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Labor and Interest Expenses of American Farms and Ranches

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Introduction

By 2024, the real (inflation adjusted) cash production expenses of the U.S. farm sector had increased by over 50% from 2000. Figure 1 shows that the cash production expenses—excluding net rent to landlords—was estimated at over $424 billion for 2024 by the USDA Economic Research Service (ERS) in its September 3, 2025, release (USDA-ERS, 2025b). This represented an increase of almost $145 billion dollars, or 52%, compared to total cash expenses of slightly over $279 billion in 2000.

There are several components that add to the total cash expenses. Some of the major categories reported by the ERS in its Farm Income and Wealth Statistics (FIWS) topic page (USDA-ERS, 2025b) are (1) intermediate product expenses, (2) labor expenses, (3) interest expenses, (4) net rent to landlords, (5) property taxes and fees, and (6) capital consumption. Intermediate product expenses include feed, seed, pesticide, fertilizer, lime, soil conditioner, fuel, electricity, machine hire, marketing, storage, and transportation costs. The ERS provides data on most of these expenses as a line item in their FIWS data product.

Figure 2 shows the composition of total 2024 production expenses, but it is noteworthy that the composition has been fairly stable over the years. Therefore, analysis on one year's production analysis can provide insights into the largest categories within the total production costs. Over two-thirds (70%) of total production expenses for 2024 comprised intermediate product expenses, followed by labor expenses as the second highest factors of production at 11% of total production expenses. Interest expenses and capital consumption comprised 7% and 5% of total production expenses, respectively, in 2024.

Data and Method

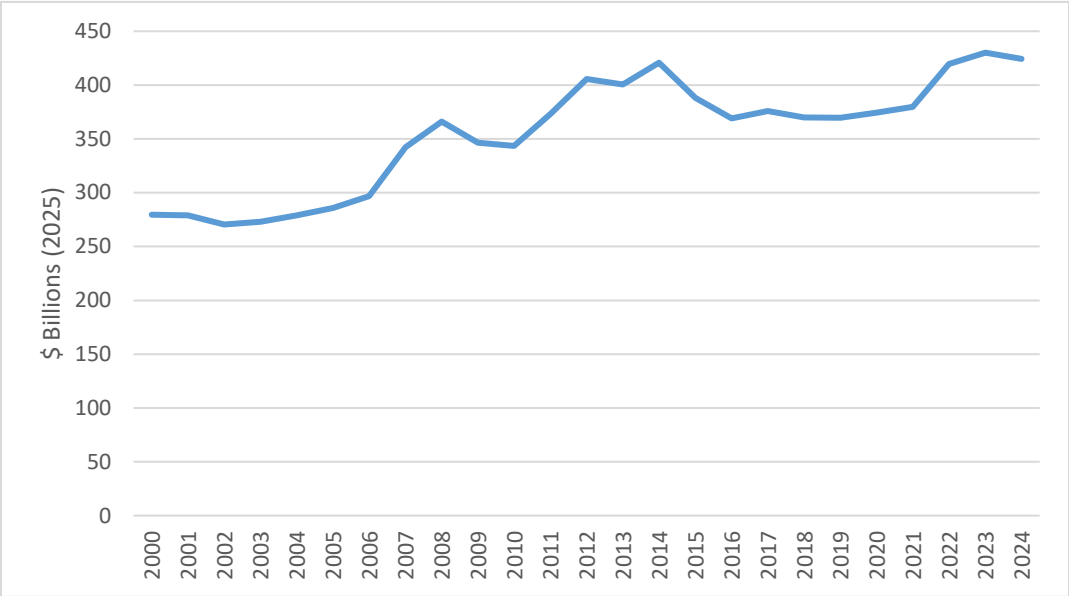
We analyze the absolute and relative (to total production expenses) labor expenses and the interest expenses at the national level using the data from the ERS' FIWS from 2001 through 2024. Then, using 2022 Census of Agriculture data, we analyze the interest and labor expenses at the county level. The reason for the analysis of these two components of production expenses is the macroeconomic conditions, which include significantly higher interest rates by the Federal Reserve and the significant changes the labor market experienced during the COVID-19 pandemic. Furthermore, an economy-wide Paycheck Protection Program (PPP) helped all businesses, including farm business, cover some portion of their labor expenses in 2020 and 2021.

The Census of Agriculture is a comprehensive count of U.S. farms, ranches, and the people who operate them. Even small plots of land—whether rural or urban—are included if they generated or normally would have generated $1,000 or more in agricultural products during the census year (USDA-NASS, 2024). Conducted every 5 years, the census examines land use and ownership, operator characteristics, production practices, income, and expenditures (USDA-NASS, 2024). It also provides an opportunity for detailed analysis at various spatial scales, including down to the county level. We analyze county-level data on interest and labor expenses relative to the total production expenses. We deploy the same approach that Giri and Subedi (2025) use to analyze government payments.

Interest Expenses

In recent years, farm debt and interest rates have increased significantly. Giri and Subedi (2024) report that the U.S. farm sector debt exceeded half a trillion dollars (a record level) in 2023 and producers relied on several lenders—including the USDA Farm Service Agency, traditional lenders such as commercial banks, and nontraditional lenders such as seed dealerships—for their credit need. Giri and Subedi (2023) report that total farm debt has exceeded gross cash receipts since 2016. This suggests that the rate of growth of debt has been higher than the revenues generated by the sector. This is mostly driven by the debt undertaken to finance real estate and production expenses as both have

Figure 1. Cash Production Expenses Excluding Net Rent to Landlords of the U.S. Farm Sector, 2001–2025F

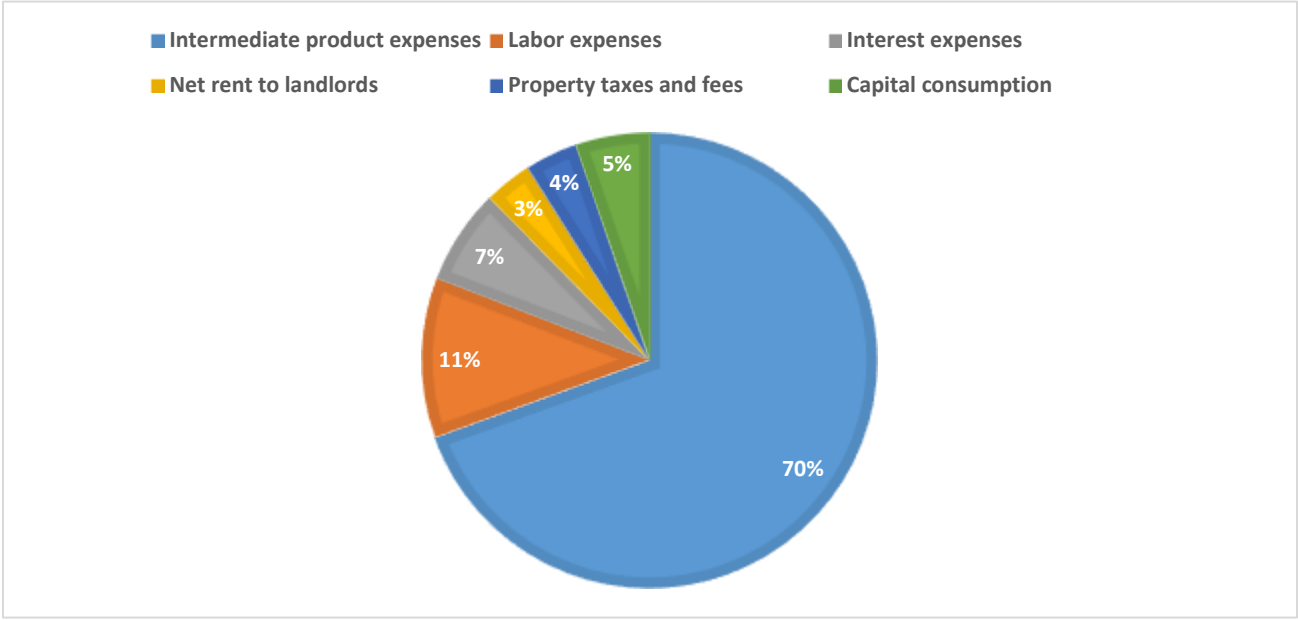


Source: USDA Economic Research Service Farm Income and Wealth Statistics data, September 3, 2025.

increased significantly in recent years. Real (inflation-adjusted) cropland values increased on average 2.2% over the course of the pandemic (2019–2021), and this was the first increase in real cropland values since 2014 (Litkowski, 2025). Subedi and Giri (2024) report that 19% of farm businesses had some real estate debt. Among all farms, almost a quarter (24.3%) of farms had some debt in 2023 (USDA-ERS, 2025a).

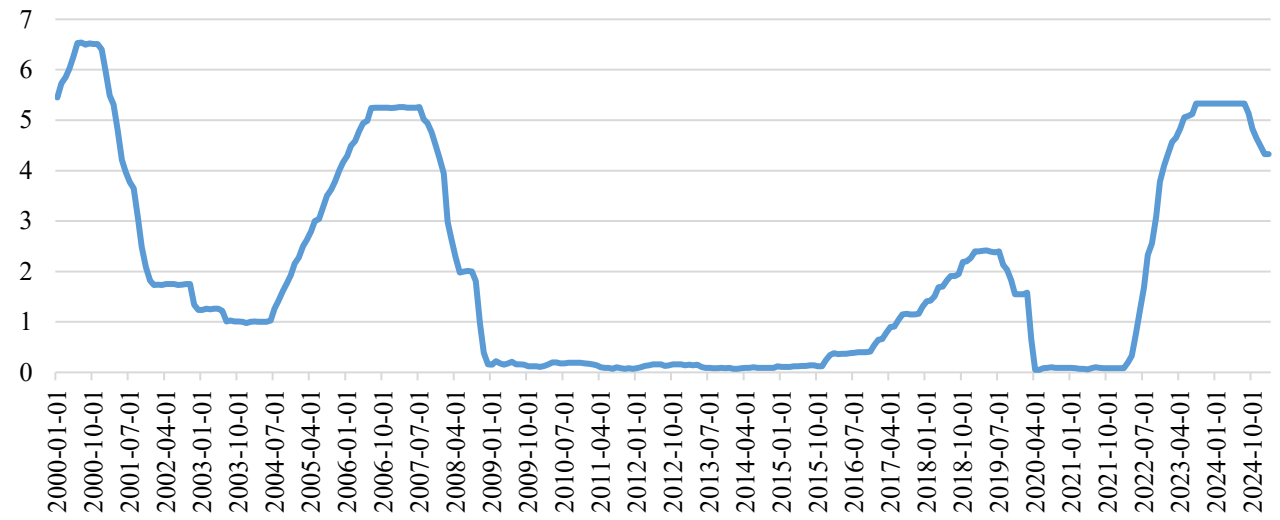
There has been a significant and rapid increase in interest rates in recent years. Figure 3 shows the rapid increase in interest rates since 2022 to tame persistent inflation by the Federal Reserve. In fact, there were 11 consecutive interest rate hikes, and short-term federal funds reached a 23-year high in 2023 (Giri and Subedi, 2023). Figure 3 shows that short-term interest rates have decreased slightly since their peak target range of

Figure 2. Composition of Total Production Expenses, 2024



Source: USDA-ERS Farm Income and Wealth Statistics data, September 3, 2025.

Figure 3. Short-Term Federal Funds Rate, 2000–2024

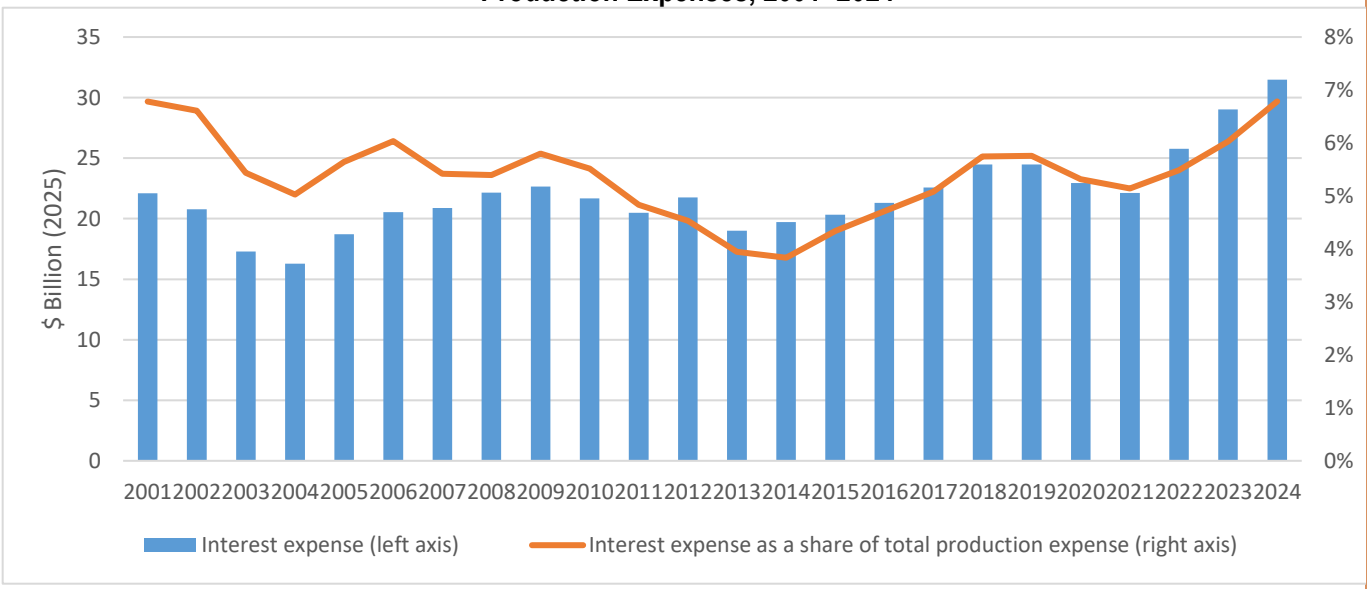


Source: Authors' calculations based on Federal Reserve Bank of St. Louis data.

5.25%–5.50% in 2024, but they are still significantly higher than levels observed in 2019 (pre-pandemic). The federal funds rate is the interest rate banks charge each other for short-term lending, and they directly influence interest rates such as the prime rate that banks charge customers and indirectly influence longer-term rates such as those for mortgages and savings accounts (Giri and Subedi, 2023). Schnitkey, Paulson, and Zulauf (2023) point out that interest rate hikes can have secondary impacts on operations and can hinder or limit growth opportunities.

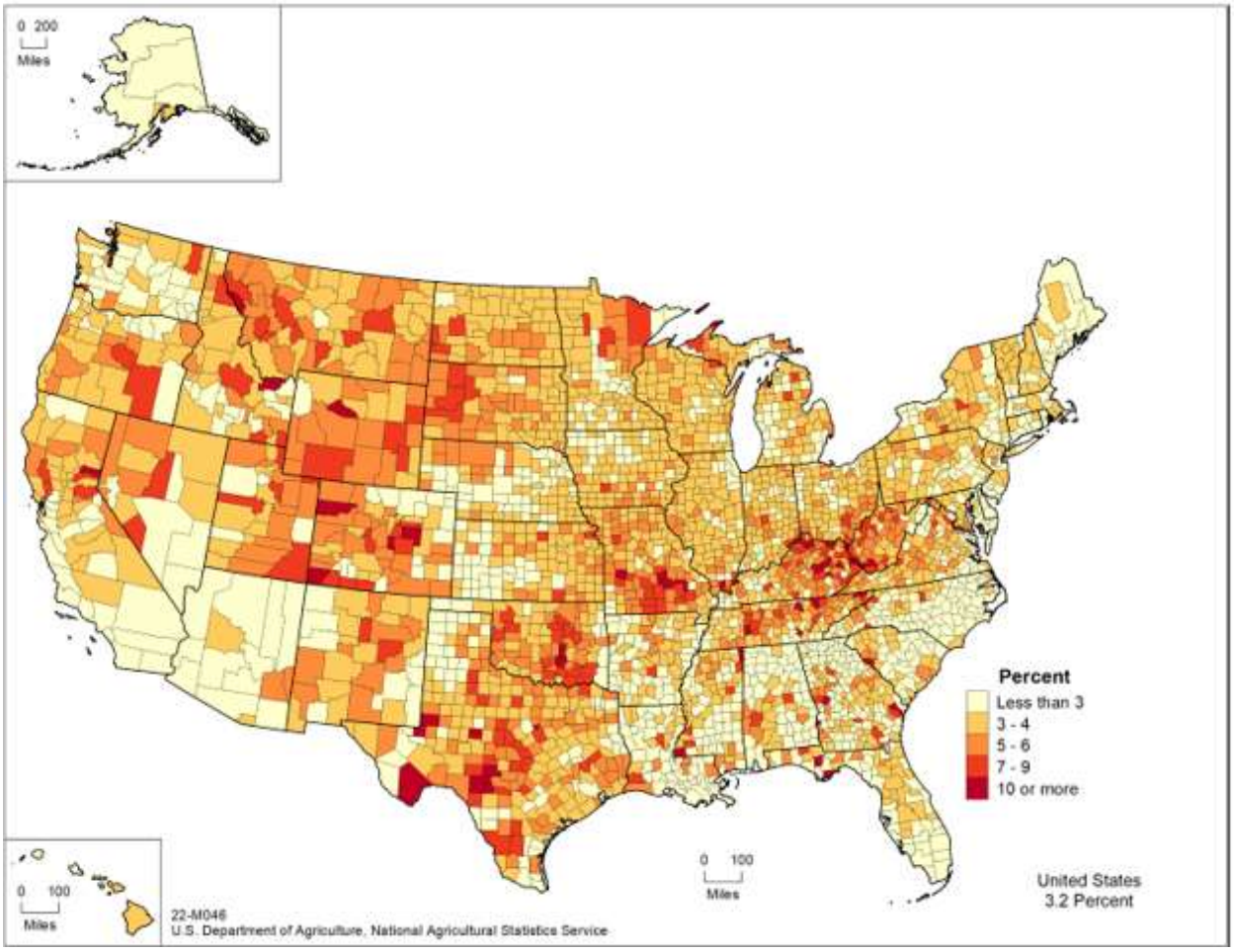
Figure 4 shows the interest expenses (in dollars) and calculated interest expenses as a share (%) of total production expenses from 2000 through 2024. Interest expenses have increased significantly in recent years, reaching $24.5 billion in 2019, the last year pre-pandemic, and decreased in 2020 and 2021 to less than $23 billion, reflecting the impact of the decrease in the short-term federal funds rate. The Federal Reserve decreased the short-term federal funds rate to 25 basis points (see Figure 3) in 2020 and 2021. However, interest expenses (Figure 4) started increasing significantly from 2022 and were $31.5 billion, an

Figure 4. Total Interest Expenses and Interest Expenses as a Share of Total Production Expenses, 2001–2024



Source: USDA Economic Research Service Farm Income and Wealth Statistics data, September 3, 2025.

Figure 5. Interest Expenses as Share of Production Expenses at the County Level, 2022



Source: USDA-NASS, 2022 Census of Agriculture, Ag Census Web Maps.

increase of over $8.5 billion (37%) compared with 2020 interest expenses, in 2024. This resulted in interest expenses being the fastest increasing production item category (among those listed in Figure 2). Nominal interest expenses were almost $13 billion in 2001 and have increased over $17 billion, or have more than doubled (increase of 140%), in the last 24 years. Interest expenses have generally been about 6%–7% of total production expenses. This was true across the years 2001–2024, although the share increased to 7% of total production expenses for 2024 after consistently being below that level since 2007.

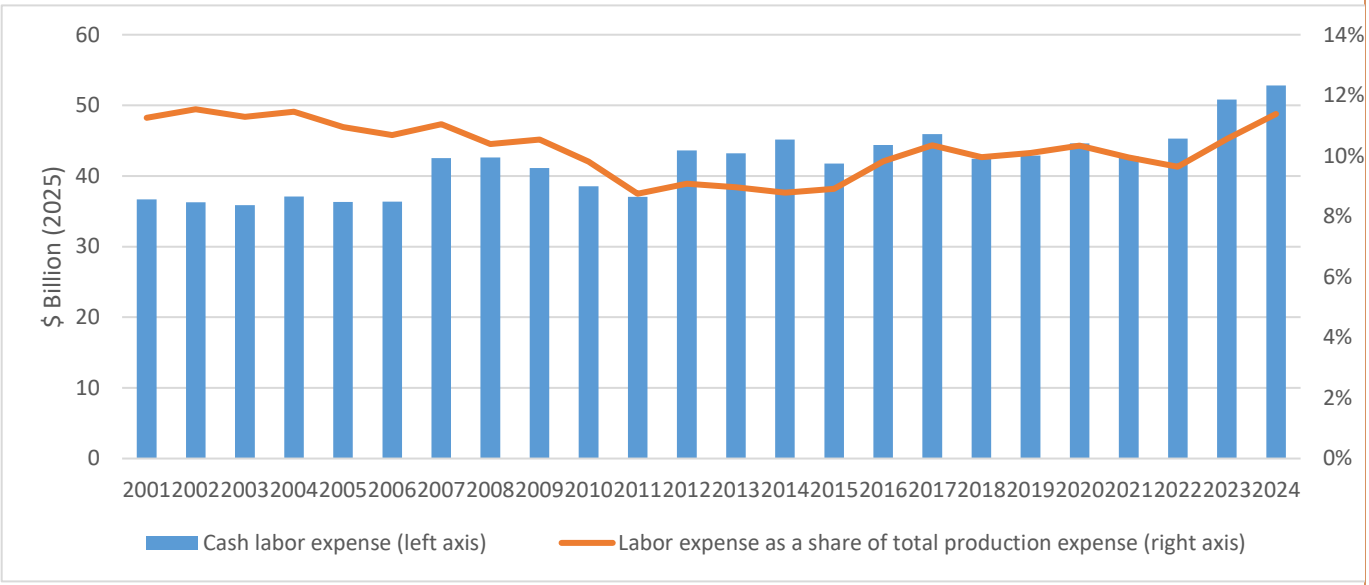
Figure 5 shows a choropleth map interest paid on debts as percentage of total farm production expenses for 2022 using 2022 Census of Agriculture data. The counties where a higher share (10% or more) of total production expenses was from interest expenses are represented in darker colors. Figure 5 shows that more counties in Kentucky and the Mountain, and Southern Plains regions had farm operations using over 10% of their total production expense to cover interest expense.

Labor Expenses

Labor expenses were the second-largest production expense category (see Figure 2) for producers in 2024; total cash labor expenses for 2024 were almost $53 billion in 2024, an increase of over $16 billion, or 44%, compared to almost $37 billion in inflation adjusted terms for 2001. Figure 6 shows that labor expenses have increased for the most part throughout the period. However, there has been a significant increase in the last few years, especially compared to last pre-COVID year, 2019, just as with interest expenses. Total cash labor expenses were almost $43 billion in 2019 but increased to almost $53 billion in 2024, representing an increase of almost $10 billion, or 23%.

Figure 7 shows the annual unemployment rate at the national level. There are two notable peaks in the data, in the 2008–2009 period and the 2020–2021 period. The 2008–2009 increase was because of the Great Recession and the 2020–2021 increase was because of the COVID-19 pandemic, which resulted in several businesses economy-wide closing or reducing their operational capacity. During 2020 and 2021, the U.S.

Figure 6. Total Labor Expenses and Labor Expenses as a Share of Total Production Expenses, 2001–2024

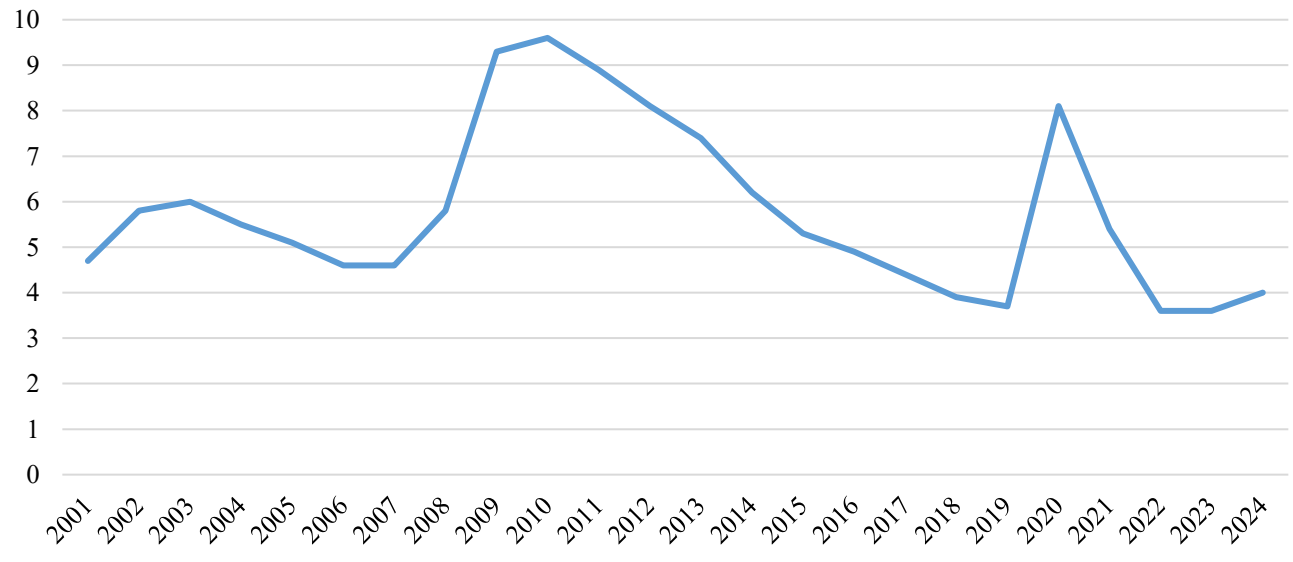


Source: USDA Economic Research Service Farm Income and Wealth Statistics data, September 3, 2025.

government instituted an economy-wide Paycheck Protection Program (PPP) to offset some of the labor expenses in the form of forgivable loans to any U.S. businesses that had payroll expenses, including farm businesses. Giri et al. (2021) report that over 121,000 farm operations applied for the PPP program and find that most of the operations that received the PPP loans had their loans forgiven as they had met the requirement of using a certain amount of their loans for labor expenses (Giri et al., 2023). Giri, Subedi, and Kassel (2023, 2024) find that the farm sector received $6 billion from the PPP program in 2020, and the payments closely aligned with the labor expenses at the state level.

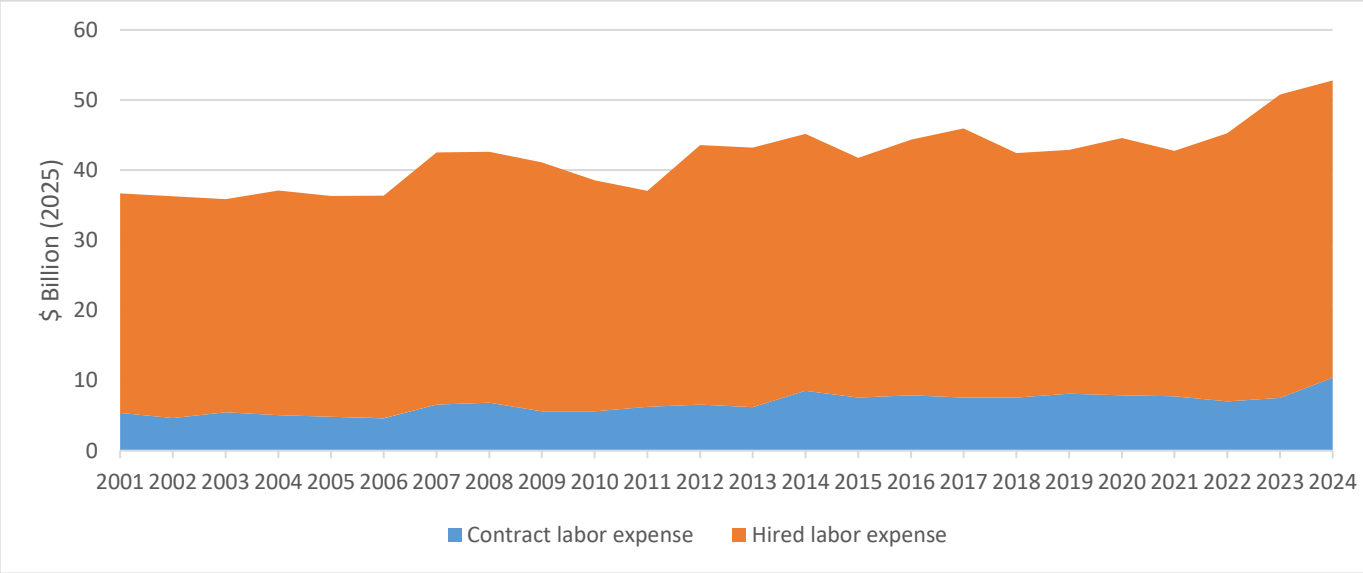
After businesses started operating under normal circumstances after the COVID-19 pandemic, the unemployment rate stayed fairly low, indicating a very tight labor market, which can cause an upward pressure on wages. The national unemployment rate was below 4% for 2022, 2023, and 2024. Total labor expenses (see Figure 6) increased substantially in each of those years.

Figure 7. Annual U.S. Unemployment Rate, 2001–2024



Source: Federal Reserve Bank of St. Louis data.

Figure 8. Hired and Contract Labor Expenses of the Farm Sector, 2001–2024

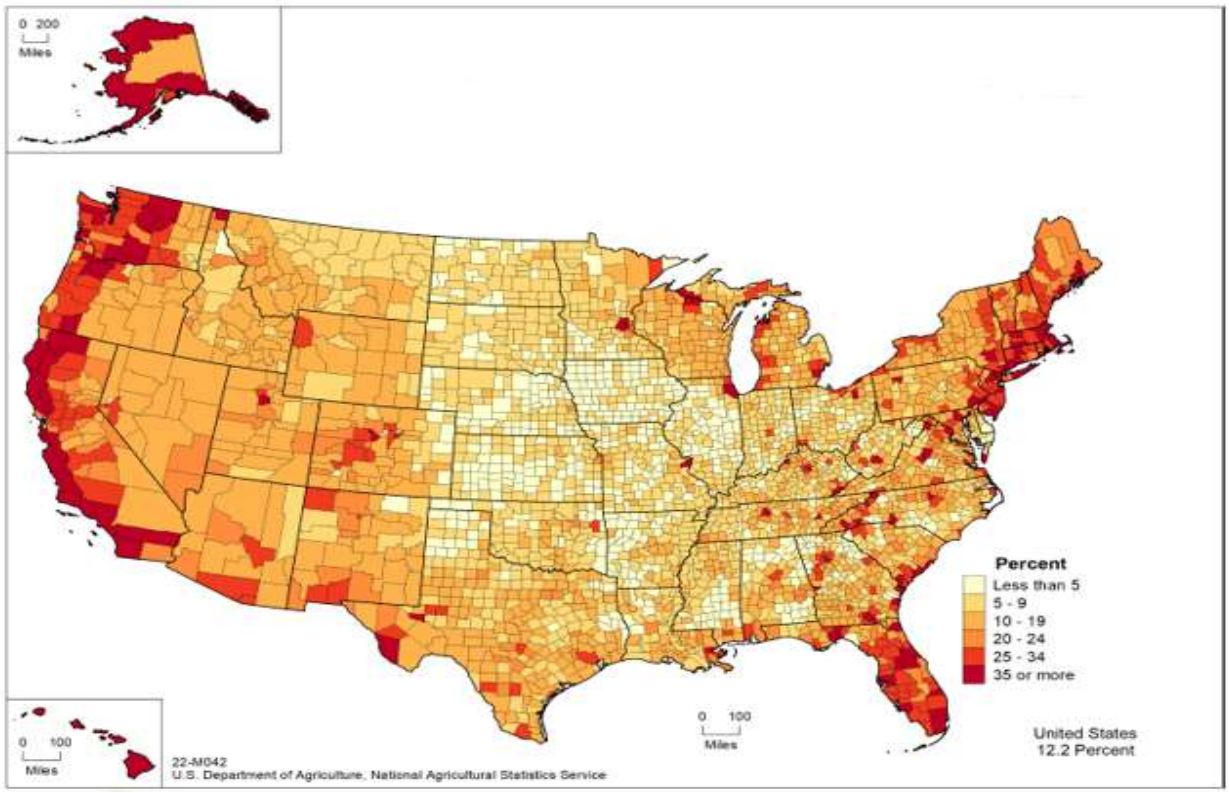


Source: USDA Economic Research Service Farm Income and Wealth Statistics data, September 3, 2025.

The USDA Economic Research Service provides data on labor expenses in two categories: contract labor and hired labor. Contract labor expenses are incurred by farm operations when certain work is contracted out and producers pay the contractors to complete the work.

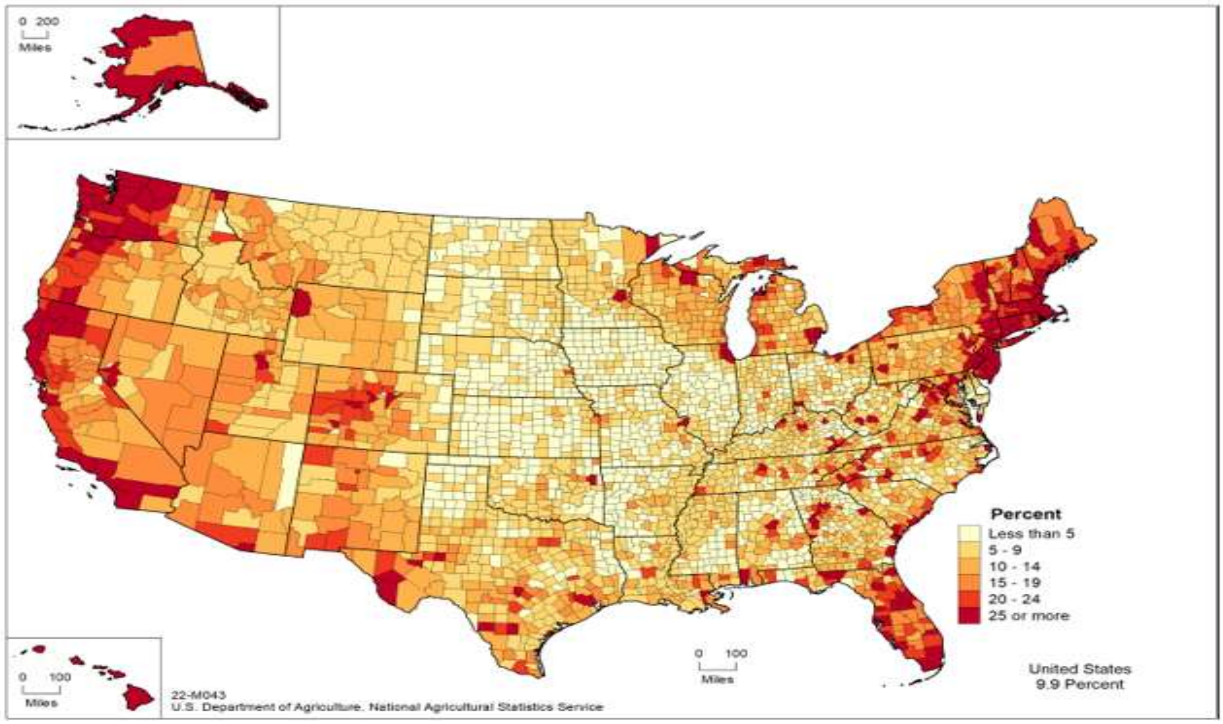
Hired labor expenses are incurred by farm operations when they hire labor to complete certain farm-related tasks. Most of the farms hire labor themselves to complete farm-related work; thus, hired labor expenses are always higher than contract labor expenses. For

Figure 9. Total Labor Expenses as Share of Total Production Expenses at County Level 2022



Source: USDA-NASS, 2022 Census of Agriculture, Ag Census Web Maps.

Figure 10. Hired Labor Expenses as Share of Total Production Expenses at the County Level, 2022



Source: USDA-NASS, 2022 Census of Agriculture, Ag Census Web Maps.

2024, 80% of total cash labor expenses were expended for hired labor; only the remaining 20% of total cash labor expense was expended on contract labor. Among farms producing crops, those specializing in the production of specialty crops—which include fruits, tree nuts, vegetables, beans (pulses), and horticultural nursery crops—generally have higher labor costs compared to operations specializing in corn and soybeans. Among farms specializing in animal production, poultry and dairy farms spend more on labor expenses compared to cattle producers.

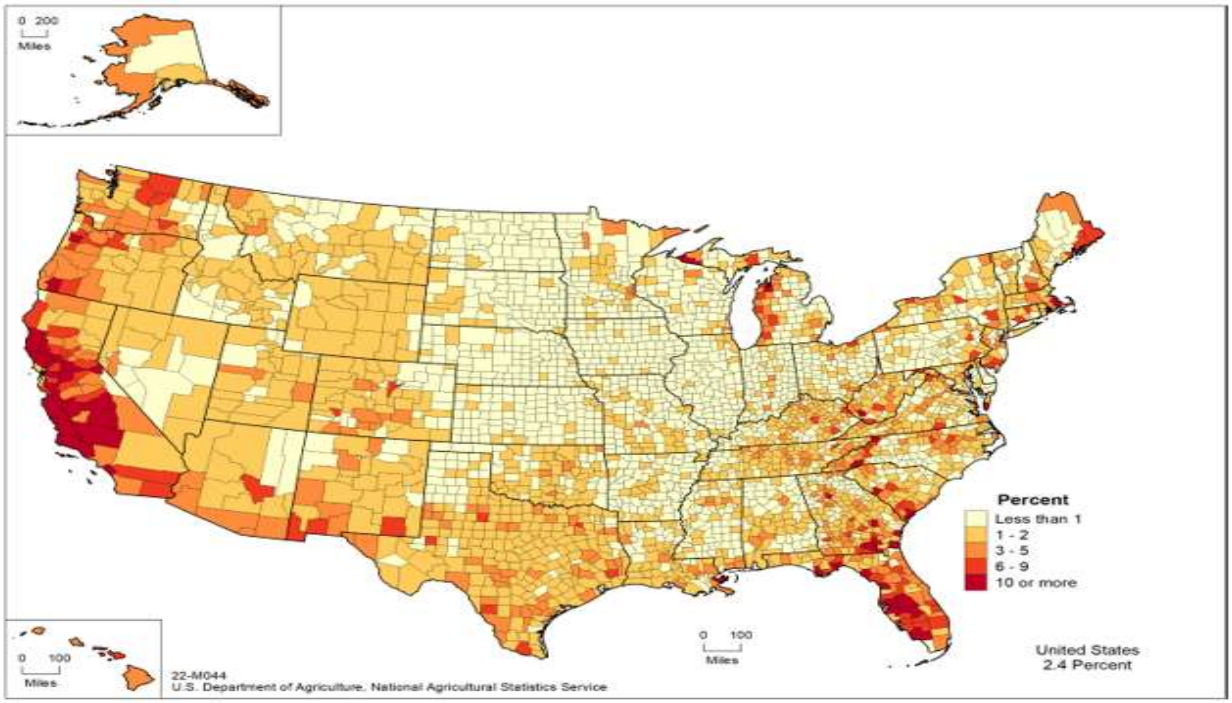
Figure 8 shows hired and contract labor expenses from 2001 through 2024. Both labor expenses have increased significantly during this period. In inflation adjusted terms, hired labor expenses increased from slightly over $31 billion in 2001 to over $42 billion, an increase of over $11 billion (or 36%) in 2024. Similarly, contract labor expenses increased from over $5 billion in 2001 to over $10 billion in 2024, an increase of over $5 billion (93%).

Figures 9, 10, and 11 show choropleth maps of total labor expense, hired labor expense, and contract labor expense, respectively, relative to total production expenses. The darker shades represent higher share of total production expense for respective categories. For more farms on the East and West Coasts (at the county level), labor expenses accounted for a higher share of total production expenses (Figure 9). In many of these counties, total labor expenses accounted for 35% or more of total production expenses (Figure 9). Similarly, for the same counties, a higher share of total production expenses was spent on hired labor expenses (Figure 10). In fact, farms in those counties spent 25% or more of total production expenses on hired labor (Figure 10). Finally, more counties in California and Florida had a higher share of their total production expenses allocated for contract labor (Figure 11). Many farms in these two states spent more than 10% of their total production expenses on contract labor (Figure 11).

Conclusion

Interest expenses and labor expenses are two major categories of total production expenses. Combined, they comprise 18 cents (11 cents in labor expense and 7 cents in interest expense) of every dollar of production expenses. Interest expenses have increased significantly in recent years because of the rapid increase in short-term federal funds rate by the Federal Reserve resulting in interest expenses to be the fastest growing production expense category in 2022 and 2023. Total interest expenses were over $31 billion in 2024. The tight labor market with a low unemployment rate has caused an upward pressure on wages resulting in significant increases in labor expenses for the farm sector. Total cash labor expenses were almost $53 billion in 2024 and had increased significantly compared to the 2001 level of slightly above $37 billion (in inflation adjusted terms). Hired labor expense comprised 80% of total labor expense in 2024, with the remaining 20% spent on contract labor.

Figure 11. Contract Labor Expenses as Share of Total Production Expenses at the County Level, 2022



Source: USDA-NASS, 2022 Census of Agriculture, Ag Census Web Maps.

The Census of Agriculture offers a valuable opportunity to examine these expenses at the county level. The latest census data from 2022 shows that more counties in Kentucky and the Mountain and Southern Plains regions had farm operations using over 10% of their total production expense to cover interest expense. Farms in counties on the East and West Coasts had a higher share of their total production expenses expended in labor expenses.

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