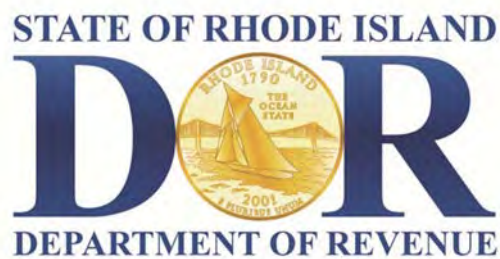


Estimated 2020 Economic Impact of the COVID-19 Pandemic on Rhode Island

for:



**State of Rhode Island
Department of Revenue
Office of Revenue Analysis**

Prepared by:



Chainbridge

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August 2021

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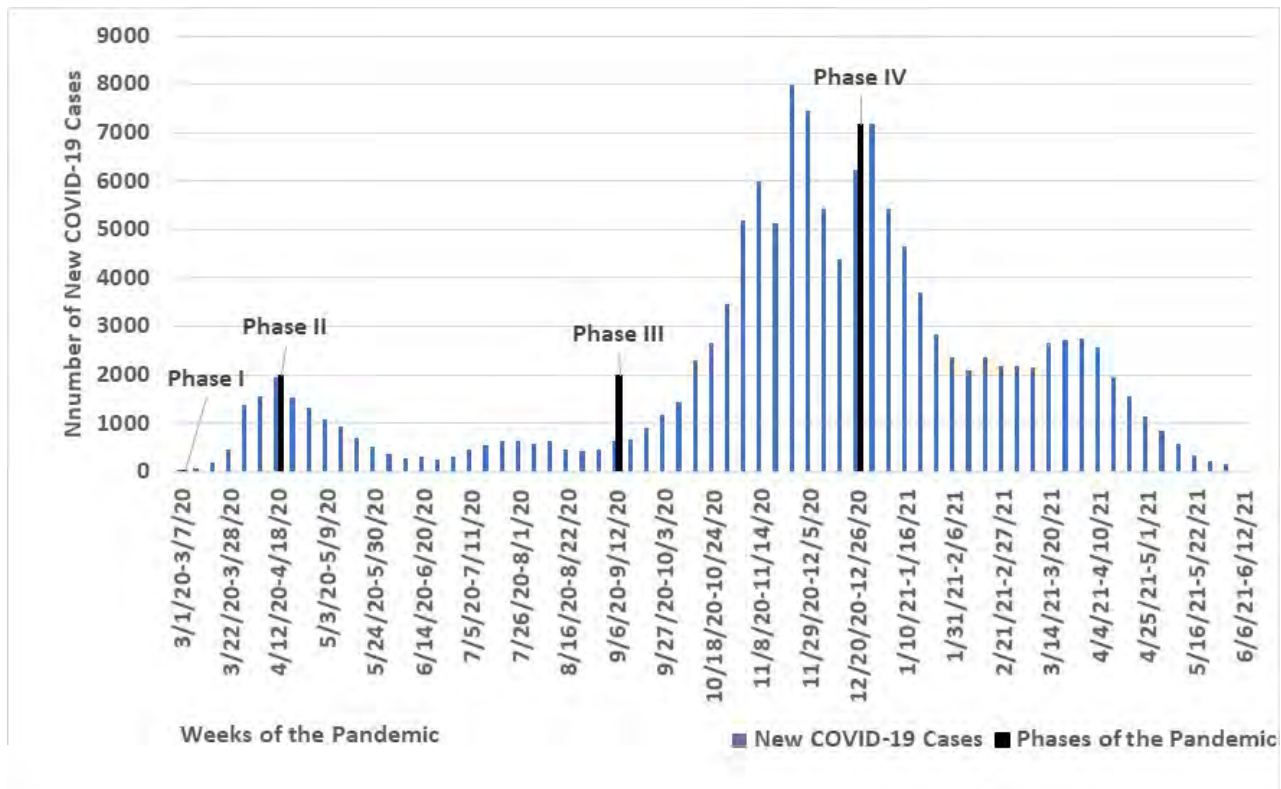
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Executive Summary

Chainbridge¹ is pleased to present the findings of its analysis of the impact of the COVID-19 pandemic (“COVID-19” or “the pandemic”) on Rhode Island’s economy in calendar year (CY) 2020 and going forward to the Rhode Island Department of Revenue (RIDOR). In performing the analysis, we define the change in taxable sales attributable to the pandemic by specific industry group for Rhode Island’s sales tax as the measure of economic impact.

As background, COVID-19 cases in Rhode Island over the course of the pandemic can be broken down into four phases. These four phases are shown in Figure ES-1.

Figure ES-1
Number of New COVID-19 Cases in Rhode Island
March 1, 2020 – June 12, 2021



¹Chainbridge Software, LLC (“Chainbridge”) has been working with state governments for over two decades building and delivering tax policy analysis models, consulting on a variety of projects and performing transfer pricing analyses. Chainbridge’s list of clients includes the states of Alabama, California, Connecticut, Maine, Minnesota, Mississippi, New Jersey, Vermont and Rhode Island, the Commonwealth of Virginia and the District of Columbia, among others.

The first phase of the pandemic was in March and April of 2020 and is characterized by rapid growth in the number of new COVID-19 cases. In response to this surge in cases, by the middle of March dine-in service at restaurants and bars was halted and Governor Raimondo issued a stay-at-home order, which closed all non-essential retail and service businesses at the end of March.²

The second phase of the pandemic in Rhode Island saw a decline in new COVID-19 cases through July of 2020 and a flattening in the growth in new cases until September of 2020. In early May of 2020 the stay-at-home order was lifted, and a limited reopening of certain non-critical retail businesses was allowed.

The third phase of the COVID-19 pandemic in Rhode Island was associated with a very steep increase in the number of new cases from the beginning of October 2020 through the end of 2020. It appeared that the rate of growth in new cases was continuing to accelerate seemingly out-of-control. In response, Governor Raimondi issued a pause in the reopening of Rhode Island's economy from November 30, 2020, to December 20, 2020.

The fourth phase of the pandemic was all about vaccinations. As shown in Figure ES-2³, there was a very quick response on the part of the State in getting people vaccinated, which dramatically reduced new COVID-19 cases in the first few months of 2021. The interaction between the increase in vaccinations and the rapid decrease in new cases is striking.

Overall Impact on Retail Trade and Certain Services. In general, we find that the economic impact in Rhode Island in CY 2020 was mixed as certain Retail Trade sectors experienced an initial decline, followed by a significant recovery by the end of the year. As background, on March 17, 2020, dine-in service at restaurants and bars was halted. On March 28, 2020, Governor Raimondo issued a stay-at-home order, which closed all non-essential retail and service businesses on March 30, 2020. Finally, on May 9, 2020, Phase 1 of Reopening RI commenced with the lifting of the stay-at-home order and allowing for a limited reopening of certain non-critical retail businesses.

² Critical retail businesses such as grocery stores were allowed to remain open and in operation during Governor Raimondo's stay at home order.

³ In Figure ES-2, the series have been normalized in scale to one to highlight the interaction between new COVID-19 cases and vaccinations.

Figure ES-2
Number of New COVID-19 Cases and
Vaccinations Administered
March 1, 2020 to June 12, 2021
Scale Normalized to One

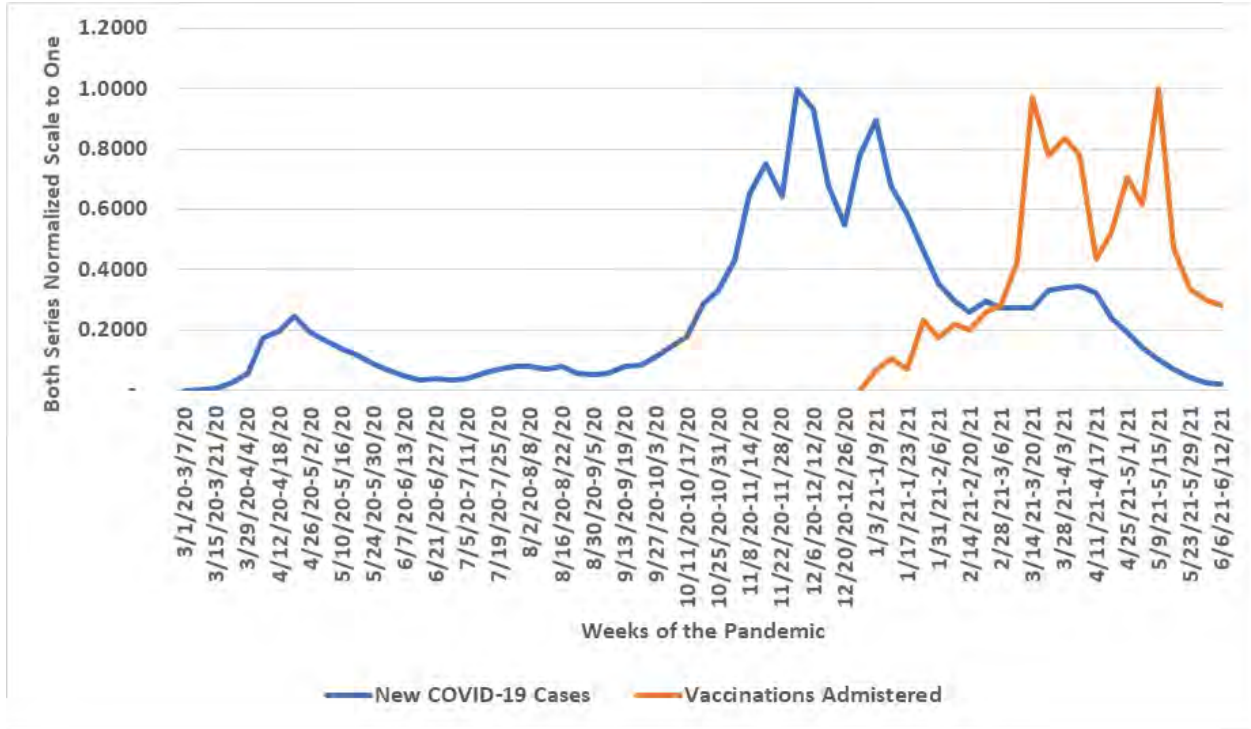
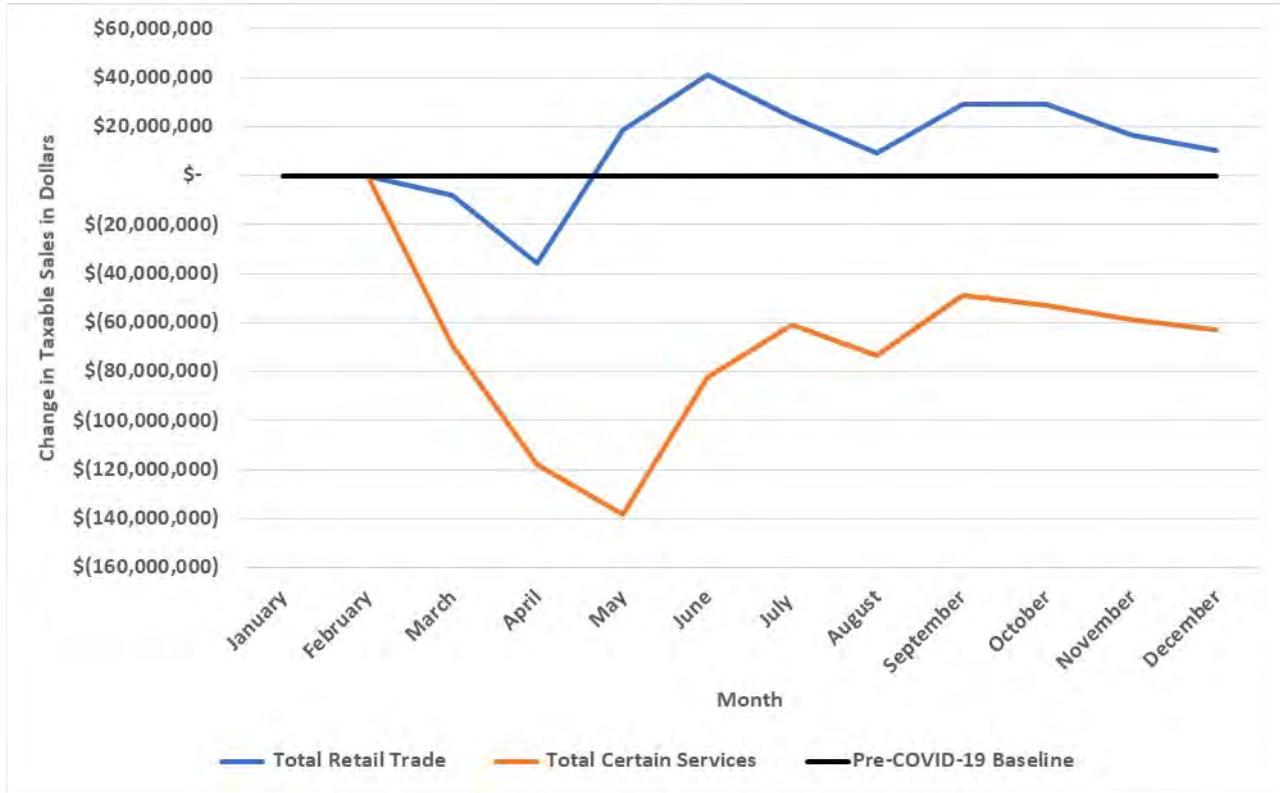


Figure ES-3 shows the step decline in taxable sales for certain services, predominantly hotels and restaurants, and a significant recovery from the downturn in March and April for Retail Trade. This graph highlights what is being termed a “K-shaped” recovery.

**Figure ES-3
CY 2020 Taxable Sales Impact of COVID-19
Retail Trade and Certain Services**



As stated in a recent Brookings Institution article,

“The pandemic has had particularly severe effects on certain economic sectors, low-income workers, women, and racial and ethnic minorities. Thus, even when the ‘headline’ statistics eventually improve, the prospect of a K-shaped recovery is real; while the overall economy and those already faring well recover, many Americans may be left further behind in an already unequal economy. ... sectors that require in-person interactions or travel have been hit particularly hard, including service industries in general and education, childcare, health care, social services, restaurants, and airlines in particular.”⁴

⁴ “Economic Relief and Stimulus: Good Progress but More Work to Do,” by William Gale and Grace Enda, Brookings Blueprints for American Renewal and Prosperity, December 16, 2020.

In another article regarding the recovery from the pandemic, it is stated that "... data show we're experiencing a K-shaped recovery."⁵ A White House blog regarding the recovery states,

"... of course, economic projections are uncertain, particularly in the midst of a pandemic that is making estimates of potential supply and the path of demand highly variable. But despite this uncertainty, there's a lot we do know about how to guide policy....we know that we are living through a K-shaped recovery, in which those at the top are continuing to thrive, while those at the bottom are struggling to make ends meet."⁶

The results of our analysis are consistent with these comments in that we find that certain service sectors are not adequately recovering while Retail Trade sectors are doing quite well. The service categories in Rhode Island declined sharply in March, April, and May of CY 2020 and did not recover by the end of the year. The Retail Trade categories include sales of autos, furniture, hardware stores, grocery stores, department stores, and remote retail. For these categories, there was an initial decline in taxable sales followed by a significant recovery finishing the year in some cases, above the pre-COVID-19 baseline. These results track what economic analysts have labeled a "K-shaped" recovery as described in the above-referenced articles. The K-shaped recovery is associated with certain industries recovering well while others continue to struggle. In this case, the leg of the "K" slanting down is Certain Services and the leg of the "K" slanting up are the Retail Trade categories.

Retail Trade Details. According to the North American Industry Classification System (NAICS), nine major 3-digit NAICS industry categories account for all of Retail Trade. These nine categories are:

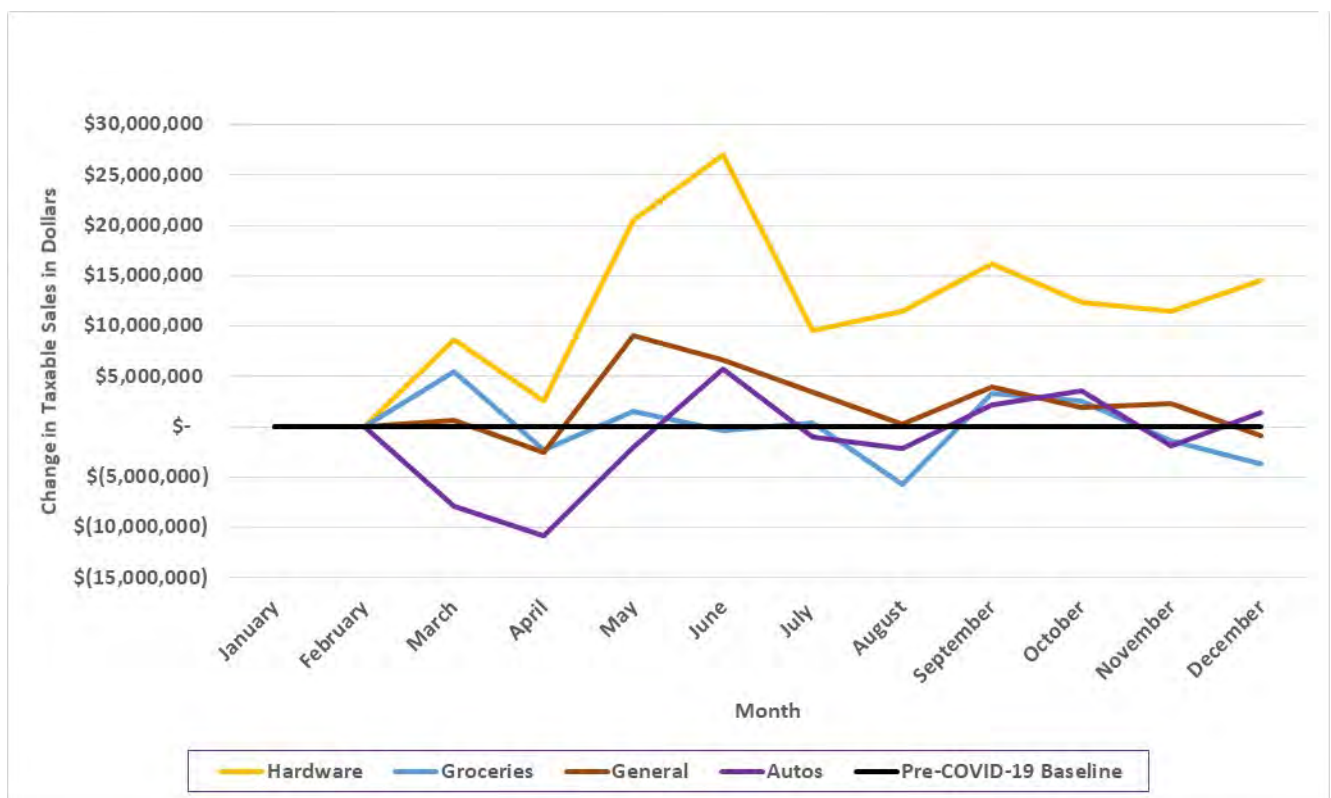
1. Motor Vehicle and Parts Dealers (Autos): NAICS 441
2. Furniture and Home Furnishings Stores (Furniture): NAICS 442
3. Electronics and Appliance Stores (Electronics): NAICS 443
4. Health and Personal Care Stores (Drugs): NAICS 446
5. Gasoline Stations (Gas): NAICS 447
6. Building Material & Garden Equipment & Supplies (Hardware): NAICS 444
7. Food and Beverage Stores (Groceries): NAICS 445
8. General Merchandise Stores (General Retail): NAICS 448, 451, 452, 453
9. Non-Store Retail (Remote Retail): NAICS 454

⁵ "There's Been a Concerning Lack of Progress for Communities of Color During the COVID-19 Crisis," by Steven Brown, Urban Institute, October 26, 2020.

⁶ White House Blog, "The Economics of the American Rescue Plan," February 03, 2021 in which there is a discussion of a possible K-shaped recovery.

In the interest of brevity for purposes of this Executive Summary, results for the largest four Retail Trade categories are presented, which account for 72.0% of all of Retail Trade’s 2020 taxable sales. These largest four Retail Trade categories are: 1) Autos: NAICS 441; 2) Hardware: NAICS 444; 3) Groceries: NAICS 445; and 4) General Retail: NAICS 448, 451, 452, and 453. Figure ES-4 presents the CY 2020 impact of COVID-19 on taxable sales for these four largest Retail Trade categories as measured by taxable sales.

Figure ES-4
CY 2020 Taxable Sales Impact of COVID-19
Largest Four Retail Trade Categories



Autos -- Motor Vehicle and Parts Dealers (NAICS 441). The initial impact of COVID-19 on taxable sales of motor vehicles showed a sharp decline (-18.7%) in March of 2020 followed by another sharp decline in April (-28.0%). In May and June of 2020, there was a substantial recovery compared to the pre-COVID-19 baseline. For the remainder of the calendar year the taxable sales of motor vehicles were somewhat above the pre-COVID-19 baseline. For CY 2020, taxable sales of motor vehicles were down (-2.7%).

Hardware -- Building Material and Garden Equipment and Supplies Dealers (NAICS 444). There was a significant increase in taxable sales that spiked higher in May and June. Taxable sales of hardware stores were significantly higher than the pre-COVID-19 baseline throughout the rest of CY 2020. Overall, taxable sales were up 14.9% for the calendar year.

Groceries -- Food and Beverage Stores (NAICS 445). There was a significant increase in taxable sales of grocery stores beginning in March of 2020 followed by several months of taxable sales tracking the pre-COVID-19 baseline. The last several months of the year saw uneven growth and declines in grocery store taxable sales to close out CY 2020. Overall, there was no significant change in taxable sales for the calendar year compared to the pre-COVID-19 baseline.

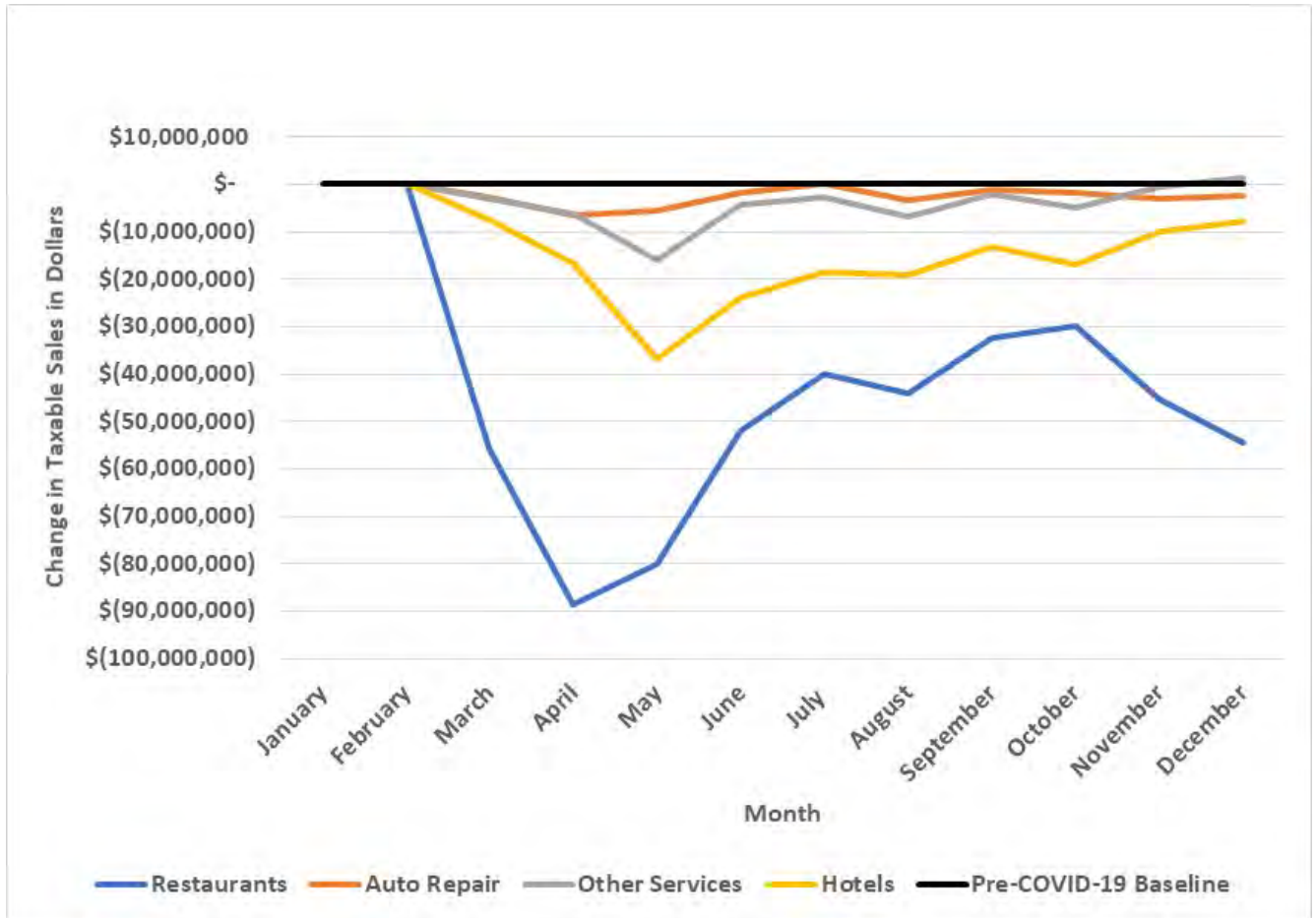
General Retail -- General Merchandise Stores (NAICS 448, 451, 452, 453). There was a significant decrease in taxable sales in April of 2020. This was followed by taxable sales of general merchandise stores significantly higher than the pre-COVID-19 baseline from May through November of 2020.

Overall Impact on Certain Services. Figure ES-5 presents the CY 2020 impact of COVID-19 on taxable sales of restaurants, hotels, auto repair, and other personal services.

Restaurants -- Food Services and Drinking Places (NAICS 722). The change in taxable sales is measured against a pre-COVID-19 baseline. As can be seen in Figure ES-5, there was a significant decline in taxable sales in restaurants in March (-37.0%) followed by a further decline in April (-59.1%) compared to the pre-COVID-19 baseline. While there was a modest recovery in taxable sales in subsequent months there remained a significant reduction in taxable sales that continued through the end of CY 2020. This represents the declining segment of the “K-shaped” recovery. It is not surprising that this is the case as restaurants have remained one of the industries hardest hit by COVID-19.

Hotels – Accommodation Services (NAICS 721). As can be seen in Figure ES-5, there was a significant decline in taxable sales in hotels in March (-55.4%) followed by an additional decline in April (-91.4%) compared to the pre-COVID-19 baseline. There was little recovery in taxable sales through the end of CY 2020. As with restaurants, hotels have remained one of the industries hardest hit by COVID-19.

**Figure ES-5
CY 2020 Taxable Sales Impact of COVID-19
Accommodation and Personal Services**



Auto Repair -- Repair and Maintenance (NAICS 8111). There was a modest drop in taxable sales of auto repair services from March through May 2020. Taxable sales of auto repair services begin to recover in June and remain just below the pre-COVID-19 baseline to the end of CY 2020. Taxable sales of auto repair services declined 13.3% in CY 2020 when compared to the pre-COVID-19 baseline.

Other Personal Services -- Other Repair and Maintenance (NAICS 811 except NAICS 8111) and Personal Laundry Services (NAICS 812). There was a drop in taxable sales of these personal services in March with the decline accelerating into May. Taxable sales of other personal services began to climb in June but remained below the pre-COVID-19 baseline until November 2020. Overall, taxable sales of other personal services decreased 16.0% relative to the pre-COVID-19 baseline for all of CY 2020.

1. Introduction

Chainbridge¹ is pleased to present the findings of our analysis of the impact of the COVID-19 pandemic (“COVID-19” or “the pandemic”) on Rhode Island’s economy in calendar year (CY) 2020 and going forward to the Rhode Island Department of Revenue (RIDOR). Chainbridge thanks RIDOR for continuing to support efforts to conduct rigorous state tax policy analysis and research to the benefit of the State’s citizenry.

The economic impact of the COVID-19 pandemic on CY 2020 state economies and the associated tax revenues has been significant. In conducting the analysis of the impact of the COVID-19 pandemic on Rhode Island, Chainbridge developed a monthly micro-database of Rhode Island sales tax remittances by industry covering calendar years 2019 and 2020 and compared month-over-month and year-over-year taxable sales values by remitting taxpayer in each industry. In performing the analysis, Chainbridge defined the change in taxable sales as the measure of economic impact.

Overall, Chainbridge finds that the economic impact in Rhode Island in CY 2020 was mixed as certain Retail Trade sectors experienced an initial decline, followed by a full recovery by the end of the year. Hotels and restaurants saw sales plummet as the economy contracted in the service industry and continued to struggle throughout the year. Some economic analysts have suggested a “K-shaped” recovery, in which certain industries are recovering well and others continue to struggle. In Rhode Island, the sales tax micro-data indicates that Retail Trade sectors in general are doing well relative to projections made prior to the onset of the pandemic while certain services, especially hotels and restaurants, lag these projections.

2. Background on the COVID-19 Pandemic in Rhode Island

In this section, Chainbridge presents graphs tracking new COVID-19 cases and vaccinations in the State, along with a timeline of State measures taken in response to the COVID-19 pandemic.

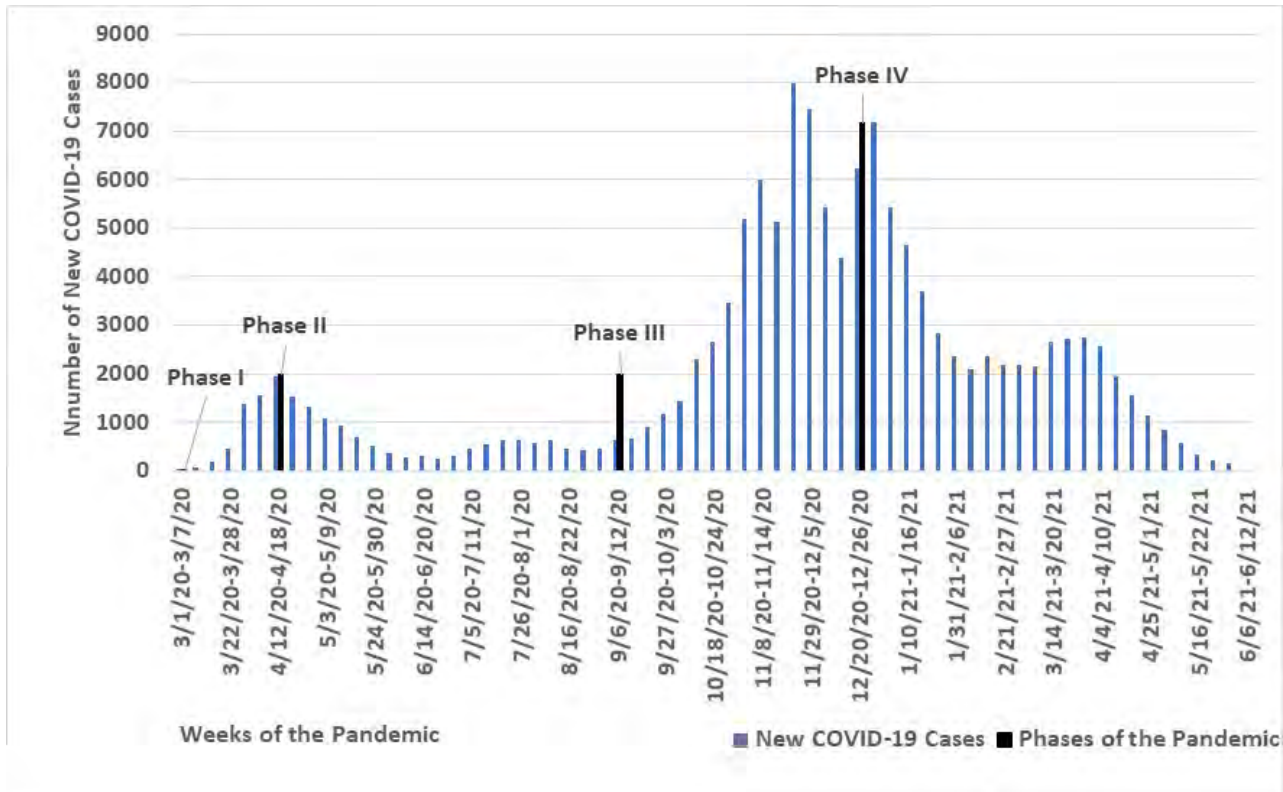
It is important to understand the history of the COVID-19 pandemic in Rhode Island. Figure 1 is a graph tracking the number of new cases of COVID-19 from the first week of March 2020 through the middle of June 2021. Chainbridge notes four “phases” of the COVID-19 pandemic.

¹Chainbridge Software, LLC (“Chainbridge”) has been working with state governments for over two decades building and delivering tax policy analysis models, consulting on a variety of projects and performing transfer pricing analyses. Chainbridge’s list of clients includes the states of Alabama, California, Connecticut, Maine, Minnesota, Mississippi, New Jersey, Vermont and Rhode Island, the Commonwealth of Virginia and the District of Columbia, among others.

a. Phase I: The Onset of the COVID-19 Pandemic

The first phase of the pandemic took place during March and April of 2020 -- there was rapid growth in the number of new cases, hitting just under 2,000 by the end of April. In response to this surge in new cases, on March 17, 2020, Governor Raimondo halted dine-in service at restaurants and bars and on March 28, 2020, issued a stay-at-home order, which closed all non-essential retail and service businesses effective March 30, 2020.

**Figure 1
Number of New COVID-19 Cases in Rhode Island
Weeks of March 1, 2020 – June 12, 2021**



Source: Rhode Island Department of Health

b. Phase II: The Easing of the COVID-19 Pandemic

The second phase of the pandemic in Rhode Island saw significant reductions in new COVID-19 cases from near the end of April to the beginning of September 2020. On May 9, 2020, the State’s Phase 1 of Reopening Rhode Island (“Reopening RI”) commenced, with the lifting of the stay-at-home order and allowing for a limited

reopening of certain non-critical retail businesses.² In addition, dining establishments were allowed limited patio seating beginning on May 18, 2020.

Phase 2 of Reopening RI began in June 2020 when indoor dining was permitted at 50% of a dining establishment's capacity provided that diners wore masks when not consuming food or beverages.

Phase 3 of Reopening RI was put into place on June 30, 2020 with indoor dining capacity limits increased to 66% and larger crowds allowed at indoor and outdoor venues. Mask requirements remained in place during this time. Effective July 29, 2020 the number of people who could attend catered events was reduced to 50 for indoor events and 100 for outdoor events, and the size of informal gatherings was capped at 15 people. – August 8, 2020: Bars including those inside of restaurants were required to close by 11:00 pm.

c. Phase III: The Resurgence of the COVID-19 Pandemic

The third phase of the COVID-19 pandemic in Rhode Island was associated with a very steep increase in the number of new cases from the beginning of October 2020 through the end of 2020. It appeared that the rate of growth in new cases was continuing to accelerate seemingly out-of-control. In response, the State began to roll back the reopening of the economy. On October 28, 2020 informal gatherings were reduced from 15 to 10 people and indoor dining service was required to be ended at 10:00 PM weekdays and 10:30 PM weekends effective November 8, 2020. Governor Raimondo announced a pause in the reopening of the Rhode Island economy effective November 30, 2020 with indoor dining capacity at restaurants reduced to 33%, retail capacity reduced to one customer per 150 square feet of retail space and the closing of bars, bar areas in restaurants, gyms, and recreational venues.

d. Phase IV: The Administration of Vaccines and the COVID-19 Pandemic

The fourth phase of the pandemic was all about vaccinations. Figure 2 below shows the number of new COVID-19 cases overlaid with the number of vaccinations administered during this period of the pandemic. Figure 2 shows the very quick response on the part of the State in getting people vaccinations over the last couple of weeks of 2020 beginning with the administration of the first vaccines to health care workers on December 14, 2020. This was followed by the first public availability of the vaccines on January 30, 2021, through the widespread availability of vaccines in April and May of 2021.

² Critical retail businesses such as grocery stores were allowed to remain open and in operation during Governor Raimondo's stay at home order.

With the availability of vaccines came the relaxing of restrictions on the State's economy. The Reopening RI Pause put in place by Governor Raimondo was ended on December 21, 2020 when gyms, sports facilities and indoor recreational venues were allowed to reopen subject to a limit of one person per 150 square feet of space and indoor dining capacity limits were increased to 50%. Bars and bar areas in restaurants, however, had to remain closed.

Figure 2
Number of New COVID-19 Cases and
Vaccinations Administered
March 1, 2020 to June 12, 2021
Nominal Scale

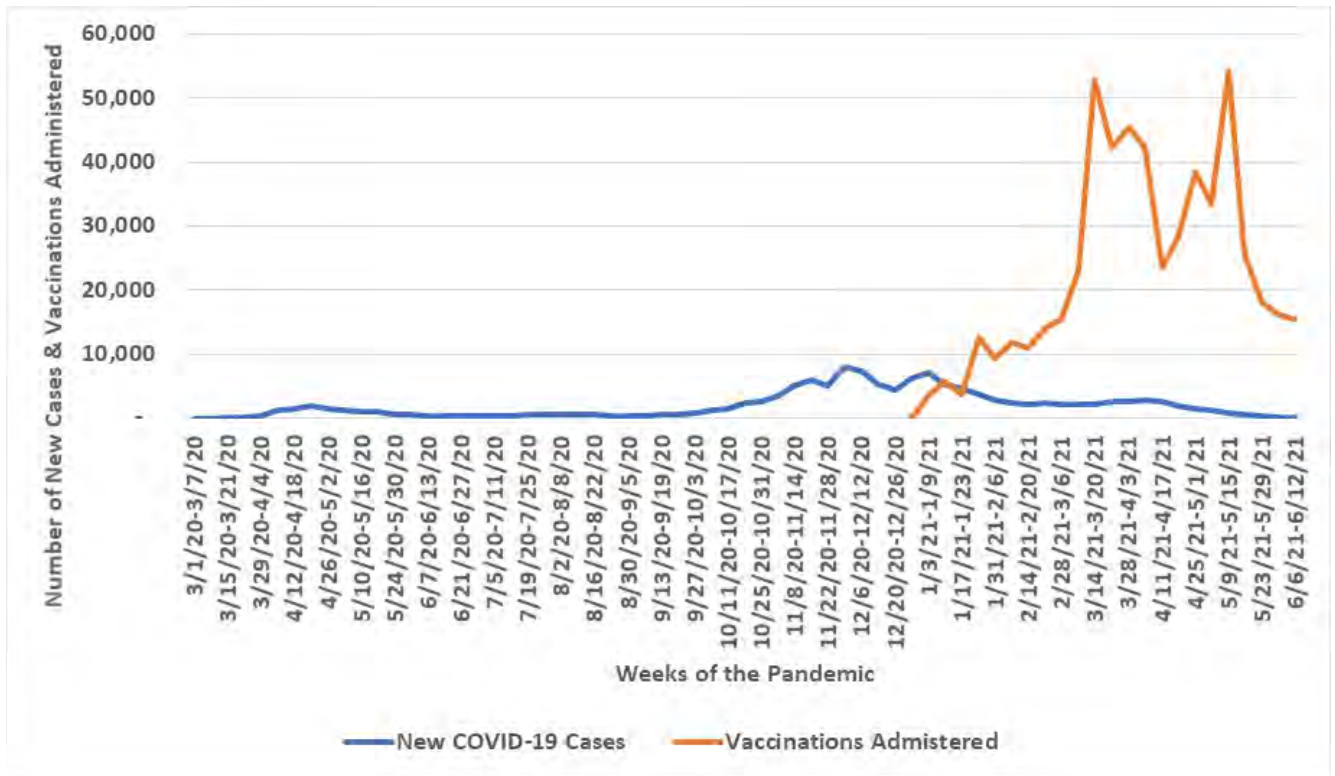
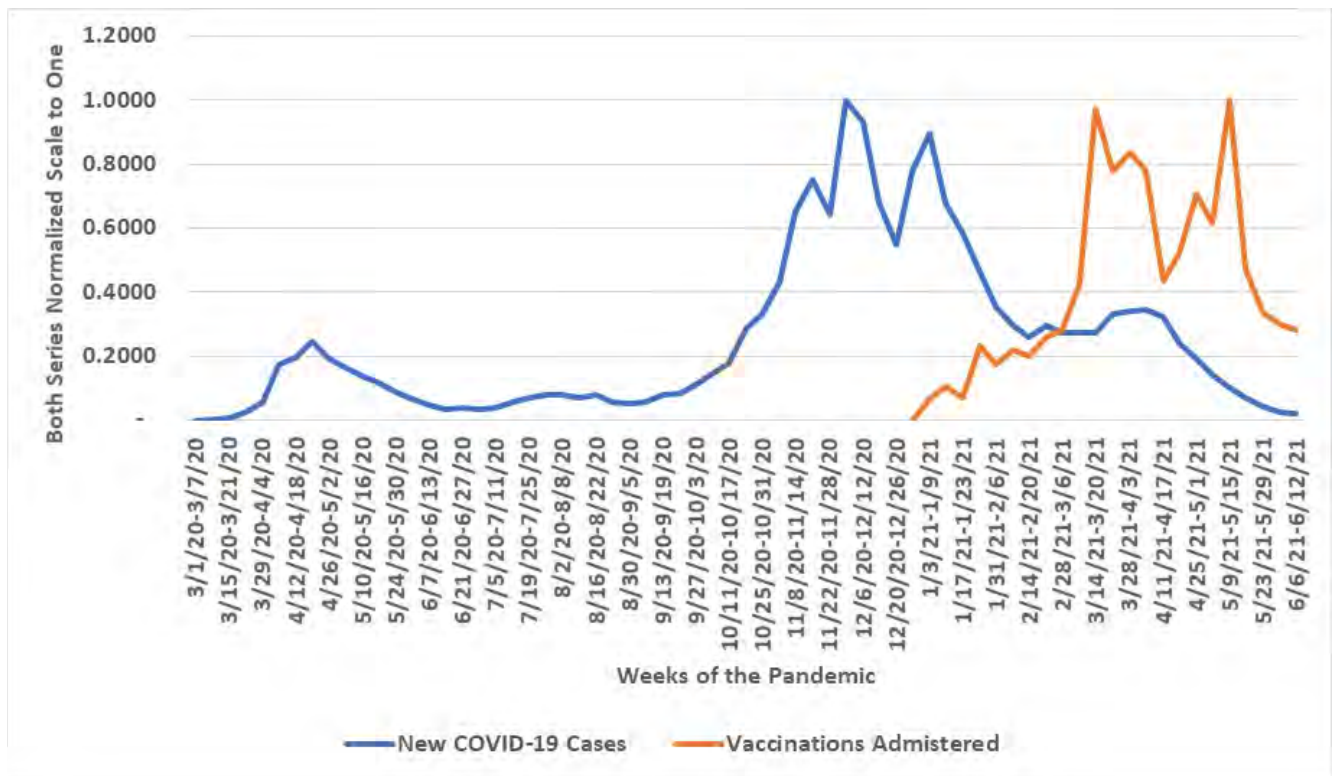


Figure 3 normalizes both the number of new COVID-19 cases and the number of vaccinations administered to clearly show the impact of vaccinations administered on the decline in the number of new COVID-19 cases Rhode Island.³

³ The normalization procedure employed was to set the maximum value for each data series to one (1.0) and then calculate every observation in each data series relative to the maximum value. For example,

The key point is that as vaccinations increased, particularly for the elderly, the very rapid increase in new cases started to decrease quickly. The decline in new COVID-19 cases was so dramatic that the number of new cases dropped from around 8,000 a week in December to 168 new cases by the week of June 6, 2021.

Figure 3
Number of New COVID-19 Cases and
Vaccinations Administered
March 1, 2020 to June 12, 2021
Scale Normalized to One



The rate of increase in vaccinations and the concomitant decrease in new COVID-19 infections accelerated the reopening of the State's economy. On January 29, 2021 early closure requirements that had been imposed on restaurants (and bars when

the data series for number of new COVID-19 cases had a maximum value of 7,988, this value was set equal to 1.0. Antecedent or subsequent values of the number of new COVID-19 cases were divided by the maximum value to get a ratio less than 1.0. Once this process was applied to both series, the data was plotted as shown in Figure 3.

reopened) were eliminated. February 12, 2021: Bars and bar areas reopened, with a maximum of four people per party and six feet of spacing between parties, or three feet of spacing between parties with barriers. Guests are limited to 90-minute reservations and bars must close by 11:00 PM. Also, in February, the number of people who could attend catered events was increased to 30 for indoor events (although for outdoor events the limit was maintained at 50 people). Capacity for gyms, sporting facilities and indoor recreation was increased to one person per 125 square feet of space. Bars and bar areas in restaurants reopened with limitations.

By the first week of March of 2021, indoor dining capacity was increased to 66% and gym and fitness center capacity increased to one person per 100 square feet of space.

On March 12, 2021, Reopening RI guidance clarified that restaurant capacity at 66% must still maintain six feet of distance between tables. Bar areas may remain open until 12:00 AM if customers have been seated and ordered food by 11:00 PM. Outdoor retail, including farmers markets and other agricultural retail, may reopen without capacity restrictions. By the end of March, indoor dining capacity was increased to 75%, the number of people who could attend catered events was increased to up to 100 people indoors and 200 people outdoors and retail, gym, and fitness center capacity increased to one person per 50 square feet of space and big box stores increased to one person per 100 square feet of space.

Beginning on May 7, 2021, the capacity limit for all indoor businesses increased to 80% capacity and three feet of spacing. Restaurants increased capacity to 100% for outdoor dining areas, also with three feet of spacing between tables. Bar areas still maintained seated only service with plexiglass required. The number of people allowed for catered events increased to 200 people indoors and 500 people outdoors with standing bar service and cocktail hours for outdoor events only. Effective May 21, 2021, all businesses allowed to open to full capacity with no social distancing requirements between patrons, except for nightclubs who could operate at 50% capacity unless all patrons were fully vaccinated. Bar areas resumed standing service with no plexiglass required and there was no longer a cap on the number of attendees at catered events, and indoor standing bar service, cocktail hours, and open dance floors were allowed.

Finally, on June 18, 2021: Restrictions on live indoor performances, indoor hookah, and nightclubs were lifted.

e. The State's Response to the COVID-19 Pandemic

Following is a chronological listing of other measures taken by the State of Rhode Island or other entities in response to the COVID-19 pandemic from March 14, 2020 through May of 2021 that impacted State revenues:

- March 14, 2020: The Twin River Casino Hotel and the Tiverton Casino Hotel were closed.
- June 8, 2020: The Twin River Casino Hotel and Tiverton Casino Hotel reopened with limited capacity.
- July 2020: Major League Soccer (MLS), Major League Baseball (MLB), and the National Basketball Association (NBA) started either a shortened season or a championship tournament.
- August 1, 2020: The National Hockey League (NHL) resumed play in a playoff tournament format.
- November 19 – November 30, 2020: Central Falls closed all restaurants to indoor/outdoor dining.
- February 5, 2021: All catered events must have pre-event testing for attendees, as well as a designated COVID-19 safety officer.

3. Economic Impact of the COVID-19 Pandemic on Rhode Island

Chainbridge's analysis of the economic impact of the COVID-19 pandemic on Rhode Island's economy was accomplished through the construction of a database of sales tax remittances matched with 2012 North American Industry Classification System (NAICS) codes by month for the period January 2019 through December 2020 (<https://www.census.gov/naics/>).

Following Chainbridge provides discussions of the assessment of the economic impact of the COVID-19 pandemic by using State sales tax remittances by industry (three-digit NAICS code categories).

a. Development of the Database of Sales Tax Remittances

The State provided monthly sales tax remittance data for the period 2019 through 2020. The records were organized by remitter over time. For example, one record in the file contains the quarterly taxable sales reported for that remitter for the period January 2019 through December 2020.

To determine the effect of COVID-19 on Rhode Island by remitting industry, NAICS code assignments for records with Federal Employer Identification Numbers (FEINs) or Company Name fields were made for as many tax remitters as possible. Chainbridge used several data sources of NAICS information to make assignments, including Standard and Poor's *Compustat* database and an external database from a private company that Chainbridge purchased. For the largest tax remitters without a computer-based match Chainbridge manually went through the micro-database and made individual remitter NAICS code assignments. The resulting micro-database represents about 82.7% of total taxable sales reported to the State, which Chainbridge believes is a good statistical representation of the population.

It is important to note that at no time did Chainbridge have access to the sales tax micro-data. The RIDOR grouped the sales tax micro-data into NAICS code categories by two-digit, three-digit, four-digit, and six-digit NAICS code groups. Finally, no NAICS code group had fewer than ten (10) taxpayers in the group.

In general, the sales tax remittances data is received by the State with a time lag of up to thirty (30) days. As a result, any change in taxable sales might take a month to be recorded by the State.

b. NAICS Categories used in the Analysis

What is NAICS, what are NAICS codes and how do they work?

“The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.”

In performing the analysis, Chainbridge relied on the 2012 NAICS coding system, which is organized into “two-digit” sectors as follows:

Sector	Definition
11	Agriculture, Forestry, Fishing and Hunting
21	Mining, Quarrying, and Oil and Gas Extraction
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (except Public Administration)
92	Public Administration

These two-digit sectors are divided into subsectors that are more and more narrowly defined as digits are added to the sector code, out to six-digits (the narrowest definition for a NAICS code). The report will next look at some of the detail for the two-digit sector Retail Trade. The US Census Bureau defines the Retail Trade sector as follows:

“The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

The retailing process is the final step in the distribution of merchandise; retailers are, therefore, organized to sell merchandise in small quantities to the general public. This sector comprises two main types of retailers: store and nonstore retailers.

1. Store retailers operate fixed point-of-sale locations, located and designed to attract a high volume of walk-in customers. In general, retail stores have extensive displays of merchandise and use mass-media advertising to attract customers. They typically sell merchandise to the general public for personal or household consumption, but some also serve business and institutional clients. These include establishments, such as office supply stores, computer and software stores, building materials dealers, plumbing

supply stores, and electrical supply stores. Catalog showrooms, gasoline stations, automotive dealers, and mobile home dealers are treated as store retailers.

In addition to retailing merchandise, some types of store retailers are also engaged in the provision of after-sales services, such as repair and installation. For example, new automobile dealers, electronics and appliance stores, and musical instrument and supplies stores often provide repair services. As a general rule, establishments engaged in retailing merchandise and providing after-sales services are classified in this sector. ...

2. Nonstore retailers, like store retailers, are organized to serve the general public, but their retailing methods differ. The establishments of this subsector reach customers and market merchandise with methods, such as the broadcasting of 'infomercials,' the broadcasting and publishing of direct-response advertising, the publishing of paper and electronic catalogs, door-to-door solicitation, in-home demonstration, selling from portable stalls (street vendors, except food), and distribution through vending machines. Establishments engaged in the direct sale (nonstore) of products, such as home heating oil dealers and home delivery newspaper routes are included here."

The following table illustrates how the NAICS system works for subsector 441 (Motor Vehicle and Parts Dealers).

The primary goal of the analysis of the economic impact of the COVID-19 pandemic is to assess how the taxable sales of the State sales tax base were affected over time in CY 2020. The State sales tax base consists of spending by individuals and businesses. According to the US Bureau of Economic Analysis (BEA), spending by individuals is represented by personal consumption expenditures (PCE). Spending by businesses is represented by business spending on investment goods and business spending on intermediate goods (used in manufacturing processes, for example) and services. The BEA currently classifies expenditures in the economy using 221 PCE categories, 405 business intermediate purchase categories, and 96 business investment purchase categories.

2012 NAICS Code	Definition
441	Motor Vehicle and Parts Dealers: Industries in the Motor Vehicle and Parts Dealers
4411	Automobile Dealers: Retailing new and used automobiles and light trucks
44111	New Car Dealers: See industry description for 441110 below
441110	New Car Dealers: Retailing new automobiles and light trucks
44112	Used Car Dealers: See industry description for 441120 below
441120	Used Car Dealers: Retailing used automobiles and light trucks
4412	Other Motor Vehicle Dealers: Retailing new and used vehicles (except automobiles and light trucks)
44121	Recreational Vehicle Dealers: See industry description for 441210 below.
441210	Recreational Vehicle Dealers: Retailing new and/or used recreational vehicles (RVs)
44122	Motorcycle, Boat, and Other Motor Vehicle Dealers: Retailing new and used
441222	Boat Dealers: Retailing new and/or used boats.
441228	Motorcycle, ATV, and All Other Motor Vehicle Dealers: Retailing new and/or used
4413	Automotive Parts, Accessories, and Tire Stores:
44131	Automotive Parts and Accessories Stores: See industry description for 441310 below.
441310	Automotive Parts and Accessories Stores: Auto supply stores, (w/ repair); and auto accessory stores
44132	Tire Dealers: See industry description for 441320 below
441320	Tire Dealers: Retailing new and/or used tires and tubes, (w/ repair)

The BEA PCE categories map closely to the NAICS retail trade categories and a few service categories associated with personal services that were used to make industry assignments to the State sales tax remittance data. There is no parallel translation of the business intermediate and investment purchase categories to the NAICS categories that were used to make assignments to the State sales tax remittance data. Therefore, the focus of the analysis is on what Chainbridge has termed Retail Trade and Certain Services. It is important to note that some business purchases are reflected in the sales tax remittance data, so the analysis does not represent PCE exclusively.

A description of the NAICS codes used in the analysis should prove useful. For Retail Trade (two-digit NAICS codes 44 and 45), the three-digit NAICS codes the BEA uses to map expenditures into product line categories that make up personal consumption expenditures (and are covered by the analysis) are:

- NAICS code 441 - Motor Vehicle and Parts Dealers
- NAICS code 442 - Furniture and Home Furnishings Stores
- NAICS code 443 - Electronics and Appliance Stores
- NAICS code 444 - Building Material & Garden Equipment and Supplies Dealers
- NAICS code 445 - Food and Beverage Stores
- NAICS code 446 - Health and Personal Care Stores
- NAICS code 447 - Gasoline Stations
- NAICS code 448 - Clothing and Clothing Accessories Stores
- NAICS code 451 - Sporting Goods, Hobby, and Musical Instrument Stores
- NAICS code 452 - General Merchandise Stores
- NAICS code 453 - Miscellaneous Store Retailers

NAICS code 454 - Non-Store Retail

The above list of Retail Trade categories is exhaustive in that it accounts for all Retail Trade at the three-digit NAICS level as characterized by the BEA. In terms of the analysis, all Retail Trade categories correspond to the three-digit categories listed above except one -- wherein Chainbridge combined NAICS 448 (Clothing and Clothing Accessories Stores), 451 (Sporting Goods, Hobby and Musical Instrument Stores), 452 (General Merchandise Stores), and 453 (Miscellaneous Store Retailers) into a category called General Retail.

The Accommodation and Food Services (two-digit NAICS code 72) category includes the three-digit NAICS code 721 – Accommodation and NAICS code 722 - Food Services and Drinking Places

The Certain Services (two-digit NAICS code 81) category includes the three-digit NAICS code 811 – Repair and Maintenance (including auto repair and maintenance) and NAICS code 812 – Personal Laundry Services. The inclusion of certain services is not exhaustive in that some services such as Professional, Scientific, and Technical Services are not included in the analysis largely because most of these services are purchased by businesses. Arts, Entertainment, and Recreation Services are not included in the analysis because the taxable sales were not significant.

To perform the analysis, Chainbridge looked at taxable sales that would have resulted under the baseline forecast that was in place prior to COVID-19 as compared to what happened during CY 2020.⁴ The following is a presentation of the results, including:

- Overall impact on Retail Trade and certain services
- Retail Trade detail with three-digit NAICS of 441 through 454
- Certain services detail with three-digit NAICS of 721 through 814

c. Overall Impact on Retail Trade and Certain Services

Figure 4 presents the CY 2020 impact of COVID-19 on the change in the *dollar value* of taxable sales for Retail Trade and certain services before COVID-19 and after COVID-19. Retail Trade fared better than had been expected under the pre-COVID-19 baseline assumption and services did not. The significant dip experienced by both sectors in April was followed by a slight rebound in services and significant growth in Retail Trade with Retail Trade ending the year at somewhat higher level by the end of CY 2020 and services never quite rebounding.

⁴ The baseline forecast employed here is not the same as the Consensus Economic Forecast that is adopted at the biannual Revenue Estimating Conferences in November and May of the State fiscal year.

Figure 4
Taxable Sales Impact of COVID-19 on Retail Trade and Certain Services

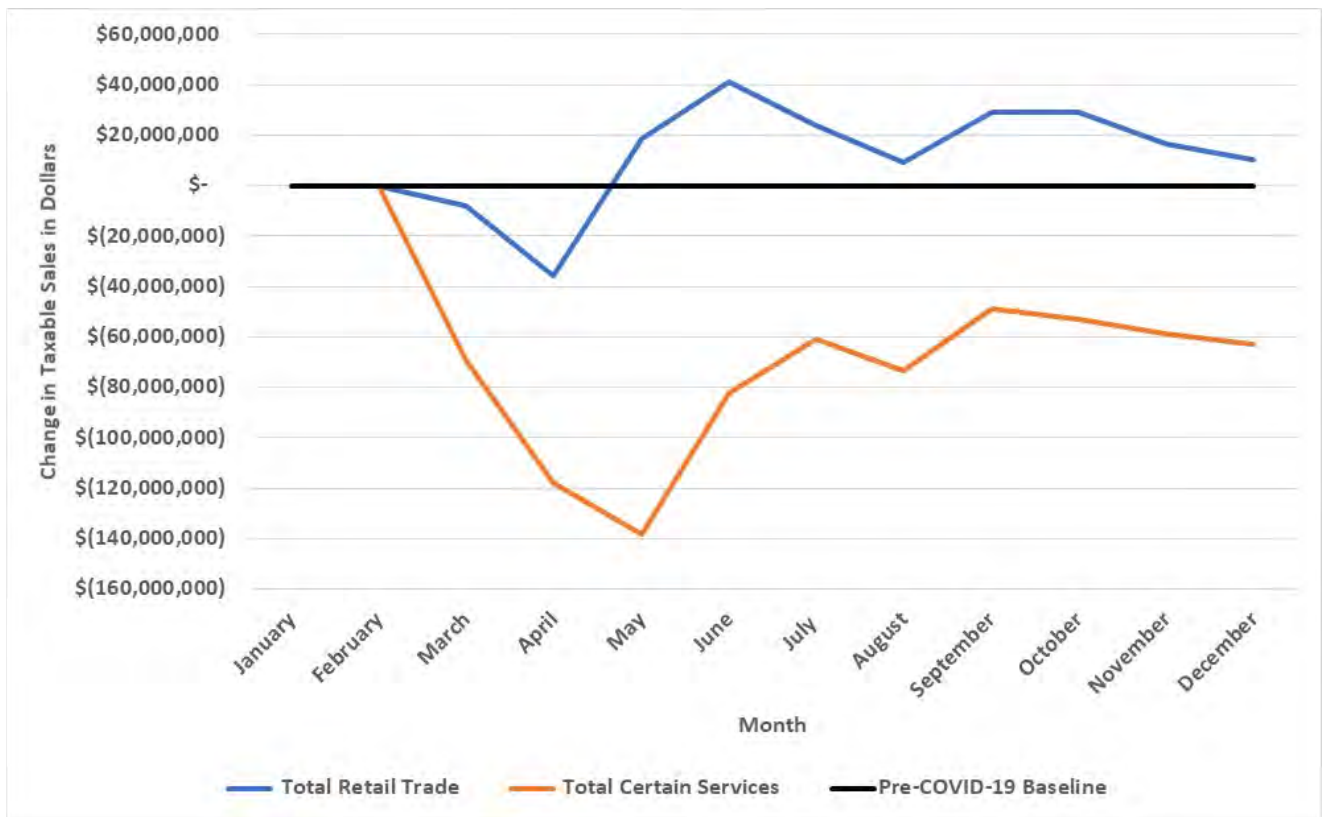


Figure 4 shows the steep decline in taxable sales for certain services, which were predominantly hotels and restaurants, and a significant recovery from the downturn in March and April for Retail Trade. This graph highlights what is being termed a “K-shaped” recovery.

In a recent Brookings article by William Gale and Grace Enda, they state, “The pandemic has had particularly severe effects on certain economic sectors, low-income workers, women, and racial and ethnic minorities. Thus, even when the ‘headline’ statistics eventually improve, the prospect of a K-shaped recovery is real; while the overall economy and those already faring well recover, many Americans may be left further behind in an already unequal economy.” They go on to say that “sectors that require in-person interactions or travel have been hit particularly hard, including service industries in general and education, childcare, health care, social services, restaurants, and airlines in particular.”⁵

⁵ “Economic Relief and Stimulus: Good Progress but More Work to Do,” by William Gale and Grace Enda, Brookings Blueprints for American Renewal and Prosperity, December 16, 2020.

In another article regarding the recovery from the pandemic by Steven Brown of the Urban Institute, he states that “data show we’re experiencing a ‘K-shaped recovery.’ This means higher-income households have essentially fully recovered, while lower-income families continue to suffer. And throughout the pandemic and its recovery, people of color have been disproportionately harmed by the “most unequal recession in modern US history.”⁶

Finally, in a White House blog regarding the recovery, it states “of course, economic projections are uncertain, particularly in the midst of a pandemic that is making estimates of potential supply and the path of demand highly variable. This is all the more so because steps we take or don’t take now can shape the course of the pandemic and, thus, the economic recovery to come. But despite this uncertainty, there’s a lot we do know about how to guide policy.....we know that we are living through a K-shaped recovery, in which those at the top are continuing to thrive, while those at the bottom are struggling to make ends meet.”⁷

Based upon these statements and consistent with the results of the analysis, Chainbridge can state that certain service sectors are not adequately recovering while other Retail Trade sectors are doing quite well. The service categories in Rhode Island declined sharply in March, April and May of CY 2020 and did not recover by the end of the year. The Retail Trade categories include sales of autos, furniture, hardware stores, grocery stores, department stores, and remote retail. For these categories, there was an initial decline in taxable sales followed by a significant recovery finishing the year above the pre-COVID-19 baseline. These results track what economic analysts have labeled a “K-shaped” recovery as described in the above articles. The K-shaped recovery is associated with certain industries recovering well while others continue to struggle. In this case, the leg of the “K” slanting down is Certain Services and the leg of the “K” slanting up are the Retail Trade categories.

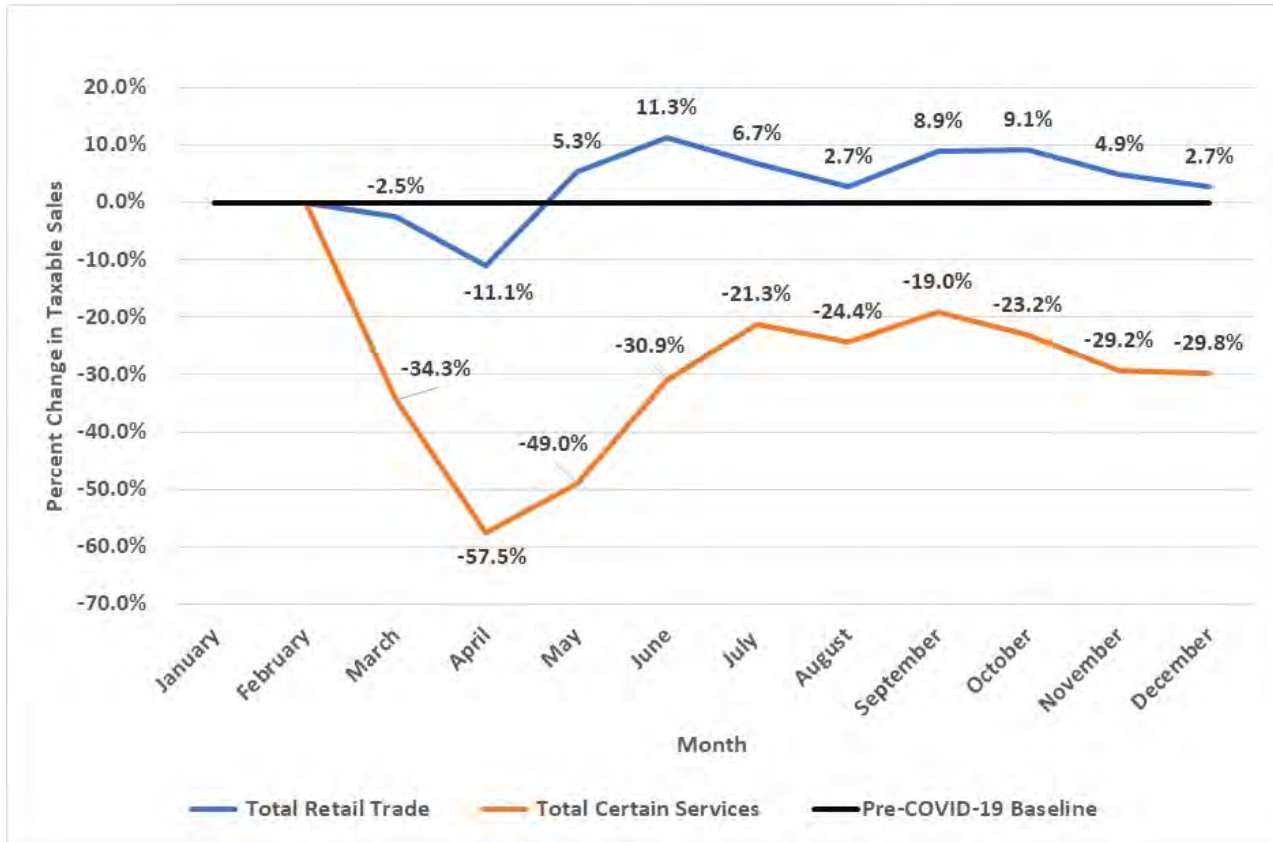
Figure 5 presents the CY 2020 impact of COVID-19 on the *percentage change* in taxable sales of Retail Trade and certain services before COVID-19 and after COVID-19 and mirrors the impact on Retail Trade and certain services compared to Figure 4. Again, Retail Trade fared better in general under COVID-19 than under the pre-COVID-19 baseline. Services continued to struggle under COVID-19 for the entire period from March to December.

Figure 5

⁶ “There’s Been a Concerning Lack of Progress for Communities of Color During the COVID-19 Crisis,” by Steven Brown, Urban Institute, October 26, 2020.

⁷ White House Blog, “The Economics of the American Rescue Plan,” February 03, 2021 in which there is a discussion of a possible K-shaped recovery.

Percent Change in Taxable Sales from Pre-COVID-19 Baseline for 2020



The data underlying Figures 4 and 5 are found in Tables A-1 (Retail Trade) and A-11 (Certain Services) in the Appendix.

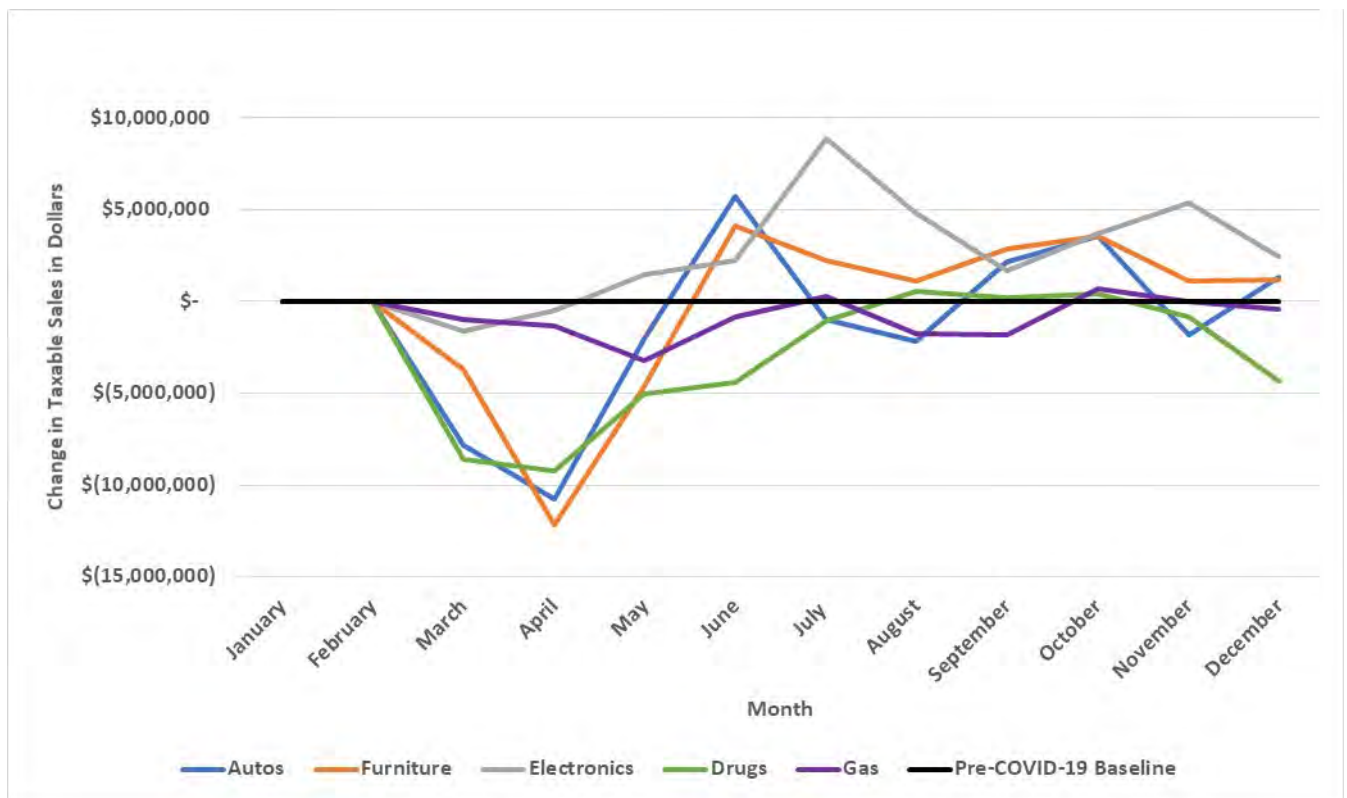
d. Retail Trade Details

To present the CY 2020 impact of COVID-19 on taxable sales of the nine major 3-digit NAICS industry categories of Retail Trade, it was useful to segment the categories into two groups, one for those adversely affected and one for those positively affected (“losers” and “winners”). Figure 6 presents the 2020 impact of COVID-19 on taxable sales for:

- Motor Vehicle and Parts Dealers (Autos): NAICS 441
- Furniture and Home Furnishings Stores (Furniture): NAICS 442
- Electronics and Appliance Stores (Electronics): NAICS 443
- Health and Personal Care Stores (Drugs): NAICS 446
- Gasoline Stations (Gas): NAICS 447

Again, the change in taxable sales is measured against a pre-COVID-19 baseline. While this Figure is a bit busy, it tells an interesting story.

Figure 6
CY 2020 Taxable Sales Impact of COVID-19 on
Adversely Affected Retail Trade Categories



Following are brief discussions of the effects of COVID-19 on each of these 3-digit NAICS categories of sales tax remitters adversely affected by COVID-19.

Autos -- Motor Vehicle and Parts Dealers (NAICS 441). The initial impact of COVID-19 on taxable sales of motor vehicles showed a sharp decline (-18.7%) in March followed by another sharp decline in April (-28.0%). In May and June, there was a substantial recovery to the pre-COVID-19 baseline. For the remainder of the year the

taxable sales of motor vehicles were somewhat above the pre-COVID-19 baseline. For CY 2020, taxable sales of motor vehicles were down 2.7%. (Table A-2 in the Appendix)

Furniture -- Furniture and Home Furnishings Stores (NAICS 442). Generally, there was a significant drop in taxable sales in March and April of 2020 followed by taxable sales tracking the pre-COVID-19 baseline. Overall, there was a modest decline in taxable furniture sales in CY 2020 in response to COVID-19, that is, down 1.6%. (Table A-3 in the Appendix)

Electronics -- Electronics and Appliance Stores (NAICS 443). There was a significant reduction in taxable sales in April and May of 2020. This was followed by taxable sales of electronics and appliances higher than the pre-COVID-19 baseline. (Table A-4 in the Appendix)

Drugs -- Health and Personal Care Stores (NAICS 446). Essentially, there was a significant negative impact of COVID-19 on taxable sales of drug stores throughout CY 2020. March and April, however, were the worst months for the reduction in taxable sales. Overall, taxable sales were down 8.6% compared to the pre-COVID-19 baseline. (Table A-7 in the Appendix)

Gas -- Gasoline Stations (NAICS 447). There was a significant decrease in taxable sales in March, April, and May of 2020. This was followed by taxable sales of gasoline stations significantly lower than the pre-COVID-19 baseline from June through September of 2020. For the last three months of CY 2020, taxable sales of gas stations roughly tracked the pre-COVID-19 baseline. For the year, taxable sales were down 5.9%. (Table A-8 in the Appendix)

Figure 7 below presents the CY2020 impact of COVID-19 on taxable sales for:

- Building Material & Garden Equipment & Supplies (Hardware): NAICS 444
- Food and Beverage Stores (Groceries): NAICS 445
- General Merchandise Stores (General Retail): NAICS 448, 451, 452, 453
- Non-Store Retail (Remote Retail): NAICS 454

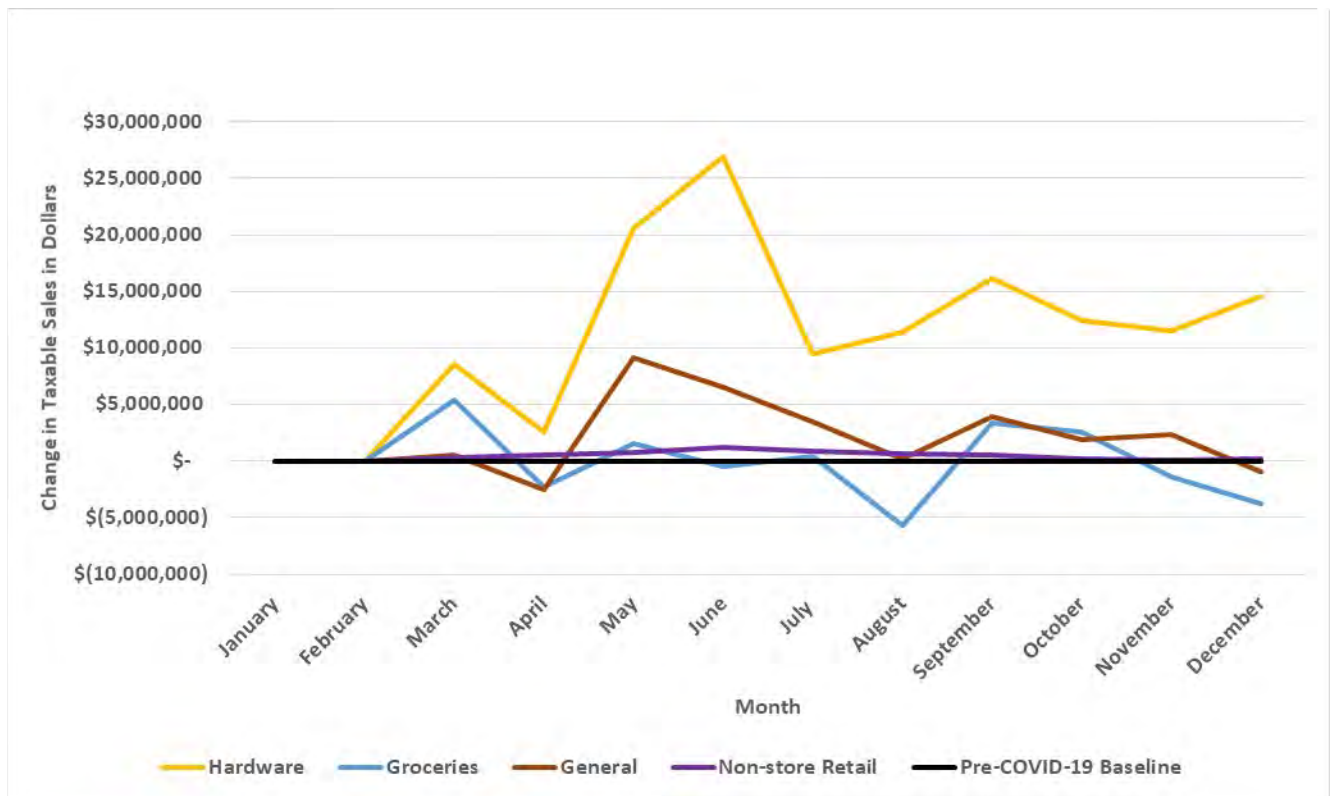
Following are brief discussions of the effects of COVID-19 on each of these three-digit NAICS categories of sales tax remitters that were positively impacted by COVID-19.

Hardware -- Building Material and Garden Equipment and Supplies Dealers (NAICS 444). There was a significant increase in taxable sales that spiked higher in May and June. Taxable sales of hardware stores were significantly higher than the pre-COVID-19 baseline throughout the rest of 2020. Overall, taxable sales were up 14.9% for the year. (Table A-5 in the Appendix)

Groceries -- Food and Beverage Stores (NAICS 445). There was a significant increase in taxable sales of grocery stores beginning in March of 2020 followed by several months of taxable sales tracking the pre-COVID-19 baseline. The last several months of the year saw uneven growth and declines in grocery store sales to close out CY 2020. Overall, there was no change in taxable sales for the year compared to the pre-COVID-19 baseline.

General Retail -- General Merchandise Stores (NAICS 448, 451, 452, 453). There was a significant decrease in taxable sales in April of 2020. This was followed by taxable sales of general merchandise stores significantly higher than the pre-COVID-19 baseline from May through November of 2020. (Table A-9 in the Appendix)

**Figure 7
CY 2020 Taxable Sales Impact of COVID-19 on
Positively Affected Retail Trade Categories**



For most of CY 2020, taxable sales of general merchandise stores were higher than the pre-COVID-19 baseline. For the year, taxable sales were 5.7% higher than the pre-COVID-19 baseline.

Remote Retail -- Non-Store Retail (NAICS 454). There was a significant increase in taxable sales from March through the end of 2020. The percent increase in taxable sales was 32.5% in March, 63.9% in April, and 78.8% in May. The last few months of CY 2020 saw a decrease in the gap between the COVID-19 actuals and the pre-COVID-19 baseline. The percent increase in taxable sales was 14.0% in October, 7.6% in November, and 10.1% in December. Overall, for the year the taxable sales of non-store retail were 33.1% higher than the pre-COVID-19 baseline.

Following are details of the month-over month results for each of the Retail Trade sectors described above.

**Autos
Motor Vehicle and Parts Dealers (NAICS 441)**

As shown in Figure 8, the initial impact of COVID-19 on taxable sales of motor vehicles showed a sharp decline followed by recovery by the middle of 2020. For the remainder of the year the taxable sales of motor vehicles were significantly above the pre-COVID-19 baseline. For the year, taxable sales were down 2.7%.

**Figure 8
CY 2020 Taxable Sales Impact of COVID-19 on the Autos Group**

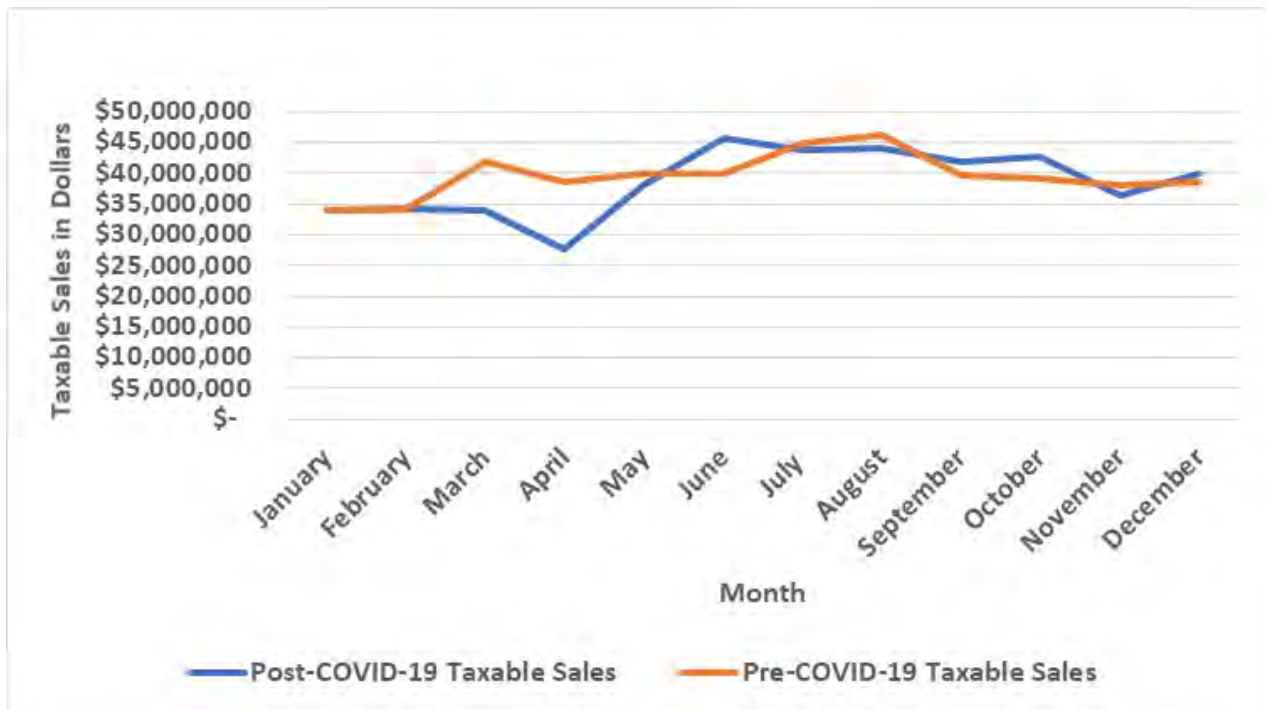
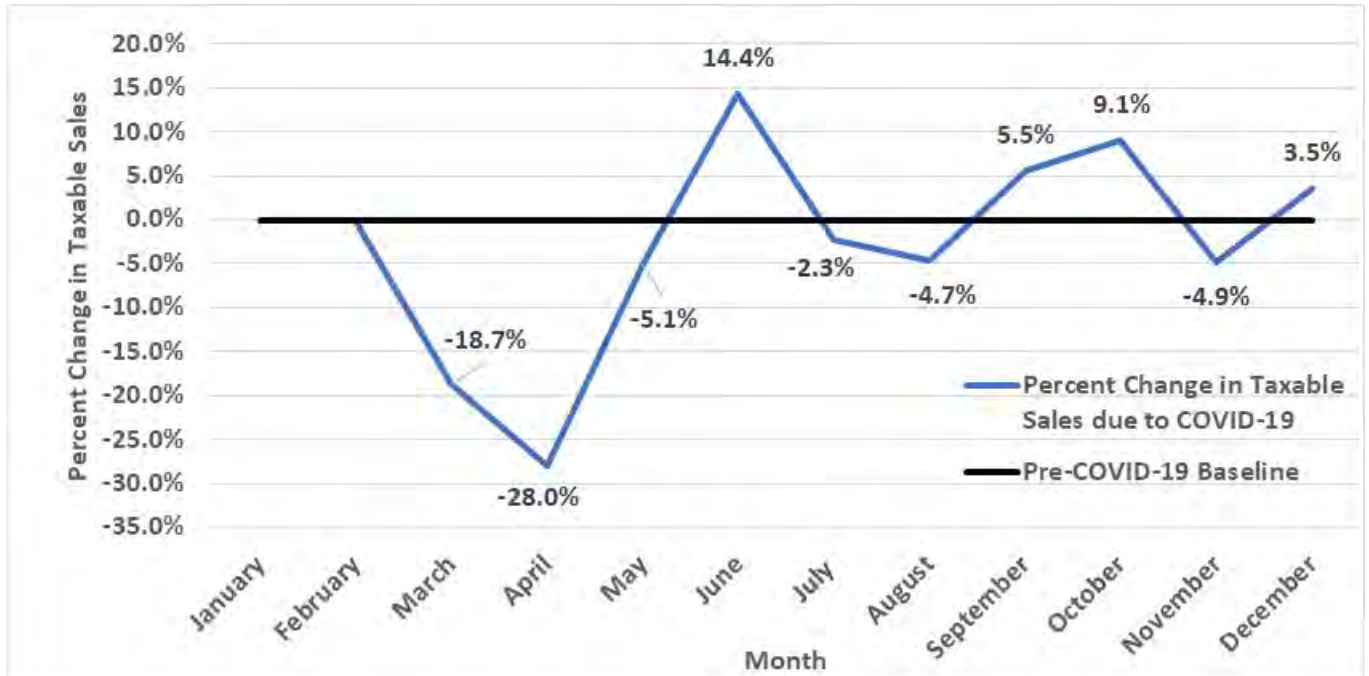


Figure 9 shows the initial impact of COVID-19 on the percent change in taxable sales of the auto industry with a sharp decline in March (-18.7%) followed by another sharp decline in April (-28.0%). By the end of the year, taxable sales were slightly higher than the pre-COVID-19 baseline.

Figure 9
Autos
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

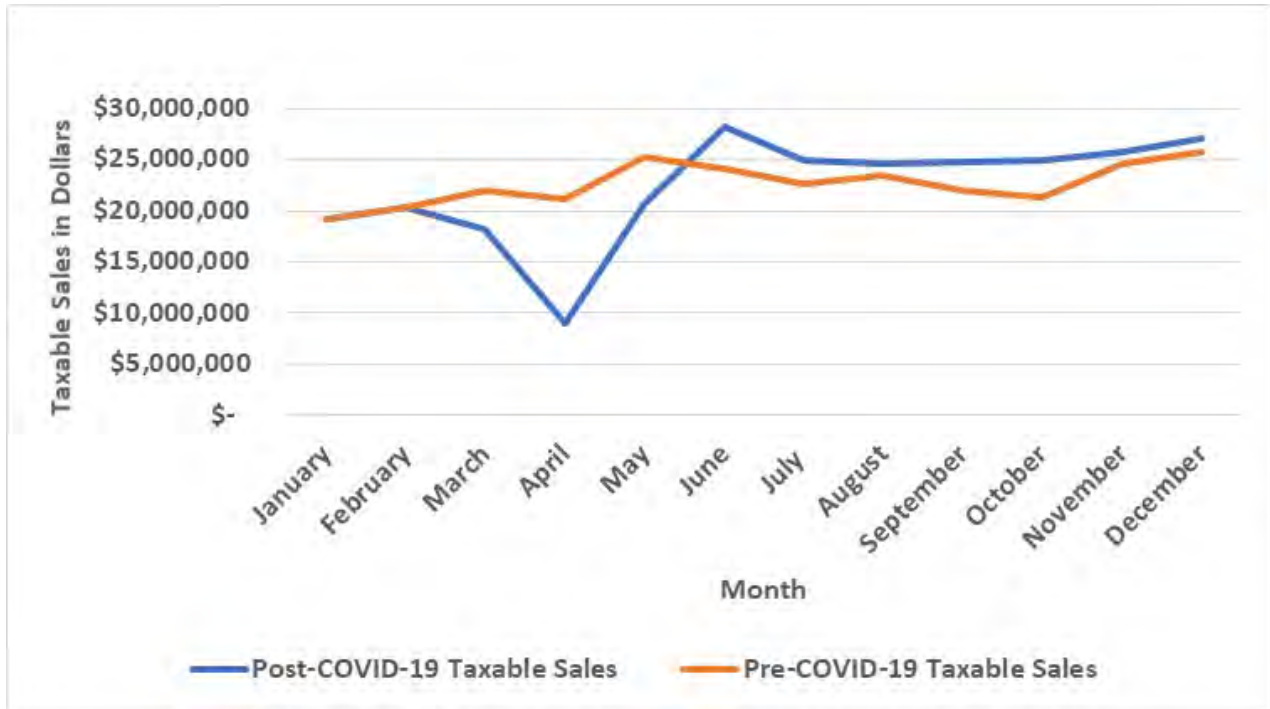


The data underlying Figures 8 and 9 are found in Appendix Table A-2.

Furniture
Furniture and Home Furnishings Stores (NAICS 442)

Figure 10 shows that there was a sharp drop in taxable sales for furniture and home furnishings stores in March and April of 2020 followed by taxable sales tracking above the pre-COVID-19 baseline. Figure 11 presents the results for this retail sector on a percent change in taxable sales basis.

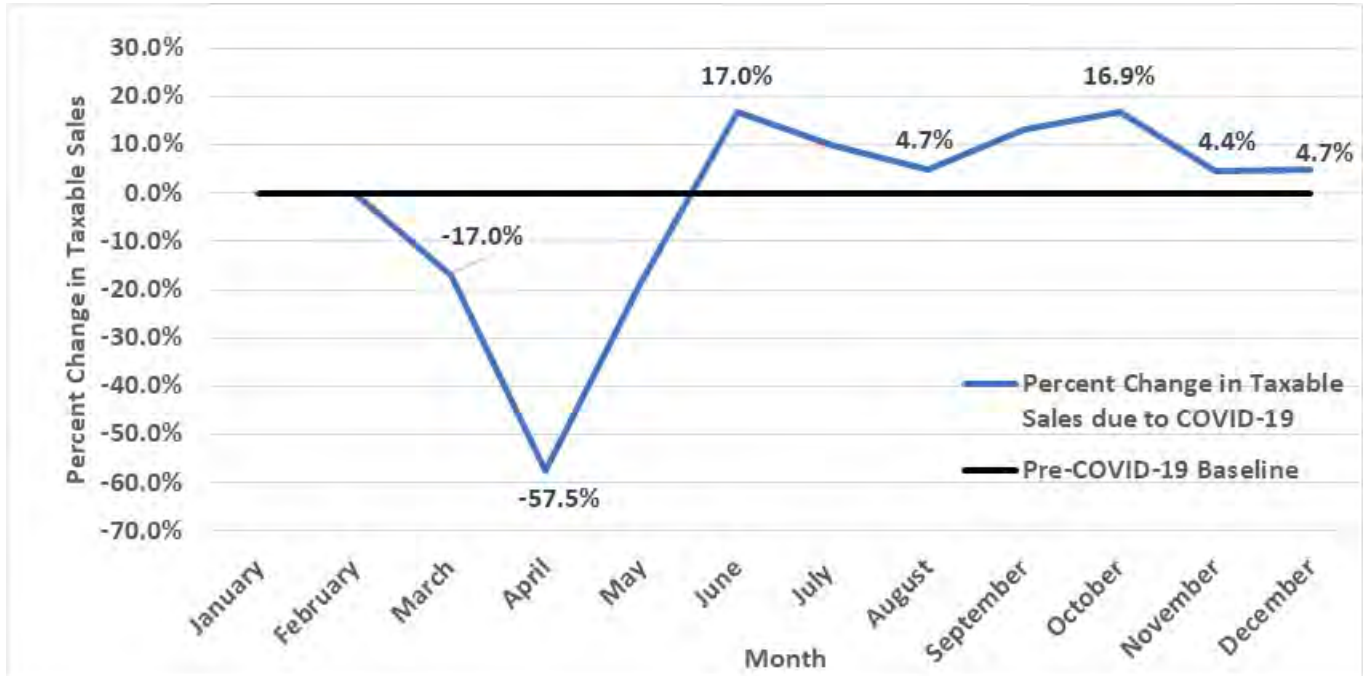
Figure 10
CY 2020 Taxable Sales Impact of COVID-19 on Furniture Group



Governor Raimondo issued a stay-at-home order effective March 30, 2020, which closed all non-essential businesses. Initially, there was a significant negative impact of COVID-19 on furniture industry sales in the early months of 2020.

May 9, 2020: Phase 1 of Reopening RI commenced with the lifting of the stay-at-home order and allowing for a limited reopening of certain non-critical retail businesses. Beginning in May there was a recovery and by June taxable sales were above the pre-COVID-19 baseline. This may be attributable to a lot of individuals working and staying at home implementing renovations and home improvements.

Figure 11
Furniture
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

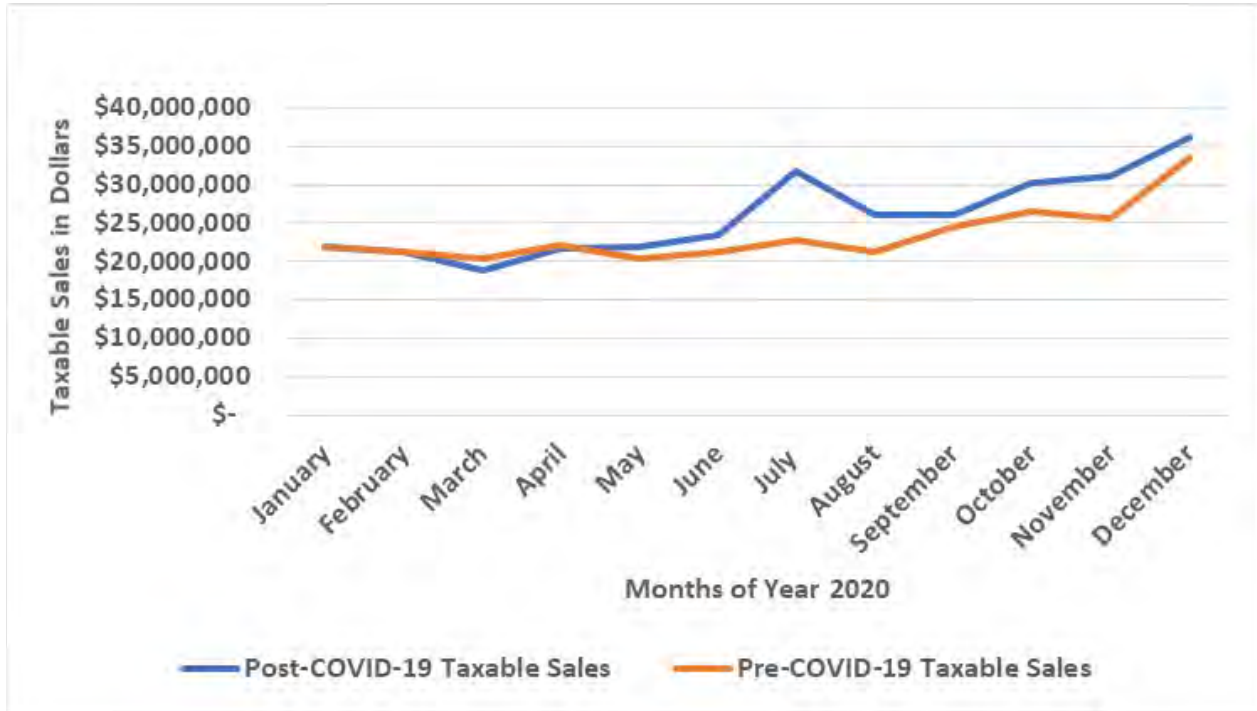


The data underlying Figures 10 and 11 are found in Appendix Table A-3.

Electronics
Electronics and Appliance Stores (NAICS 443)

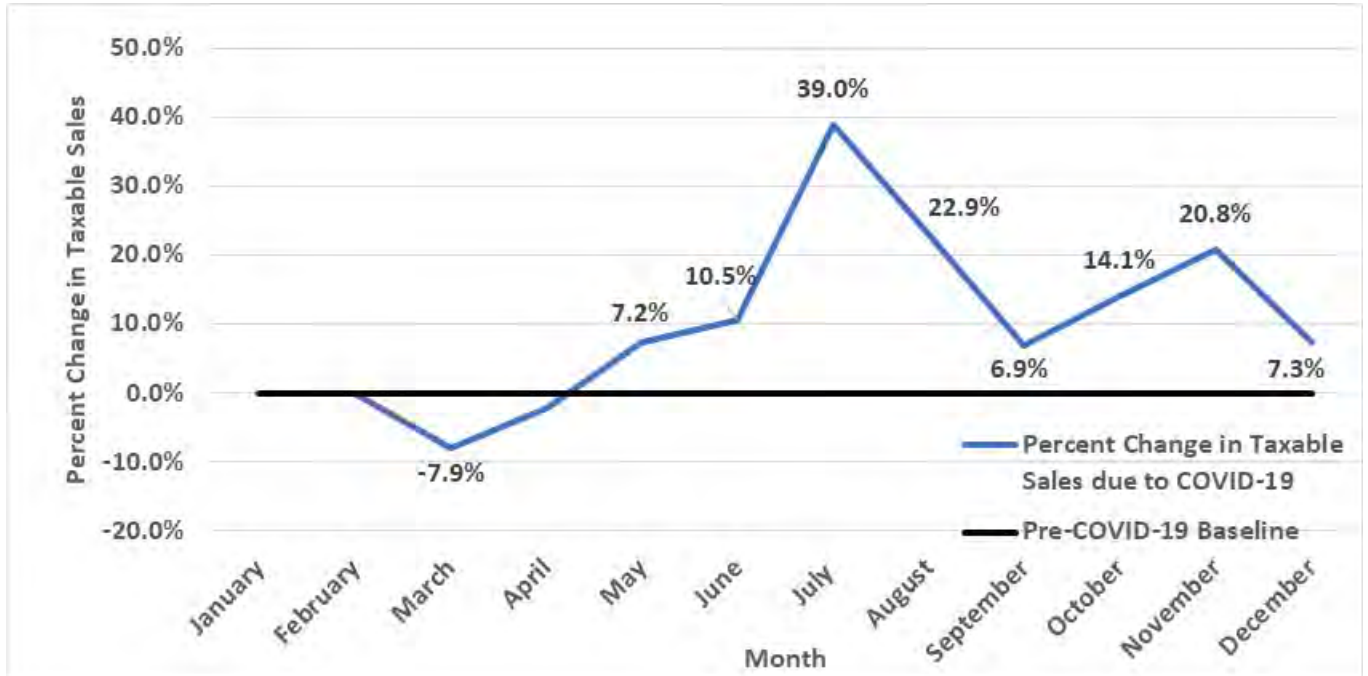
Figure 12 shows that there was a modest reduction in taxable sales in April and May of 2020. This was followed by taxable sales of electronics and appliances tracking above the pre-COVID-19 baseline.

Figure 12
CY 2020 Taxable Sales Impact of COVID-19 on Electronics Group



As Figure 13 shows, there was a slight reduction in taxable sales in March and April of 2020. This was followed by taxable sales of electronics and appliances tracking above the pre-COVID-19 baseline or on an annual basis 10.1% above the pre-COVID-19 baseline.

Figure 13
Electronics
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

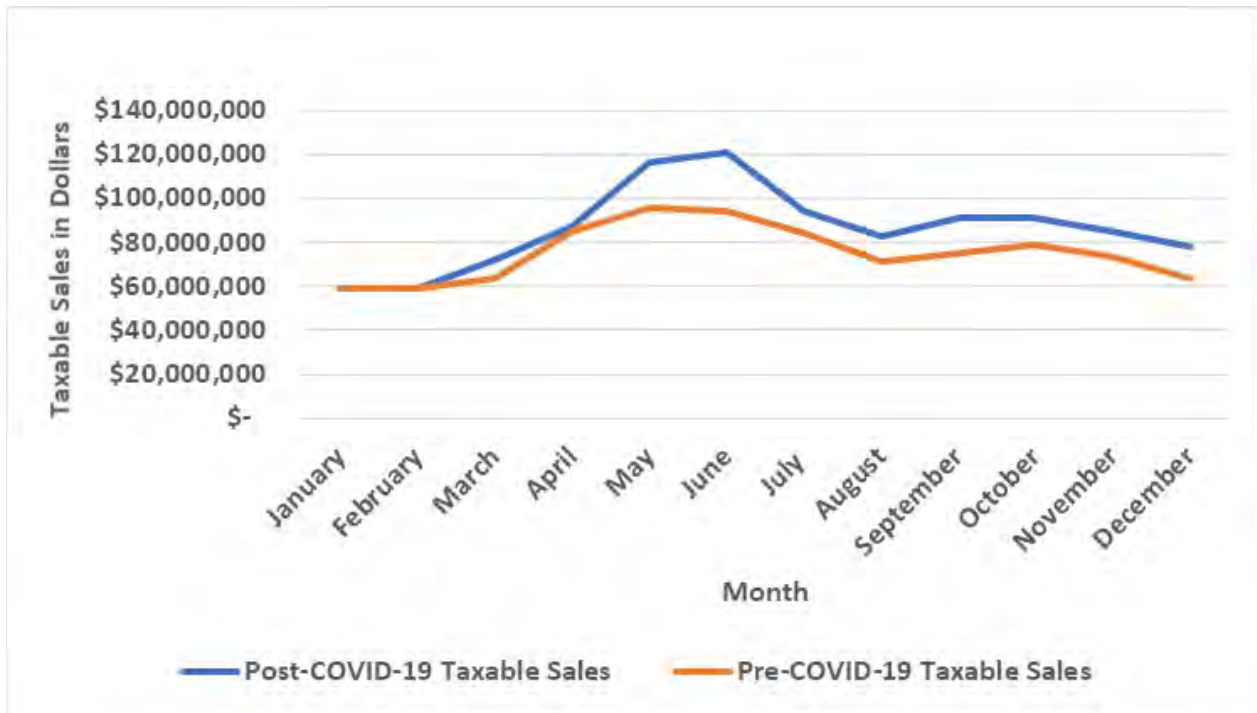


The data underlying Figures 12 and 13 are found in Appendix Table A-4.

Hardware
Building Material and Garden Equipment and Supplies Dealers (NAICS 444)

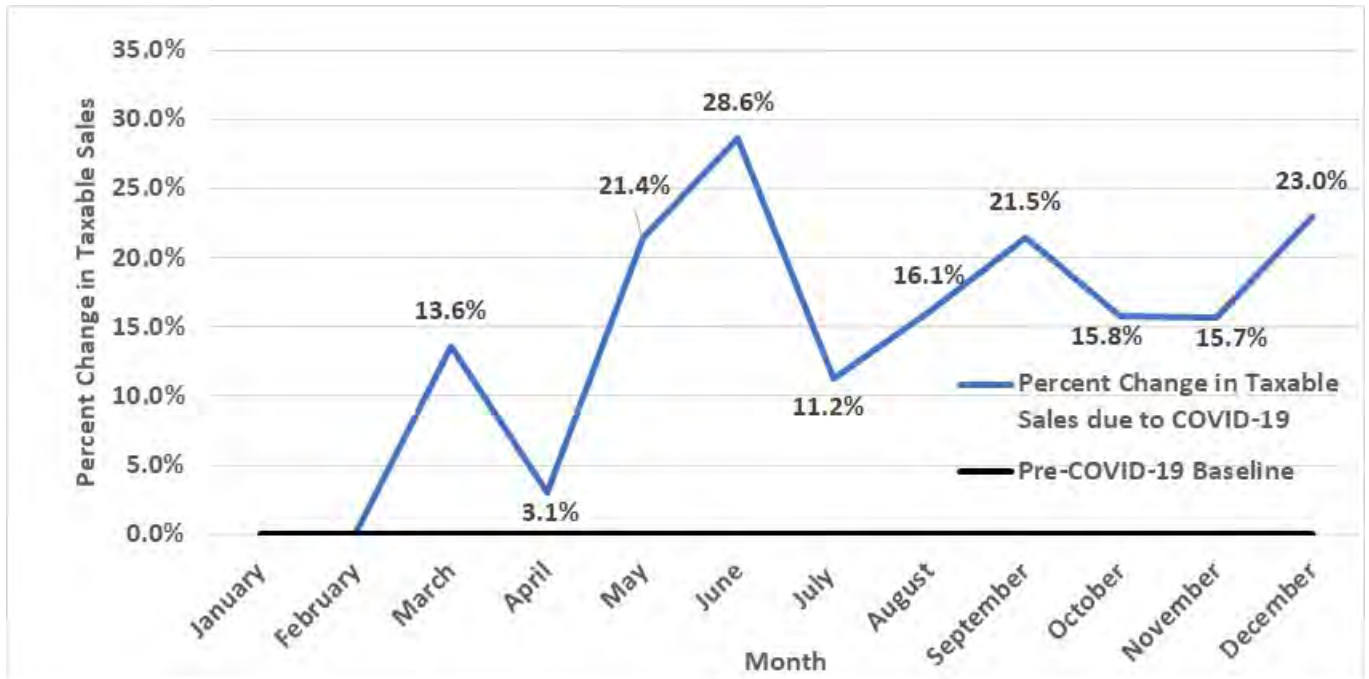
Figure 14 illustrates that there was a significant increase in taxable sales in April through June of 2020 for this retail sector, followed by taxable sales of hardware stores significantly higher than the pre-COVID-19 baseline throughout the rest of 2020. Figure 15 presents the results for this retail sector on a percent change in taxable sales basis.

Figure 14
CY 2020 Taxable Sales Impact of COVID-19 on Hardware Group



Again, the Governor’s stay-at-home order was made effective on March 30, 2020. Essentially, there was a positive impact of COVID-19 on hardware store sales in most of 2020 in that taxable sales were above the pre-COVID-19 baseline. This may be attributable to a lot of individuals working and studying at home with the need to have home improvements or renovations.

Figure 15
Hardware
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

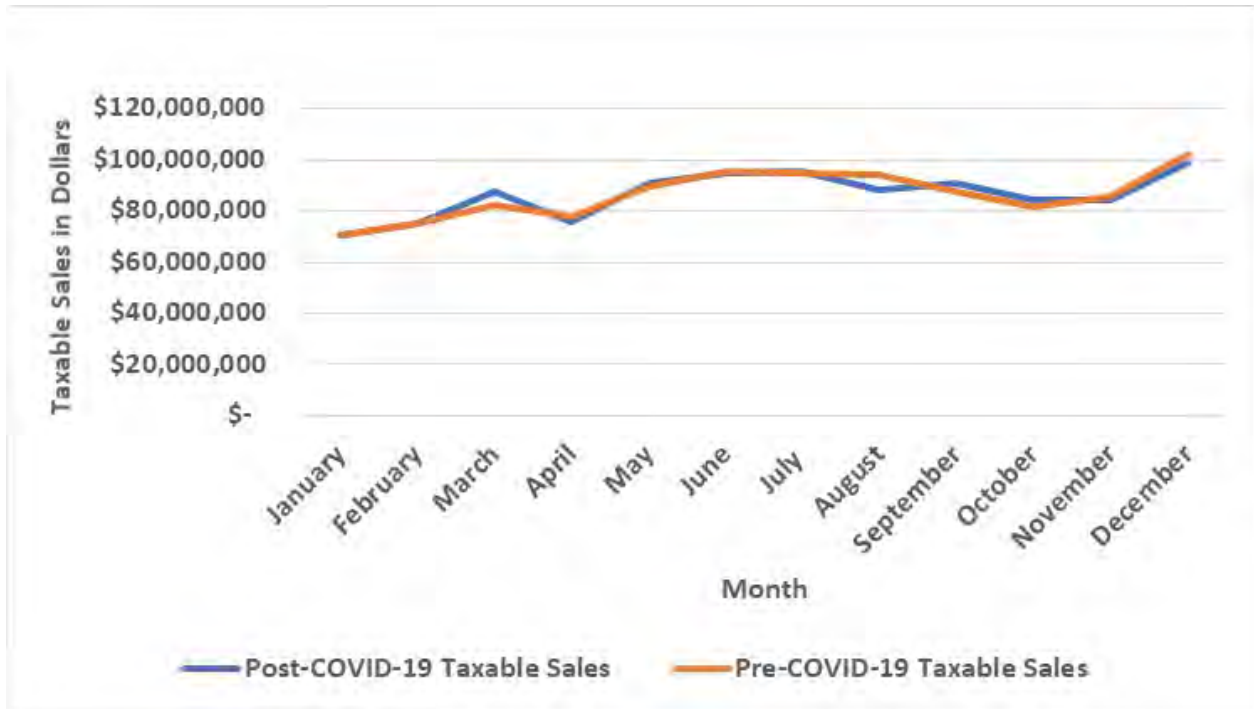


The data underlying Figures 14 and 15 are found in Appendix Table A-5.

Groceries
Food and Beverage Stores (NAICS 445)

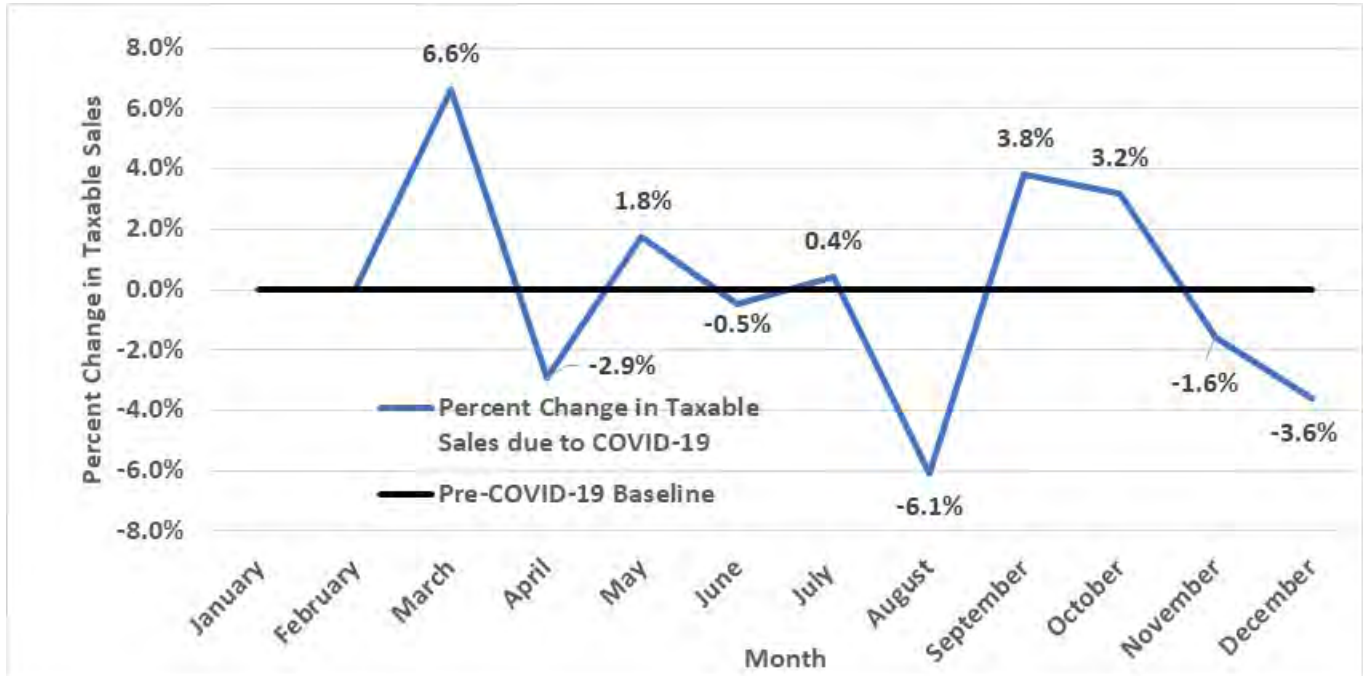
As shown in Figure 16, there was a slight uptick in taxable sales of food and beverage stores beginning in March of 2020 followed by the remaining months of the year with taxable sales tracking the pre-COVID-19 baseline. The year saw essentially no change in taxable sales.

Figure 16
CY 2020 Taxable Sales Impact of COVID-19 on Groceries Group



As Figure 17 shows, there was a 6.6% increase in taxable sales of food and beverage stores in March of 2020. This was followed by erratic taxable sales (down and then back up) in the remaining months of the year.

Figure 17
Groceries
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

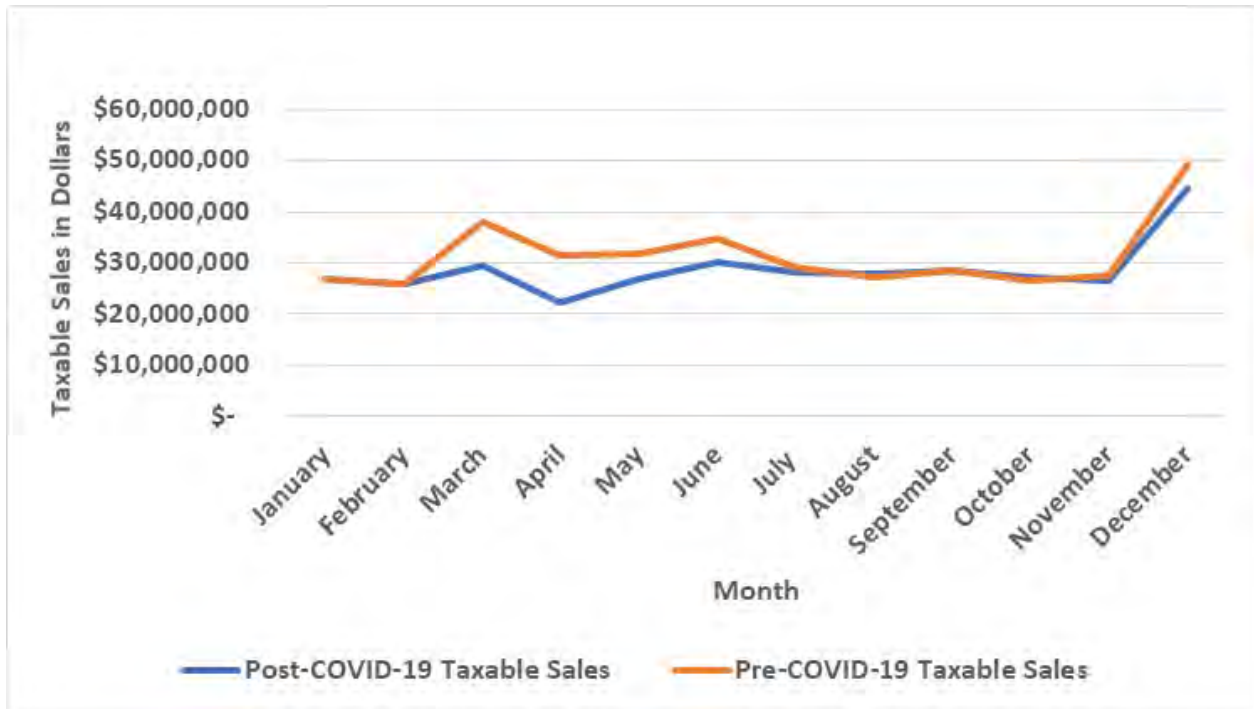


The data underlying Figures 16 and 17 are found in Appendix Table A-6.

Drugs
Health and Personal Care Stores (NAICS 446)

As shown in Figure 18, essentially, there was a significant negative impact of COVID-19 on taxable sales of drug stores throughout CY 2020.

Figure 18
CY 2020 Taxable Sales Impact of COVID-19 on Drugs Group



As shown in Figure 19, in percentage terms, there was a steep drop in March (-22.6%) and further decrease in April (-29.3%). This was followed by more modest decreases in taxable sales of drug stores up to July after which taxable sales tracked the pre-COVID-19 baseline. The percentage change in taxable drug store sales for the year was down 8.6%.

Figure 19
Drugs
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

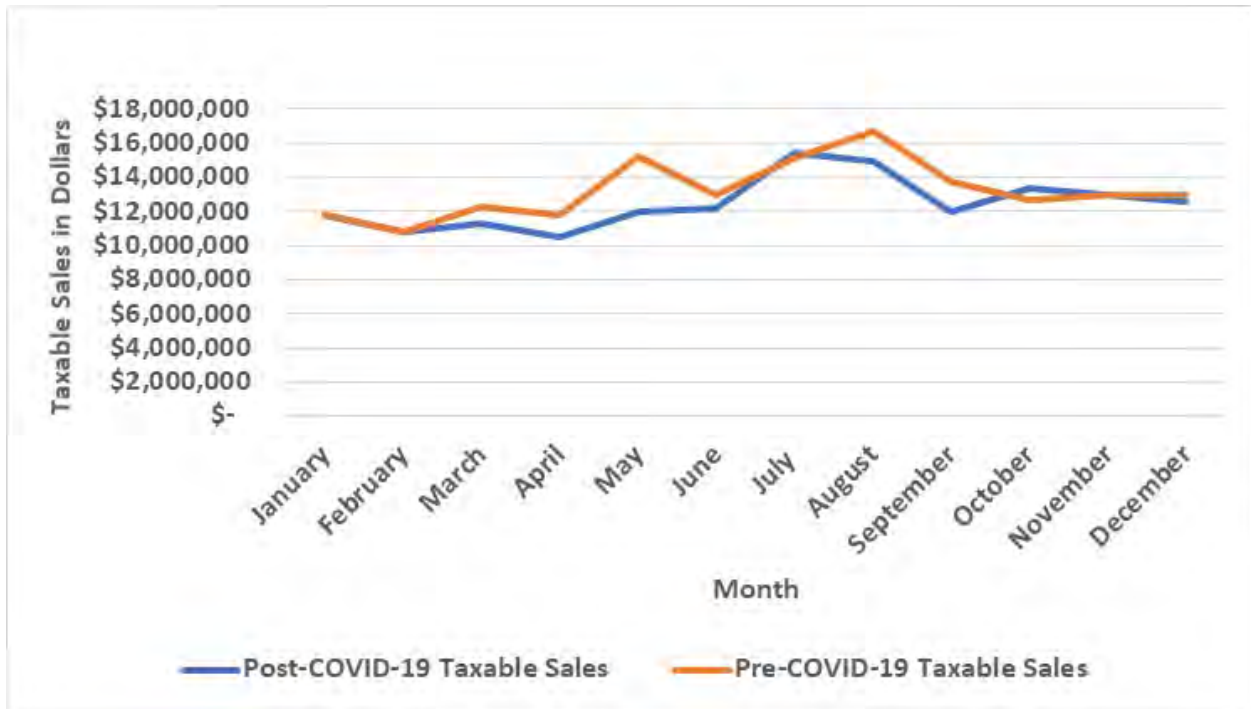


The data underlying Figures 18 and 19 are found in Appendix Table A-7.

Gas
Gasoline Stations (NAICS 447)

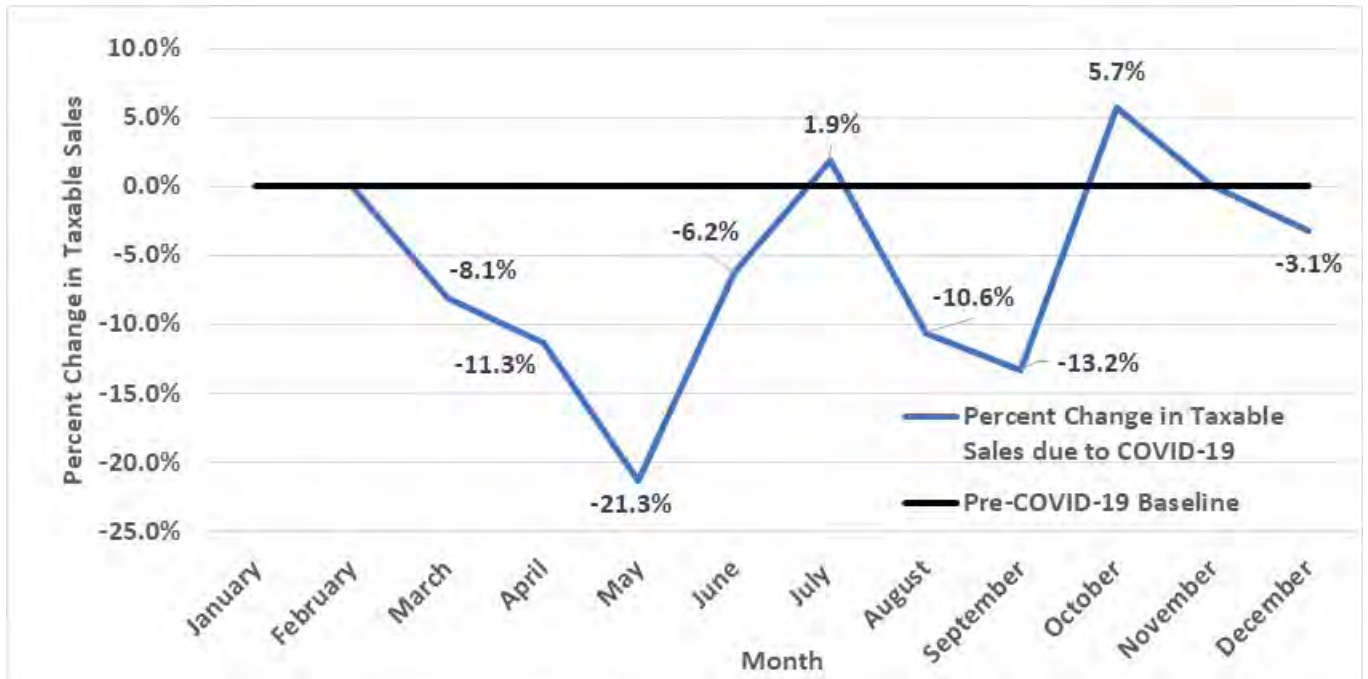
As shown in Figure 20, there was a significant decrease in taxable sales in March through June of 2020. This was followed by taxable sales of gasoline stations somewhat lower than the pre-COVID-19 baseline from June through September of 2020. For the last three months of CY 2020, taxable sales of gas stations tracked the pre-COVID-19 baseline.

Figure 20
CY 2020 Taxable Sales Impact of COVID-19 on Gas Group



As Figure 21 shows, in percentage terms there was a decrease of 21.3% in taxable sales in May of 2020. This was followed by significant declines in taxable sales of gasoline stations to levels significantly lower than the pre-COVID-19 baseline from June through September of 2020. For the last three months of CY 2020, the percentage change in taxable sales of gas stations was about the same as the pre-COVID-19 baseline. This result is not surprising as many were working and studying from home and not commuting to work or school.

Figure 21
Gas
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

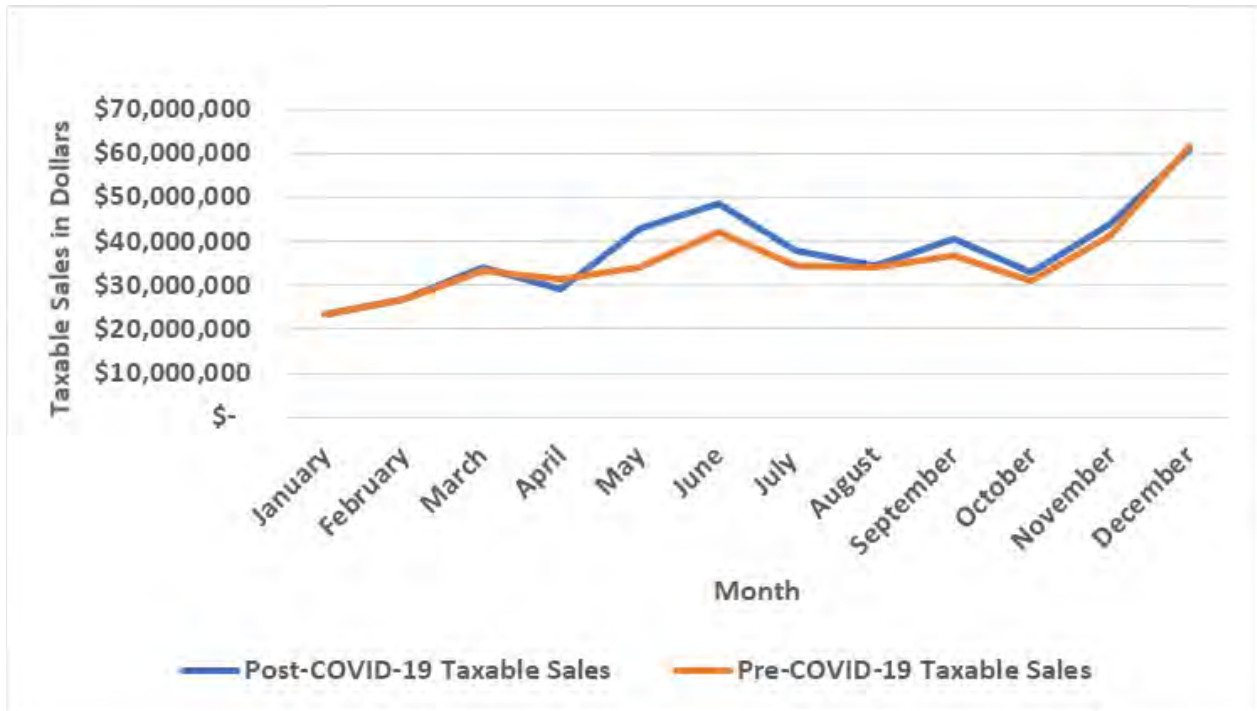


The data underlying Figures 20 and 21 are found in Appendix Table A-8.

General Retail
General Merchandise Stores
(NAICS 448, 451, 452, and 453)

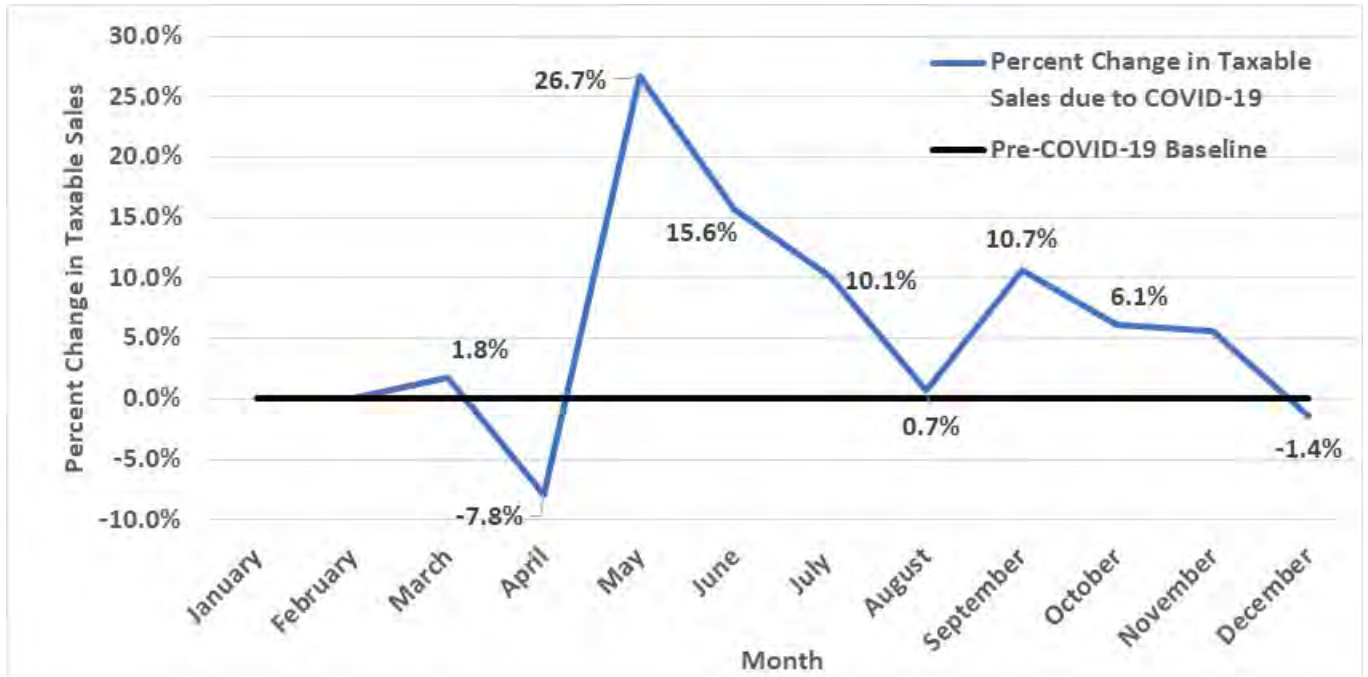
As shown in Figure 22, there was a significant increase in taxable sales by May and June of 2020. This was followed by taxable sales of general merchandise stores consistent with the pre-COVID-19 baseline from July through December of 2020. For the calendar year, taxable sales of general merchandise stores were 5.7% higher than the pre-COVID-19 baseline.

Figure 22
CY 2020 Taxable Sales Impact of COVID-19 on General Retail Group



As shown in Figure 23, in percentage terms, there was a 26.7% increase in taxable sales by general merchandise stores in May of 2020. The Governor's stay-at-home order closed all non-essential businesses at the end of March, which closed many retail and service establishments. Essentially, this stay-at-home order excluded businesses that sold groceries in addition to general merchandise such as Supercenter stores. The stay-at-home order was lifted in early May.

**Figure 23
General Retail
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline**



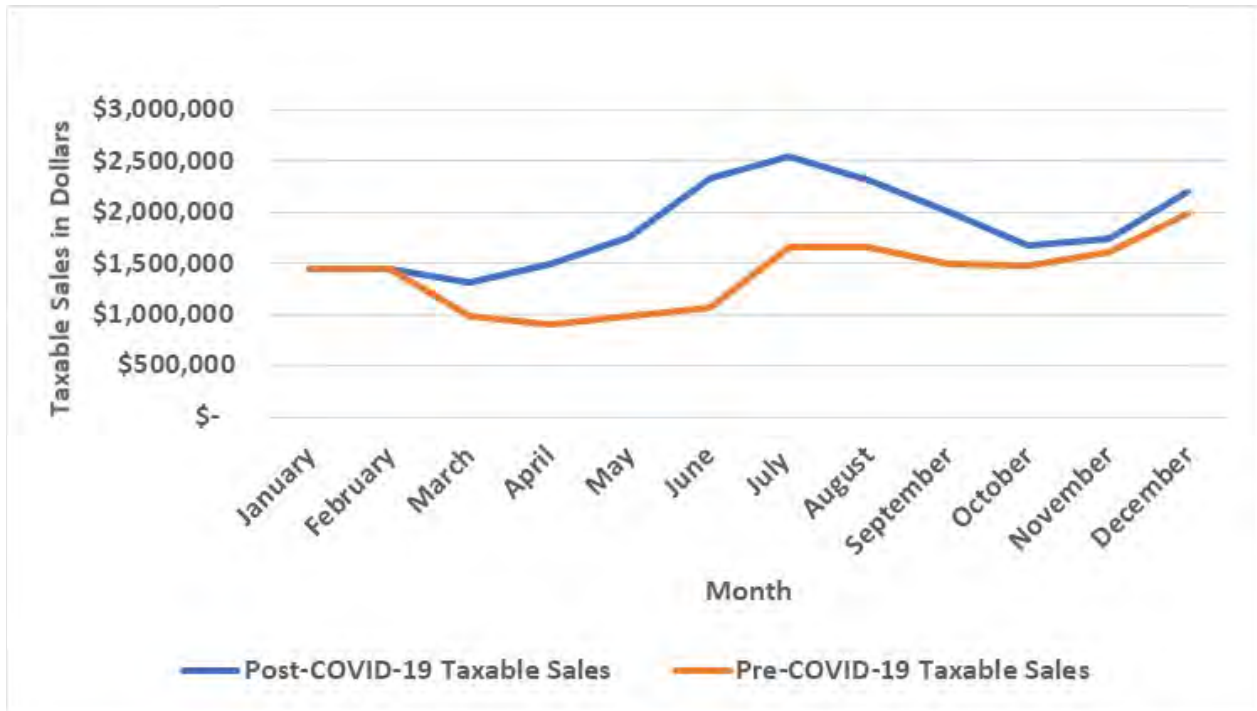
The April decline could have been largely attributable to the fact that a lot of these stores were closed given that they were not selling groceries. The supercenters on the other hand were selling groceries and could stay open and sell other goods. The April decline was followed by taxable sales of general merchandise stores significantly higher than the pre-COVID-19 baseline from May through November of 2020.

The data underlying Figures 22 and 23 are found in Appendix Table A-9.

**Remote Retail
Non-Store Retail
(NAICS 454)**

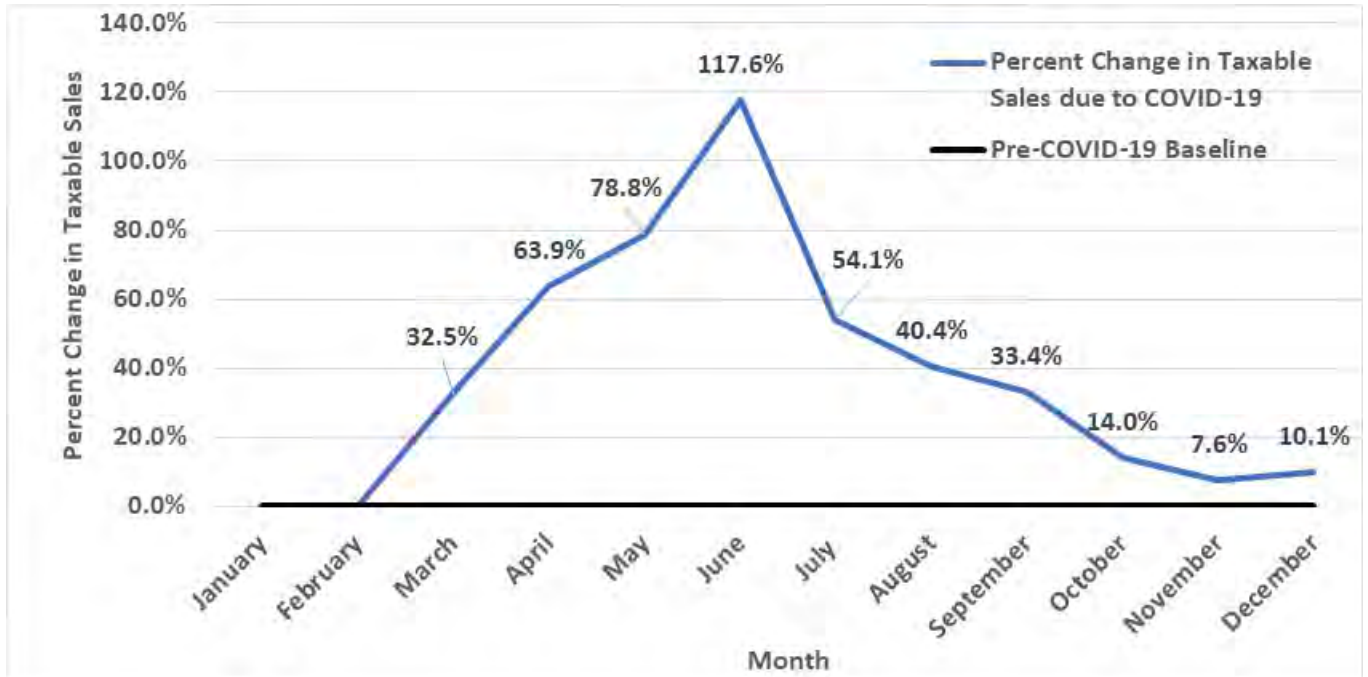
As shown in Figure 24, there was a significant increase in taxable sales of non-store retail (on-line retail) from March through the end of CY 2020. This was significantly higher than the pre-COVID-19 baseline in every month of CY 2020 from March on. Overall, for the year, on-line taxable sales were 33.1% higher than the pre-COVID-19 baseline.

Figure 24
CY 2020 Taxable Sales Impact of COVID-19 on Remote Retail



In percentage terms (Figure 25), there was a 32.5% increase in taxable sales in March of 2020. The March increase was followed by taxable sales of on-line retail significantly higher than the pre-COVID-19 baseline throughout the rest of 2020. The peak growth in taxable sales occurred in June at 117.6%. For the last ten months of CY 2020, taxable sales of on-line retail were significantly above the pre-COVID-19 baseline.

Figure 25
Remote Retail
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline



The data underlying Figures 24 and 25 are found in Appendix Table A-10.

e. Overall Impact on Certain Services

Figure 26 presents the CY 2020 impact of COVID-19 on taxable sales of restaurants, hotels, auto repair, and other personal services.

Restaurants -- Food Services and Drinking Places (NAICS 722). The change in taxable sales is measured against a pre-COVID-19 baseline. As can be seen in Figure 26, there was a significant decline in taxable sales in restaurants in March (-37.0%) followed by a decline in April (-59.1%) compared to the pre-COVID-19 baseline. While there was a modest recovery in taxable sales in subsequent months there remained a significant reduction in taxable sales that continued through the end of 2020. This represents the declining segment of the “K-shaped” recovery. It is not surprising that this is the case as restaurants have remained one of the industries hardest hit by COVID-19. (Table A-12 in the Appendix)

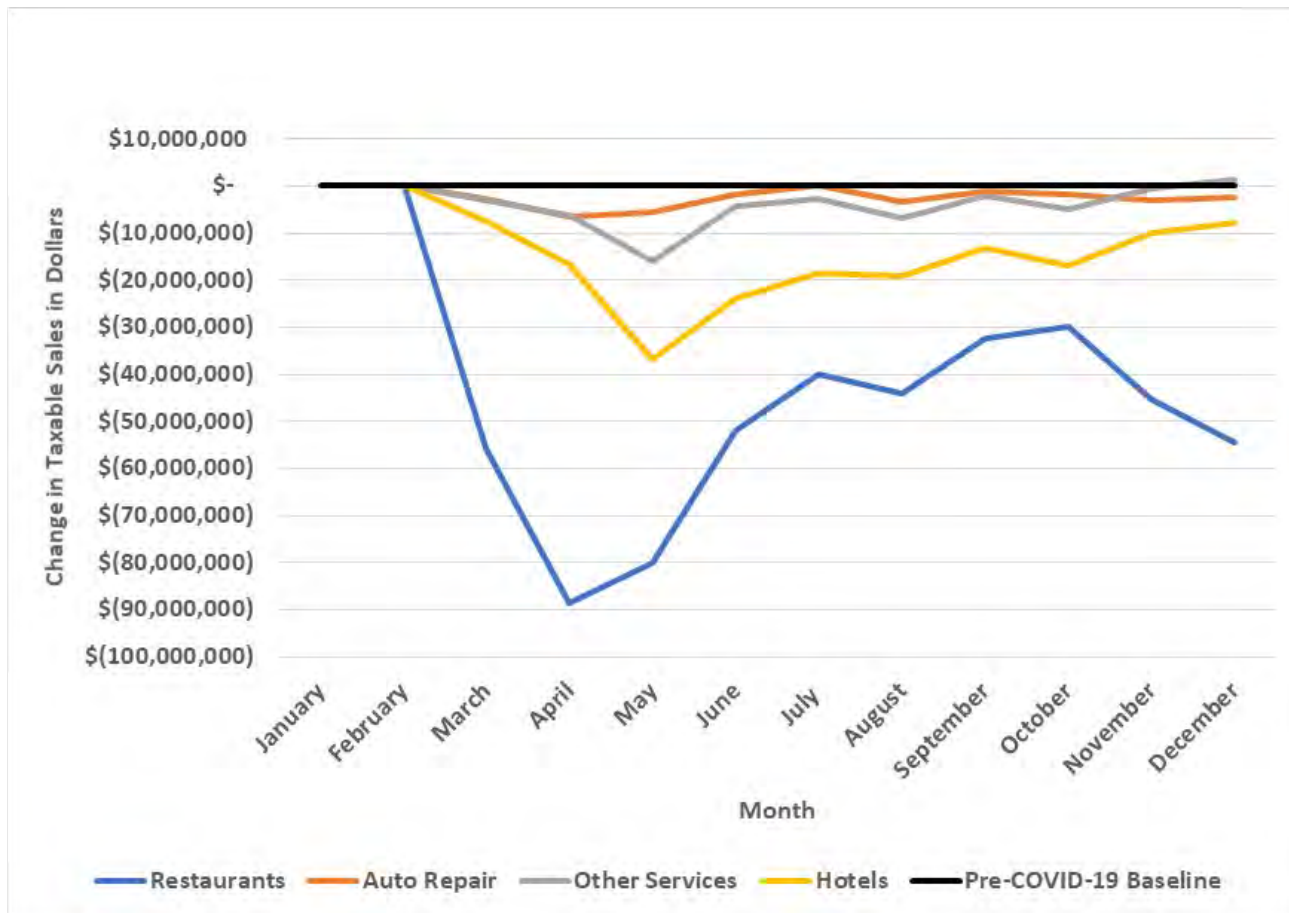
Hotels – Accommodation Services (NAICS 721). As can be seen in Figure 26, there was a significant decline in taxable sales in hotels in March (-55.4%) followed by a

decline in April (-91.4%) compared to the pre-COVID-19 baseline. There was no recovery in taxable sales as there remained a significant reduction in taxable sales that continued through the end of CY 2020. As with restaurants, it is not surprising that this is the case as hotels have remained one of the industries hardest hit by COVID-19. (Table A-13 in the Appendix)

Auto Repair -- Repair and Maintenance (NAICS 8111). There was a modest drop in taxable sales of auto repair services from March to the end of CY 2020. Taxable sales for auto repair services declined 13.3% in CY 2020.

Other Personal Services -- Other Repair and Maintenance (NAICS 811 except NAICS 8111) and Personal Laundry Services (NAICS 812). There was a significant drop in taxable sales of these personal services in May with taxable sales by the end of the year just below the pre-COVID-19 baseline. Overall, taxable sales decreased 16.0% for all of CY 2020.

Figure 26
CY 2020 Taxable Sales Impact of COVID-19 on
Accommodation and Personal Services



f. Services Details

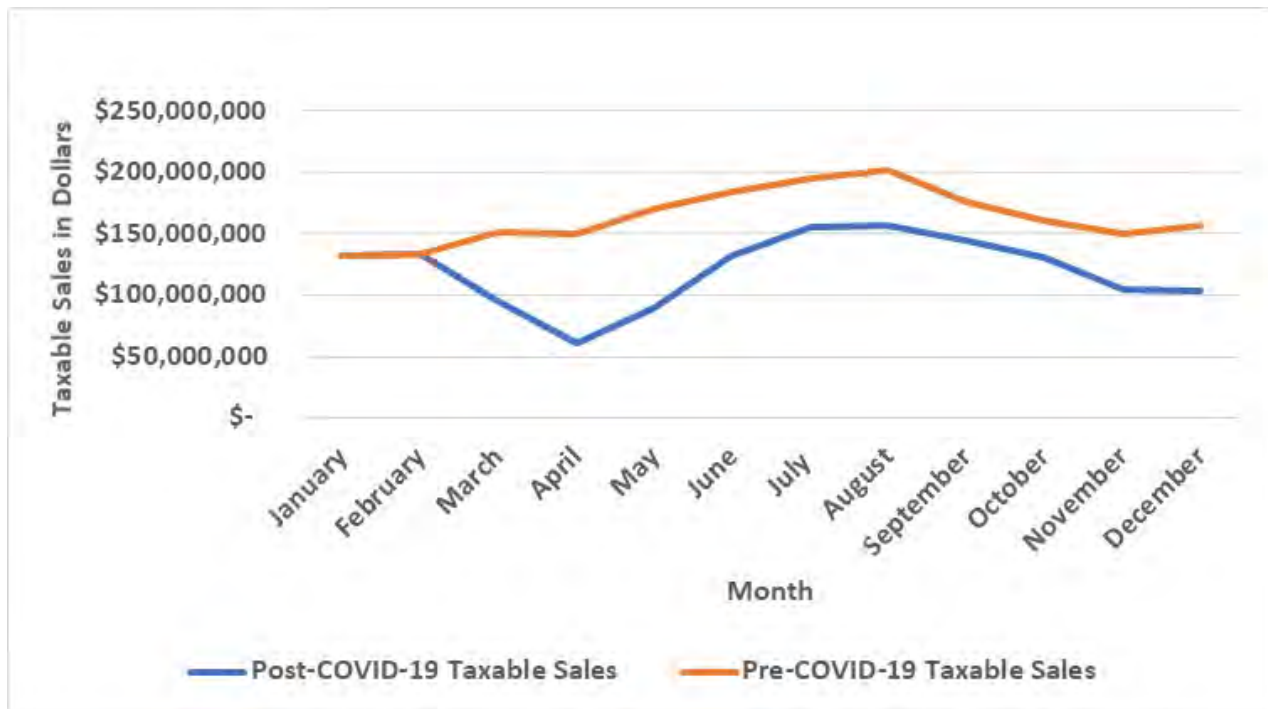
Following are results for:

- Restaurants -- Food Services and Drinking Places (NAICS 722)
- Hotels – Accommodation Services (NAICS 721)
- Auto Repair -- Automotive Repair and Maintenance (NAICS 8111)
- Other Personal Services -- Other Repair and Maintenance (NAICS 811 except 8111)

Restaurants Food Services and Drinking Places (NAICS 722)

Figure 27 presents the 2020 impact of COVID-19 on taxable sales of restaurants under the pre- and post-COVID-19 baselines. The continuing gap between these two baselines illustrate the lack of economic recovery in the restaurant industry.

Figure 27
CY 2020 Taxable Sales Impact of COVID-19 on Restaurants



As shown in Figure 28, the percent change in taxable sales from the pre-COVID-19 baseline dips sharply in March and April of 2020. Not surprisingly, restaurants have remained one of the hardest hit industries by COVID-19.

Specifically, there was a significant decline in taxable sales in restaurants in March (-37.0%) followed by a decline in April (-59.1%) compared to the pre-COVID-19 baseline. There was no recovery in taxable sales through the end of 2020. This again represents the declining segment of the “K-shaped” recovery.

Figure 28
Restaurants
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

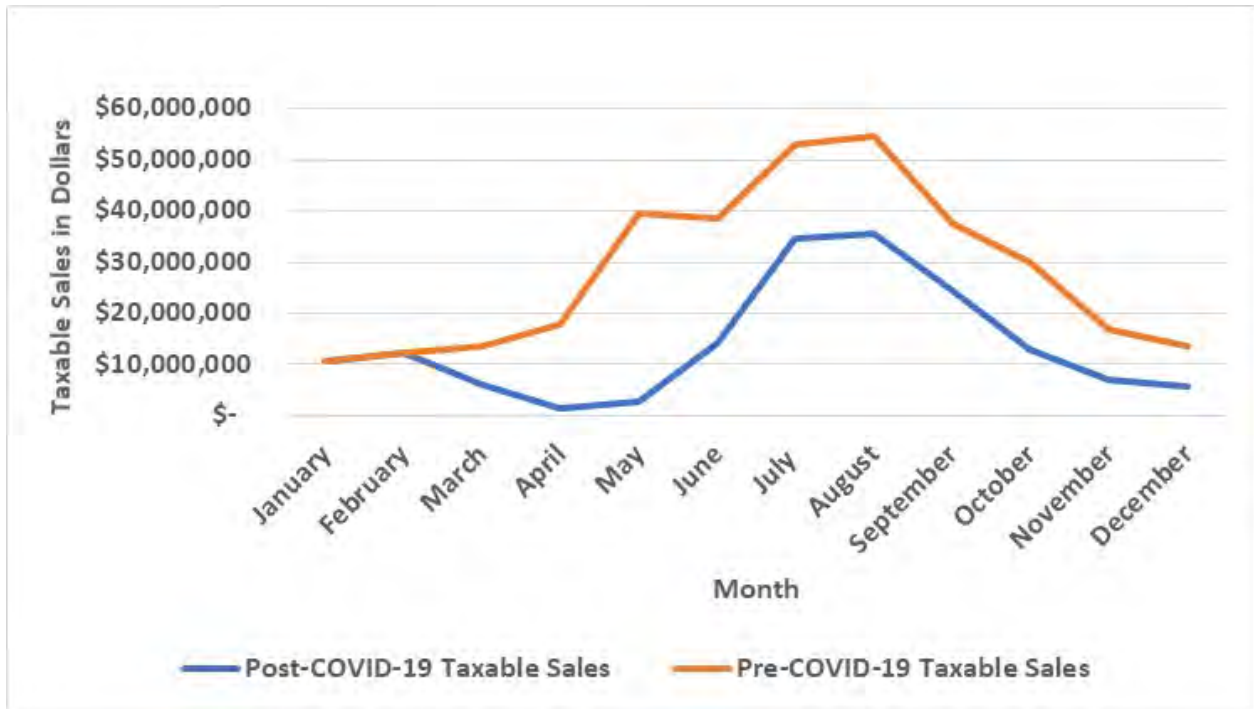


The data underlying Figures 27 and 28 are found in Appendix Table A-12.

Hotels
Accommodation Services (NAICS 721)

Figure 29 presents the CY 2020 impact of COVID-19 on taxable sales of hotels under the pre- and post-COVID-19 baselines. As was the case with restaurants, the continuing gap between these two baselines illustrate the lack of economic recovery in the hotel industry.

Figure 29
CY 2020 Taxable Sales Impact of COVID-19 on Hotels



As shown in Figure 30, the percent change in taxable sales from the pre-COVID-19 baseline dips sharply in March and April of 2020. Not surprisingly, hotels have remained one of the hardest hit industries by COVID-19.

Specifically, there was a significant decline in taxable sales in hotels in March (-55.4%) followed by a decline in April (-91.4%) compared to the pre-COVID-19 baseline. There was no recovery in taxable sales of hotels through the end of CY 2020. As with restaurants, this again represents the declining segment of the “K-shaped” recovery.

Figure 30
Hotels
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline

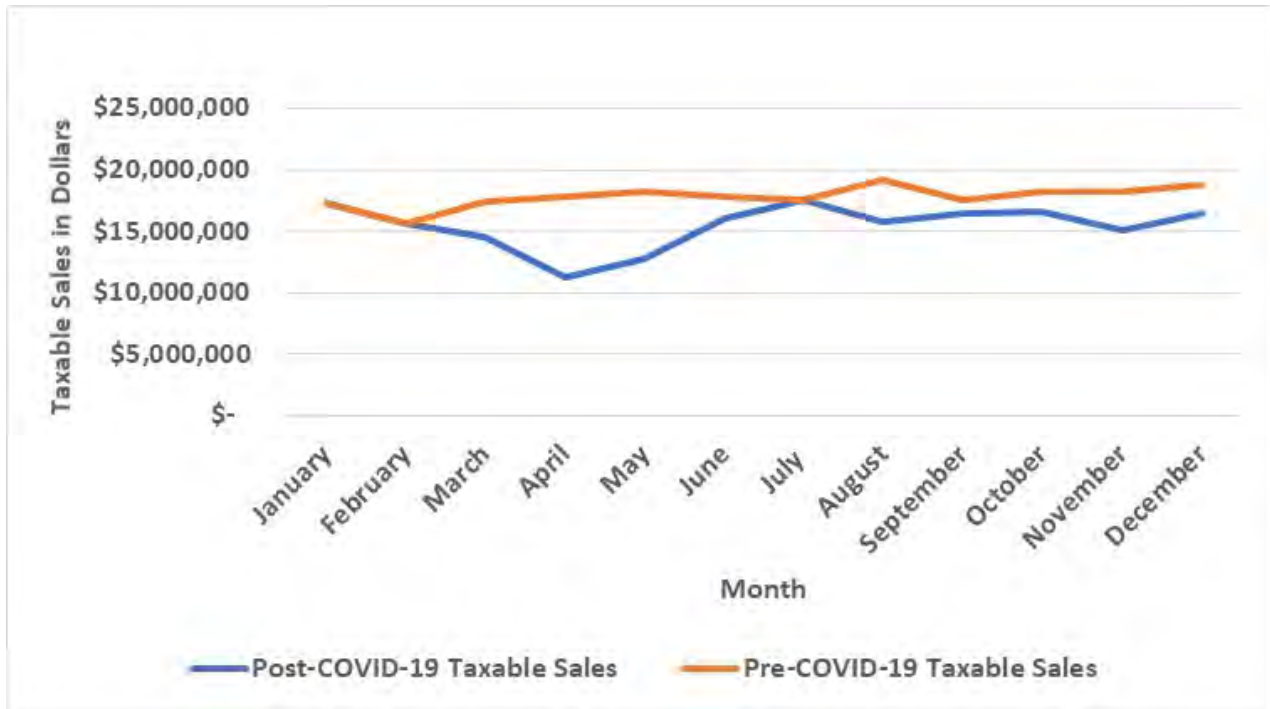


The data underlying Figures 29 and 30 are found in Appendix Table A-13.

Auto Repair
Automotive Repair and Maintenance (NAICS 8111)

Figure 31 shows that there was a significant drop in sales of auto repair services in the first few months of COVID-19. In the last months of CY 2020, there was a decrease in taxable sales of automotive repair services.

Figure 31
CY 2020 Taxable Sales Impact of COVID-19 on Auto Repair



In terms of the percent change in taxable sales compared to the pre-COVID-19 baseline (Figure 32), there was a decline in taxable sales in April (-36.8%) and a decline in taxable sales in May (-30.6%). There was a very mild recovery in July followed by a downturn at the end of 2020.

**Figure 32
Auto Repair
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline**

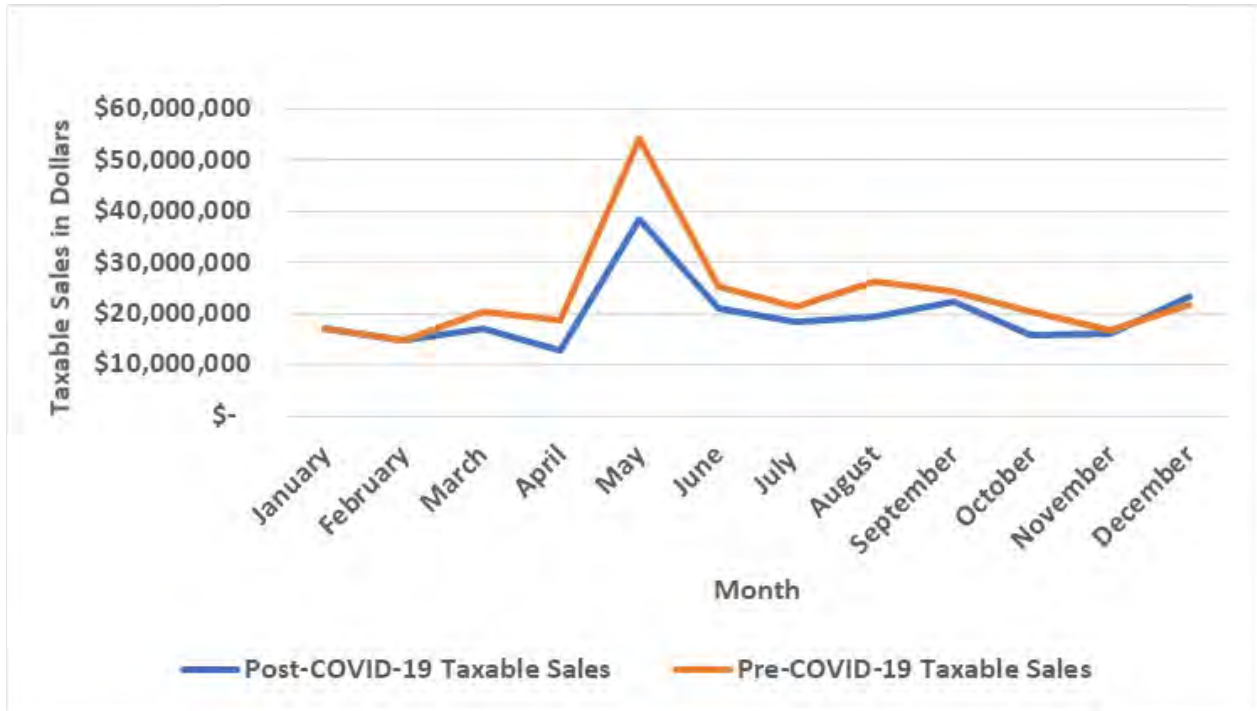


The data underlying Figures 31 and 32 are found in Appendix Table A-14.

**Other Personal Services
Other Repair and Maintenance (NAICS 811 except NAICS 8111) and
Personal Laundry Services (NAICS 812).**

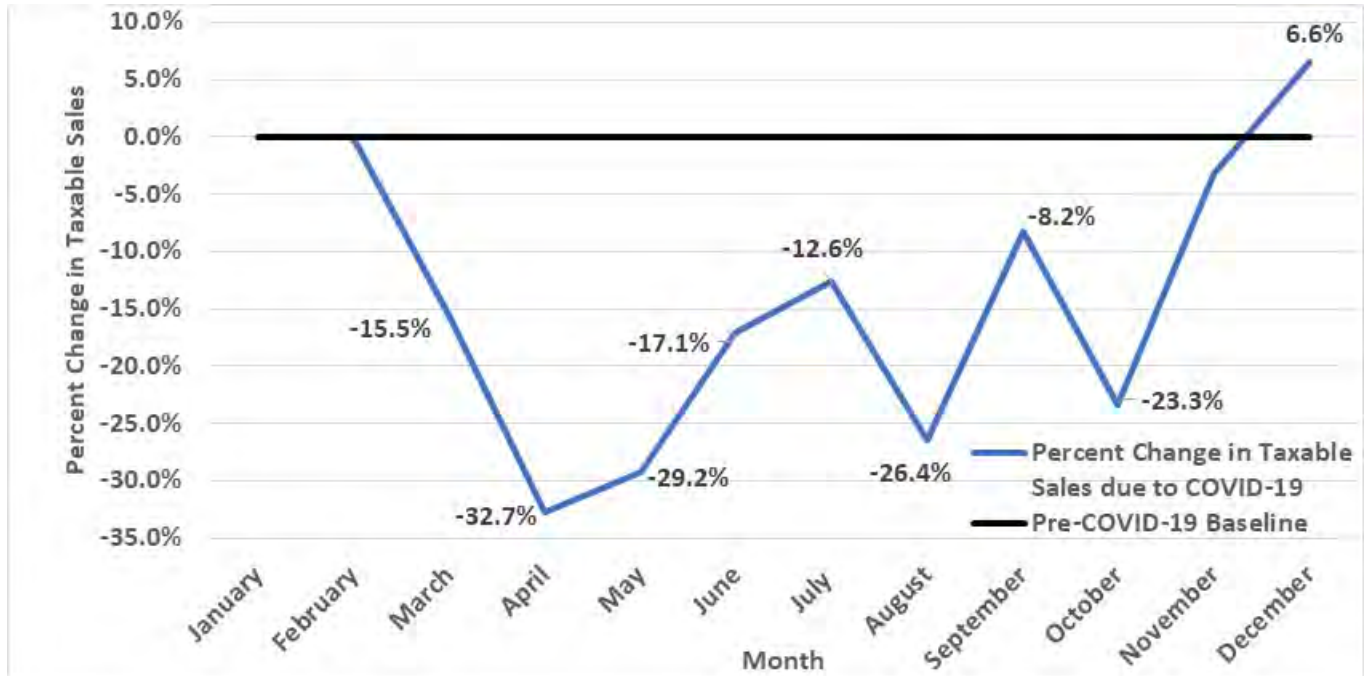
As shown in Figure 33, there was a slight drop in sales of other personal services in the first few months of COVID-19. In the last months of CY 2020, there was a decrease in taxable sales of other repair services below the pre-COVID-19 baseline.

Figure 33
CY 2020 Taxable Sales Impact of COVID-19 on Other Personal Services



In percent change terms (Figure 34) there was a significant drop in sales of other personal services in the first few months of the pandemic. In the last months of CY 2020, there was a substantial decrease in taxable sales of other personal services.

Figure 34
Other Personal Services
Percent Change in CY 2020 Taxable Sales from Pre-COVID-19 Baseline



The data underlying Figures 33 and 34 are found in Appendix Table A-15.

4. Conclusion

Overall, the economic impact in Rhode Island in CY 2020 was mixed as certain Retail Trade sectors experienced an initial decline, followed by a full recovery by the end of the year. In 2020, there was steep decline in sales in hotels and restaurants. These service categories declined sharply in March, April and May and did not recover by the end of the year. For the Retail Trade categories, there was an initial decline in taxable sales followed by a significant recovery finishing the year above the pre-COVID-19 baseline. These results track what some economic analysts have labeled a “K-shaped” recovery, in which certain industries are recovering well while others continue to struggle. Sometime into the current pandemic, there developed a debate among economists about a “K-shaped” economic recovery in that certain sectors of the economy were recovering quickly whereas other sectors have continued to decline. In this case, the leg of the “K” slanting down is Certain Services and the leg of the “K” slanting up are the Retail Trade categories. By the end of 2020, the recovery of Retail

Trade was more robust than expected at the early stages of the pandemic, but Certain Services did not fare so well.

Appendix

This Appendix contains detailed tables supporting Figures presented in the body of the report, including monthly pre-COVID-19 taxable sales and post-COVID-19 taxable sales as follows:

- Table A-1 – Total Retail Trade
- Table A-2 – Motor Vehicles
- Table A-3 – Furniture Stores
- Table A-4 – Electronics Stores
- Table A-5 – Hardware Stores
- Table A-6 – Grocery Stores
- Table A-7 – Drug Stores
- Table A-8 – Gas Stations
- Table A-9 – General Merchandise Stores
- Table A-10 – Non-Store Retail
- Table A-11 – Total Services
- Table A-12 – Restaurants
- Table A-13 -- Hotels
- Table A-14 – Auto Repair
- Table A-15 – Other Personal Services

Table A-1**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Total Retail Trade**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	3,950.7	267.7	275.1	314.5	320.4	353.3	365.4	350.2	335.6	329.0	319.0	331.1	389.4
Post-Covid Taxable Sales	4,085.0	267.7	275.1	306.6	284.9	371.8	406.5	373.9	344.8	358.2	348.1	347.5	399.8
Change in Taxable Sales	134.3	-	-	(7.8)	(35.5)	18.6	41.2	23.6	9.2	29.1	29.1	16.4	10.5
Percent Change	3.4%	0.0%	0.0%	-2.5%	-11.1%	5.3%	11.3%	6.7%	2.7%	8.9%	9.1%	4.9%	2.7%

Table A-2**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Motor Vehicles**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	475.3	33.9	34.1	41.8	38.5	40.1	39.9	44.9	46.3	39.7	39.3	38.2	38.7
Post-Covid Taxable Sales	462.5	33.9	34.1	33.9	27.7	38.0	45.6	43.9	44.1	41.9	42.8	36.3	40.1
Change in Taxable Sales	(12.8)	-	-	(7.8)	(10.8)	(2.0)	5.7	(1.0)	(2.2)	2.2	3.6	(1.9)	1.4
Percent Change	-2.7%	0.0%	0.0%	-18.7%	-28.0%	-5.1%	14.4%	-2.3%	-4.7%	5.5%	9.1%	-4.9%	3.5%

Table A-3**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Furniture Stores**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	271.7	19.1	20.3	22.0	21.1	25.3	24.2	22.7	23.5	21.9	21.3	24.6	25.8
Post-Covid Taxable Sales	267.5	19.1	20.3	18.3	9.0	20.7	28.3	24.9	24.6	24.8	24.9	25.7	27.0
Change in Taxable Sales	(4.3)	-	-	(3.7)	(12.1)	(4.6)	4.1	2.2	1.1	2.9	3.6	1.1	1.2
Percent Change	-1.6%	0.0%	0.0%	-17.0%	-57.5%	-18.2%	17.0%	9.9%	4.7%	13.2%	16.9%	4.4%	4.7%

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Table A-4**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Electronics Stores**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	281.4	21.9	21.2	20.4	22.2	20.4	21.2	22.8	21.2	24.4	26.4	25.7	33.6
Post-Covid Taxable Sales	310.0	21.9	21.2	18.8	21.7	21.9	23.4	31.7	26.0	26.1	30.1	31.1	36.1
Change in Taxable Sales	28.5	-	-	(1.6)	(0.5)	1.5	2.2	8.9	4.8	1.7	3.7	5.4	2.5
Percent Change	10.1%	0.0%	0.0%	-7.9%	-2.2%	7.2%	10.5%	39.0%	22.9%	6.9%	14.1%	20.8%	7.3%

Table A-5**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Hardware Stores**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	902.9	58.9	59.2	63.3	85.0	95.8	94.1	84.7	71.1	75.4	78.7	73.4	63.3
Post-Covid Taxable Sales	1,037.3	58.9	59.2	71.9	87.7	116.4	121.1	94.2	82.5	91.6	91.1	85.0	77.9
Change in Taxable Sales	134.4	-	-	8.6	2.6	20.5	26.9	9.5	11.4	16.2	12.4	11.5	14.6
Percent Change	14.9%	0.0%	0.0%	13.6%	3.1%	21.4%	28.6%	11.2%	16.1%	21.5%	15.8%	15.7%	23.0%

Table A-6**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Grocery Stores**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	1,035.4	70.3	75.3	82.0	77.8	89.5	95.2	94.8	93.9	87.3	81.5	85.6	102.2
Post-Covid Taxable Sales	1,035.2	70.3	75.3	87.5	75.5	91.1	94.7	95.2	88.2	90.6	84.1	84.2	98.5
Change in Taxable Sales	(0.1)	-	-	5.4	(2.3)	1.6	(0.4)	0.4	(5.7)	3.3	2.6	(1.3)	(3.7)
Percent Change	0.0%	0.0%	0.0%	6.6%	-2.9%	1.8%	-0.5%	0.4%	-6.1%	3.8%	3.2%	-1.6%	-3.6%

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Table A-7**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Drug Stores**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	376.9	26.8	25.9	38.1	31.5	31.9	34.7	29.2	27.3	28.4	26.6	27.4	49.1
Post-Covid Taxable Sales	344.5	26.8	25.9	29.5	22.2	26.9	30.3	28.1	27.8	28.6	27.1	26.5	44.8
Change in Taxable Sales	(32.3)	-	-	(8.6)	(9.2)	(5.0)	(4.4)	(1.0)	0.5	0.2	0.4	(0.9)	(4.3)
Percent Change	-8.6%	0.0%	0.0%	-22.6%	-29.3%	-15.7%	-12.7%	-3.6%	2.0%	0.8%	1.6%	-3.2%	-8.8%

Table A-8**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Gas Stations**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	159.0	11.8	10.8	12.2	11.8	15.2	13.0	15.1	16.7	13.8	12.7	13.0	13.0
Post-Covid Taxable Sales	149.6	11.8	10.8	11.2	10.5	12.0	12.2	15.4	14.9	12.0	13.4	13.0	12.5
Change in Taxable Sales	(9.4)	-	-	(1.0)	(1.3)	(3.2)	(0.8)	0.3	(1.8)	(1.8)	0.7	0.0	(0.4)
Percent Change	-5.9%	0.0%	0.0%	-8.1%	-11.3%	-21.3%	-6.2%	1.9%	-10.6%	-13.2%	5.7%	0.0%	-3.1%

Table A-9**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - General Merchandise Stores**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	431.3	23.5	26.9	33.6	31.6	34.0	42.0	34.5	34.1	36.7	31.0	41.6	61.7
Post-Covid Taxable Sales	456.1	23.5	26.9	34.2	29.1	43.1	48.6	37.9	34.4	40.6	32.9	43.9	60.8
Change in Taxable Sales	24.8	-	-	0.6	(2.5)	9.1	6.6	3.5	0.2	3.9	1.9	2.4	(0.9)
Percent Change	5.7%	0.0%	0.0%	1.8%	-7.8%	26.7%	15.6%	10.1%	0.7%	10.7%	6.1%	5.7%	-1.4%

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Table A-10**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Non-Store Retail**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	16.7	1.4	1.4	1.0	0.9	1.0	1.1	1.7	1.7	1.5	1.5	1.6	2.0
Post-Covid Taxable Sales	22.3	1.4	1.4	1.3	1.5	1.8	2.3	2.6	2.3	2.0	1.7	1.7	2.2
Change in Taxable Sales	5.5	-	-	0.3	0.6	0.8	1.3	0.9	0.7	0.5	0.2	0.1	0.2
Percent Change	33.1%	0.0%	0.0%	32.5%	63.9%	78.8%	117.6%	54.1%	40.4%	33.4%	14.0%	7.6%	10.1%

Table A-11**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Total Services**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	2,794.6	176.8	176.6	202.2	204.6	282.3	265.5	287.1	301.4	256.3	229.0	201.2	211.6
Post-Covid Taxable Sales	2,028.8	176.8	176.6	132.8	86.9	143.9	183.4	226.0	228.0	207.6	175.8	142.4	148.5
Change in Taxable Sales	(765.9)	-	-	(69.4)	(117.7)	(138.4)	(82.1)	(61.1)	(73.5)	(48.7)	(53.2)	(58.8)	(63.0)
Percent Change	-27.4%	0.0%	0.0%	-34.3%	-57.5%	-49.0%	-30.9%	-21.3%	-24.4%	-19.0%	-23.2%	-29.2%	-29.8%

Table A-12**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Restaurants**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	1,961.4	131.9	133.9	150.9	149.9	170.3	183.9	195.4	201.3	176.6	160.4	149.4	157.5
Post-Covid Taxable Sales	1,438.6	131.9	133.9	95.0	61.4	90.1	131.9	155.3	157.2	144.3	130.4	104.2	103.0
Change in Taxable Sales	(522.8)	-	-	(55.9)	(88.5)	(80.2)	(52.0)	(40.1)	(44.1)	(32.3)	(30.0)	(45.3)	(54.5)
Percent Change	-26.7%	0.0%	0.0%	-37.0%	-59.1%	-47.1%	-28.3%	-20.5%	-21.9%	-18.3%	-18.7%	-30.3%	-34.6%

Table A-13**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Hotels**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	337.8	10.6	12.2	13.6	18.0	39.5	38.4	52.9	54.8	37.7	29.9	16.7	13.4
Post-Covid Taxable Sales	168.1	10.6	12.2	6.1	1.5	2.7	14.4	34.5	35.7	24.5	13.1	6.9	5.8
Change in Taxable Sales	(169.7)	-	-	(7.5)	(16.5)	(36.7)	(24.0)	(18.4)	(19.1)	(13.2)	(16.8)	(9.8)	(7.6)
Percent Change	-50.2%	0.0%	0.0%	-55.4%	-91.4%	-93.1%	-62.5%	-34.8%	-34.9%	-35.0%	-56.3%	-58.7%	-56.8%

Table A-14**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Auto Repair**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	213.7	17.3	15.7	17.4	17.8	18.3	17.8	17.5	19.2	17.6	18.2	18.2	18.8
Post-Covid Taxable Sales	185.4	17.3	15.7	14.5	11.3	12.7	16.0	17.6	15.8	16.4	16.6	15.1	16.4
Change in Taxable Sales	(28.3)	-	-	(3)	(7)	(6)	(2)	0	(3)	(1)	(2)	(3)	(2)
Percent Change	-13.3%	0.0%	0.0%	-16.4%	-36.8%	-30.6%	-10.1%	0.7%	-17.6%	-6.6%	-8.9%	-17.2%	-12.5%

Table A-15**Pre-Covid Taxable Sales versus Post-Covid Taxable Sales by Month for 2020 - Other Personal Services**

	Taxable Sales in \$ millions												
	Total	January	February	March	April	May	June	July	August	September	October	November	December
Pre-Covid Taxable Sales	281.7	17.0	14.8	20.3	18.9	54.2	25.4	21.3	26.2	24.4	20.5	16.8	21.9
Post-Covid Taxable Sales	236.7	17.0	14.8	17.2	12.7	38.4	21.1	18.6	19.3	22.4	15.7	16.2	23.3
Change in Taxable Sales	(45.0)	-	-	(3.148)	(6.172)	(15.830)	(4.350)	(2.691)	(6.919)	(2.012)	(4.776)	(0.544)	1.437
Percent Change	-16.0%	0.0%	0.0%	-15.5%	-32.7%	-29.2%	-17.1%	-12.6%	-26.4%	-8.2%	-23.3%	-3.2%	6.6%