Retail Example

Estimating the impact of a change in wholesale and retail sales requires special attention. Simply multiplying the change in sales by a final-demand multiplier for wholesale trade or retail trade will produce inflated impacts.

In RIMS II, output for retail trade is measured as gross profit, or sales minus the cost of goods sold. These costs include the amount paid to manufacturers and the cost of transporting the goods to retailers. Goods purchased from a wholesaler will also include a wholesale markup (margin) in the cost goods sold. In other words, output for retail trade is measured by the margin or gross profits earned by retailers for selling goods.

This retail margin includes any sales or excise taxes collected by retailers and passed on to federal, state, or local governments. RIMS II multipliers treat the remitted taxes as leakages since they pass straight to the government without having any further impact on the region's economy. The spending of these taxes by government would represent a separate final-demand change, due to government being exogenous or outside of the model.

The use of a margin measure (gross profits) for wholesaler and retailers allows RIMS II to reflect that these industries provide value by making a wide variety of goods, including goods made outside of the region, conveniently accessible to consumers. Wholesaler and retailers, however, do not produce the goods they sell and do not require the raw materials used for manufacturing. The RIMS II measure of re-selling activity keeps the impact of producing goods with the manufacturer, not the re-seller.

Method. The impact of a change in retail (or wholesale) sales can be calculated in five steps:

1. **Collect information on the change in retail sales** by type of product sold. The value of these sales should include any sales or excise taxes.
2. For each type of product sold, **calculate the national retail margin share**. These shares can be calculated with information from the national distribution costs table for personal consumption expenditures.
3. For each type of product sold, **multiply the national retail margin share by the local retail sales** to calculate the local retail margin.
4. **Sum all the local retail margins** by type of product calculated in step 3 to get an estimate of the total retail margin.
5. **Multiply the total retail margin by the final-demand multipliers** for the appropriate retail trade industry to estimate the impact of the change in retail sales.

Example. To give an example of how to estimate the impact of a change in retail sales, consider an economic development corporation that plans to launch a new advertising campaign to attract more tourists to Branson, Missouri. The campaign is expected to generate an increase in a wide variety of tourism-related activities, including shopping. The corporation wants an estimate of the total impact of the increase in retail sales. Clothing sales at the four local outlet malls are

expected to increase by $2.5 million in total. Gasoline sales are expected to increase by $1.0 million. All of the purchased products are expected to be produced and transported by businesses outside the region.

To conduct the economic impact study, this example will use the following information:

- **Final-demand change.** This change consists of only the retail margin on the increased sales because none of the goods are produced, wholesaled, or transported by local businesses. Since these sales are to consumers from outside the region, we can use Type II multipliers.
- **Final-demand industry.** "Other retail trade" is the final-demand industry, since "gasoline stations" (NAICS 447) and "clothing stores" (NAICS 448) both fall in the RIMS II industry 4A0000 "other retail."
- **Final-demand region.** This region is the Branson, Missouri, Micropolitan Statistical Area. This region is a good choice for the analysis because it is large enough to reasonably expect that most of the retailers' operating costs could be supplied locally. This region is also good choice when using Type II multipliers because most of the retail sales associates are expected to live in the region and spend their earnings locally.

Table 1 shows national retail margin shares (gross profit rate) for apparel, leather, and allied products. For each type of product, the retail margin share (column 3) equals the retail margin (column 1) divided by the purchaser value (column 2). The values in the first two columns are from the national distribution cost table for personal consumption expenditures.

This table shows that the retail shares vary by clothing category. Because no information is available on tourist spending by category, a retail share for all clothing (0.44) is used in the analysis. This share equals the sum of the retail margins ($146.0 million) divided by the sum of the purchaser values ($330.6 million). This calculation implicitly weights the spending across all of the detailed categories in accordance with national spending patterns.

Table 1. U.S. Retail Shares for Apparel, Leather, and Allied Products

Commodity	Retail margin (millions of dollars)	Purchaser value (millions of dollars)	Share
Women's and girls' clothing	74,830	152,966	0.49
Men's and boys' clothing	30,705	85,003	0.36
Children's and infants' clothing	4,249	8,685	0.49
Shoes and other footwear	26,642	60,588	0.44
Clocks, lamps, lighting fixtures, and other household decorative items	163	337	0.48
Photographic equipment	10	38	0.26
Sporting equipment, supplies, guns, and ammunition	127	341	0.37
Musical instruments	112	287	0.39
Luggage and similar personal items	8,432	20,177	0.42
Standard clothing issued to military personnel	0	415	0.00
Pets and related products	430	1,098	0.39
Household linens	241	544	0.44
Hair, dental, shaving, and miscellaneous personal care products except electrical products	46	140	0.33
Total	**145,987**	**330,619**	**0.44**

Table 2 shows the retail shares for petroleum and coal products. Because tourists are only expected to purchase gasoline, only the share for gasoline and other motor fuels (0.16) is used in the analysis.

Table 2. U.S. Retail Share for Petroleum and Coal Products

Commodity	Retail margin (millions of dollars)	Purchaser value (millions of dollars)	Share
Gasoline and other motor fuel	51,022	312,685	0.16

Table 3 shows the local retail margins for the total expected increase in retail sales in Branson. For each purchased good, the local retail margin (column 3) equals local retail sales (column 1) times the national retail margin share (column 2). The total retail margin is $1.26 million.

Table 3. Local Retail Margins, Branson, MO Micropolitan Statistical Area

Commodity	Sales (thousands of dollars)	Share	Retail margin (thousands of dollars)
Apparel, leather, and allied products	2,500	0.44	1,100
Gasoline and other motor fuel	1,000	0.16	160
Total	**3,500**	**…**	**1,260**

Table 4 shows the Type II final-demand multipliers for other retail trade in Branson. Using these multipliers, gross output is expected to increase by $1.80 million ($1.26 million x 1.4323). This estimate includes the $1.26 million increase in local retail margins. The value-added portion of this output is $1.15 million ($1.26 million x 0.9112). The earnings portion of this value added is $468,000 ($1.26 million x 0.3717). Employment, which includes both full- and part-time workers, is expected to increase by 19 jobs ($1.26 million x 14.9131 jobs per $1 million).

Table 4. Type II Total Final-Demand Multipliers, Branson, MO Micropolitan Statistical Area

Industry	Output (dollars)	Value Added (dollars)	Earnings (dollars)	Employ-ment (jobs / $1 million)
Other retail trade	1.4323	0.9112	0.3717	14.9131

This example highlights the importance of separately accounting for the output of manufacturers and of retailers. When approaching an impact analysis this way, the impact is considerably smaller when the products are sold, but not manufactured, in the region because only the retail margin affects regional economic activity. This example also illustrates how economic impact can be significantly overestimated when users do not appropriately apply a margin-based approach.

Further examples and tips on how to use RIMS II multipliers in an economic impact study are available in the *RIMS II User's Guide*. Additional information is available on the RIMS II website.