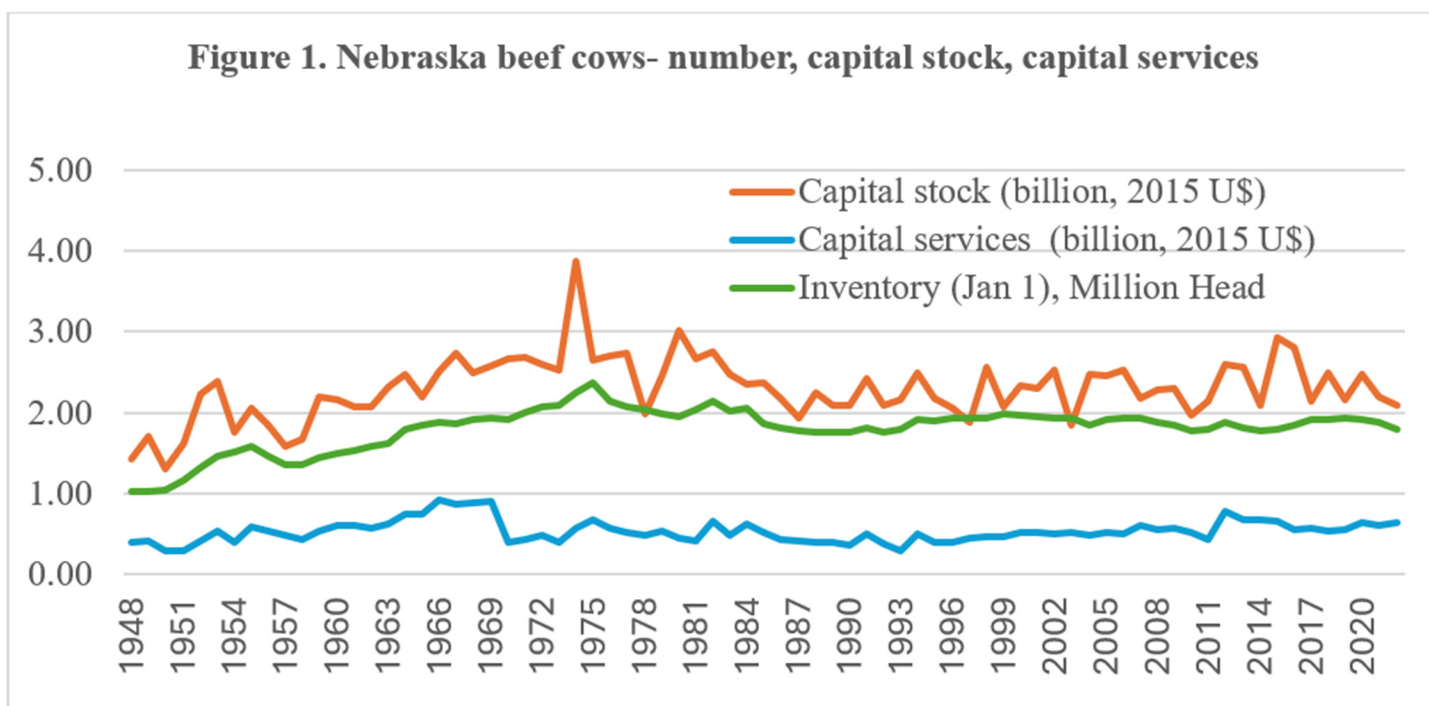


Cornhusker Economics

Nebraska Beef Cow Breeding Herd as Capital Stock

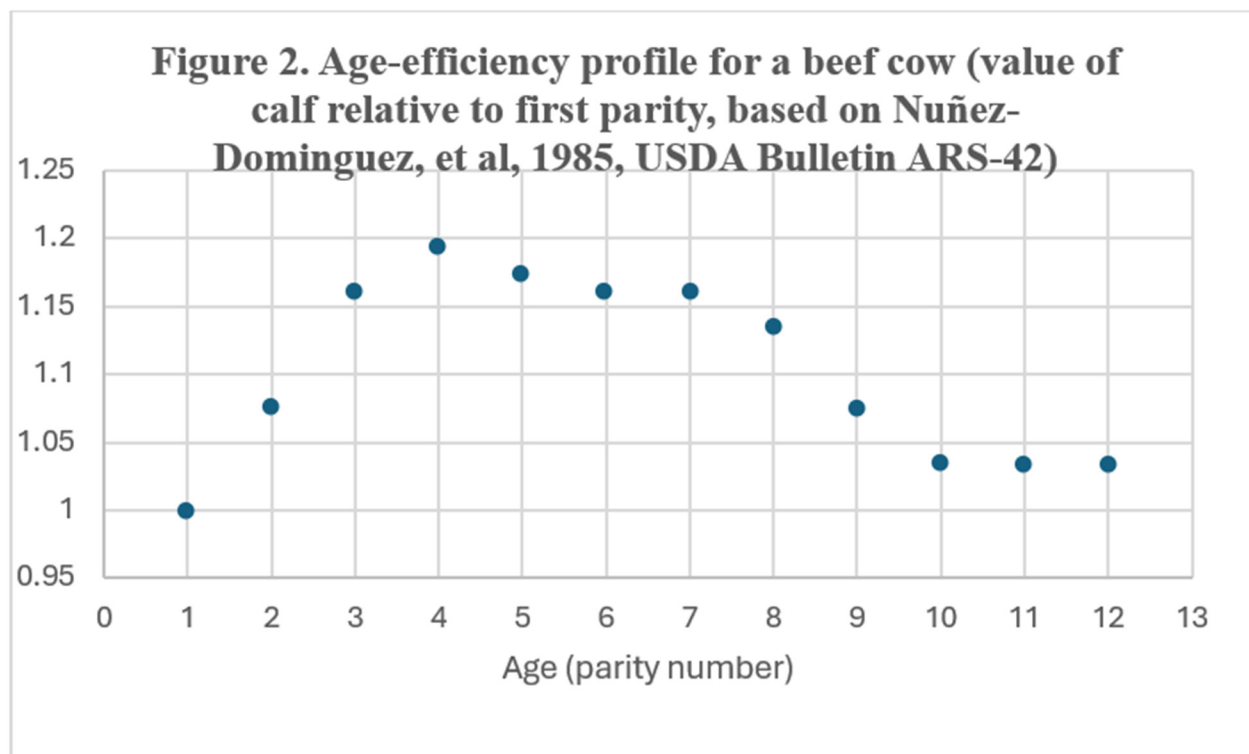
The farm beef sector in Nebraska produces about \$12 billion in sales each year. The beef cow breeding herd provides a foundation for much of that production. Nebraska boasts the USA's fourth-largest beef cow breeding herd, which peaked in 1975 at 2.37 million head, but since then has been quite steady, fluctuating between 1.8 and 2.0 million head (green line, Figure 1).



It is useful to think of the beef cow herd as a stock of capital, similar to the way we consider the number of tractors and other equipment as a capital stock. The essence of a capital stock is that it provides services over a period of years. One reason that is important is so that we don't consider capital expenditures in a given year as expenses for that year, given that the services provided last for several years.

National and state farm income accounting procedures should treat cows as capital goods, but they don't. They are just considered as inventories of meat production, waiting to be slaughtered. In our project, we restructure income and productivity accounts to consider the cow breeding herd as a capital stock.

The capital stock value of a beef cow is the discounted net returns over her expected remaining life - the value of calves produced plus salvage value of the cow. We base our estimates of the life-cycle productivity of a beef cow on the age-efficiency profile shown in Figure 2, which are estimates based on Nuñez-Dominguez, et al (1985).



Throughout her lifetime, the capital stock value of a cow first rises as the size/quality of calves increase, then declines because there are fewer calves expected over her remaining lifetime. The value later in life begins to rise in anticipation of culling value.

We estimate the age distribution of the Nebraska cow herd every year, then we estimate the capital value of each cohort. Adding these values across ages and adjusting to 2015 prices, we obtain the series of capital values, measured in terms of 2015 dollars, as shown in Figure 1.

In addition, we calculate the value of the annual flow of services provided by the cow herd, also plotted in Figure 1. Here we can see in dollar terms, the annual net value to the farm sector contributed by that stock of Nebraska beef cows, currently running well over half a billion dollars per year.

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