Per capita production of beef and veal by major classes, imports of beef and veal, and prices, United States, 1960-64.[a]

(1) Year	(2) Fed Beef production (steer and heifer beef, and veal)	(3) Production of cow and bull beef	(4) Imports of beef and veal	(5) Low grade beef production (cow and bull beef production plus imports)	Prices (per cwt., Chicago) (6) Utility cows	(7) Choice steers
	(pounds per capita)				(dollars)	
1960	69.8	17.0	5.3	22.3	15.68	26.24
1961	72.8	15.3	7.1	22.4	15.66	24.65
1962	70.8	16.1	9.4	25.6	15.50	27.67
1963	75.9	15.1	10.0	25.1	15.10	23.96
1964[b]	81.5	18.5	7.1	25.6	13.74	23.12

[a] Source: Economic Research Service, U. S. Department of Agriculture.

[b] Preliminary.

Beef Imports, Domestic Cattle Supplies, and Prices of Fed Cattle

By Robert A. Young and James Simpson

This is the second of two articles examining the factors influencing the decline during the period 1962–64 in prices for fed cattle.

The first article (*Progressive Agriculture, July-August 1965*) examined the influences of imported beef on fed cattle prices. It was pointed out that beef imported into the U. S. is utilized primarily in hamburger and processed meats.

Cow and bull beef, the primary domestic source of beef for these purposes, became relatively short in supply beginning in 1958, as ranchers reduced culling rates during the cyclical buildup in cow herds. The resulting favorable prices for low grade beef attracted sufficient shipments from foreign sources to maintain the per capita supply of this grade beef. (See Table.)

Statistical analysis of factors influencing prices of fed beef showed that changes in supplies of low grade beef (cow and bull beef, plus imports) have much less influence on prices of Choice steers than would equivalent changes in the supply of steer and heifer beef. Furthermore, per capita supplies of low grade beef remained virtually unchanged in the period in question. (See Table, Column 5.) Therefore, the assertion that imports of beef were primarily responsible for the observed decline in fed cattle prices is not warranted. We now turn to the changes in the supply of fed beef in the United States and to the influence of this factor on fed beef prices.

Cattle Supplies Rising

The current cattle cycle has been on a rising phase since approximately 1958. Total cattle numbers in the U. S. reached an historical high in 1963 and again in 1964. More pertinent to the present discussion, total and per capita supplies of steer and heifer beef also set new records in those years. (See Table.)

Let us return to the statistical analy-

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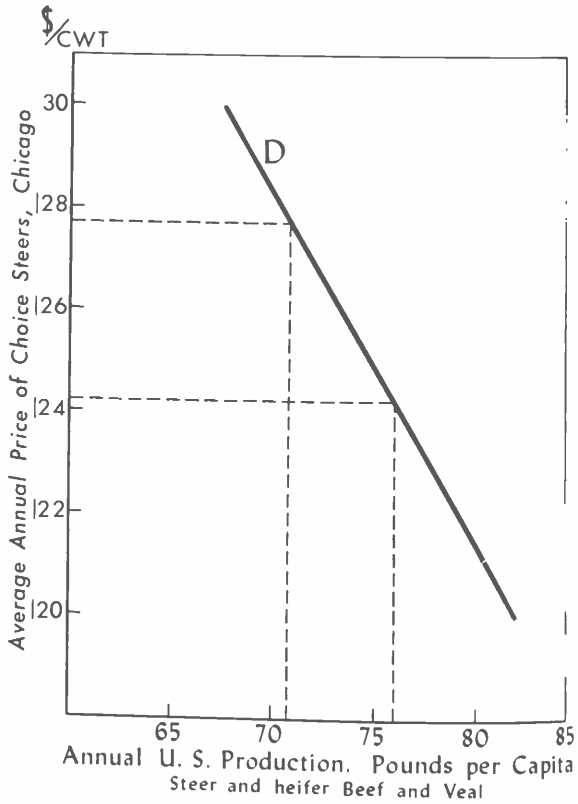
Dr. Young is assistant professor in Agricultural Economics. Mr. Simpson, a June graduate of the university, begins work toward the M.S. in Agricultural Economics this fall.

GRAPH BELOW SHOWS the expected price at Chicago related to quantity sold, quality beef, U.S., 1963.



"TAKE A LOOK," says Pinal County Agent Chuck Robertson, "and see good Arizona cotton of nearly 40 years ago." ..This field was photographed Aug. 4, 1928, after the first heavy irrigation. It yielded what was a good average yield in those days — half a bale (250 pounds) per acre. Thirty-seven years later, with research and extension carrying the word about new and better varieties, new plant nutrient applications, insect and disease control, knowledge of soils and irrigation, Pinal County and Arizona average over 1100 pounds of cotton lint per acre.

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sis cited in the earlier article and examine the effect of these increasing supplies on the price of fed cattle. The statistical analysis shows that the primary determinants of the price of Choice steers (Chicago) are supplies of steer and heifer beef, consumer income and preferences, and population. Other factors, such as supplies of low grade beef (including imports), supplies of other meats (pork, poultry, lamb), and the price of byproducts, are known to have measurable but less important influences on the prices of fed beef.

A consequence of the familiar "law of demand" is: "If increased supplies of a commodity are offered on the market, other things unchanged, the price must fall if the market is to be cleared." The statistical analysis in effect measures "*how much*" changing supplies might be expected to affect the price of Choice steers (net of effects of changes in population, income, etc.).

Increased Supply Cuts Price

This analysis indicated that, in 1963, an increase of one pound per capita in the annual supplies of steer and heifer beef and veal in the United States would be expected to reduce the price of Choice steers in Chicago by about 68 cents per hundredweight. This relationship between quantity and price is expressed in the accompanying graph. The line D in that figure represents the expected prices for Choice steers (Chicago) for various quantities of steer and heifer beef and veal sold in 1963 (given the existing levels of income and supplies of competing products). (If expressed for another year, the relationship would be different. As an example, for 1964, it would probably be somewhat to the right, as higher income leads consumers to purchase more beef per capita at any given price than they would have in 1963.)

In 1962 and 1963, production per capita of steer and heifer beef and veal was 70.8 and 75.9 pounds per capita, respectively. Referring to the graph, we see that if per capita production in 1963 had remained unchanged from 1962 (in other words at 70.8 pounds per capita) the average price of Choice steers in Chicago for the year would be expected to have been about $27.70 per hundredweight. With the supplies actually forthcoming (75.9 pounds), the average price of Choice steers (Chicago) would be expected (on the basis of this analysis) to fall to about $24.25 per hundredweight. (The reliability of our measurements for this purpose can be checked by reference to the table. The average price of Choice steers in Chicago, 1963, as reported by the U. S. Department of Agriculture, was $23.96 per hundredweight, about one percent lower than the price of $24.25 predicted by the statistical analysis.) Additional increases in per capita supplies of fed beef drove the price of steers down further in 1964 (particularly in the early months of that year).

Fed Beef Supply Affects Price

Thus we may conclude that a major portion of the observed decline in steer prices is attributable to the increased quantities of fed beef offered in the market.

In summary, it has been shown that:

1. Changes in supply of low grade beef (cow and bull beef plus imports) have a much smaller influence on price for fed cattle than would an equivalent change in the supply of fed beef. The increase in imports witnessed over the past several years is associated with a combination of factors, including low supplies and relatively favorable prices of low grade beef in the United States market, and the existence of larger supplies of such beef in the exporting countries.
2. Most of the decline in Choice steer prices which occurred in 1963 and 1964 is attributable to the increased production of steer and heifer beef.

There Are Qualifications

Some factors influencing domestic beef prices cannot be effectively measured with the method of analysis used here. First, although the quantities of beef imported into the United States in the last several years were not sufficient to unduly weaken cow prices, they certainly were sufficient to prevent these prices from rising as far as they would have otherwise.

Thus, cattlemen probably retained cows in their herd that they might have found advantageous to sell had higher prices prevailed. The resulting production from such cows added somewhat to the supply of fed cattle several production periods later.

This indirect effect of imports on fed cattle supplies and prices is not measured here.

Second, the use of Chicago prices in the analysis may underestimate the effect of imports on meat prices in markets immediately adjacent to ports of entry. Prices for beef in such markets are known to be affected for short periods in much greater degree than are prices in internal markets such as Chicago.

Third, prices and quantities used in the analysis are yearly averages. Prices for cattle obviously show considerable variation around the annual average in response to seasonal variations in slaughter and in consumer preferences.