



Shifting Dynamics in Soybean Farm Funding in Brazil

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The financing structure of soybean production costs in Mato Grosso, Brazil's largest agricultural state, has changed significantly over the past two decades. Funds for operational costs for soybean farmers in the region rely less on government-subsidized rural credit. Instead, farmers are increasingly funding their expenses from farm equity, multinational companies, and non-rural credit sources. This article examines the last 16 years of soybean operational costs funding sources and the recent increase in operational costs, analyzing the implications for the future of the agricultural credit landscape in Mato Grosso.

Operational Costs Funding Sources in Mato Grosso

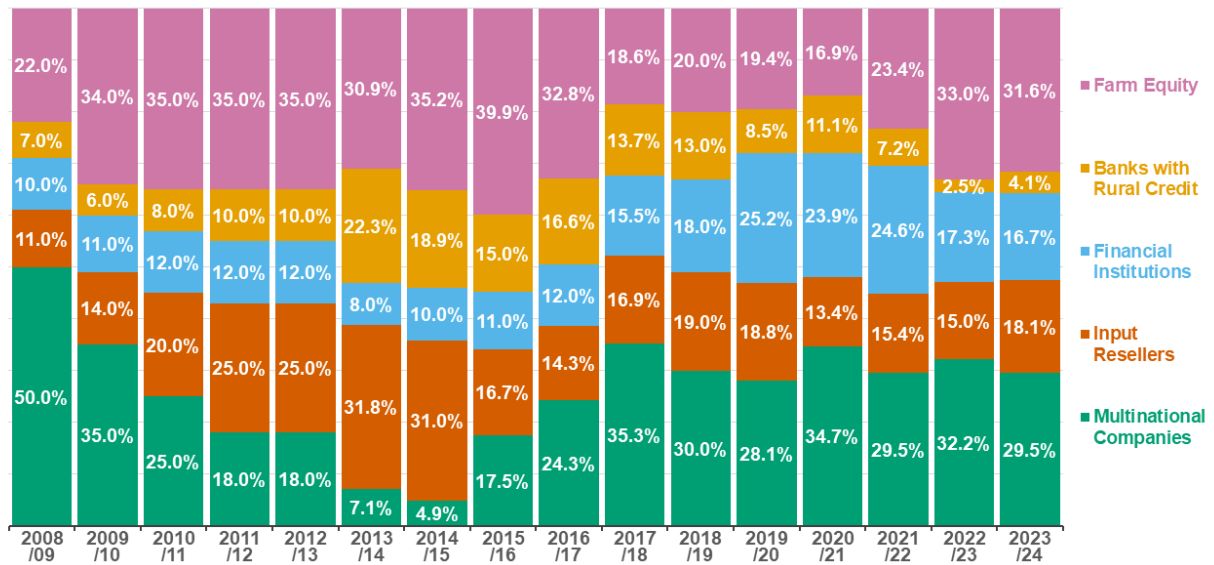
By combining data from surveys with credit agents and information from the Brazilian Central Bank, the Mato Grosso Institute of Agricultural Economics (IMEA) has provided a breakdown of operational cost funding sources for soybean production since the 2008/09 crop season. There are five main categories of sources: multinational companies (agrochemicals, seeds, and fertilizers), input resellers, banks with rural credit (government subsidized credit lines), financial institutions (non-subsidized credit lines, foreign credit lines, other financial instruments), and farm equity (calculated as the difference between total costs and other sources funding).

Over the past 16 crop seasons, the funding provided by the major sources have fluctuated as credit availability, costs (and the resulting demand for credit), interest rates, exchange rates, and other factors have varied. Figure 1 shows the shares of funding by source since the 2008/09 crop season. We will focus our discussion on recent trends since the 2017/18 crop season, which are highlighted in Figure 2.

Rural credit from banks has decreased due to limited availability (see Figure 2). Available funding is released annually by the government and is part of a broader package mainly targeted to small and medium farmers. The amount of subsidized credit has not kept pace with demand as production costs have risen, forcing farmers in Mato Grosso to seek alternative funding sources, especially in recent years. To cover the increasing expenses, a mix of other sources has been utilized. Among them, farm equity more than doubled over the last two crop seasons, going from BRL 7.2 billion in 2021/22 to BRL 15.8 billion in 2023/24 (see Figure 2).

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Figure 1. Share of Operational Costs by Funding Source in Mato Grosso, Brazil

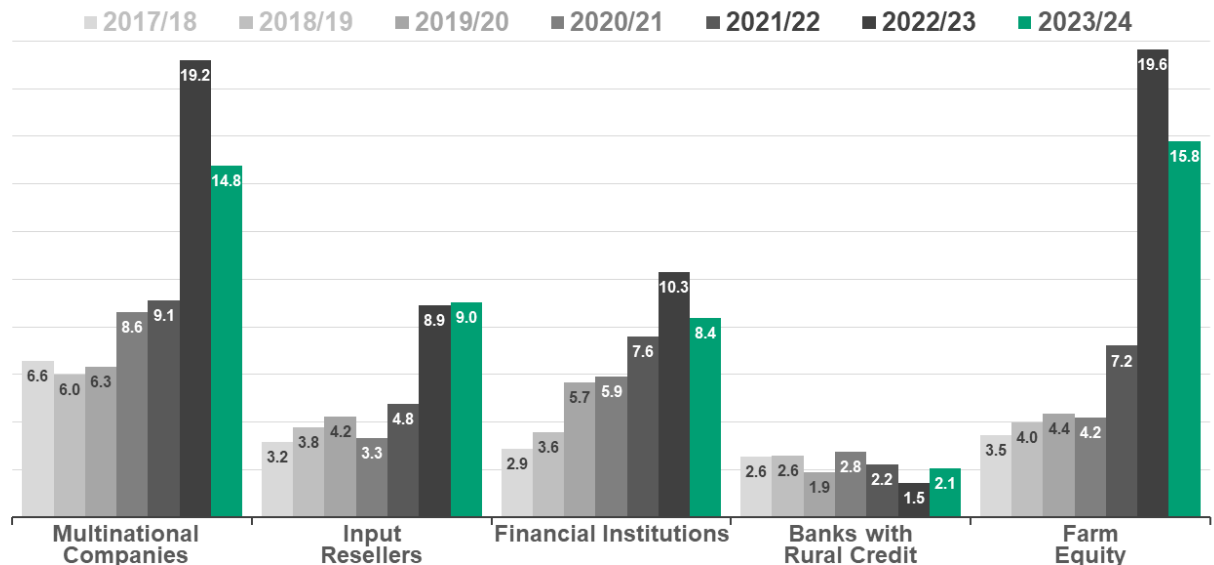


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Source: Mato Grosso Institute of Agricultural Economics (IMEA)

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Figure 2. Operational Costs by Funding Source in Mato Grosso, Brazil (BRL Billion)



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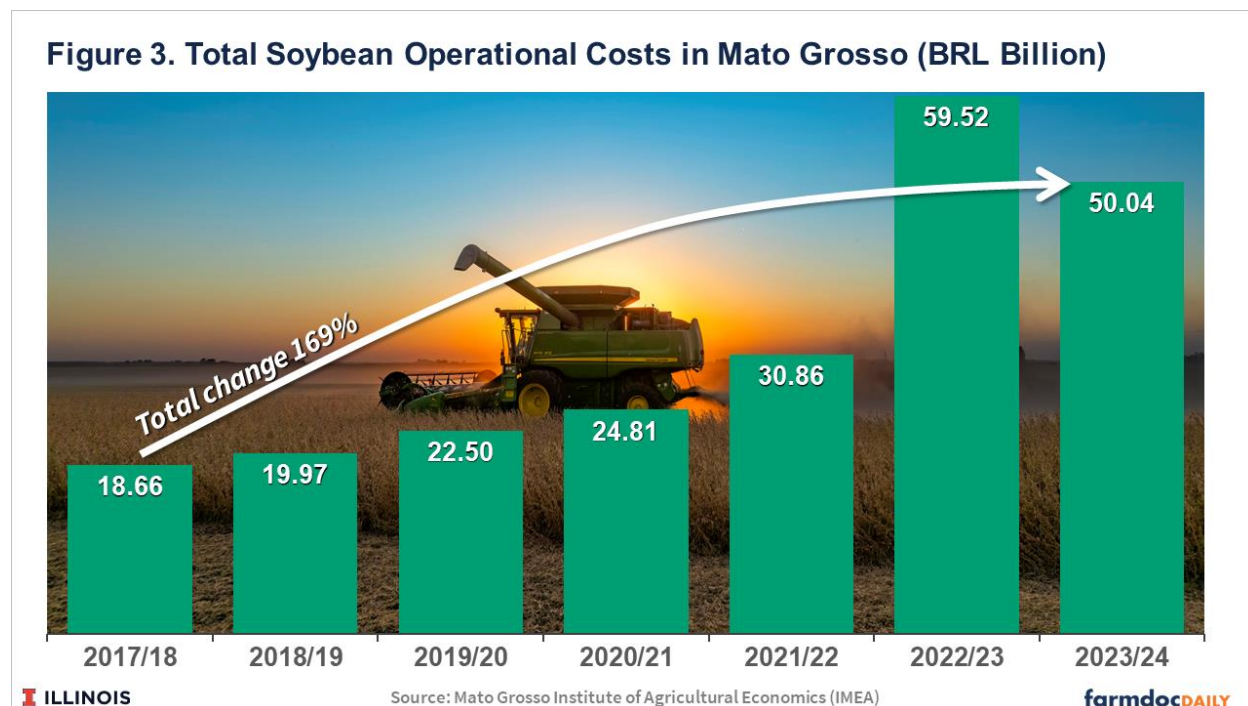
Source: Mato Grosso Institute of Agricultural Economics (IMEA)

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Other funding options are multinational companies (agrochemicals, seeds, and fertilizers) and input resellers. These companies fund operational costs by allowing deferred payments (typically with interest) on input deliveries during or before the growing season. Another common way that they fund farmers are barter agreements. Barter allows farmers to trade future crop production, like soybeans, for inputs, such as seeds, fertilizers, and pesticides, in lieu of cash transactions. For example, they might agree on an input price denominated in bags (60 kg/bag) of soybeans, receive the inputs before or during the growing season, and repay by delivering soybeans to the company at harvest. On average, multinational companies and input resellers have consistently funded about 45% of soybean operational costs, though their shares have varied annually. In terms of total funding, there has been a significant increase over the last two crop seasons (see Figure 2).

Funding from financial institutions with non-subsidized credit lines has also increased substantially, nearly tripling from 2017/18 to 2023/24 (see figure 2). This growth is driven by several factors, including competitive interest rates in specific years and the expansion of LCAs (Letra de Crédito do Agronegócio in Portuguese, or Agribusiness Credit Note in English), a fixed-income investment used to finance the agricultural sector. Financial institutions issue LCAs to raise funds that are then lent to support agribusiness activities. Additionally, there has been an increase in foreign debt, credit lines indexed to the US dollar and other financial instruments targeting agricultural credit.

The rise in soybean operating costs, especially in recent years, has also contributed to these mixed sources. Soybean operational costs in Mato Grosso, which include seeds, fertilizer, chemicals, labor, fuel, post-harvest costs, maintenance, and administrative expenses, more than doubled from 2017/18 to the 2023/24 crop seasons, according to IMEA. In addition, the planted area increased from 23 to 30 million acres in the same period. As a result, the total soybean operational costs for the entire state increased by 169% (see figure 3). Direct costs hit record levels for the 2022/23 season but have since declined for 2023/24, following a similar trend observed in central Illinois soybean production costs (see *farmdoc daily*, November 14, 2023).



The significant increase in soybean operational costs has been driven primarily by currency fluctuations, global market volatility, a heavy reliance on fertilizer imports, and increasing pest pressures in Mato Grosso's tropical climate (see *farmdoc daily*, November 28, 2023). Volatility in global fertilizer markets have more negatively impacted Brazilian farmers as they rely on imports for 85% of their overall fertilizer needs. Brazil imports around 95% of its nitrogen, 91% of its potash, and 75% of its phosphate needs (see *farmdoc daily*, March 17, 2022). Despite rising costs, Brazil's operating margins have remained positive in the last few years due to high commodity prices, strong global demand, and a favorable exchange rate for exporters.

Discussion

Macroeconomic conditions have significantly influenced the funding sources for soybean operational costs in Mato Grosso. Fluctuations in Brazil's base interest rates make credit more or less expensive, directly affecting farmers' borrowing options. Additionally, because soybeans are priced internationally in U.S. dollars, farmers' returns are tied to the exchange rate, which is impacted by interest rates, the political environment and other country specific factors.

For instance, from 2016 to 2023, the Brazilian Real depreciated by 60% against the US dollar, moving from 3.23 to 5.23 BRL per USD. This depreciation has a dual effect for Brazilian farmers: it increases costs for imported inputs but also enhances revenues by boosting export demand, as Brazilian soybeans become cheaper and more competitive in global markets.

During this period, favorable exchange rates and strong prices have fueled farming investments and expansion, primarily debt-financed. However, this boom was followed by a plunge in prices, decreasing farmers' returns and increasing defaults. Funding sources unprepared for this downturn were hit hard. A notable example is Agrogalaxy S.A., a big input reseller that [recently filed for bankruptcy](#), with others reportedly on the verge of doing so. These factors are likely to impact the agricultural sector attractiveness to investors and increase risk perception. As a result, some financial institutions and multinational companies might reduce their credit offerings or at least have more diligence on who to lend to, anticipating a higher likelihood of default. Similar to trends in Illinois (see *farmdoc daily*, [September 24, 2024](#)), margins for farmers in Mato Grosso are projected to shrink in the coming years due to the lower expected prices.

From a farmer's perspective, the cost of borrowing is a key factor that is driven by the base Brazilian interest rate but also on the risk assessment of the agriculture sector and the farm itself. This could both increase borrowing costs but also limit access to credit, forcing farmers to bridge that gap with equity. Those who are well capitalized from strong years may opt to self-finance their operations.

Beyond borrowing costs, farmers also weigh convenience when choosing their funding source. Input resellers, for instance, might offer other products such as agronomic consultancy or services in other enterprises (i.e., livestock), which makes cross-selling (borrowing to farmers that use other products) easier. Barter is another modality that is very appealing, as it secures input and locks-in prices. However, its costs need to be assessed, and the availability of this funding option might diminish, as discussed.

Final Considerations

The funding structure of soybean operational costs in Mato Grosso has shifted over the years. Farmers are increasingly relying on non-subsidized credit and using equity to bridge gaps. As operational costs have risen, the overall market has expanded. However, the credit landscape is becoming more challenging with lower projected returns. Access to credit may tighten and interest rates could rise, pushing farmers to rely more on equity or face increased borrowing costs. As a result, farmers and lenders must exercise great caution when fun funding operational costs in Mato Grosso.

References

Ayres, Marcela. "Banco do Brasil Launches Campaign to Curb Agribusiness Bankruptcies." *Reuters*, September 26, 2024. <https://www.reuters.com/business/finance/banco-do-brasil-launches-campaign-curb-agribusiness-bankruptcies-2024-09-26/>

Colussi, J., G. Schnitkey and C. Zulauf. "War in Ukraine and its Effect on Fertilizer Exports to Brazil and the U.S." *farmdoc daily* (12):34, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 17, 2022.

Colussi, J., N. Paulson, G. Schnitkey, J. Baltz and C. Zulauf. "Comparing Direct Costs of Soybean Production in the United States and Brazil." *farmdoc daily* (13):215, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, November 28, 2023.

Paulson, N., G. Schnitkey, B. Zwilling and C. Zulauf. "2025 Illinois Crop Budgets." *farmdoc daily* (14):173, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 24, 2024.

Paulson, N., G. Schnitkey, C. Zulauf and J. Colussi. "The Rising Costs of Soybean Production in Illinois." *farmdoc daily* (13):208, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, November 14, 2023.