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Cornhusker Economics

Evolving Protein Demand and Income Elasticity

Teaching large classes in the Ag Econ department has some unique benefits. One of them is that I have a pulse on the attitudes of a large cross-section of producers. One concern that has been gradually gaining momentum is the threat that plant protein poses against traditional animal protein, namely beef.

Trends in protein demand do not support this specific fear. In general, consumers' appetite for animal protein continues to grow. This article explains the concept of income elasticity, along with the changing income elasticities of specific meats.

The Elasticity of Demand (also known as "own price" elasticity) measures how responsive consumers are regarding changes in the price of specific goods. Whether consumers respond a lot to a price change (indicating an elastic good) or do not respond much at all (an inelastic good), the relationship between price and quantity remains the same, as long as price is the only thing changing; price and quantity demanded are inversely related.

Income elasticity, on the other hand, does not set forth an unyielding relationship between income and demand. Our intuition and logic probably would indicate a positive relationship: the more we earn, the more we spend. At the macro level, this is true as highlighted by the link between income and spending as equivalent measures of GDP. At the micro level, however, goods are either Luxury, Normal, or Inferior.

Luxury goods are those goods that are highly responsive to a change in income. I think of them as celebratory goods. Going out to eat, buying an expensive steak to grill, or splurging on jewelry are typically seen as luxury items. They're also the first items we cut out when the bad news of an income re-

duction occurs. While many luxury goods stay that way for seemingly ever (jewelry), others change over time. In agriculture, climate-controlled cabs are a good example. While air conditioning was once a pure luxury, it is no longer.

Instead, things like air conditioning are now "normal goods." Normal goods have a positive relationship with income, but it is weak. Many times these are the goods we buy without any thought about our current finances. Eggs, milk, sugar, and other staple foods certainly fit this description. Again, some goods can be a luxury good to one person (Qdoba to a college student), and a normal good to someone else (Qdoba to many working adults).

The third category of goods that displays a negative relationship with income is called inferior goods. As incomes rise, the demand for these goods decreases, or the opposite. Ramen noodles, mac and cheese, bus passes, and generic/regional store brands fit this description. These are goods consumers buy not because they want to, but because they have to. Finally, the label of luxury, normal, and inferior goods is fluid, both over time and from one consumer to the next.

This fluidity is highlighted by the changing consumer preferences (demand) for different protein products. This can be illustrated in two ways. The first is by perusing old cookbooks. 1914s cookbook, *\$.05 Meals*, has bacon as a morning staple. While this seems normal to us now, bacon had to be explained at the beginning of the book, including what it is, how little it costs, and how to request it from the butcher. Those of us too young to remember 1914, have seen the popularity of bacon increase dramatically just over the past two decades. Long gone are the days of \$2-\$3/lb bacon. Just today I saw several brands of bacon, all at the price of \$9.99/lb. Clearly, bacon is no longer an inferior good.

The 1949s cookbook, *The Economy Cookbook*, contains another curious trend. Many meals include beef. While none of the meals include New York strip, ground beef, flank steak, and stew meat play prominently in many meals. Curiously, seafood (mainly fish, but shellfish as well) show up often. These days it would be hard to imagine the inclusion of many beef products at all in a recipe book focused on income-limited menus.

This leads to what I believe is a threat far greater than plant protein -- chicken. The current retail chicken market is a reflection of several production and consumption trends that have resulted in far lower retail prices than either beef or pork. The most obvious reason is the production advantage chicken enjoys. Without the logistics of a large animal to process, chicken will likely always enjoy this advantage. The second reason is less obvious. The aforementioned cookbooks were filled with recipes utilizing the unwanted portion of the animal. In the case of chicken, the entire body is becoming the “unwanted portion.”

I graduated college in 2003, and at that time, the only chicken wings I had ever consumed had been fried. As the youngest of six children, this was the pecking order. In no way was the wing a prized possession; it was the leftover after everyone else had their fill. Little did I know wings should be eaten in multiples of six with hot sauce and blue cheese dressing!

The rise of stand-alone wings as an appetizer or entire meal has been influential in the increase in the supply of whole chickens. There are only two per animal, leaving the breast, thigh, and legs as somewhat unwanted co-products.

Anthony Bourdain was famous for his show *No Reservations*, and he often cited necessity as the impetus of genius in the kitchen. As he traveled the world and tested the best that different cultures had to offer, this was apparent. Take whatever unwanted meat leftover is available, add culinary skill, and enjoy dishes that punch far above their weight.

The chicken sandwich wars of the past two years (Popeye's chicken sandwich was introduced in the late summer of 2019) have shown what happens when a quality product (chicken breast) can be obtained at an unreasonably low price. Compared to burgers, chicken sandwiches require more preparation, but because the cost of goods sold is so low, there is room for much more value-added. While the Popeye's sandwich made this obvious, it had been happening for years at Chick-Fil-A. Subsequent offerings from McDonald's, Burger King, and the OG, KFC, have confirmed the trend.

Take cattle producers to a fast-food burger joint and ask if they can make a better burger at home; I guarantee the answer is almost always yes. Take the same producers out for a fast-food

chicken sandwich and ask the same question; if they're truthful, the answer will be no. That's the real threat.

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