

USDA Expense Indexes

Introduction

The National Agricultural Statistics Service (NASS) reports on the prices received and paid by farmers. NASS reports most of these on an index basis relative to some base year. These reported indexes make it easy to see how prices have changed over time. One advantage of using indexes is that the base year can be readjusted by some simple math. The purpose of this paper is to examine those common expense items paid by farmers to see how they have changed over time relative to several base years. In this paper, the years 1998, 2008, and 2013 are used as base years.

This study examines the broad expense categories of herbicides, fertilizer, fuel, labor, machinery, repairs and seeds. In addition, the CPI index is used as a reference. As defined by NASS, prices paid represent the average cost of inputs purchased by farmers. NASS uses a survey of 8,500 producers to obtain the reported prices (response rate is 75-80 percent). The responses are aggregated by regional and national levels using appropriate weights.

Results

Figures 1, 2, and 3 show the expense indexes for the selected expense categories since 1998, 2008, and 2013. These base years represent 20, 10, and 5 years ago. In all three of these figures, the CPI index is shown as well. The CPI index is used to represent inflation so input categories that are above the CPI index line indicate that an input category has increased in price faster than inflation (starting from the initial baseline).

Discussion

As shown in Figure 1, all expense items except for herbicides have increased faster than the inflation rate over a 20 year horizon. This probably comes as no surprise to any farmer. Seeds have increased the most but remember that seeds now include technologies that help replace other inputs. That might explain, in part, why herbicides prices have not risen all that fast. The ability of seeds to be resistant to some herbicides have allowed farmers to use cheaper herbicides but with more expensive seed. Seed prices increases accelerated during the late 2000's corresponding to an overall increase in grain prices.

Fuel prices and fertilizer prices are highly correlated to each other and these prices tend to be fairly volatile. At one time, these expense categories were the most expensive relative to the base year of 1998. However, since the U.S. became a bigger producer of oil, fuel and fertilizer prices have declined relative to their earlier peaks.

Machinery and machinery repairs tend to be highly correlated to each other as well. While more technological advanced machinery has undoubtedly led to higher machinery prices, the cost to repair this machinery has increased too. Newer farm machinery is undoubtedly more difficult for farmers to repair themselves so some of this higher repair cost could be a transition from farmer repairs and maintenance to dealership maintenance.

Figures 2 and 3 are very similar. Repairs have increased the most relative to both 2008 and 2013. As shown in both figures, all expenses except for fuel and fertilizer have increased faster than the inflation rate. Labor may be an expense item for farmers to monitor going forward. As shown in Figure 3, this expense item has started to increase faster than the other expense categories. The recent strong economy could be responsible for this rate of increase. A stronger economy means there is more demand for labor which in turn puts pressure on farm labor rates.

Conclusions

With current market prices making it difficult for farmers to be profitable, controlling costs is even more important than normal. However, this could be difficult to accomplish as most expense categories have been increasing faster than inflation. Still, practices like comparison shopping and purchasing when prices are lower can help. Recent AgManger publications by the author address some of the times when prices for fuel may be lower than normal during the year. Be on the lookout for a future publication addressing fertilizer costs. Also, remember the saying "penny wise and pound foolish" when it comes to agricultural inputs. Do you really want the cheapest tractor drive you can find to drive your \$500,000 combine?

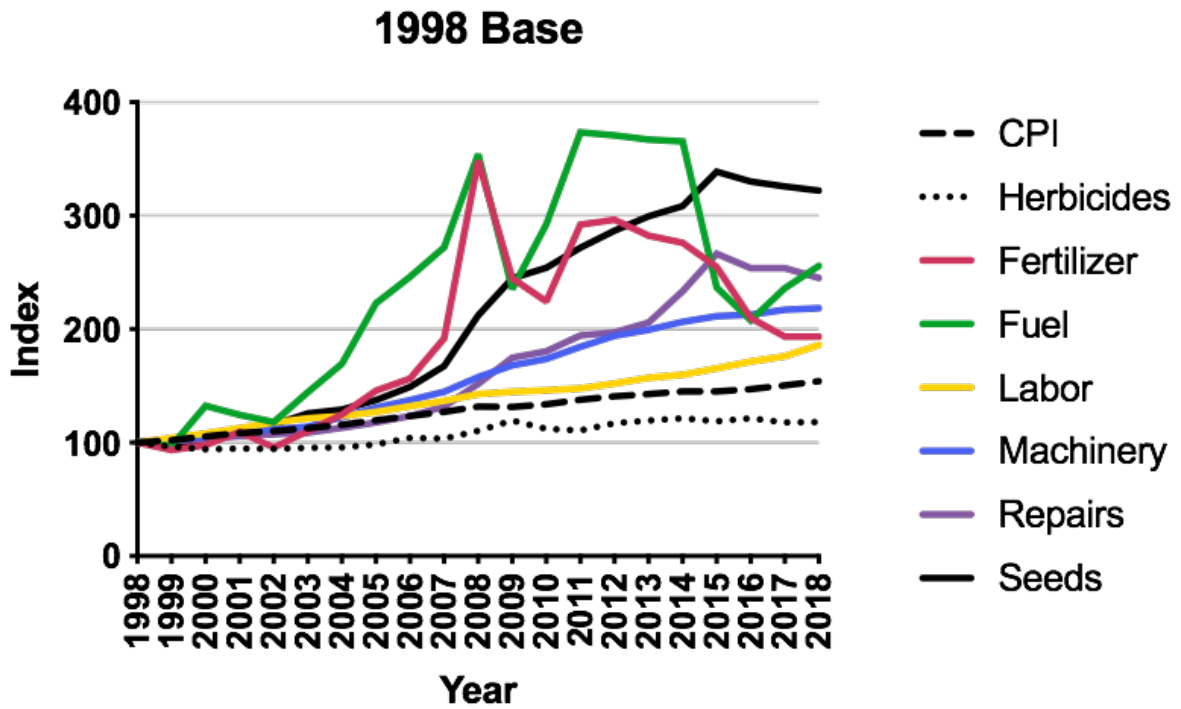


Figure 1. Index of Prices for Selected Expenses Since 1998

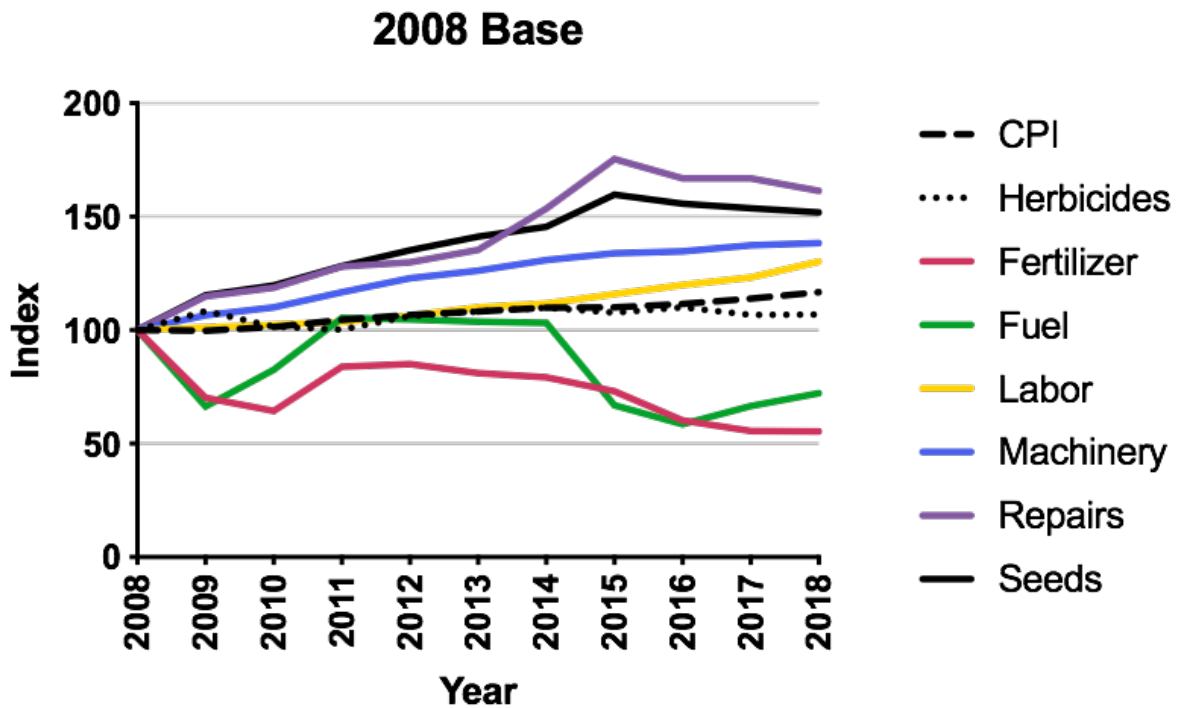


Figure 2. Index of Prices for Selected Expenses Since 2008

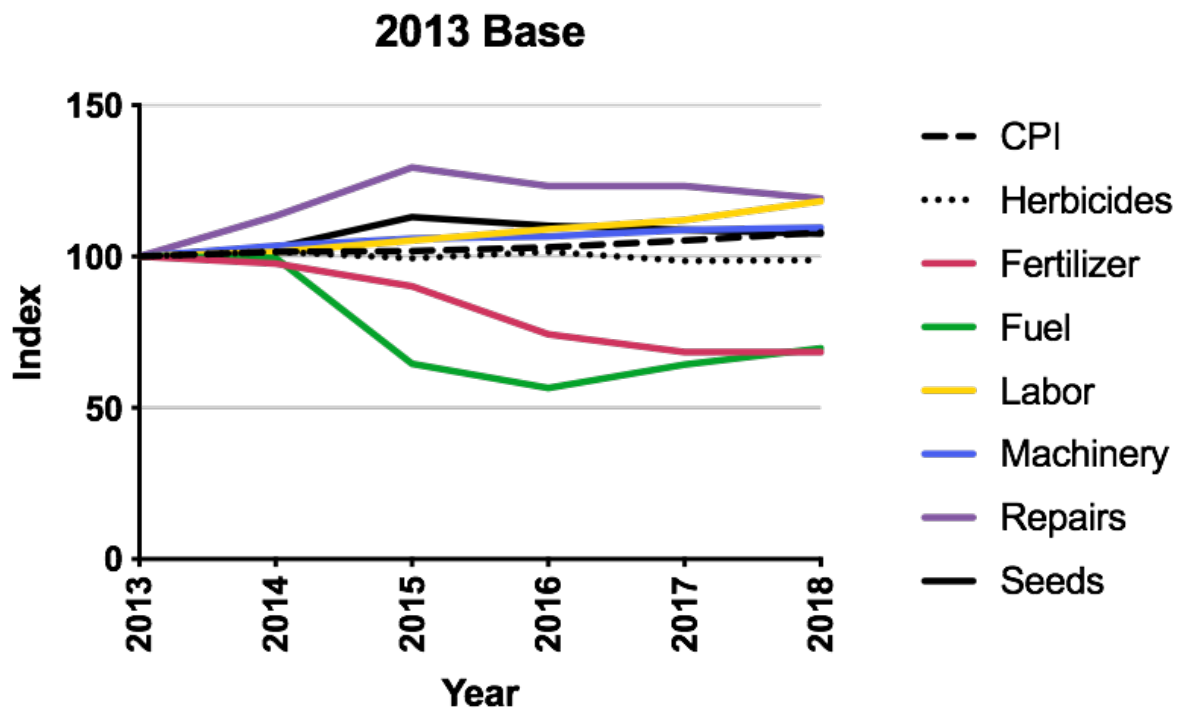


Figure 3. Index of Prices for Selected Expenses Since 2013

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