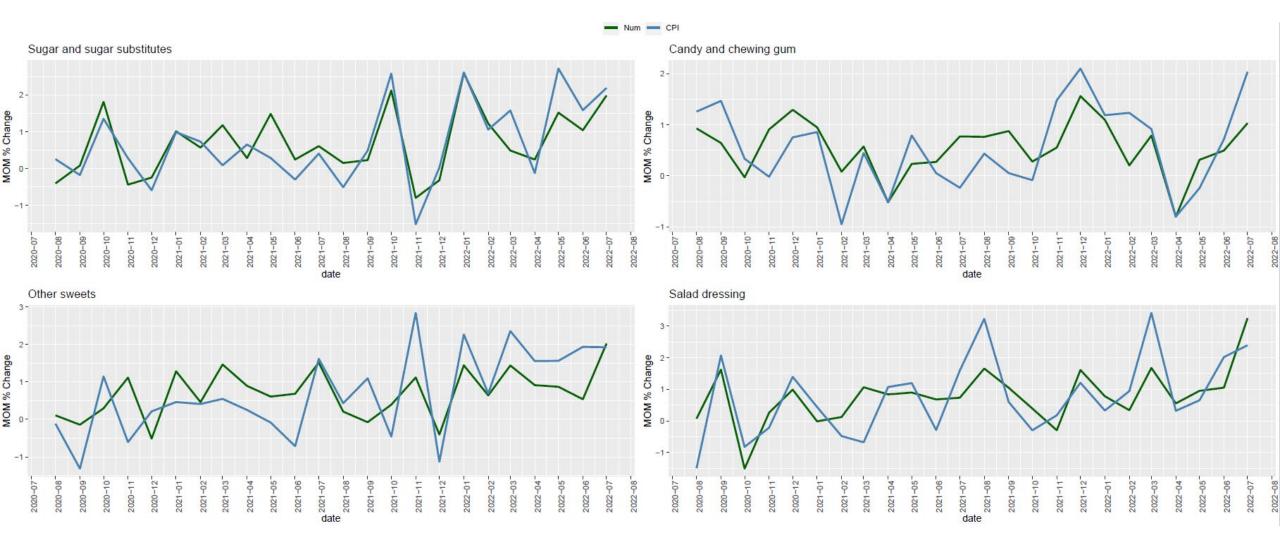


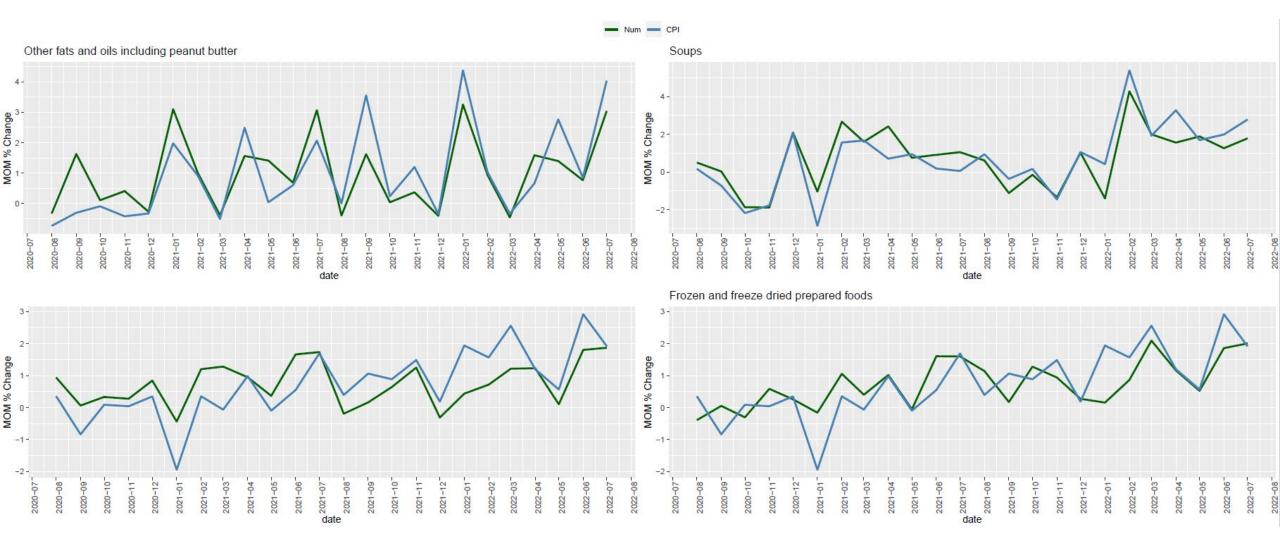


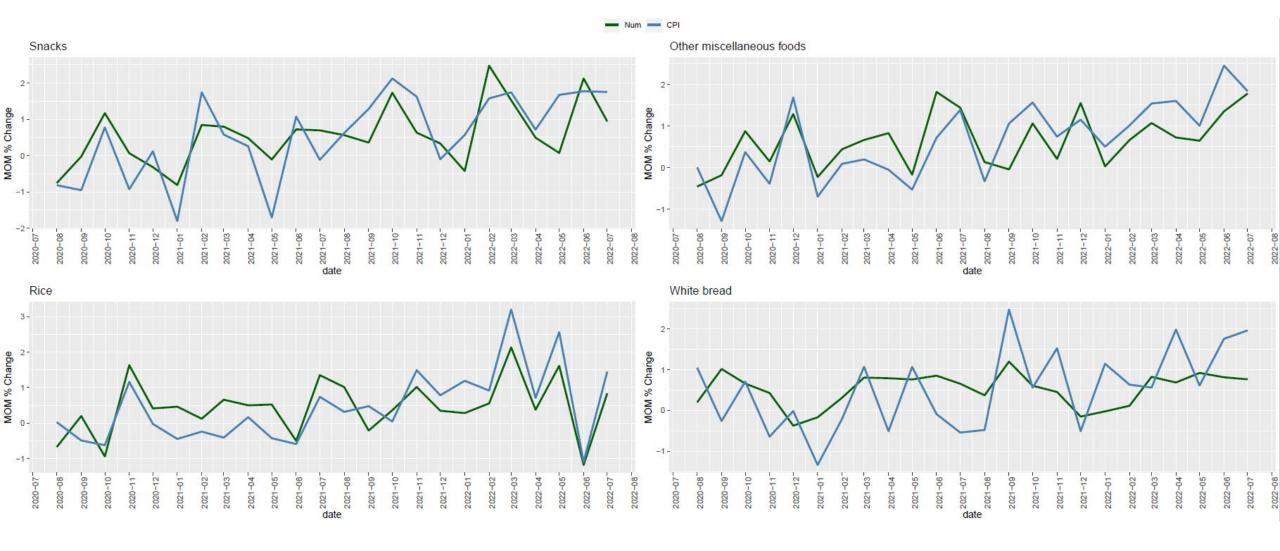


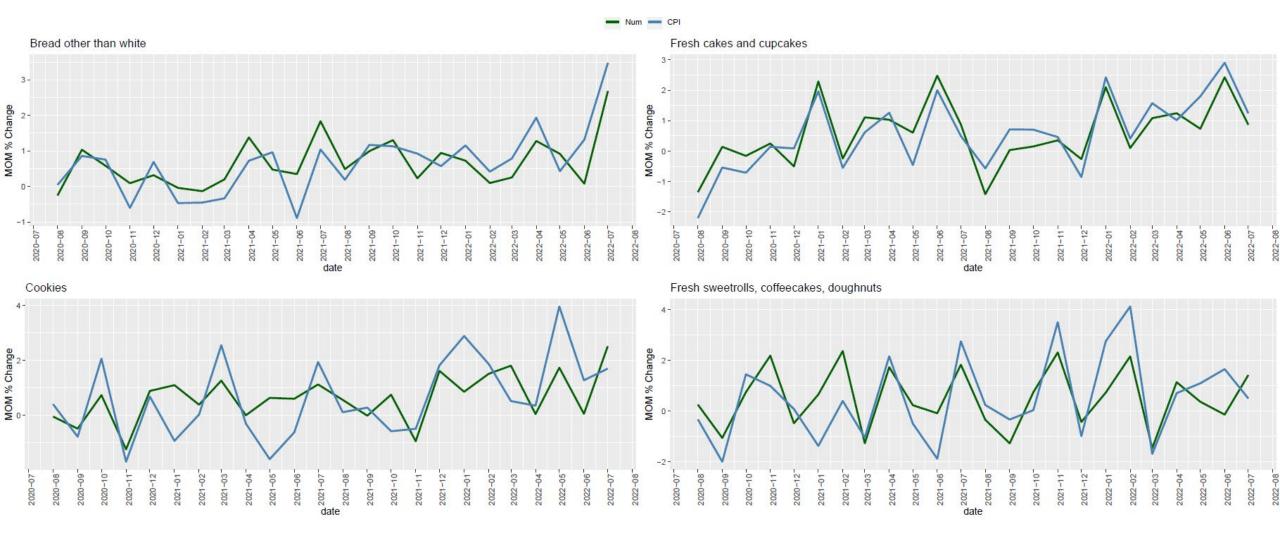


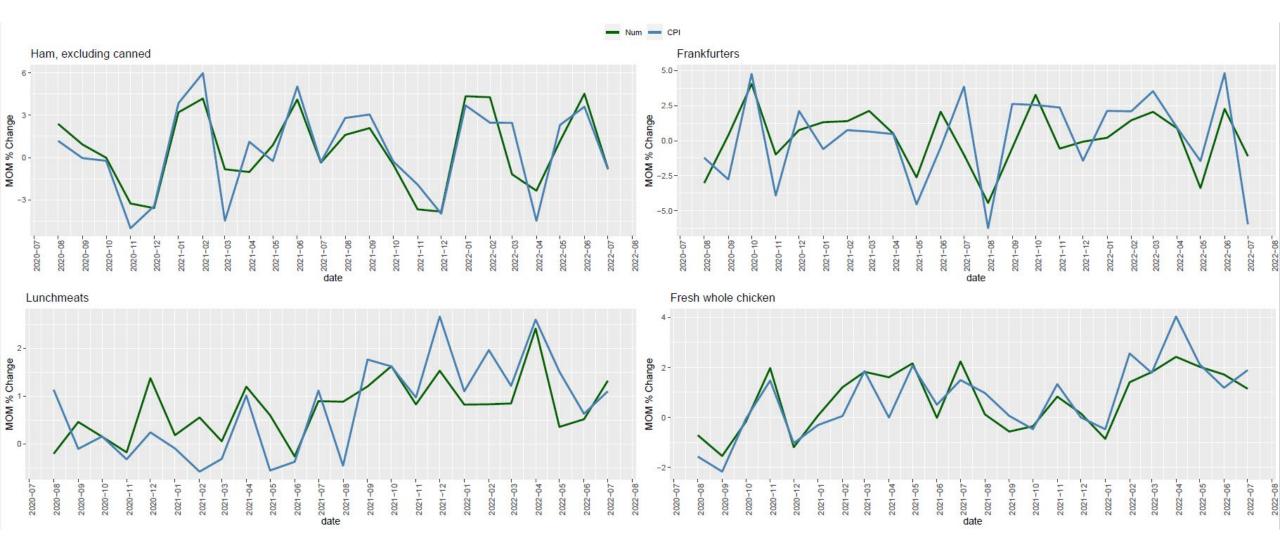


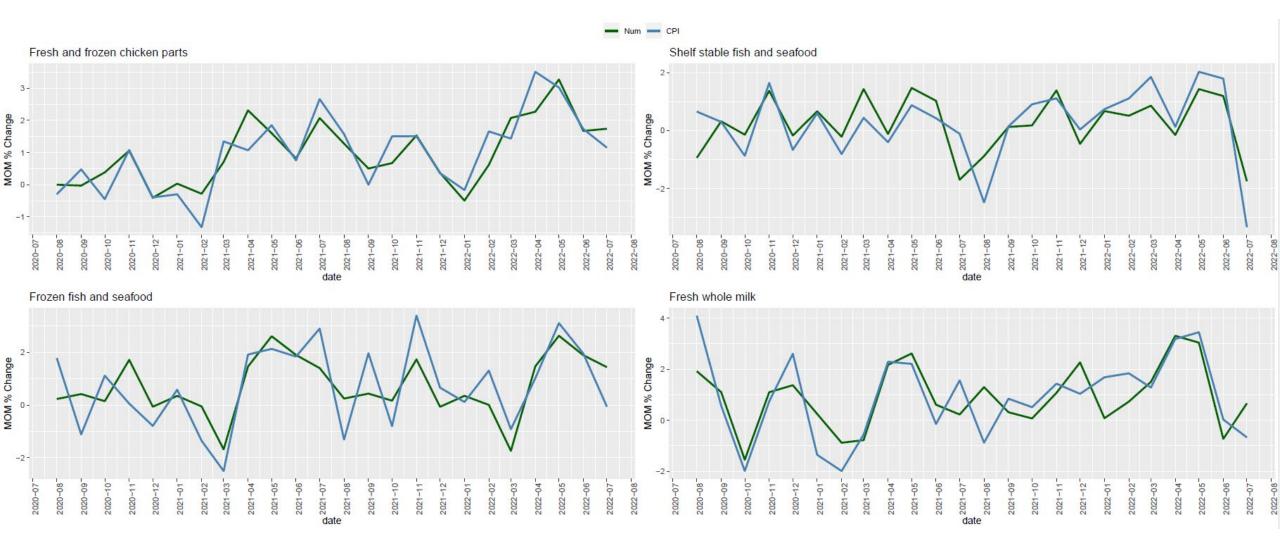


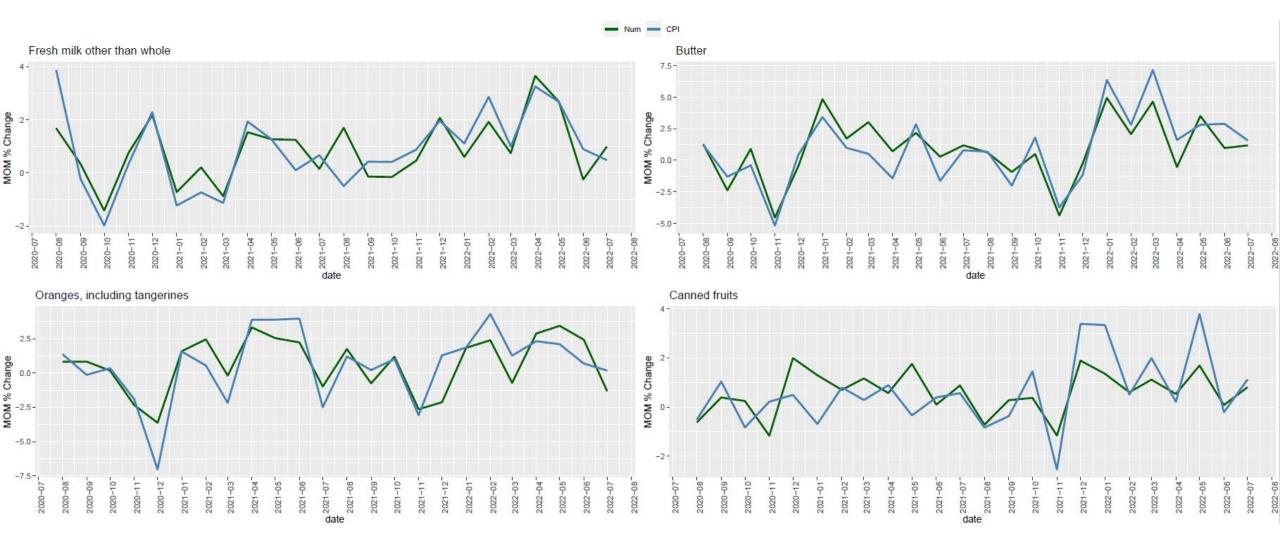


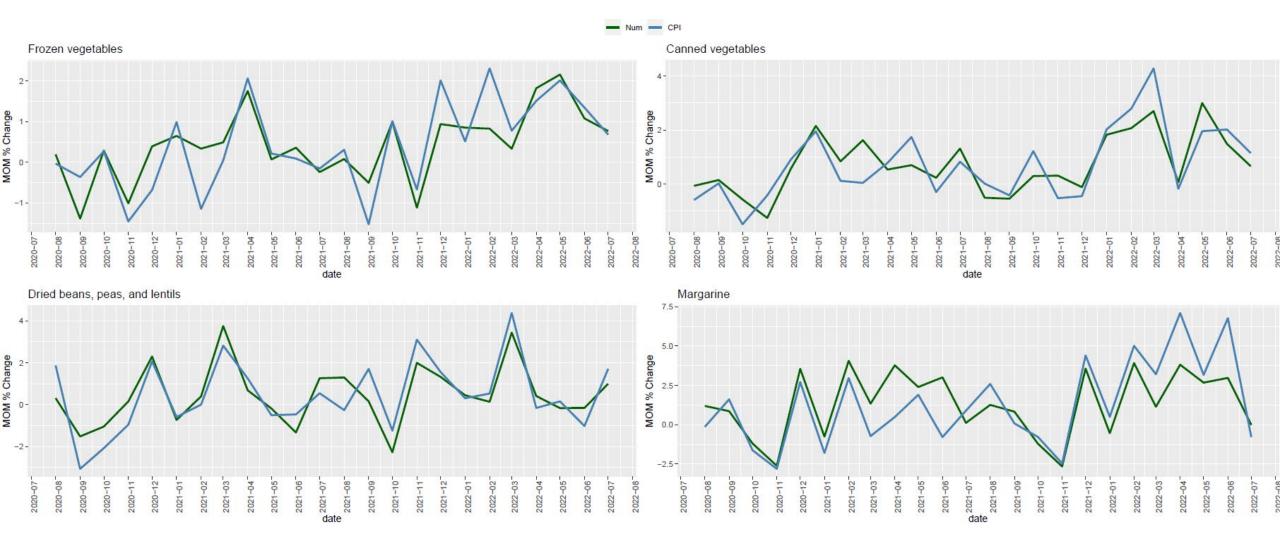


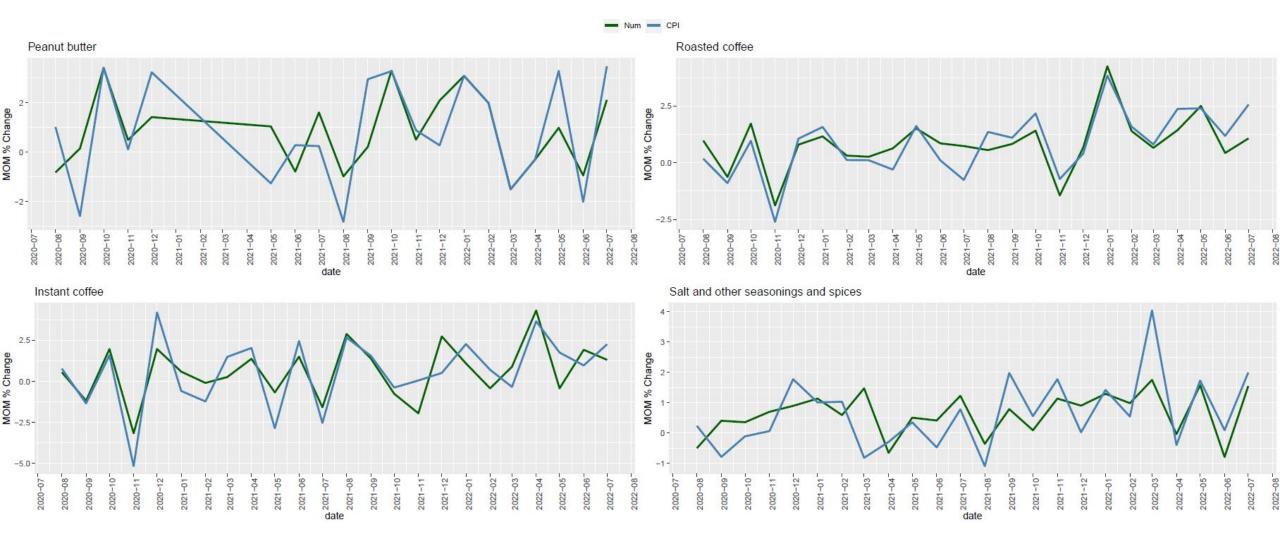


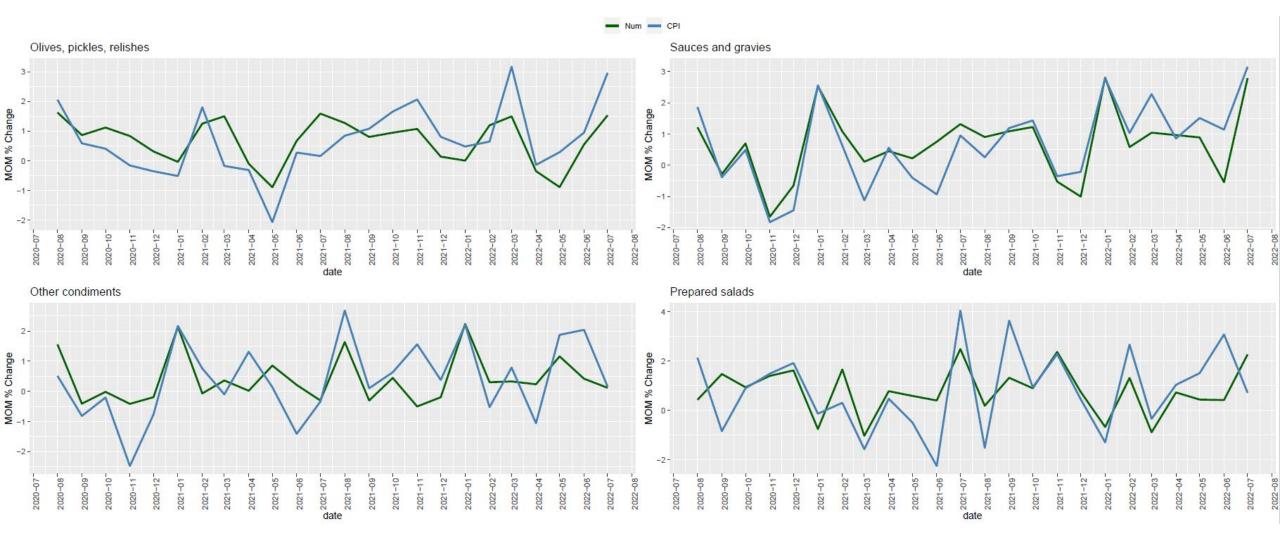








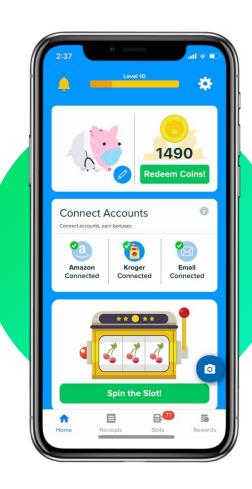






# How does Numerator get its data?

# A modern consumer panel with higher engagement



Gamified app experience

Passive, permissioned digital data collection

One snap receipt upload

#### **MORE SHOPPERS**

1M+ active panelists 150K longitudinal panel (as of March '23)

#### **MORE TRIPS**

200M purchases in 2022 13x more trips than legacy providers

#### **MORE COVERAGE**

Club, Convenience, eComm, Instacart, DoorDash, Dollar, Restaurants, and more

#### SINGLE SOURCE

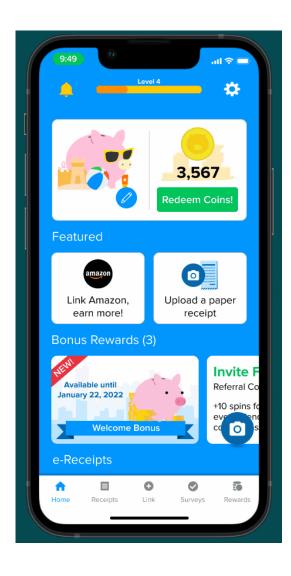
eComm, B&M, and other data all from the same panelists

#### **CALIBRATED TO THE MARKET**

Benchmarked against multiple data sources to ensure accuracy

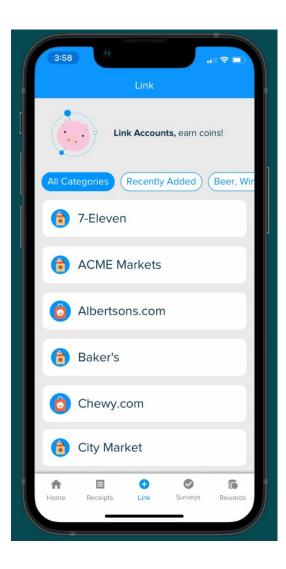


#### How can Consumers share their data with Numerator?



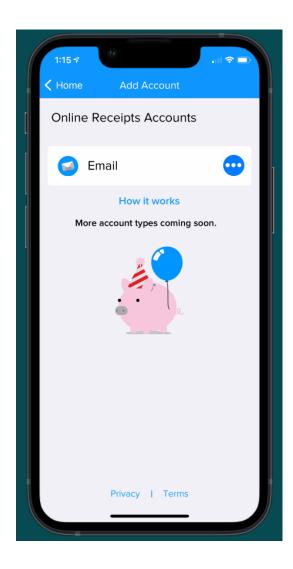
- Upload trips via paper receipts
  - 13M+ trips captured monthly (Jan 2024)
  - Accept receipts from almost any store/retailer/restaurant

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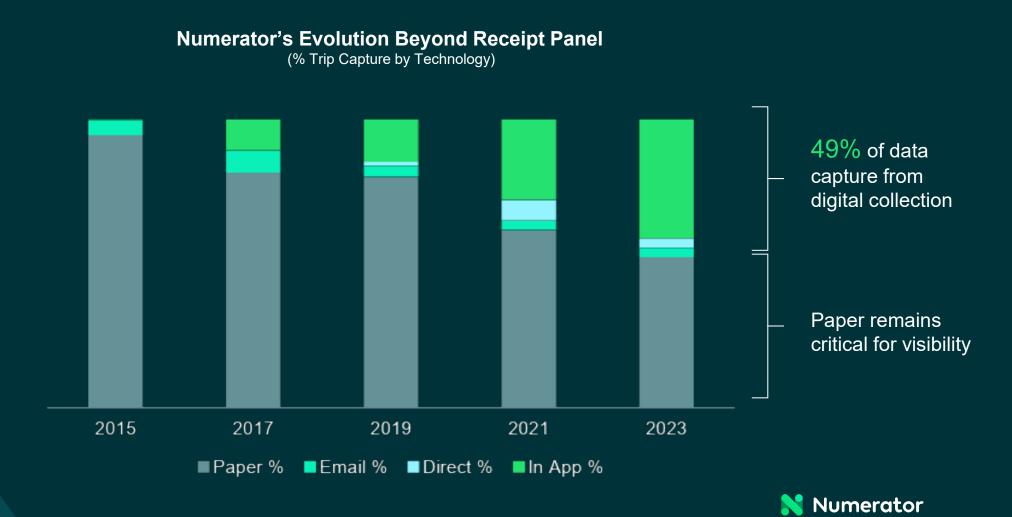
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- Linking a loyalty or online shopping account
  - 9.1M trips captured monthly (Jan 2024)
  - 646K users with 1+ account linked (April 2024)
  - 45+ retailers supported (US)

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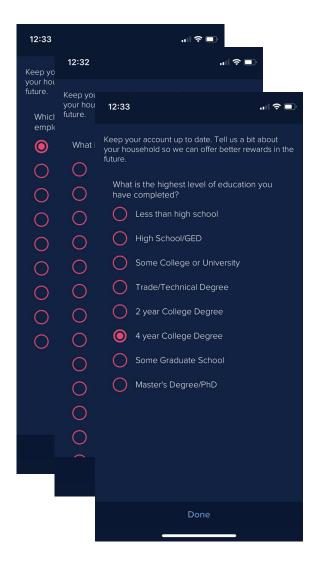


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- Upload e-receipts from email
  - 791K trips captured monthly (Jan 2024)
  - 402K users connected (April 2024)
  - Support for Gmail, Yahoo, Outlook

## Numerator continues to lead the industry in innovation – evolving beyond receipt collection to digital data collection



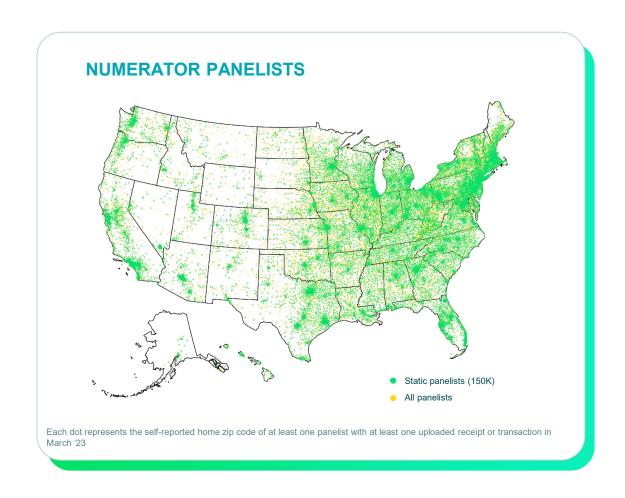
#### How can Consumers share their data with Numerator?

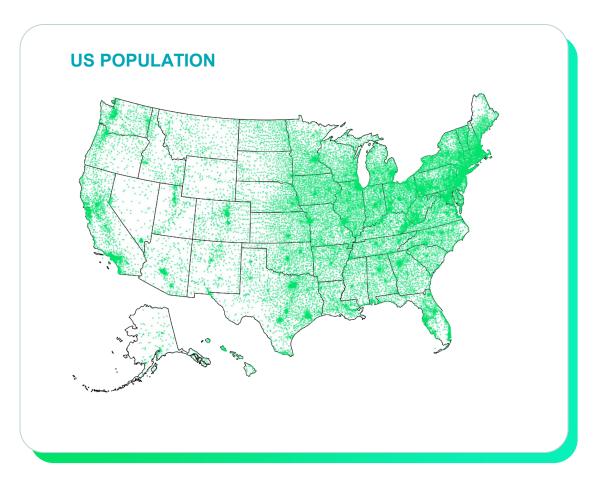


- 1 Upload trips via paper receipts
  - 13M+ trips captured monthly (Jan 2024)
  - Accept receipts from almost any store/retailer/restaurant
- 2 Linking a loyalty or online shopping account
  - 9.1M trips captured (Jan 2024)
  - 646K users with 1+ account linked (April 2024)
  - 45+ retailers supported
- 3 Upload e-receipts from email
  - 791k trips captured monthly (Jan 2024)
  - 402k users connected
  - Support for Gmail, Yahoo, Outlook
- Complete MicroSurveys prompted after a receipt upload
  - Panelists are prompted to share their core demographic attributes upon account setup and updated on a rolling 12month basis

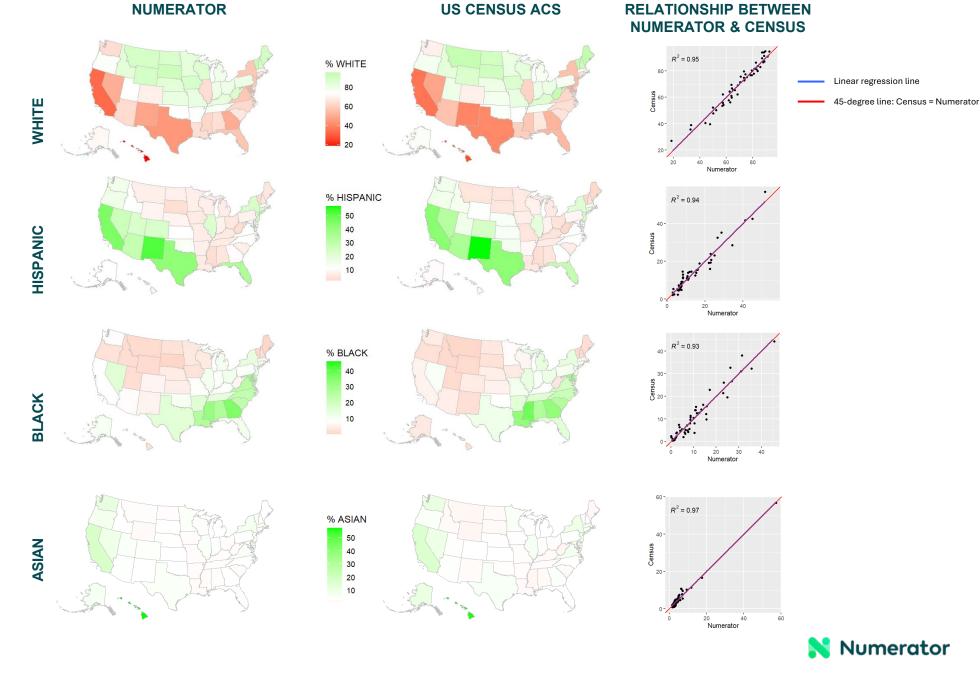
#### Numerator provides a geographically representative view of the US

With panelists submitting information from ~90% of all US residential zip codes









**Numerator** 

and Census

demographics

match closely

state by state

### Transcription translates data into computer readable content

#### **Image**

```
See back of receipt for your chance
to win $1000 ID #:7N5LFF1ZRYGW
          Walmart > <
          ( 772 ) 301 - 6125
    772-301-6125 Mgr:SUSAN SCHRENK
       PORT ST. LUCIE, FL 34953
ST# 05704 OP# 009046 TE# 46 TR# 08304
REUSABLE SH 006791404652
CHEESECAKE 007874220009
                              6.98 0
CF TREE VAN 007617132005
                               2.68 X
CF TREE VAN 007617132005
                               2.68 X
             006431930354
                              5.77 X
CARD
             006898105581
                              4.97 X
            006898160174
                              4.97 X
                 SUBTOTAL
                             29.03
         TAX 1 7.000 %
                              1.54
                    TOTAL
                              30.57
               VISA TEND
                             30.57
VISA CREDIT **** **** 4144 I 1
APPROVAL # 011442
REF # 910100204410
TRANS ID - 589101684796313
VALIDATION - K2KB
PAYMENT SERVICE - E
AID A0000000031010
TC 402A6E88977FE787
TERMINAL # SC011021
*NO SIGNATURE REQUIRED
       04/11/19 15:01:26
               CHANGE DUE
                             0.00
            # ITEMS SOLD 7
     TC# 9154 1005 1499 2607 8706
Low Prices You Can Trust. Every Day.
       04/11/19 15:01:26
        ***CUSTOMER COPY***
Scan with Walmart app to save receipts
```

#### OCR

```
See back of receipt for your chance
 to win $1000 ID #:7N5LFF1ZRYGW
 Walmart
 ( 772 ) 301 - 6125
 772-301-6125 Mgr :SUSAN SCHRENK
 PORT ST. LUCIE , FL 34953
 ST# 05704 OP# 009046 TE# 46 TR# 08304
 REUSABLE SH 006791404652 0.98 X
 CHEESECAKE 007874220009 F 6.98 0
 CF TREE VAN 007617132005 2.68 X
 CF TREE VAN 007617132005 2.68 X
 CARD 006431930354 5.77 X
 CARD 006898105581 4.97 X
 CARD 006898160174 4.97 X
 SUBTOTAL 29.03
 TAX 1 7.000 % 1.54
 TOTAL 30.57
 VISA TEND 30.57
 VISA CREDIT **** **** 4144 I 1
 APPROVAL # 011442
 REF # 910100204410
 TRANS ID - 589101684796313
 VALIDATION - K2KB
 PAYMENT SERVICE - E
 AID A0000000031010
 TC 402A6E88977FE787
 TERMINAL # SC011021
 *NO SIGNATURE REQUIRED
 04/11/19 15 :01:26
 CHANGE DUE 0.00
# ITEMS SOLD 7
TC# 9154 1005 1499 2607 8706
Low Prices You Can Trust. Every Day.
04/11/19 15 :01:26
* **CUSTOMER COPY***
 Scan with Walmart app to save receipts
= D0
```

#### **Structured Data**

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"gas_only": false,
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       "gtin": "00067914046524",
       "qty": 1,
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          "type": "Item'
   "payment_method": [
          "type": "VISA"
   "salestax": 1.54,
   "store": {
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      "store_phone_no": "772-301-6125"
   "store_id": "05704",
   "subtotal": 29.03,
   "total": 30.57.
   "transaction_date": "2019-04-11",
   "transaction_id": "08304"
```



USER ID	BANNER_ID	BASKET_ID	ITEM_ID	ITEM_DESC	PARENTBRAND	MAJORCAT	DATE	AMOUNT
						Packaged Portable Sweet		
9015349	kroger	1917094895	105705	Little Debbie Snacks Iced Honey Bun, 4.02 oz	Little Debbie	Snacks	5/27/2024	\$1.67
9015349	kroger	1917094895	41147491	KLGS SPC K PST CRS CRL BAR STRW 12 CT 003800016778	Kellogg's Special K	Nutrition and Wholesome Bars	5/27/2024	\$2.50
9015349	kroger	1917094895	1309689	kroger brand vegetable oil	Private Label	Oil & Shortening	5/27/2024	\$10.29
9015349	kroger	1917094895	107552	Ore-Ida Golden Crinkles French Fried Potatoes	Ore-Ida	Frozen Potato Snacks	5/27/2024	\$4.99
9015349	kroger	1917094895	791487539	KROGER GREEN APPLE CHERRY SOFT & CHEWY ROPES CANDY	Private Label	Non-Seasonal Candy	5/27/2024	\$1.79
				On The Border Salsa Natural Mexican Grill & Cntn Medium 1 Ct 16 Oz -				
9015349	kroger	1917094895	1234772	078113870016	On The Border	Dips	5/27/2024	\$2.99
9015349	kroger	1917094895	4089822	WONDER CLASSIC WHITE ROUND TOP 200Z	Wonder	Packaged Bread	5/27/2024	\$2.99
9015349	kroger	1917094895		KROGER® VANILLA INSTANT PUDDING & PIE FILLING	Private Label	Baking Mixes	5/27/2024	\$1.49
9015349	kroger	1917094895	26943649	On The Border CafÃf© Style Tortilla Chips - 11oz	On The Border	Chips	5/27/2024	\$2.99
				DREYERS EDYS GRAND FROZEN CHOC PNUT BUTTER CUP ICE CREAM				
7263769	dollar_general	1915979832	1901789	REGULAR FAT CONTENT 48 OZ - 0041548024974	Dreyer's/Edy's	Ice Cream & Novelties	5/26/2024	\$4.50
7263769	dollar_general	1915979832	26743420	STORECV WHOLEDISCOUNTGALLON MI	Private Label	Milk, Cream, & Milk Substitutes	5/26/2024	\$7.50
7263769	dollar_general	1915979832	791136490	ZEP PRO STRENGTH DRAIN OPENER 64 FL OZ	Zep	Drain & Septic Care	5/26/2024	\$5.00
9929390	walmart	1916098475	62488	Dr Pepper Reg Pepper Soda Regular Plastic Bottle 1 Ct 20 Oz	Dr Pepper	Soft Drinks	5/26/2024	\$2.28
9929390	walmart	1916098475	25029504	Pizza Rolls	Totinos	Frozen Appetizers	5/26/2024	\$12.34
8423142	costco	1915835411	22886523	FRESH ATLANTIC SALMON	Private Label	Fish	5/25/2024	\$35.72
8423142	costco	1915835411	53329100	ECOS 225 OZ/225 LOADS HE	Ecos	Laundry Detergent	5/25/2024	\$14.99
8423142	costco	1915835411	65774606	WHOLE FARMED WHITE SHRIMP	Northern Chef	Frozen Seafood	5/25/2024	\$21.99
8423142	costco	1915835411	22893892	TOP SIRLOIN	Private Label	Beef	5/25/2024	\$37.04
				Strawberry Watermelon Liquid Water Enhancer Drops - 1.62 fl oz - Market				
6408297	targetcom	1915896316	783390305	Pantry™	Private Label	Drinks & Mixes	5/25/2024	\$2.29
				RASPBERRY LEMONADE LIQUID WATER ENHANCER DROPS - 1.62 FL OZ -				
6408297	targetcom	1915896316		MARKET PANTRYâ,,¢		Drinks & Mixes	5/25/2024	<u> </u>
	targetcom	1915896316		Pillsbury Toaster Strudel Strawberry Toaster Pastry Pastry Filled Frozen 11.7 Oz	-	Frozen Breakfast Food	5/25/2024	-
6408297	targetcom	1915896316		OM BACON TURKEY	Oscar Mayer	Bacon	5/25/2024	\$4.69
6408297	targetcom	1915896316	12466	Kelloggs Eggo Minis Regular Pancake Breakfast Entree Round Frozen 14.1 Oz	Kellogg's Eggo	Frozen Breakfast Food	5/25/2024	\$3.49
6408297	targetcom	1915896316	26865937	Strawberries, 1 lb.	Fruit	Fruits	5/25/2024	\$2.79

USER ID	BANNER_ID	BASKET_ID	ITEM_ID	ITEM_DESC	PARENTBRAND	MAJORCAT	DATE	AMOUNT
						Packaged Portable Sweet		
9015349	kroger	1917094895	105705	Little Debbie Snacks Iced Honey Bun, 4.02 oz	Little Debbie	Snacks	5/27/2024	\$1.67
9015349	kroger	1917094895	41147491	KLGS SPC K PST CRS CRL BAR STRW 12 CT 003800016778	Kellogg's Special K	Nutrition and Wholesome Bars	5/27/2024	\$2.50
9015349	kroger	1917094895	1309689	kroger brand vegetable oil	Private Label	Oil & Shortening	5/27/2024	\$10.29
9015349	kroger	1917094895	107552	Ore-Ida Golden Crinkles French Fried Potatoes	Ore-Ida	Frozen Potato Snacks	5/27/2024	\$4.99
9015349	kroger	1917094895	791487539	KROGER GREEN APPLE CHERRY SOFT & CHEWY ROPES CANDY	Private Label	Non-Seasonal Candy	5/27/2024	\$1.79
				On The Border Salsa Natural Mexican Grill & Cntn Medium 1 Ct 16 Oz -				l
9015349	kroger	1917094895	1234772	078113870016	On The Border	Dips	5/27/2024	\$2.99
9015349	kroger	1917094895	4089822	WONDER CLASSIC WHITE ROUND TOP 200Z	Wonder	Packaged Bread	5/27/2024	\$2.99
9015349	kroger	1917094895		KROGER® VANILLA INSTANT PUDDING & PIE FILLING	Private Label	Baking Mixes	5/27/2024	\$1.49
9015349	kroger	1917094895	26943649	On The Border CafÃf© Style Tortilla Chips - 11oz	On The Border	Chips	5/27/2024	\$2.99
				DREYERS EDYS GRAND FROZEN CHOC PNUT BUTTER CUP ICE CREAM				l
7263769	dollar_general	1915979832	1901789	REGULAR FAT CONTENT 48 OZ - 0041548024974	Dreyer's/Edy's	Ice Cream & Novelties	5/26/2024	\$4.50
7263769	dollar_general	1915979832	26743420	STORECV WHOLEDISCOUNTGALLON MI	Private Label	Milk, Cream, & Milk Substitutes	5/26/2024	\$7.50
7263769	dollar_general	1915979832	791136490	ZEP PRO STRENGTH DRAIN OPENER 64 FL OZ	Zep	Drain & Septic Care	5/26/2024	\$5.00
9929390	walmart	1916098475	62488	Dr Pepper Reg Pepper Soda Regular Plastic Bottle 1 Ct 20 Oz	Dr Pepper	Soft Drinks	5/26/2024	\$2.28
9929390	walmart	1916098475	25029504	Pizza Rolls	Totinos	Frozen Appetizers	5/26/2024	\$12.34
8423142	costco	1915835411	22886523	FRESH ATLANTIC SALMON	Private Label	Fish	5/25/2024	\$35.72
8423142	costco	1915835411	53329100	ECOS 225 OZ/225 LOADS HE	Ecos	Laundry Detergent	5/25/2024	\$14.99
8423142	costco	1915835411	65774606	WHOLE FARMED WHITE SHRIMP	Northern Chef	Frozen Seafood	5/25/2024	\$21.99
8423142	costco	1915835411	22893892	TOP SIRLOIN	Private Label	Beef	5/25/2024	\$37.04
				Strawberry Watermelon Liquid Water Enhancer Drops - 1.62 fl oz - Market				l
6408297	targetcom	1915896316	783390305	Pantry™	Private Label	Drinks & Mixes	5/25/2024	\$2.29
				RASPBERRY LEMONADE LIQUID WATER ENHANCER DROPS - 1.62 FL OZ -				1
6408297	targetcom	1915896316		MARKET PANTRYâ,,¢	Private Label	Drinks & Mixes	5/25/2024	\$2.29
6408297	targetcom	1915896316	27216452	Pillsbury Toaster Strudel Strawberry Toaster Pastry Pastry Filled Frozen 11.7 Oz	Pillsbury	Frozen Breakfast Food	5/25/2024	\$2.99
6408297	targetcom	1915896316	20265	OM BACON TURKEY	Oscar Mayer	Bacon	5/25/2024	\$4.69
6408297	targetcom	1915896316	12466	Kelloggs Eggo Minis Regular Pancake Breakfast Entree Round Frozen 14.1 Oz	Kellogg's Eggo	Frozen Breakfast Food	5/25/2024	\$3.49
6408297	targetcom	1915896316	26865937	Strawberries, 1 lb.	Fruit	Fruits	5/25/2024	\$2.79

USER ID GENERATION		ETHNICITY	EDUCATION	EMPLOYMENT	INCOME	MARITAL	HH	HAS	POSTAL	
O3LK_ID	GLINLKATION	LIIINICITI	LDUCATION	LIVIPLOTIVILINI	INCOME	STATUS	SIZE	CHILDREN	CODE	STATE
9015349	Millennials [1982-1995]	Black or African American	Graduate Degree	Employed Full-Time	\$125k+	Never married	2	Yes	72227	Arkansas
7263769	Boomers+ [< 1965]	White/Caucasian	Trade/Technical Degree	Disabled	\$20k-40k	Married	2	? No	74021	Oklahoma
9929390	Millennials [1982-1995]	White/Caucasian	High School/GED	Employed Full-Time	- \$20k	Married	4	Yes	43326	Ohio
8423142	Millennials [1982-1995]	White/Caucasian	Some College or university	Employed Full-Time	\$60k-80k	Living with partner	2	No.	98042	Washington
6408297	Millennials [1982-1995]	Black or African American	4 year College Degree	Employed Full-Time	\$40k-60k	Living with partner	2	No	31407	Georgia

USER ID	BANNER_ID	BASKET_ID	ITEM_ID	ITEM_DESC	PARENTBRAND	MAJORCAT	DATE	AMOUNT
						Packaged Portable Sweet		_
9015349	kroger	1917094895	105705	Little Debbie Snacks Iced Honey Bun, 4.02 oz	Little Debbie	Snacks	5/27/2024	\$1.67
9015349	kroger	1917094895	41147491	KLGS SPC K PST CRS CRL BAR STRW 12 CT 003800016778	Kellogg's Special K	Nutrition and Wholesome Bars	5/27/2024	\$2.50
9015349	kroger	1917094895	1309689	kroger brand vegetable oil	Private Label	Oil & Shortening	5/27/2024	\$10.29
9015349	kroger	1917094895	107552	Ore-Ida Golden Crinkles French Fried Potatoes	Ore-Ida	Frozen Potato Snacks	5/27/2024	\$4.99
9015349	kroger	1917094895	791487539	KROGER GREEN APPLE CHERRY SOFT & CHEWY ROPES CANDY	Private Label	Non-Seasonal Candy	5/27/2024	\$1.79
				On The Border Salsa Natural Mexican Grill & Cntn Medium 1 Ct 16 Oz -				
9015349	kroger	1917094895	1234772	078113870016	On The Border	Dips	5/27/2024	\$2.99
9015349	kroger	1917094895	4089822	WONDER CLASSIC WHITE ROUND TOP 200Z	Wonder	Packaged Bread	5/27/2024	\$2.99
9015349	kroger	1917094895		KROGER® VANILLA INSTANT PUDDING & PIE FILLING	Private Label	Baking Mixes	5/27/2024	\$1.49
9015349	kroger	1917094895	26943649	On The Border CafÃf© Style Tortilla Chips - 11oz	On The Border	Chips	5/27/2024	\$2.99
				DREYERS EDYS GRAND FROZEN CHOC PNUT BUTTER CUP ICE CREAM				
7263769	dollar_general	1915979832	1901789	REGULAR FAT CONTENT 48 OZ - 0041548024974	Dreyer's/Edy's	Ice Cream & Novelties	5/26/2024	\$4.50
	dollar_general	1915979832	26743420	STORECV WHOLEDISCOUNTGALLON MI	Private Label	Milk, Cream, & Milk Substitutes	5/26/2024	\$7.50
7263769	dollar_general	1915979832	791136490	ZEP PRO STRENGTH DRAIN OPENER 64 FL OZ	Zep	Drain & Septic Care	5/26/2024	\$5.00
9929390	walmart	1916098475	62488	Dr Pepper Reg Pepper Soda Regular Plastic Bottle 1 Ct 20 Oz	Dr Pepper	Soft Drinks	5/26/2024	\$2.28
9929390	walmart	1916098475	25029504	Pizza Rolls	Totinos	Frozen Appetizers	5/26/2024	\$12.34
8423142	costco	1915835411	22886523	FRESH ATLANTIC SALMON	Private Label	Fish	5/25/2024	\$35.72
8423142	costco	1915835411	53329100	ECOS 225 OZ/225 LOADS HE	Ecos	Laundry Detergent	5/25/2024	\$14.99
8423142	costco	1915835411	65774606	WHOLE FARMED WHITE SHRIMP	Northern Chef	Frozen Seafood	5/25/2024	\$21.99
8423142	costco	1915835411	22893892	TOP SIRLOIN	Private Label	Beef	5/25/2024	\$37.04
				Strawberry Watermelon Liquid Water Enhancer Drops - 1.62 fl oz - Market				
6408297	targetcom	1915896316	783390305	Pantry™	Private Label	Drinks & Mixes	5/25/2024	\$2.29
				RASPBERRY LEMONADE LIQUID WATER ENHANCER DROPS - 1.62 FL OZ -				
6408297	targetcom	1915896316		MARKET PANTRYâ,,¢		Drinks & Mixes	5/25/2024	\$2.29
6408297	targetcom	1915896316	27216452	Pillsbury Toaster Strudel Strawberry Toaster Pastry Pastry Filled Frozen 11.7 Oz	Pillsbury	Frozen Breakfast Food	5/25/2024	\$2.99
6408297	targetcom	1915896316	20265	OM BACON TURKEY	Oscar Mayer	Bacon	5/25/2024	\$4.69
6408297	targetcom	1915896316	12466	Kelloggs Eggo Minis Regular Pancake Breakfast Entree Round Frozen 14.1 Oz	Kellogg's Eggo	Frozen Breakfast Food	5/25/2024	\$3.49
6408297	targetcom	1915896316	26865937	Strawberries, 1 lb.	Fruit	Fruits	5/25/2024	\$2.79

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						Packaged Portable Sweet		
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9015349	kroger	1917094895	41147491	KLGS SPC K PST CRS CRL BAR STRW 12 CT 003800016778	Kellogg's Special K	Nutrition and Wholesome Bars	5/27/2024	\$2.50
9015349	kroger	1917094895	1309689	kroger brand vegetable oil	Private Label	Oil & Shortening	5/27/2024	\$10.29
9015349	kroger	1917094895	107552	Ore-Ida Golden Crinkles French Fried Potatoes	Ore-Ida	Frozen Potato Snacks	5/27/2024	\$4.99
9015349	kroger	1917094895	791487539	KROGER GREEN APPLE CHERRY SOFT & CHEWY ROPES CANDY	Private Label	Non-Seasonal Candy	5/27/2024	\$1.79
				On The Border Salsa Natural Mexican Grill & Cntn Medium 1 Ct 16 Oz -				
9015349	kroger	1917094895	1234772	078113870016	On The Border	Dips	5/27/2024	\$2.99
9015349	kroger	1917094895	4089822	WONDER CLASSIC WHITE ROUND TOP 200Z	Wonder	Packaged Bread	5/27/2024	\$2.99
9015349	kroger	1917094895	794500061	KROGER® VANILLA INSTANT PUDDING & PIE FILLING	Private Label	Baking Mixes	5/27/2024	\$1.49
9015349	kroger	1917094895	26943649	On The Border CafÃf© Style Tortilla Chips - 11oz	On The Border	Chips	5/27/2024	\$2.99
				DREYERS EDYS GRAND FROZEN CHOC PNUT BUTTER CUP ICE CREAM				
7263769	dollar_general	1915979832		REGULAR FAT CONTENT 48 OZ - 0041548024974	Dreyer's/Edy's	Ice Cream & Novelties	5/26/2024	\$4.50
7263769	dollar_general	1915979832	26743420	STORECV WHOLEDISCOUNTGALLON MI	Private Label	Milk, Cream, & Milk Substitutes	5/26/2024	\$7.50
7263769	dollar_general	1915979832	791136490	ZEP PRO STRENGTH DRAIN OPENER 64 FL OZ	Zep	Drain & Septic Care	5/26/2024	\$5.00
9929390	walmart	1916098475	62488	Dr Pepper Reg Pepper Soda Regular Plastic Bottle 1 Ct 20 Oz	Dr Pepper	Soft Drinks	5/26/2024	•
9929390	walmart	1916098475	25029504	Pizza Rolls	Totinos	Frozen Appetizers	5/26/2024	\$12.34
8423142	costco	1915835411	22886523	FRESH ATLANTIC SALMON	Private Label	Fish	5/25/2024	\$35.72
8423142	costco	1915835411	53329100	ECOS 225 OZ/225 LOADS HE	Ecos	Laundry Detergent	5/25/2024	\$14.99
8423142	costco	1915835411	65774606	WHOLE FARMED WHITE SHRIMP	Northern Chef	Frozen Seafood	5/25/2024	\$21.99
8423142	costco	1915835411	22893892	TOP SIRLOIN	Private Label	Beef	5/25/2024	\$37.04
				Strawberry Watermelon Liquid Water Enhancer Drops - 1.62 fl oz - Market				
6408297	targetcom	1915896316	783390305	Pantry™	Private Label	Drinks & Mixes	5/25/2024	\$2.29
				RASPBERRY LEMONADE LIQUID WATER ENHANCER DROPS - 1.62 FL OZ -				
	targetcom	1915896316		MARKET PANTRYâ"¢	Private Label	Drinks & Mixes	5/25/2024	-
	targetcom	1915896316		Pillsbury Toaster Strudel Strawberry Toaster Pastry Pastry Filled Frozen 11.7 O	-	Frozen Breakfast Food	5/25/2024	\$2.99
	targetcom	1915896316		OM BACON TURKEY		Bacon	5/25/2024	\$4.69
	targetcom	1915896316		Kelloggs Eggo Minis Regular Pancake Breakfast Entree Round Frozen 14.1 Oz	Kellogg's Eggo	Frozen Breakfast Food	5/25/2024	\$3.49
6408297	targetcom	1915896316	26865937	Strawberries, 1 lb.	Fruit	Fruits	5/25/2024	\$2.79



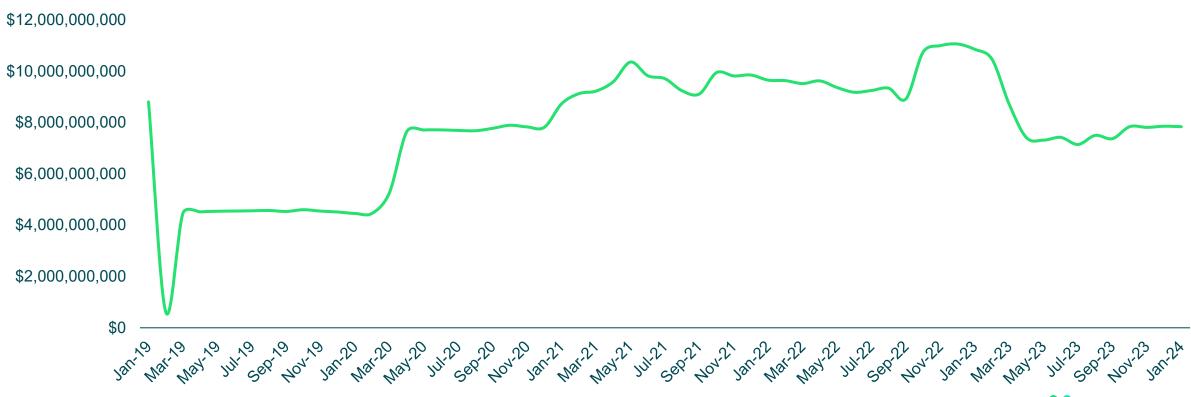
# What other data does Numerator collect?

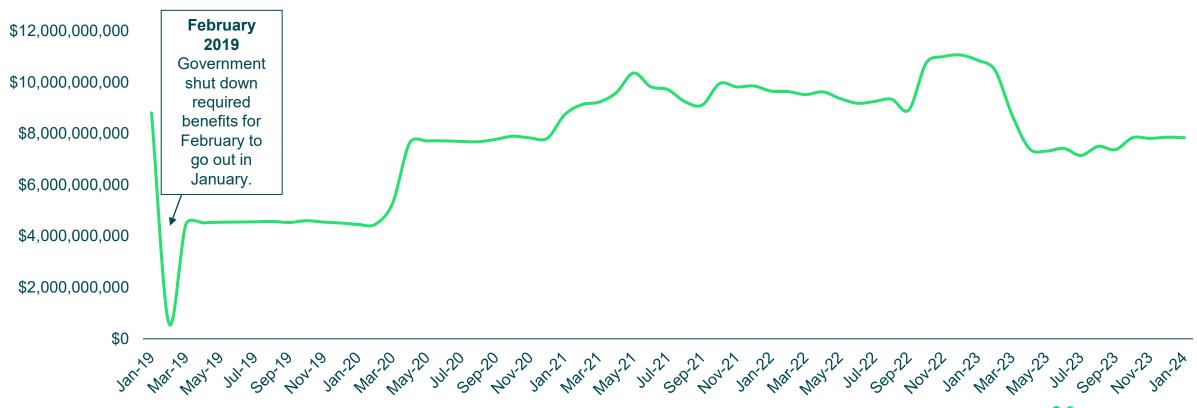
## How do we capture SNAP Trips?

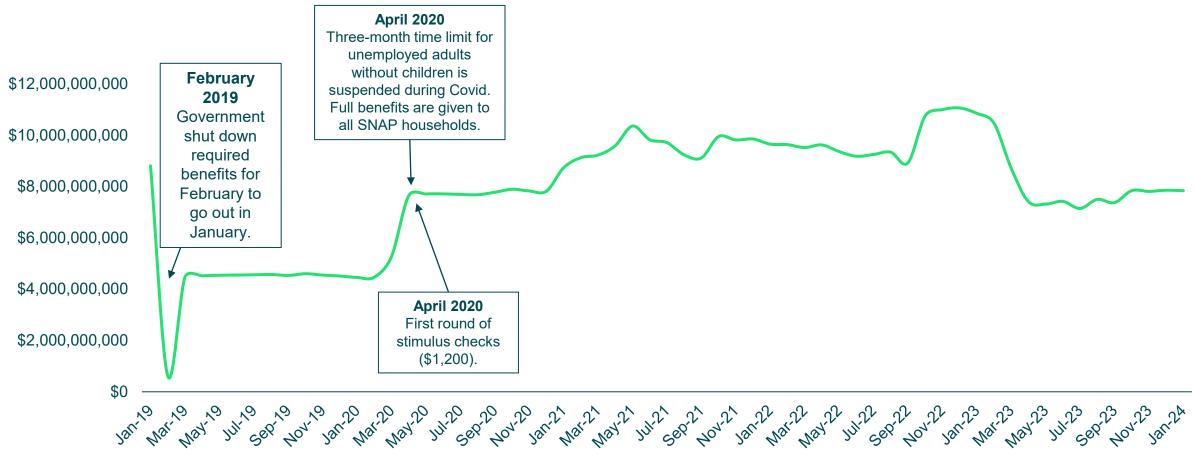
- When we receive a receipt, bots can it to identify the receipt as either a SNAP Trip or a Non-SNAP Trip. (Brick & Mortar stores and Link receipts only).
- We can then isolate trips in the Numerator platform where SNAP was used and then compare those trips to the average Grocery trip. (See Receipt to right)
- The SNAP flag in our data set is not applied to individual items in a trip. We cannot discern from our receipt capturing process what SNAP was specifically used for on the trip if more than one payment method was used.

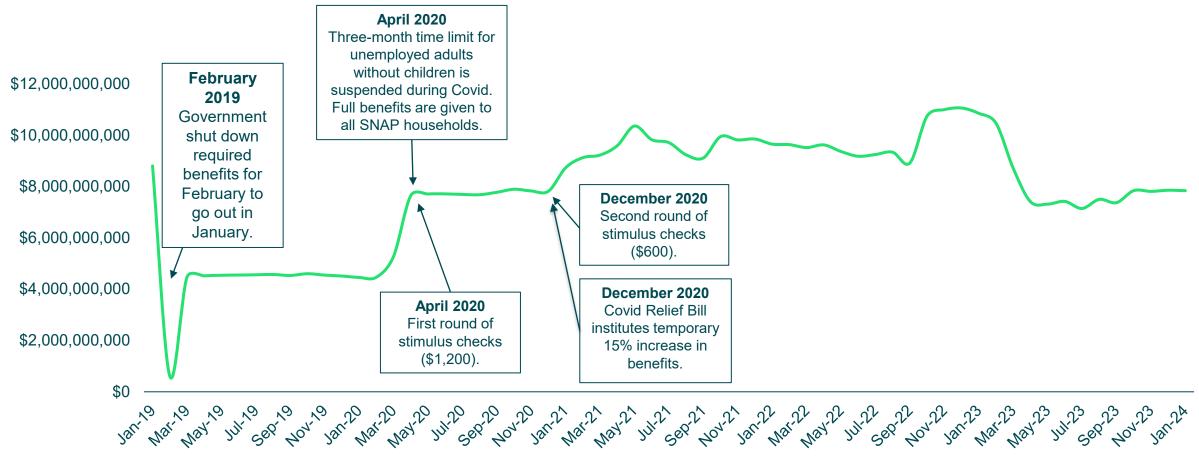


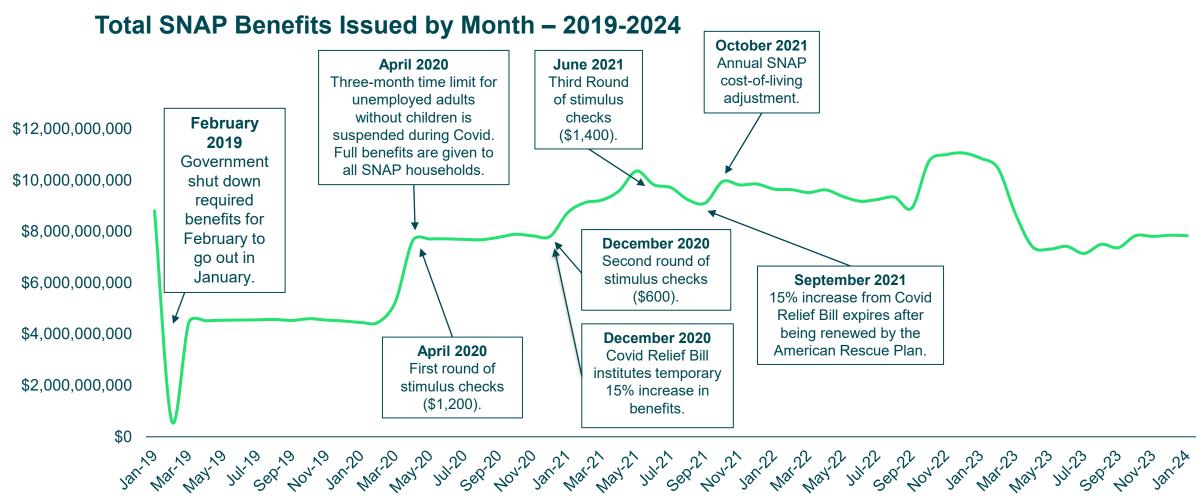


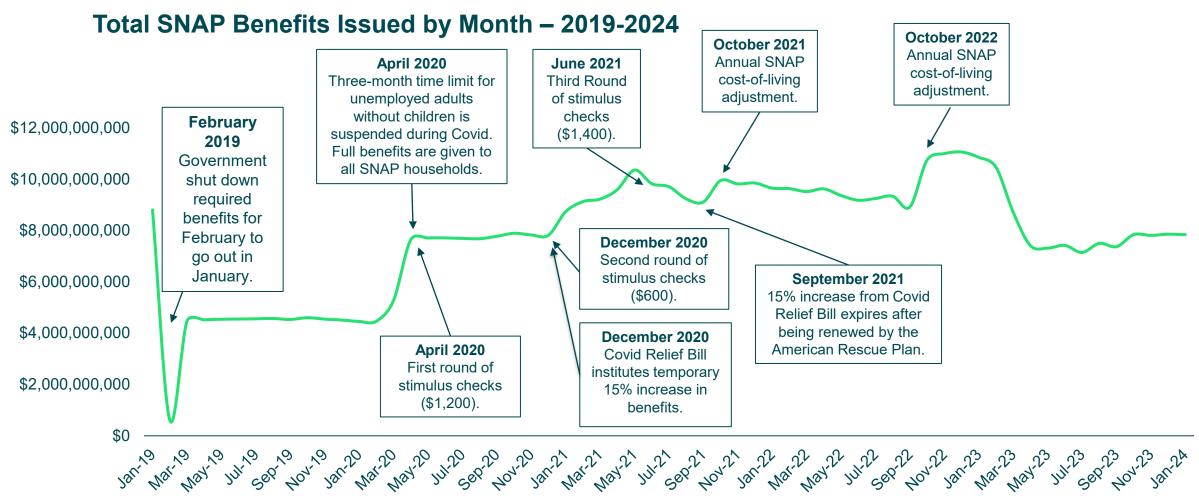


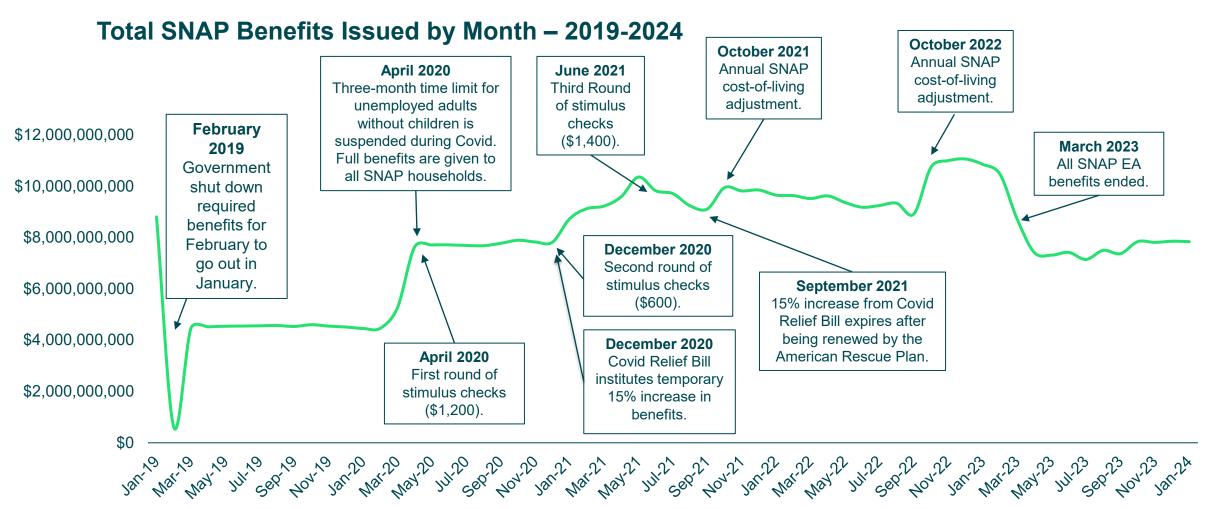








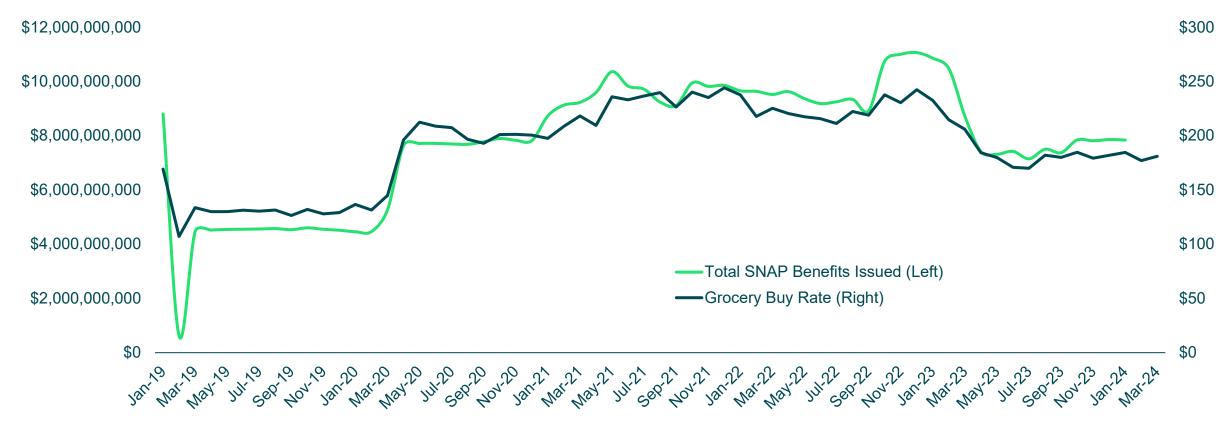




# As benefits rose, so did the grocery buy rate where SNAP was used

#### **Total SNAP Benefits Issued by Month vs Grocery Buy Rate**

Buy Rate where SNAP was used on trip

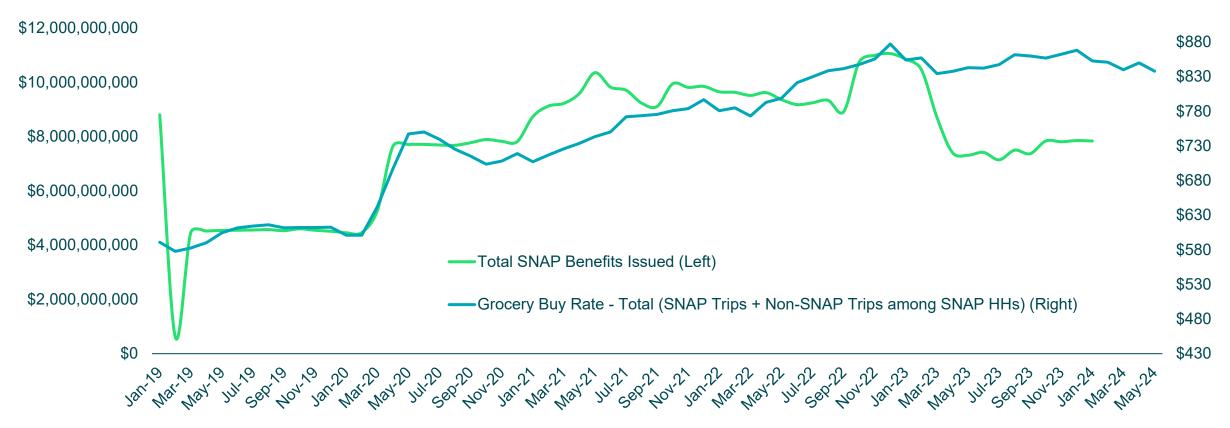




# As benefits rose, so did the grocery buy rate for SNAP HHs regardless of whether SNAP used on a trip

#### **Total SNAP Benefits Issued by Month vs Grocery Buy Rate**

Rolling 13W by Month





## Diet and allergy information

THEME_ID	▼ THEME_DESCRIPTION ▼	SUBTHEME_I SUBTHEME_T TOPIC_ID	▼ TOPIC_DES(▼ HEAD	DER_ID HEADER_DESCRIPTION	TAG_ID TAG_DESCRIPTION
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	48 Vegan
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	49 Vegetarian (w/Eggs)
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	50 Vegetarian (w/Dairy)
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	51 Vegetarian (w/Eggs, Dairy)
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	52 Pescatarian
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	53 Gluten-free
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	54 Lactose-free
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	55 None of the above
	1 Psychographics	2 Eating	3 Dietary Restric	7 Diets in the Household	3042 Grain-free
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	56 Peanuts
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	57 Tree nuts
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	58 Milk
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	59 Eggs
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	60 Wheat
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	61 Soy
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	62 Fish
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	63 Shellfish
	1 Psychographics	2 Eating	3 Dietary Restric	8 Allergies in the Household	64 None of the above
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1937 Atkins diet
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1938 Flexitarian / Semi-Vegetarian
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1939 Ketogenic diet
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1940 Mediterranean diet
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1941 Paleo diet
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1942 Raw food diet
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1943 South Beach diet
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1944 Weight Watchers Freestyle
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1945 Whole30 diet
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1946 Other
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	1947 None of the above
	1 Psychographics	2 Eating	3 Dietary Restric	193 Diet Programs in the Household	2773 Noom
	1 Psychographics	2 Eating	3 Dietary Restric	214 Religious Restrictions in the Household	2047 Various (no alcohol)
	1 Psychographics	2 Eating	3 Dietary Restric	214 Religious Restrictions in the Household	
	1 Psychographics	2 Eating	3 Dietary Restric	214 Religious Restrictions in the Household	, , , , ,
	1 Psychographics	2 Eating	3 Dietary Restric	214 Religious Restrictions in the Household	
	1 Psychographics	2 Eating	3 Dietary Restric	214 Religious Restrictions in the Household	
	1 Psychographics	2 Eating	3 Dietary Restric	214 Religious Restrictions in the Household	
	1 Psychographics	2 Eating	3 Dietary Restric	214 Religious Restrictions in the Household	2053 None of the above

### **Health ailments and treatments**

THEME_ID	THEME_DESCRIPTION	▼ SUBTHEME_I SUBTHEME TOPIC_ID	▼ TOPIC_DES(▼	HEADER_ID HEADER_DESCRIPTION	TAG_ID	TAG_DESCRIPTION
	2 Premium	16 Health	60 Treatments	101 Diabetes (Type I), Treatments*		746 Prescription Rx
	2 Premium	16 Health	60 Treatments	101 Diabetes (Type I), Treatments*		747 Over-the-counter Remedies
	2 Premium	16 Health	60 Treatments	101 Diabetes (Type I), Treatments*		748 Vitamins & Dietary Supplements
	2 Premium	16 Health	60 Treatments	101 Diabetes (Type I), Treatments*		749 Homeopathic Remedies, Alternative Therapies
	2 Premium	16 Health	60 Treatments	101 Diabetes (Type I), Treatments*		750 Diet or Lifestyle Changes
	2 Premium	16 Health	60 Treatments	101 Diabetes (Type I), Treatments*		751 None of the above
	2 Premium	16 Health	61 Treatments	102 Diabetes (Type II), Treatments*		752 Prescription Rx
	2 Premium	16 Health	61 Treatments	102 Diabetes (Type II), Treatments*		753 Over-the-counter Remedies
	2 Premium	16 Health	61 Treatments	102 Diabetes (Type II), Treatments*		754 Vitamins & Dietary Supplements
	2 Premium	16 Health	61 Treatments	102 Diabetes (Type II), Treatments*		755 Homeopathic Remedies, Alternative Therapies
	2 Premium	16 Health	61 Treatments	102 Diabetes (Type II), Treatments*		756 Diet or Lifestyle Changes
	2 Premium	16 Health	61 Treatments	102 Diabetes (Type II), Treatments*		757 None of the above
	2 Premium	16 Health	65 Treatments	106 Heart Attack / Heart Disease, Treatm	ent	776 Prescription Rx
	2 Premium	16 Health	65 Treatments	106 Heart Attack / Heart Disease, Treatm	ent	777 Over-the-counter Remedies
	2 Premium	16 Health	65 Treatments	106 Heart Attack / Heart Disease, Treatm	ent	778 Vitamins & Dietary Supplements
	2 Premium	16 Health	65 Treatments	106 Heart Attack / Heart Disease, Treatm	ent	779 Homeopathic Remedies, Alternative Therapies
	2 Premium	16 Health	65 Treatments	106 Heart Attack / Heart Disease, Treatm	ent	780 Diet or Lifestyle Changes
	2 Premium	16 Health	65 Treatments	106 Heart Attack / Heart Disease, Treatm	ent	781 None of the above
	2 Premium	16 Health	68 Treatments	109 High Cholesterol, Treatments*		794 Prescription Rx
	2 Premium	16 Health	68 Treatments	109 High Cholesterol, Treatments*		795 Over-the-counter Remedies
	2 Premium	16 Health	68 Treatments	109 High Cholesterol, Treatments*		796 Vitamins & Dietary Supplements
	2 Premium	16 Health	68 Treatments	109 High Cholesterol, Treatments*		797 Homeopathic Remedies, Alternative Therapies
	2 Premium	16 Health	68 Treatments	109 High Cholesterol, Treatments*		798 Diet or Lifestyle Changes
	2 Premium	16 Health	68 Treatments	109 High Cholesterol, Treatments*		799 None of the above
	2 Premium	16 Health	83 Other Factors	125 Marijuana Use		895 Recreational User
	2 Premium	16 Health	83 Other Factors	125 Marijuana Use		896 Medicinal User
	2 Premium	16 Health	83 Other Factors	125 Marijuana Use		897 Previous User
	2 Premium	16 Health	83 Other Factors	125 Marijuana Use		898 Never Used
	2 Premium	16 Health	83 Other Factors	125 Marijuana Use		2417 Prefer not to answer



## **Alcohol consumption**

THEME_ID	THEME_DESCRIPTION	SUBTHEME_I SUBTHEME TOPIC_ID	TOPIC_DES	HEADER_ID HEADER	DESCRIPTION	▼ TAG_ID	▼ TAG_DESCRIPTION ▼
	2 Premium	18 Specialty	86 Alcohol	128 Alcohol,	Consumption Frequency		908 5+ drinks per week
	2 Premium	18 Specialty	86 Alcohol	128 Alcohol,	Consumption Frequency		909 2-4 drinks per week
	2 Premium	18 Specialty	86 Alcohol	128 Alcohol,	Consumption Frequency		910 2-4 drinks per month
	2 Premium	18 Specialty	86 Alcohol	128 Alcohol,	Consumption Frequency		911 Monthly or less
	2 Premium	18 Specialty	86 Alcohol	128 Alcohol,	Consumption Frequency		912 Never, I do not drink alcohol
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		913 People often ask my advice when it comes to alcoholic beverages
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		914 I tend to stick to the products / drinks I know I like
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		915 I enjoy experimenting with different types of alcoholic beverages
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		916 When I buy alcohol, I commonly buy for myself
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		917 When I buy alcohol, I commonly buy for others
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		918 I drink to celebrate special occasions
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		919 I drink to unwind
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		920 I drink to be social
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		921 I commonly drink at bars / clubs
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		922 I commonly have a drink with a meal at restaurants
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		923 I commonly have a drink with meals at home
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		924 I have a bar or liquor cabinet at home
	2 Premium	18 Specialty	86 Alcohol	129 Alcohol,	Behaviors*		925 None of the above
	2 Premium	18 Specialty	86 Alcohol	179 Alcohol,	On-Premise Frequency		1766 Always
	2 Premium	18 Specialty	86 Alcohol	179 Alcohol,	On-Premise Frequency		1767 Regularly
	2 Premium	18 Specialty	86 Alcohol	179 Alcohol,	On-Premise Frequency		1768 Occasionally
	2 Premium	18 Specialty	86 Alcohol	179 Alcohol,	On-Premise Frequency		1769 Rarely
	2 Premium	18 Specialty	86 Alcohol	179 Alcohol,	On-Premise Frequency		1770 Never
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1771 Beer - Craft
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1772 Beer - Domestic
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1773 Beer - Import
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1774 Cider
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1775 Flavored Malt Beverage
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1776 Hard Seltzer
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1777 Mixed Drink / Cocktail
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1778 Spirits (e.g., neat, on the rocks, shot)
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1779 Wine
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1780 Sparkling Wine / Bubbles
	2 Premium	18 Specialty	86 Alcohol	180 Alcohol,	On-Premise Preferences		1781 Other



## Numerator's agreement with universities and researchers

- 1. Maintain the confidentiality of Numerator panelists.
- 2. Only use the data for academic papers and presentations; no consulting, no making money from the use of Numerator data, etc.
- 3. Cite Numerator data and give us credit when appropriate.
- 4. Share your research with us.



### How can you use the Numerator data?

- 1. Yale Data Intensive Social Science Center (DISSC)
- 2. Cornell
  - Reach out to Jamie Rosner Duong: jd239@cornell.edu
- 3. UChicago Kilts (for those affiliated with UChicago)
- 4. Northwestern (for those affiliated with Northwestern)
- 5. Send me an e-mail: leo.feler@numerator.com



