Small Change with a Big Local Impact

The Economic Benefit of Buying Nearby

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OVERVIEW

Retailers play an essential role in Michigan's economy by connecting producers and consumers. These local hardware stores, big-box retailers, gas stations, grocery stores, and more create a large economic footprint. In fact, retailers—defined as any establishment that sells goods to the final consumer—directly provide almost one in five jobs in the state (QCEW 2018). In 2017, Michigan had nearly 116,000 retail establishments that employed over 877,000 Michiganders (QCEW 2018; U.S. Census Bureau 2018).[1]

Recently, the retail landscape has been changing due to increasing remote sales, which refer to any purchase made with an out-of-state merchant, including e-commerce (purchases using an online system), catalog orders, and others.[2] Remote sales are not a new phenomenon—Montgomery Ward produced the first mail-order catalog aimed at the public in 1872 (Philips Erb 2014). The Internet, however, has recently led to a dramatic surge in the e-commerce portion of remote sales. These ecommerce sales have increased from under 4 percent of total retail sales in 2008 to about 9 percent in 2017 (U.S. Department of Commerce 2018).[3]

E-commerce has grown because it is convenient; however, it has also grown because of some potentially unfair advantages over local retailers, the primary being a tax advantage. Many out-of-state sellers without a physical presence have not been compelled to collect Michigan's sales tax.[4] Some consumers have been using local brick-and-mortar stores as "showrooms" to select their purchases and then purchasing goods online, since the online retailers can often sell goods for less.

While the growth in remote sales has provided some consumer benefits, this growth has not come without costs. Remote sales are putting significant financial pressure on local retailers, and many stores have closed. These closures negatively impact communities, since retailers are such important employers and economic contributors. In addition to their direct employment, retailers also indirectly employ tens of thousands more through their purchases of goods and services. For example, retailers hire cleaning services, security staff, attorneys, and accountants. The spending of those directly and indirectly employed provide jobs for even more Michiganders. When stores close due to remote sales, these jobs are often lost as well.

Remote sales have grown to where even a modest switch back to local purchasing could have a notable positive economic impact. In this report, we examine the economic benefit that Michigan could capture if consumers shifted one in ten of their remote purchases back to Michigan retailers. This modest change would increase Michigan employment by 10,600 and increase income by $350 million.

[1] Food service and drinking places (NAICS 722) is included with retail trade in these estimates. Nonemployer statistics are for 2016, the most recently available.

[2] For more information on what is included in remote sales, please see the appendix of this report, which outlines methodology.

[3] E-commerce sales do not include telephone purchases, such as a catalog orders, and are only part of total remote sales.

[4] This tax advantage may be ending as a result of the recent Supreme Court ruling in *South Dakota v. Wayfair Inc.*

KEY FACTS

- Michigan has nearly 116,000 retail establishments that directly employ over 877,000 workers and pay them nearly $21.6 billion each year (QCEW 2018; U.S. Census Bureau 2018).[5]
- Michigan retail activity, including indirect and induced impacts, made up nearly 17 percent of the state's total economic activity (gross domestic product), and provided over 16 percent of Michigan's labor income in 2012 (PricewaterhouseCoopers LLP 2014).
- Nearly one of every five Michigan jobs are in the retail industry (QCEW 2018; U.S. Census Bureau 2018).
- Michigan residents spent an estimated $18.5 billion on remote purchases in 2017. This includes nearly $12.6 billion in e-commerce purchases.
- In 2017, over 13 percent of Michigan's total retail sales were with remote merchants, including e-commerce and other remote sales (such as telephone orders).
- If Michigan consumers switched only one in ten of their purchases from remote merchants to in-state businesses, Michigan would gain more than $1.2 billion in increased economic activity.
- Switching one out of every ten remote purchases to Michigan businesses would result in nearly 10,600 new jobs and increase income by over $350 million in Michigan.

ECONOMIC CONTRIBUTION

The retail industry directly employs about 877,000 workers and pays them nearly $21.6 billion each year (QCEW 2018; U.S. Census Bureau 2018). A 2014 PricewaterhouseCoopers study found that retailers contribute over $35 billion to Michigan's economy each year. This economic activity contributes to other sectors of the economy through the retail sector's purchases of goods and services from other businesses to support their operations. Purchases from those directly and indirectly employed by retailers also makes a positive economic contribution.

Michigan residents currently spend an estimated $18.5 billion on out-of-state goods through remote purchases made online, via mail-order catalogs, or from home-shopping television channels. If Michigan consumers switched one out of every ten of these purchases to a local retailer, it would create jobs and increase economic activity—nearly 10,600 jobs in Michigan that paid a cumulative $350 million, and a total increased economic output of $1.2 billion. The retail sector alone would directly add nearly 7,000 new employees, pay over $175 million in wages, and increase economic output by nearly $679 million.

EXHIBIT 1. Total Economic Impact of Shifting 10 Percent of Remote Sales to Local Sales

Impact Type	Employment	Labor Income (millions of $)	Output (millions of $)
Direct Effect	6,919	$175.4	$677.8
Indirect Effect	1,882	$97.4	$301.3
Induced Effect	1,777	$77.7	$241.6
Total Effect	**10,578**	**$350.4**	**$1,220.6**

Source: Estimated by PSC using IMPLAN economic modeling. Note: Totals may not sum due to rounding.

[5] Employment and wage data for nonemployer retailers (e.g., sole proprietors) were not available. Employment for nonemployers was estimated to be one employee per entity (the owner), and wages were estimated to increase proportional to the increase in employment.

Exhibit 2 shows the top 20 industries that would benefit (in terms of employment) from a 10 percent shift from remote purchases to in-state purchases. In addition to retail, the real estate, employment services, full-service restaurants, warehousing and storage, and hospital sectors would all see an increase in total employment.

EXHIBIT 2. Top 20 Industries Benefiting from Shifting 10 Percent of Remote Sales to Local Sales, by Employment

IMPLAN Sector	IMPLAN Code	Direct Employment	Indirect and Induced Employment	Total Employment
Total*	**—**	**6,919**	**3,659**	**10,578**
Retail—Nonstore retailers	407	3,367	31	3,398
Retail—Health and personal care stores	401	1,086	23	1,109
Retail—Miscellaneous store retailers	406	560	31	591
Retail—Clothing and clothing accessories stores	403	541	24	565
Real estate	440	0	471	471
Retail—Electronics and appliance stores	398	386	10	396
Retail—General merchandise stores	405	337	57	394
Retail—Sporting goods, hobby, musical instrument, and book stores	404	214	15	229
Retail—Motor vehicle and parts dealers	396	154	27	181
Employment services	464	0	162	162
Retail—Building material and garden equipment and supplies stores	399	109	24	133
Retail—Furniture and home furnishings stores	397	114	9	123
Full-service restaurants	501	0	112	112
Warehousing and storage	416	0	105	105
Hospitals	482	0	102	102
Limited-service restaurants	502	0	102	102
Retail—Food and beverage stores	400	53	46	99
Services to buildings	468	0	97	97
Wholesale trade	395	0	94	94

Source: Estimated by PSC using IMPLAN economic modeling. Note: Total includes all industries, not just the top 20.

Exhibit 3 shows the industries that would experience the greatest economic impact in terms of total output by shifting 10 percent of remote purchases to local retailers. Seven of the top ten sectors involve direct economic activity by the retail sector; the other three sectors are real estate, owner-occupied dwellings, and wholesale trade.

EXHIBIT 3. Top 20 Industries Benefiting from Shifting 10 Percent of Remote Sales to Local Sales, by Output

IMPLAN Sector	IMPLAN Code	Direct Output (millions of $)	Indirect and Induced Output (millions of $)	Total Output (millions of $)
Total*	**—**	**$677.8**	**$542.9**	**$1,220.6**
Retail—Nonstore retailers	407	$388.1	$3.5	$391.6
Retail—Health and personal care stores	401	$110.8	$2.3	$113.1
Real estate	440	$0.0	$87.8	$87.8
Retail—Clothing and clothing accessories stores	403	$45.2	$2.0	$47.2
Owner-occupied dwellings	441	$0.0	$29.9	$29.9

IMPLAN Sector	IMPLAN Code	Direct Output (millions of $)	Indirect and Induced Output (millions of $)	Total Output (millions of $)
Retail—General merchandise stores	405	$25.5	$4.3	$29.9
Retail—Electronics and appliance stores	398	$25.1	$0.6	$25.8
Retail—Motor vehicle and parts dealers	396	$20.6	$3.6	$24.3
Retail—Miscellaneous store retailers	406	$22.7	$1.3	$24.0
Wholesale trade	395	$0.0	$22.9	$22.9
Advertising, public relations, and related services	457	$0.0	$19.6	$19.6
Management of companies and enterprises	461	$0.0	$15.9	$15.9
Hospitals	482	$0.0	$15.1	$15.1
Insurance carriers	437	$0.0	$14.5	$14.5
Retail—Building material and garden equipment and supplies stores	399	$11.7	$2.6	$14.3
Retail—Furniture and home furnishings stores	397	$12.9	$1.0	$13.9
Electric power transmission and distribution	49	$0.0	$13.9	$13.8
Retail—Sporting goods, hobby, musical instrument, and book stores	404	$11.3	$0.8	$12.1
Employment services	464	$0.0	$11.8	$11.8
Warehousing and storage	416	$0.0	$11.4	$11.4

Source: Estimated by PSC using IMPLAN Economic Modeling. Note: Total includes all industries, not just the top 20.

CONCLUSION

As consumers continue to purchase more goods online or through mail order, local businesses and economies suffer. Remote purchases often come from other states or countries, creating jobs in those places and resulting in lost jobs for Michigan residents. If consumers can shift one out of every ten remote purchases to a local Michigan retailer, it could create nearly 10,600 Michigan jobs, increase state incomes by over $350 million, and contribute over $1.2 billion to the state economy. Ultimately, this small change in purchasing behavior could mean a big economic impact for Michigan's future.

APPENDIX: METHODOLOGY

IMPLAN

The estimated economic impacts in this report were created using the IMPLAN (IMpact analysis for PLANning) economic model, which is an input-output (I-O) model of the economy. I-O models trace spending as it moves through the economy; this shows how spending flows through interdependent industries to meet demand. The U.S. Department of Agriculture developed IMPLAN in the 1970s; it was further refined in the 1980s through a partnership with the University of Minnesota. Since its creation, IMPLAN has been used in thousands of studies. Government agencies, universities, and private institutions alike— including the Environmental Protection Agency, the Federal Reserve Bank, Booz Allen Hamilton, and Ernst & Young—have used the model to estimate economic impacts.

Currently owned by IMPLAN Group LLC in Huntersville, North Carolina, IMPLAN uses 536 industry classifications, which can model economic activity at the state, county, and zip code level. The IMPLAN software accounts for trade flows between industries in the study area and provides estimates of the multiplier effects of the initial industry spending and employment.

IMPLAN splits the economic contribution into the following categories:

Direct effect: The direct employment and spending in the economy from retail sales

Indirect effect: The employment and spending generated in the economy from the purchases of goods and services by the retail merchants

Induced effect: The economic effect from the household spending of those directly or indirectly employed by retail merchants

This analysis utilized statewide data for estimation of the economic impact of increasing retail sales and used an industry-change analysis based on remote retail sales numbers by sector. Exhibit A1 presents the IMPLAN categories used in estimating the economic impact of switching one out of every ten remote sales (such as online purchases) to a brick-and-mortar purchase in Michigan.

EXHIBIT A1. Industry Classifications and Model Inputs

IMPLAN Code—Description	North American Industrial Classification System (NAICS) Code	Model Input, Remote Sales (millions of $)
396 Retail—Motor vehicle and parts dealers	441	110.4
397 Retail—Furniture and home furnishings stores	442	27.6
398 Retail—Electronics and appliance stores	443	83.3
399 Retail—Building material and garden equipment and supplies stores	444	33.4
400 Retail—Food and beverage stores	445	13.2
401 Retail—Health and personal care stores	446	345.3
402 Retail—Gasoline stores	447	0.1
403 Retail—Clothing and clothing accessories stores	448	98.7
404 Retail—Sporting goods, hobby, musical instrument, and book stores	451	27.2
405 Retail—General merchandise stores	452	93.9

IMPLAN Code—Description	North American Industrial Classification System (NAICS) Code	Model Input, Remote Sales (millions of $)
406 Retail—Miscellaneous store retailers	453	47.3
407 Retail—Nonstore retailers	454	967.8

ESTIMATION OF REMOTE SALES

As previously stated, this analysis focuses on the impact of shifting 10 percent of remote purchases to local sales. Remote sales are defined as any purchase made with an out-of-state merchant and include sales from e-commerce, e-marketplace sellers (those who are an intermediary and never handle goods), catalog orders, mail orders, call centers, television shopping channels, and more. E-commerce is defined by the U.S. Department of Commerce as "the sale of goods and services where the buyer places an order or the price and terms of the sale are negotiated over the internet, a mobile device (m-commerce), extranet, Electronic Data Interchange (EDI), electronic mail, or other comparable online system" (Nicholson 2017). For 2017, total national e-commerce sales were $453 billion (U.S. Department of Commerce 2018).

In 2017, the U.S. Department of Commerce released new data showing e-commerce sales by type of retailer. Previously, nearly all e-commerce was categorized as nonstore retail, a subcategory of retail that is predominantly electronic shopping and mail-order houses, which includes both e-commerce and non-e-commerce retailers (Nicholson 2017). With the ability to further classify the e-commerce portion of purchases by the type of retail category, a more accurate analysis is possible.

For example, an online clothing purchase shipped directly to a home from a retailer that has both brick-and-mortar stores and an online shopping site was previously allocated to the nonstore retail subcategory. Now this e-commerce sale can be apportioned to the retail subcategory related to clothing and clothing accessories stores. In all, the Census data provide estimates of e-commerce for 12 retail subcategories.

E-commerce sales make up the bulk of remote purchases, but there is a portion of remote sales outside of e-commerce. These other remote sales include catalog orders, mail orders, and orders from television shopping channels. According to the U.S. Department of Commerce report, 87 percent of all remote sales were originally classified as electronic shopping and mail-order houses, a subcategory of nonstore retail (Nicholson 2017). This report also notes that other remote sales make up 32 percent and e-commerce makes up 68 percent of this subcategory.[6] This analysis assumes a similar ratio between e-commerce and other remote sales for all other industries with known e-commerce sales. These ratios were used to estimate total national other remote sales ($213 billion), based on the known e-commerce sales of $453 billion for 2017, for total national remote sales of $666.5 billion.[7]

While the U.S. Department of Commerce report provided an industry allocation of e-commerce, it did not provide one for other remote sales. To estimate this, we used ratios found in a 2017 U.S. Government Accountability Office (U.S. GAO) report. The U.S. GAO report estimated that 63 percent of other remote

[6] Other reports indicate that other remote sales could be a higher percentage of total remote sales (see Agrawal and Fox 2015). By using the U.S. Census Bureau ratios, this analysis provides a conservative total remote sales estimate.

[7] In this context, other remote sales purchases are made outside of one's home state, not necessarily outside of the country.

sales are prescription drug orders and the remaining 37 percent are nonstore purchases (no further breakdown was available). These proportions were applied to the estimated other remote sales and combined with the e-commerce ratios to generate one remote spending profile. The percent of remote sales by industry (using NAICS codes), was then converted over to IMPLAN codes for use in the IMPLAN model.[8]

After the industry profile (percentage allocation per industry) for remote spending was developed for the national data, the next step was to calculate the total remote sales for Michigan. Michigan's share of remote sales was assumed to be the same as its share of total national retail sales (approximately 2.8 percent), or $1.8 billion for 2017. This total value of remote sales for Michigan was then apportioned to the retail industries according to the proportions previously calculated for the national data. The remote sales used in the model are presented in Exhibit A1 above, by industry.

OVERALL RETAIL ECONOMY

In addition to the 12 industries directly impacted by switching remote sales to local, food service and drinking places are also often included when examining the overall retail economy (PricewaterhouseCoopers 2014). Exhibit A2 shows the industries included in the overall retail economy. Data were obtained from the Quarterly Census of Employment and Wages (utilizing 2017 data) and from the U.S. Census Bureau (utilizing 2016 data) available from the U.S. Census (QCEW 2018; U.S. Census Bureau 2018).

EXHIBIT A2. Industry Classifications of Overall Retail Economy

NAICS Code	Category	Total Employment*	Total Establishments*
Total	**All Retail**	**877,171**	**115,815**
441	Motor vehicle dealers	68,144	8,086
442	Furniture and home furnishing stores	14,269	2,147
443	Electronics and appliance stores	14,755	1,853
444	Building materials and garden supply stores	45,731	3,417
445	Food and beverage stores	83,018	7,529
446	Health and personal care stores	39,736	8,720
447	Gasoline stations	28,072	3,299
448	Clothing and clothing accessories stores	36,299	7,623
451	Sporting goods, hobby, book, and music stores	21,616	4,220
452	General merchandise stores	110,453	3,282
453	Miscellaneous store retailers	34,282	11,773
454	Nonstore retailers	36,688	29,436
722	Food service and drinking places	344,108	24,430

Sources: QCEW 2018 and U.S. Census Bureau 2018. Note: Total employment and total establishments are a combination of QCEW data for 2017 and nonemployer statistics data for 2016, both obtained in July of 2018.

[8] The NAICS code is an industry classification system used by federal agencies to gather statistical data.

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