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Finding: Food Choices & Health

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Changes in Income Have Small Effect on Where a Household Shops for Milk

by [Diansheng Dong](#) and [Hayden Stewart](#)



Thinkstock

When purchasing food, households make many choices, including not only what to buy but where to shop. And the options are many—traditional supermarkets, specialty foodstores, supercenters, drug stores, and more. Different types of stores offer different mixes of services, food products, and prices. Households with less income would be expected to patronize less expensive store types. However, a recent ERS analysis found that this is not always the case, at least when households purchase fluid milk. Lower income households



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are a little more likely to buy their milk from stores other than supermarkets and club warehouse stores, including convenience stores where prices are often higher.

ERS researchers used 2007 and 2008 Nielsen Homescan purchase and demographic data for 24,110 households to develop a new choice model to analyze how changes in income affect U.S. consumers' milk purchasing decisions. The model simultaneously accounts for a household's demographic characteristics and past shopping behavior as well as retailers' prices, product assortment, and use of coupons and promotions. The model was then applied to a household's choice among seven store types when buying milk—supermarkets, drug stores, mass merchandisers, supercenters, club warehouse stores, convenience stores, or all other types of retailers that sell milk, including dollar stores and military commissaries.

Club warehouse stores were the least pricey location to buy milk, averaging \$2.95 per gallon in 2007-08. Surprisingly, drug stores were the second cheapest location, probably reflecting the price-discounting effect of coupons and other promotions. Supermarkets averaged \$3.22 per gallon of milk, and convenience stores had the highest prices among all locations, at \$3.38 per gallon. Despite these price differences, the Homescan households still purchased most fluid milk (85 percent) in supermarkets or supercenters, suggesting that other store characteristics beyond the price of one product play a role in consumer shopping behavior.

ERS researchers also found that most households will not necessarily change their preferred store type to buy milk, even after large changes in income. For example, controlling for other factors that affect choice, a household with a \$60,000 annual income that purchases its milk at a supermarket would most likely continue to patronize this type of store even if its income fell by a third to \$40,000. Interestingly, a household is 6 percent more likely to buy its milk in a convenience store after an income cut of this magnitude, despite the higher price of milk in these stores. Such a result reflects that a host of other factors, such as the availability of a car and time to drive to a supermarket, can correlate with income and affect where a household shops for milk.

Stores sell milk for different prices, attract different shares of consumers

Store type	Fluid milk price ¹	Share of all fluid milk purchases ²
	<i>Dollars per gallon</i>	<i>Percent</i>
Supermarket	3.22	72
Supercenter	3.33	13
Club warehouse	2.95	5

Drug store	3.12	3
Convenience store	3.38	2
Mass merchandiser	3.25	2
Other	3.29	3

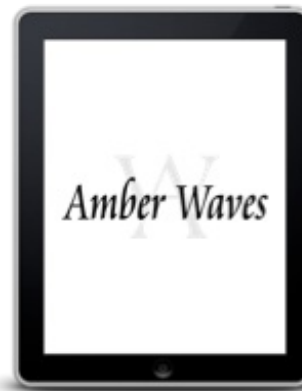
¹Average daily price for a 1-gallon container of reduced-fat milk. Includes sale prices and prices lowered by coupons, a practice more common at drug stores.

²By 24,110 Nielsen Homescan households.

Source: USDA, Economic Research Service using 2007-08 Nielsen Homescan data.

This article is drawn from...

"Modeling A Household's Choice Among Food Store Types", by Diansheng Dong and Hayden Stewart, American Journal of Agricultural Economics, 2012, 94(3): 702-717



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