Gross Domestic Product of Farming in Kansas and the U.S.

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Introduction [1]

Gross Domestic Product (GDP) is a widely used metric to gauge a country's economic performance. In the United States, the Bureau of Economic Analysis (BEA) calculates and reports GDP quarterly and annually. It represents the total monetary or market value of all goods and services produced within a country over a specified period, typically a year or a quarter. While GDP is usually calculated at the national level, it can also be computed at the state level and for various economic sectors. This article delves into the contribution of farming to the overall GDP, presenting both national and state-level data.

Farm GDP

Farm GDP, or the contribution of agriculture to the Gross Domestic Product (GDP), is calculated as part of the overall GDP using either the Production (Value-Added) Approach or the Income Approach. Both methods should yield the same result. The Bureau of Economic Analysis (BEA) and the U.S. Department of Agriculture (USDA) monitor and report farm GDP as part of the Agriculture, Forestry, Fishing, and Hunting sector.

It's important to note that farm GDP is distinct from Total Agricultural Sector GDP. Farm GDP encompasses only primary agricultural production, while Total Agricultural Sector GDP includes farm GDP plus downstream industries such as food processing and agricultural transportation. There are two approaches for calculating GDP as detailed in the next section.

Value added approach

Farm GDP is calculated as the total value of agricultural output minus intermediate inputs. Subtracting out the intermediate inputs avoids double counting. This calculation measures the "value added" by farms, distinguishing farm GDP from total farm sales.

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Farm GDP = Gross Farm Output – Intermediate Inputs

Where:
• Gross Farm Output includes:
    • Crop and livestock sales
    • Farm-related services (e.g., custom work, storage, agritourism)
    • Inventory changes (e.g., unsold grain, livestock on farms)
    • Government subsidies (e.g., farm support programs)

• Intermediate Inputs include:
    • Seeds, fertilizers, pesticides
    • Fuel, electricity, and water for irrigation
    • Equipment repairs, animal feed, and veterinary services
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Income approach

This method estimates farm GDP by summing all incomes generated in agricultural production:

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Farm GDP = Employee Compensation + Proprietor's Income + Rent + Interest +
Taxes – Subsidies

Where:
• Employee Compensation: Wages paid to farmworkers
• Proprietor's Income: Earnings of farm owners
• Rent: Land rental income
• Interest: Interest paid or received related to farming
• Taxes: Indirect business taxes (e.g., property taxes)
• Subsidies: Government payments to farmers (subtracted to avoid overstatement)
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Current situation

Figures 1 and 2 show the Kansas and U.S. GDP. The U.S. economy is nearly $32 Trillion. Figures 3 and 4 show the farm GDP for Kansas and the U.S. farm GDP. As might be expected, the direct farm economy is small compared to the total economy. As shown in Figures 5 and 6, Kansas farm GDP is nearly 3% of the total Kansas economy. The U.S. farm GDP is less than 1% of the total U.S. economy.

Given Kansas's status as a prominent agricultural state, it is not surprising that its farm GDP constitutes a larger percentage of the state's economy compared to many other states. As depicted in Figure 7, Kansas farms contribute 3.2% of the total U.S. farm GDP.

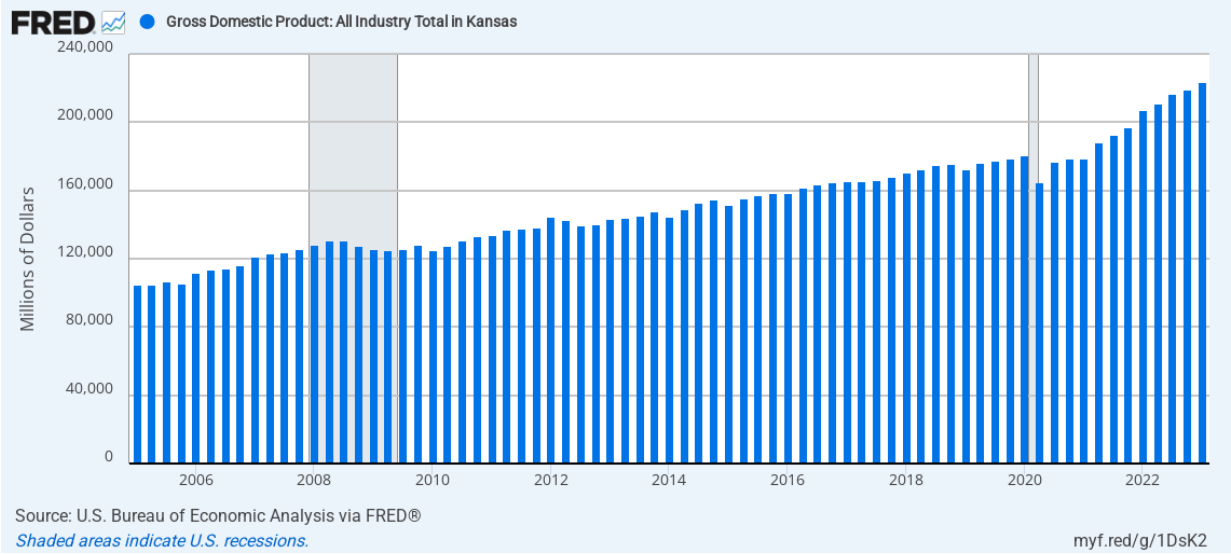

Figure 1. State GDP

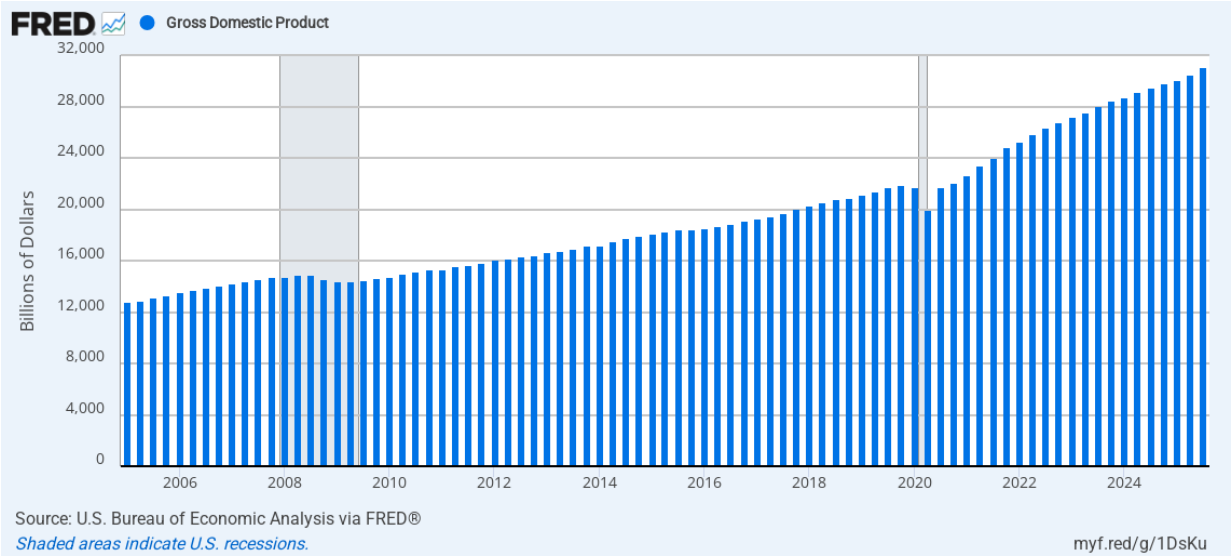

Figure 2. U.S. GDP

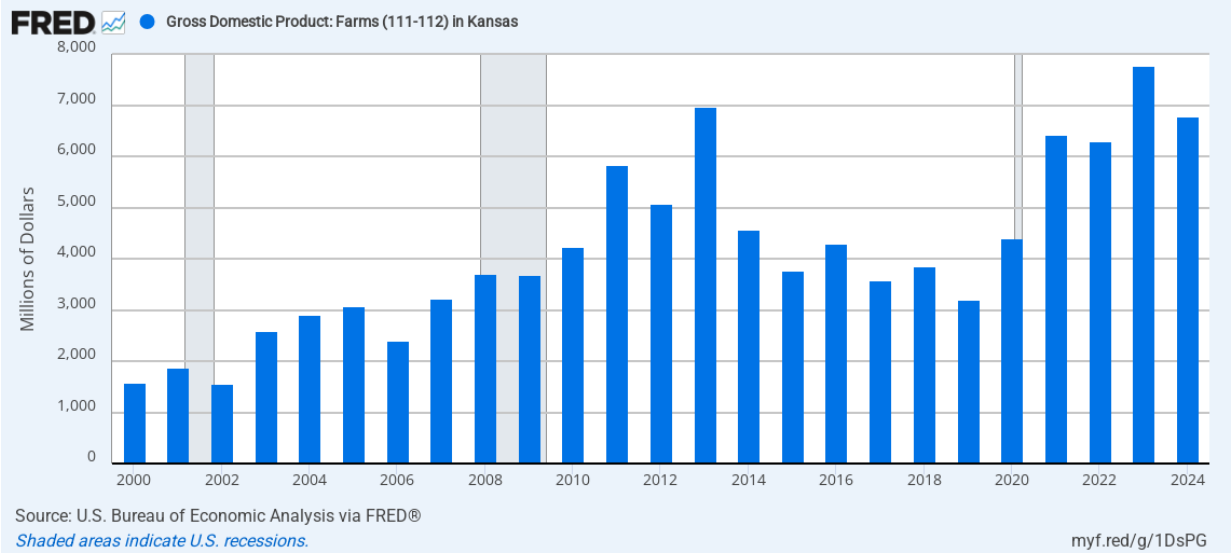

Figure 3. Kansas Farm GDP

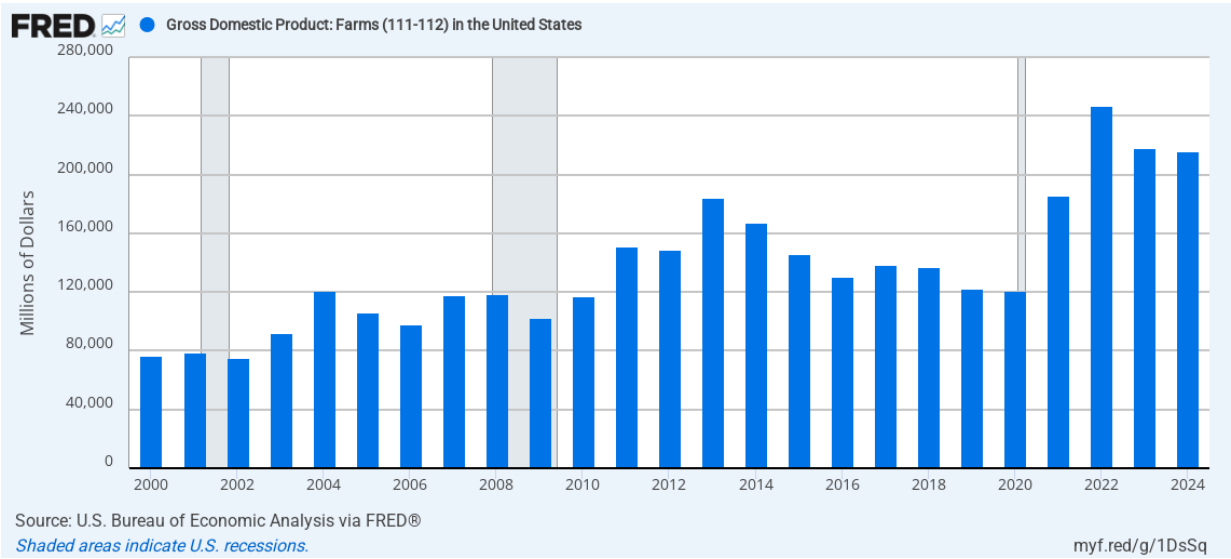

Figure 4. US Farm GDP

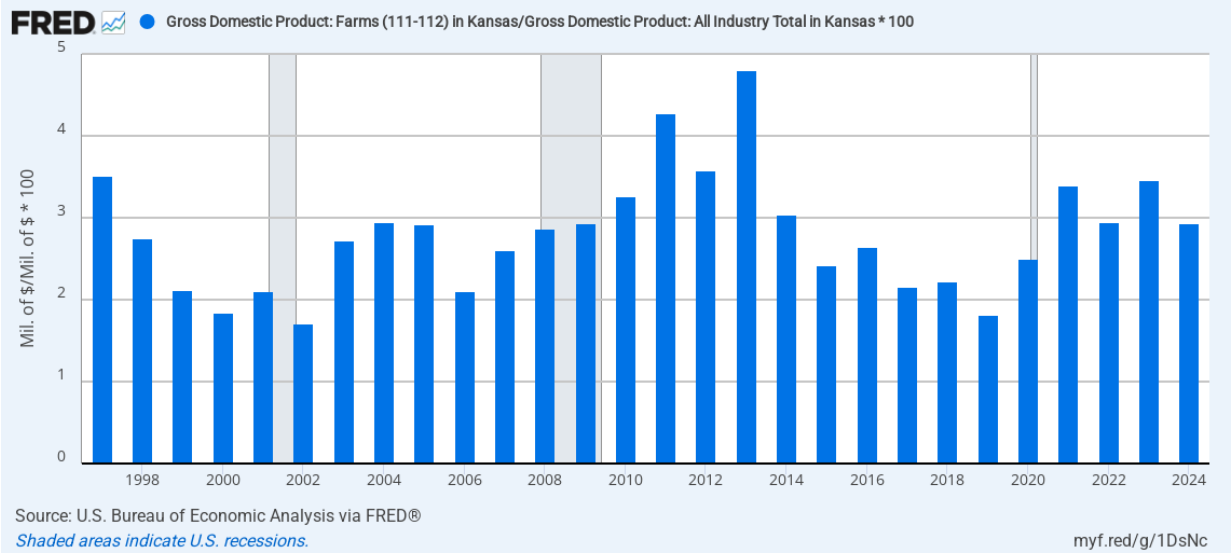

Figure 5. Kansas Farm GDP as a Percent of State GDP

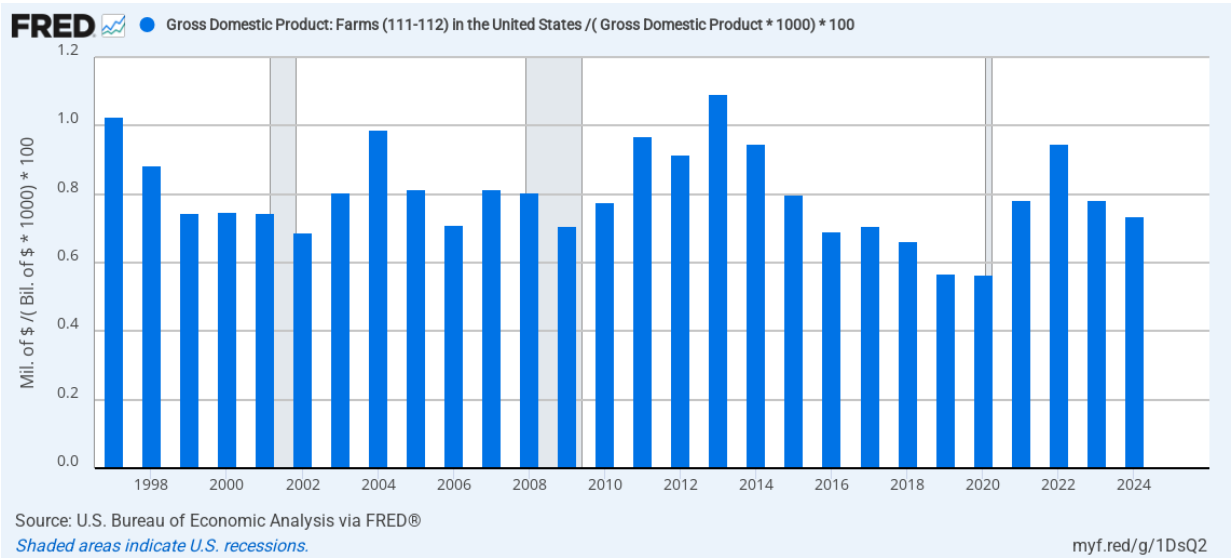

Figure 6. US Farm GDP as a Percent of US GDP

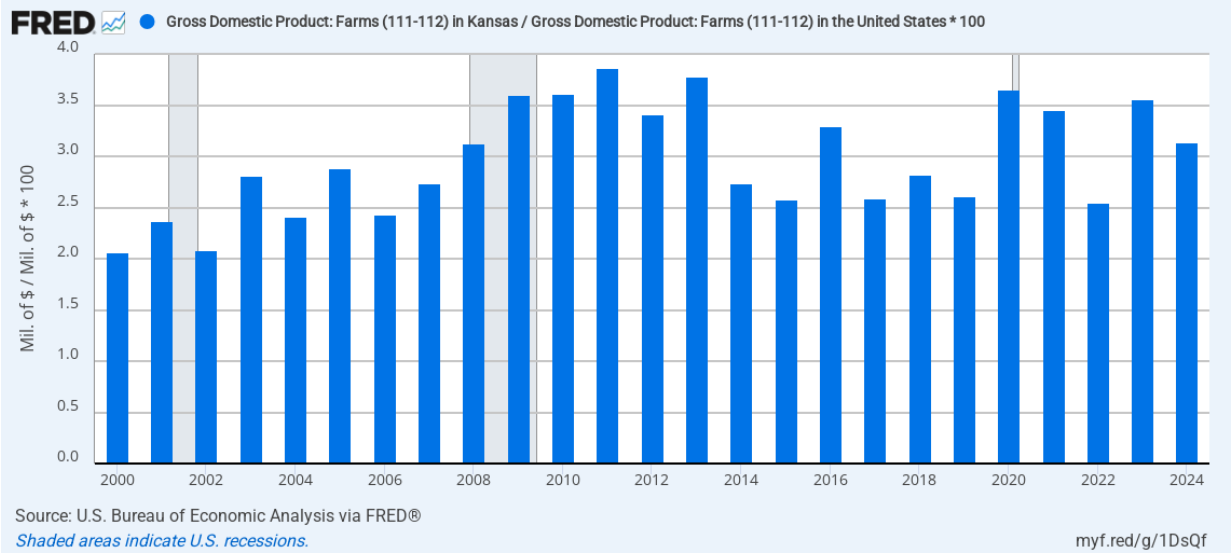

Figure 7. Kansas Farm GDP as a Percent of US Farm GDP

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