Tennessee Master Farm Manager

Input Considerations & Cost of Borrowing

The purpose of this survey is to demonstrate the progress Tennessee farmers are making towards environmental stewardship.

https://utk.co1.qualtrics.com/jfe/form/SV_b8kZyA9i5i9uLIO

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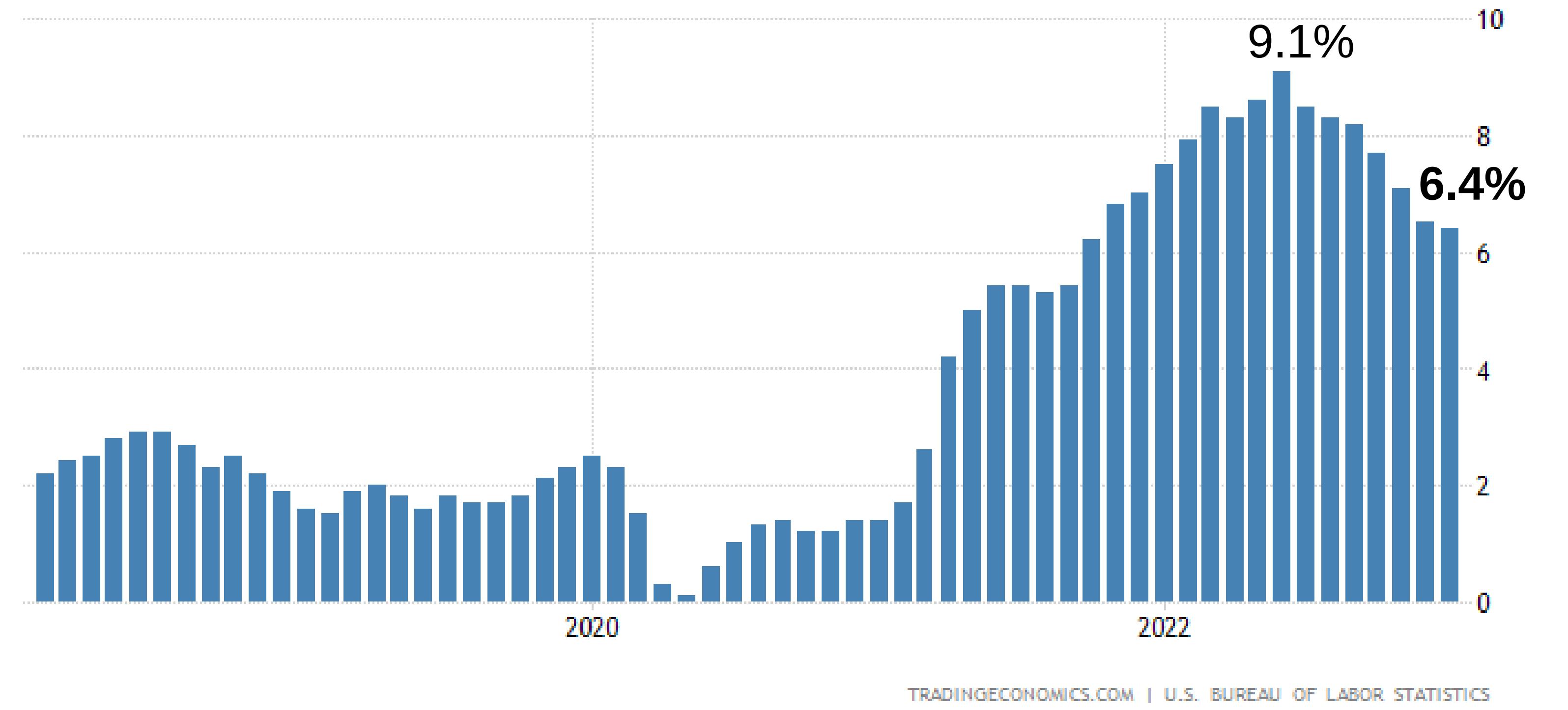
Economic Trends

- Economic trends are having an amplified effect on agricultural markets and farmer profitability.

- Monetary and fiscal policies have contributed (demand side) to the current circumstances but are not the sole cause.

- COVID-19 shutdowns, supply chain disruptions, weather, and geopolitical conflicts have affected the supply side.

Monthly Inflation Rate 2020-2023



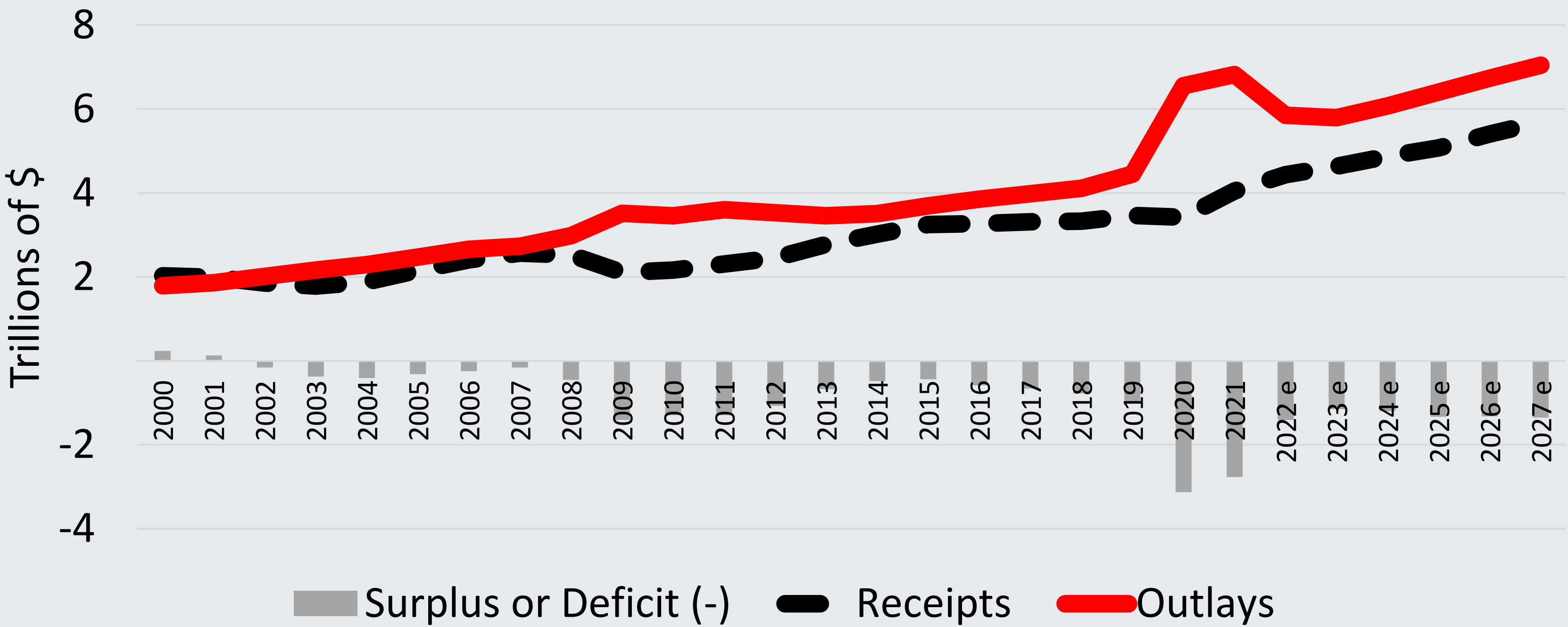
Real. Life. Solutions.

Source: https://tradingeconomics.com/united-states/inflation-cpi

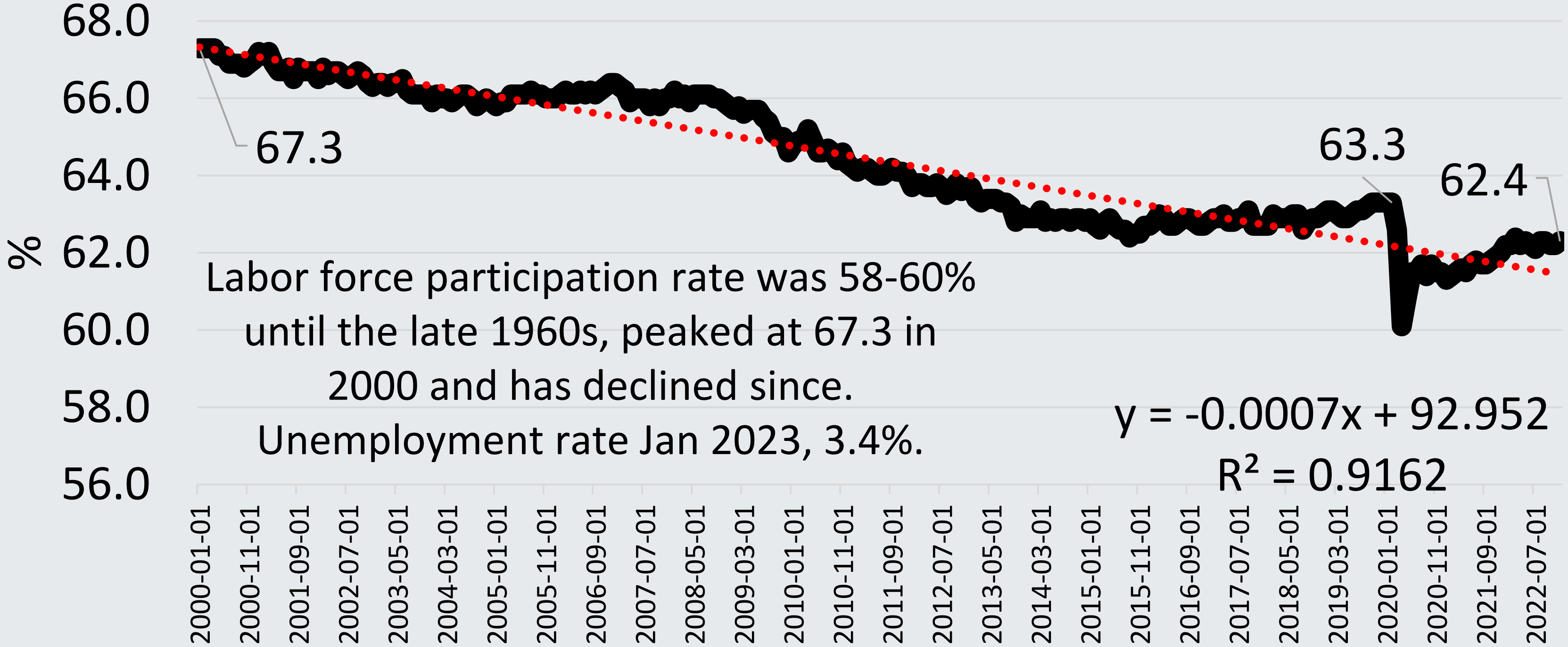
Combating Inflation

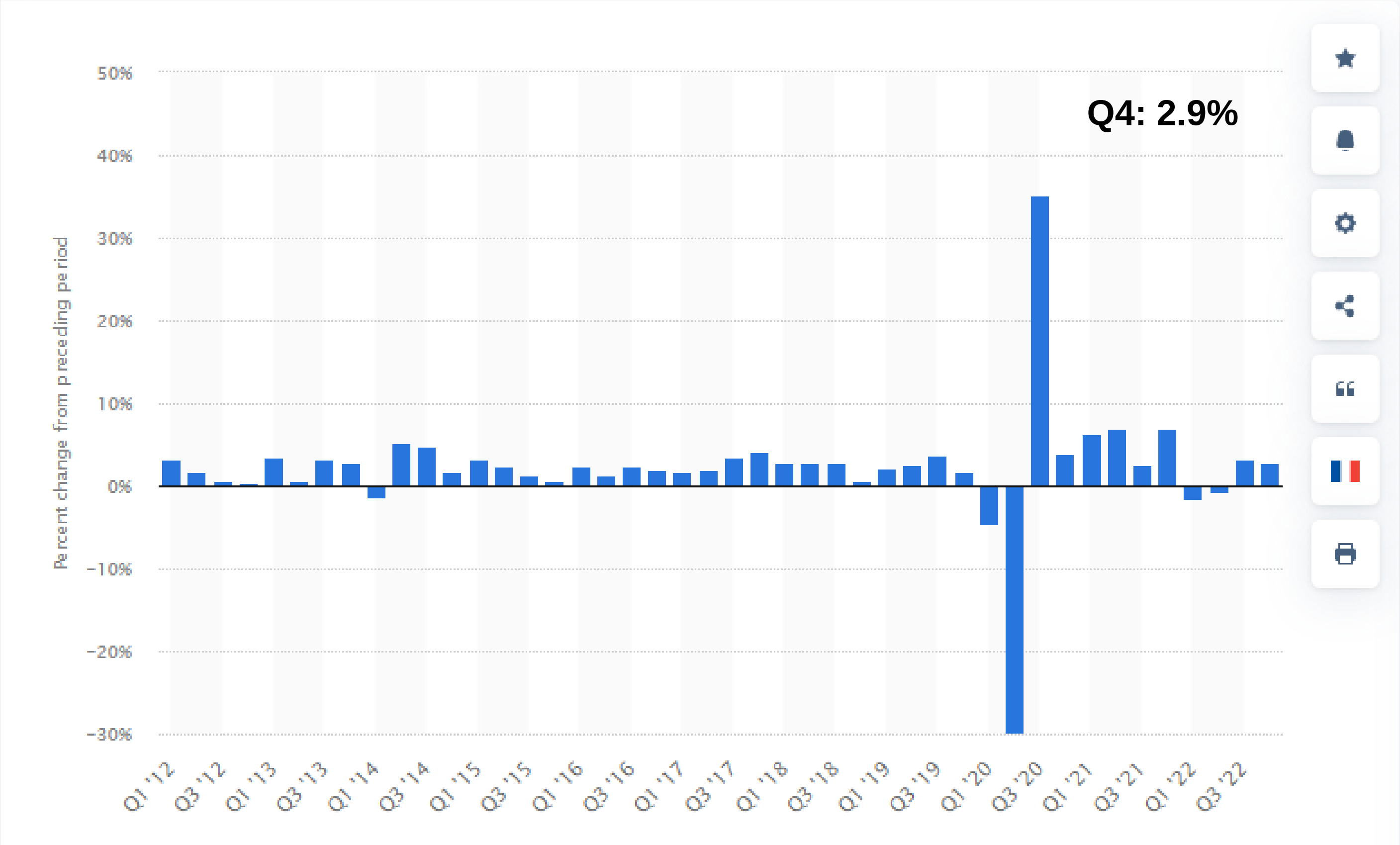
- Fiscal Policy
  - The use of government spending and tax policies to influence economic conditions, especially macroeconomic conditions.
- Monetary Policy
  - A set of tools used by a nation's central bank to control the overall money supply and promote economic growth. A dual mandate to achieve maximum employment while keeping inflation in check
    - Interest rate adjustments
    - Buying or selling securities / financial derivates

Government Receipts, Outlays, and Deficit, 2000-2027e



U.S. Labor Force Participation Rate, 2000-2023





Tennessee Master Farm Manager

Annualized U.S. GDP Growth by Quarter, 2012-2022

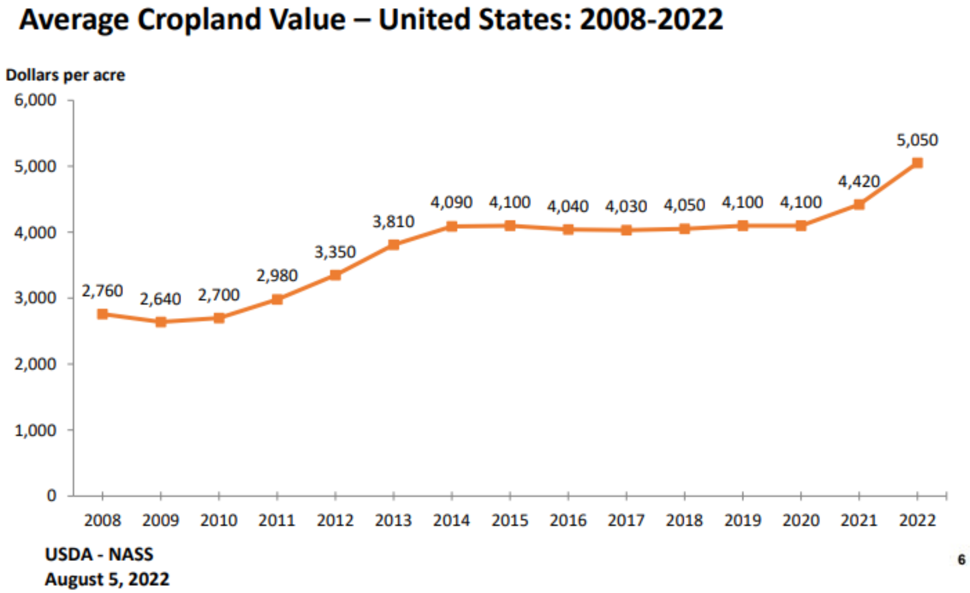
Source: https://www.statista.com/statistics

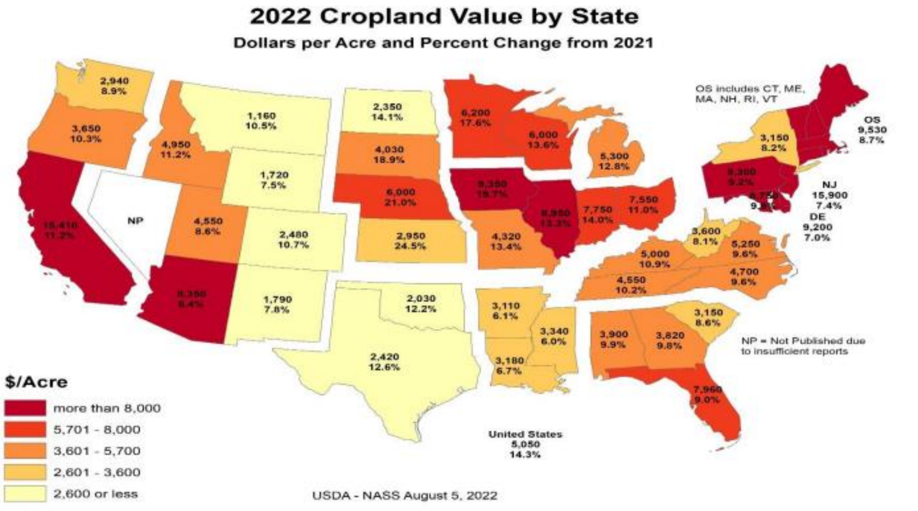
Tennessee Master Farm Manager

Land, Machinery, Fertilizer, Fuel, Operating Interest

INPUT COSTS

Land Values





Land Values 2022 Summary (August 2022)
USDA, National Agricultural Statistics Service

Source: USDA https://www.nass.usda.gov/Publications/Todays_Reports/reports/land0822.pdf

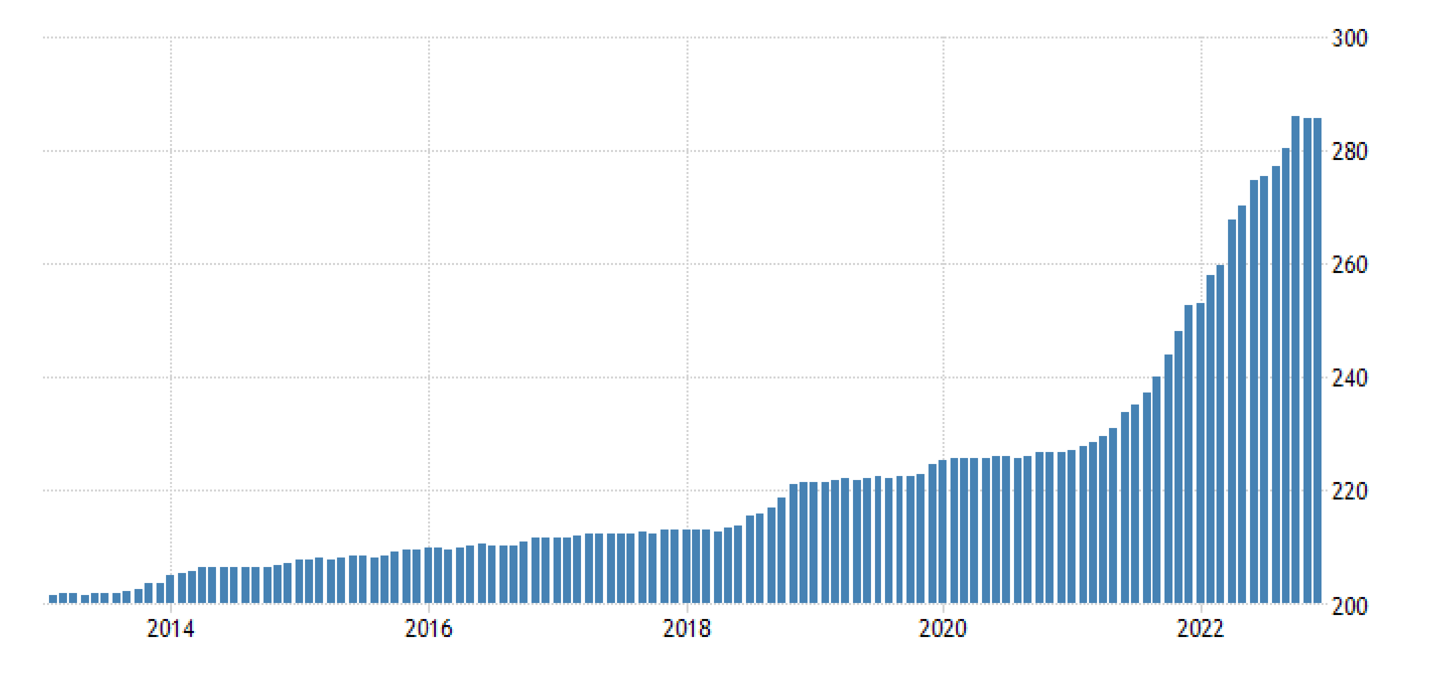
Cash Rent or Crop Share

	NASS Average Cash Rental Rate ($/acre)
Tennessee	$111.00
Coffee	$90.50
Franklin	$124.00

¼ Crop Share

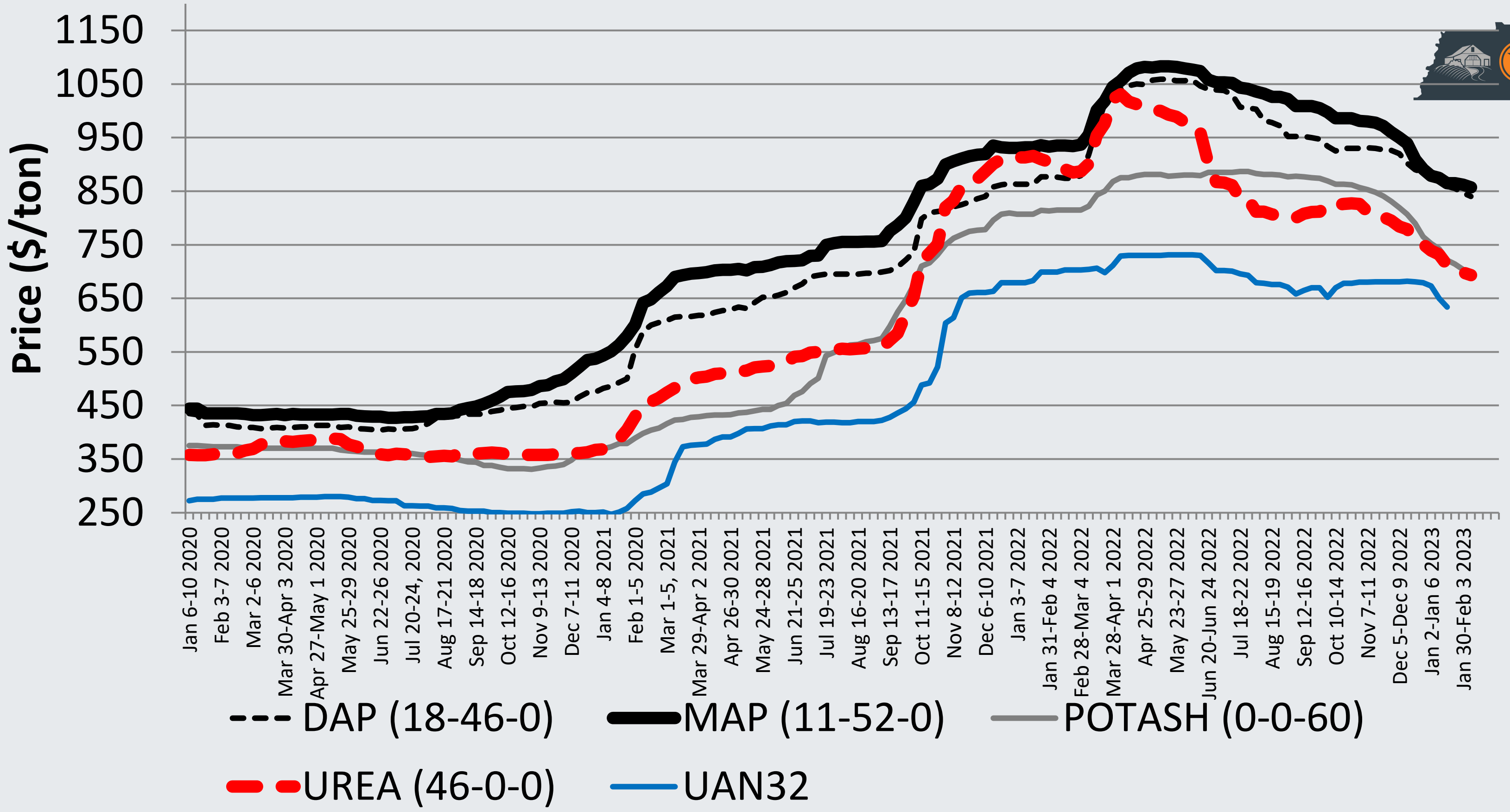
Corn: 195 bu/acre x $7.00 x 25% = $341.25/acre
Soybean: 60 bu/acre x $14.00 x 25% = $210.00/acre

Producer Price Index by Industry: Farm Machinery and Equipment Manufacturing was 285.735 Index Dec 1982=100 in December of 2022



Farm machinery in December 2022 was up ~ 30% compared to 2020.

Fertilizer Prices



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Fertilizer Prices, $/Ton

	DAP (18-46-0)	MAP (11-52-0)	POTASH (0-0-60)	UREA (46-0-0)	10-34-0	ANHYD (82-0-0)	UAN28	UAN32
Apr 15, 2022	1,047	1,071	875	1,017	906	1,534	630	730
Nov 11, 2022	931	980	853	812	758	1,434	582	680
Feb 6, 2023	**840**	**857**	**694**	**693**	**755**	**1,220**	**499**	**579**

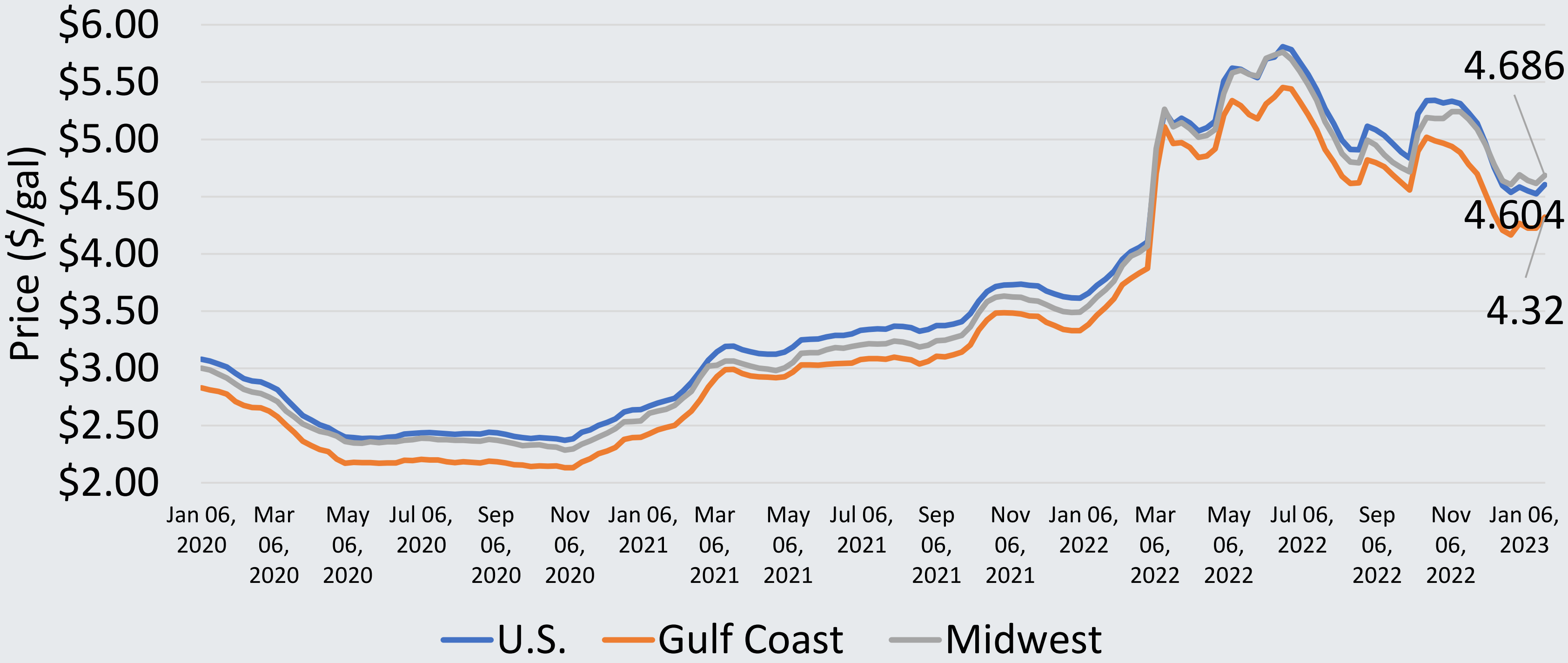
180 lbs N (UREA and UAN32), 70 lbs P, 70 lbs K

Apr 15 cost per acre: $299.40/acre

Feb 3 cost per acre: $219.35/acre

$80.05/acre difference

Weekly Retail No 2 Diesel Prices ($/gal), 2020-2023



Estimated Cost of Production

Tennessee Master Farm Manager

Commodity & Production Process	Revenue ($/Acre)	Variable Expenses ($/Acre)	Fixed Expenses ($/Acre)	Cost Of Production ($/Acre)	Returns Over Specified Costs
Corn	$1,225	$646	$279	$925	$300
Soybeans	$840	$338	$267	$605	$235
Wheat & Soybean	$1,340	$689	$382	$1,071	$269

2,000 acres of corn x $925/acre = $1,850,000
2,000 acres of soybean x $605/acre = $1,210,000

Cost of Production and Operating Credit

- Kansas City Federal Reserve reported that operating loan limits have increased 20%.

- Operating limits sufficient versus excessive
  - Lender's capital can be tied up with unutilized operating credit. This is an expense to the lender that is often passed to the borrower.

Rising interest rates will cost you money

	$1,250,000 Operating Utilization		
Interest Rate	3.25%	5.5%	7.5%
Interest	$40,750	$68,750	$93,750
Change	-	$28,000	$53,000
Increase ($/acre)	-	$11.20	$21.20

Assumptions: 2,500 acres.

This Section Will Help You

- Understand the basics of credit.
- Develop questions to ask when obtaining new credit or refinancing existing credit.
- Estimate the costs of borrowing.
- Goal: Credit efficiency!

What Are Your Borrowing Goals?

- Debt reduction.
  - Pay down debt quickly.
  - Debt servicing ability vs. other commitments.
- Operation expansion or improvement.
  - Grow your business over time.
  - Maintain financial stability.

Overview

- Five C's of credit
- Credit reports and scores
- Interest rates and fees
- Term, amortization, and compounding periods
- Repayment
- Loan types
- Refinancing and loan structure

You should not be afraid of debt, it is a tool that, if managed correctly, will help obtain your goals and improve the financial performance of your business.

5 C’s of Credit

- Capacity
  - Ability to repay the loan
  - Ex) Debt-to-income ratio or debt service capacity
- Capital
  - Down payment or equity
  - Ex) Debt-to-asset; debt-to-equity
- Collateral
  - Assets pledged as an alternative source of repayment
  - Ex) Loan-to-value; life insurance; crop insurance
- Character
  - Repayment history / relationship / credit score
- Conditions
  - Use of loan proceeds, state of the agricultural economy, industry trends
  - Repayment terms, clauses, reporting requirements

These will impact your access to credit, repayment terms, interest rates, fees, and borrowing conditions.

Taxes and Credit Scores

- Two things you don't want to mess up!
  - Credit score ie. FICO scores range from 300–850
    - **Make sure your spouse/children establish credit scores**
  - Taxes (IRS problems can be a nightmare)

All credit reports contain basically the same types of information:

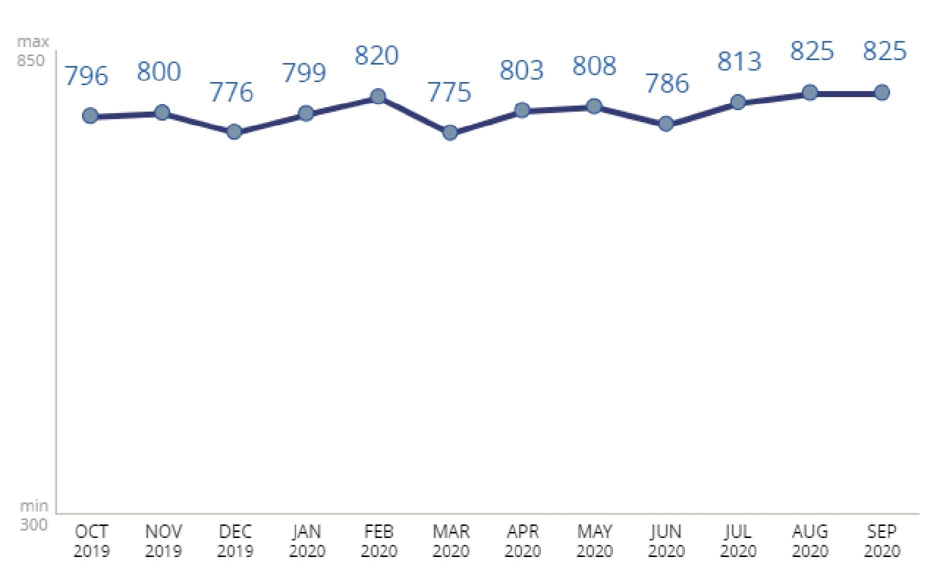
1. **<u>Personal Information</u>** - Your name, address, Social Security number, date of birth and employment information. This information is not used in calculating your FICO® Score; it is only used to identify you. Updates to this information come from information you supply to your lenders.

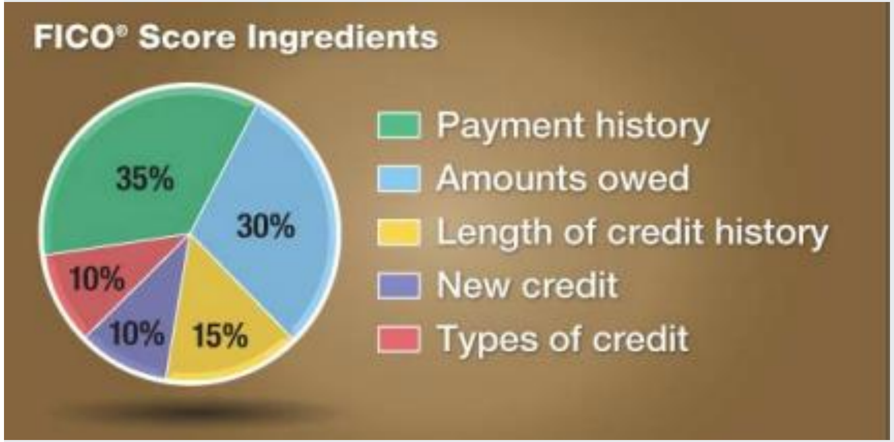
2. **<u>Your Credit Accounts</u>** - Most lenders report information about each account you have established with them. They report the type of account (bank credit card, auto loan, mortgage, etc.), the date you opened the account, your credit limit or loan amount, the account balance, and your payment history.

3. **<u>Requests for Credit</u>** - When you apply for a loan, you authorize your lender to ask for a copy of your credit report. This is how inquiries appear on your report. Your credit report lists inquiries that lenders have made for your credit report within the last two years.

4. **<u>Public Record and Collection Items</u>** - Consumer reporting agencies also collect information on overdue debt from collection agencies and public record information such as bankruptcies, foreclosures, tax liens, garnishment, legal suits and judgments from state and county courthouses. In general, these items remain on your credit report for 7 to 10 years.

What goes into your credit score?





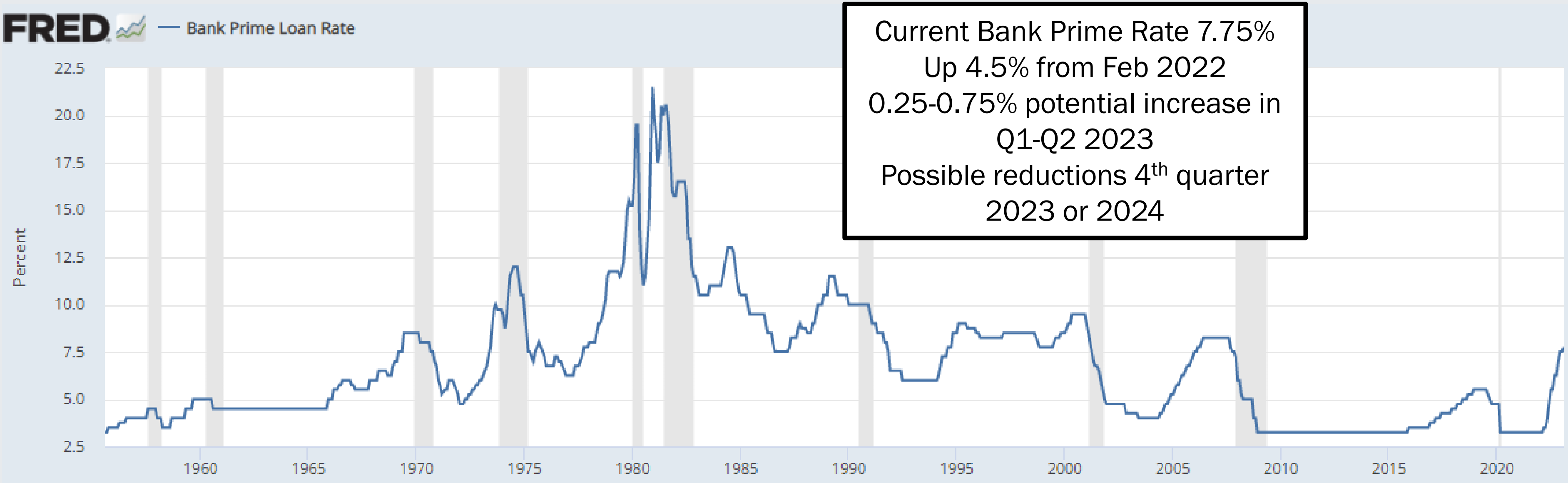
Interest Rates and Fees

- Federal funds rate / bank prime loan rate
- Fixed
- Variable
- Reoccurring and one-time fees
- Annual percentage rate (APR)

Prime Rate

- The **prime rate** is the interest rate that commercial banks charge their “most credit-worthy” corporate customers.

Bank Prime Loan Rate



Current Bank Prime Rate 7.75%
Up 4.5% from Feb 2022
0.25-0.75% potential increase in Q1-Q2 2023
Possible reductions 4th quarter 2023 or 2024

Source: https://fred.stlouisfed.org/series/DPRIME

Variable Interest Rate

- Interest rate changes with movements in a benchmark interest rate (ex. prime loan rate).
  - Example.
    - Loan note at: Prime + 2.0 (prime rate is 7.00%).
    - Initial rate is 9.00%.
    - Prime rate increases 0.5% new interest rate is 9.5%, effective immediately.
    - Monthly/annual payment is adjusted up or down to reflect the higher or lower interest rate (usually term or amortization schedule will not automatically be adjusted).

- Variable interest rate products can be beneficial if you expect interest rates to decline.
  - Seems unlikely right now in the short term.

Fixed Interest Rate

- Interest rate does not change for the term of the loan.
- Fixed interest rates can be used by credit cards, operating, machinery, livestock, buildings, or land loans.
- Fixed interest rates are beneficial if you expect interest rates are going to increase in the future.
  - Seems likely in the short term but unlikely in the medium to long term.

Rising interest rates will cost you money

	500,000 over 15 years		
Interest Rate	3.25%	5.5%	7.5%
Interest	$132,402	$235,375	$334,311
Change	-	$102,973	$201,909

Fees

- **Recurring Fees** - happens when a lender automatically charges a borrower for specified products or services on a prearranged schedule.
  - Recurring fees requires the lender to get the borrower's **initial** permission.

- **One-time Fees** - is a cost of borrowing that occurs at a specified time (usually loan origination) and is not repeated over the duration of the loan agreement.
  - Examples: document preparation fees, appraisal fees, loan origination fees.

- Fees must be disclosed to the borrower!

Annual Percentage Rate

- An annual percentage rate (APR) is the annual rate charged for borrowing.

- APR is expressed as a percentage that represents the actual yearly cost of funds over the term of a loan.
  - This includes any fees or additional costs associated with the transaction.

- Loan agreements can vary in terms of interest-rate structure, transaction fees, late penalties and other factors
  - A standardized computation such as the APR provides borrowers with a number, they can easily compare to rates charged by other lenders (calculate APR yourself).

Annual Percentage Rate

- Formula

- $APR = \frac{\frac{(Fees+Interest)}{Principle}}{n} x\ 365\ x\ 100$

- Where:
  - Fees = total estimated fees paid over the life of the loan
  - Interest = total interest paid over the life of the loan
  - Principle = the amount borrowed
  - n = number of days in loan term

- Obtain a fee disclosure and amortization schedule.

Annual Percentage Rate: Example

- Fees = $1,500
- Interest = $30,000
- Loan amount = $100,000
- Term = 5 years (1,825 days)

- $1,500+$30,000=$31,500
- $31,500 / $100,000 =0.315
- 0.315 / 1,825 x 365 x 100 = 6.3%

Term & Amortization

- Term = The length of time you are committed to an interest rate, lender, and conditions set out by the lender.

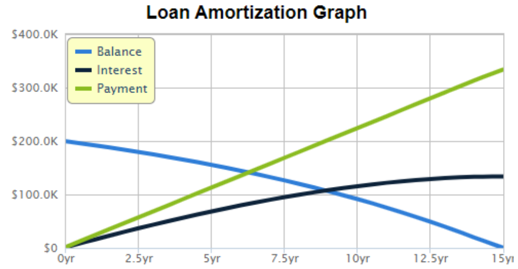
- Amortization = The length of time it takes you to pay off your entire loan.

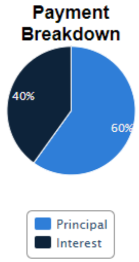
- Term and amortization can be the same duration or term can be less than amortization.
  - Example: 36/60 = 36-month term and 60-month amortization.

Term & Amortization

- A shorter term can provide risk/reward based on current interest rate offerings and expectations.
- Amortization should never exceed the useful life of the asset.
- Longer amortization schedules reduce annual or monthly payments (reduced cash flow requirements), at the expense of greater interest paid.
- Short amortization schedules increase annual or monthly payments (greater cash flow requirements), saving interest expense.
  - Allow for sufficient amortization to avoid cash flow stress when possible.
- On term debt more interest is typically paid on the front end of the loan.
  - This can be important when considering refinancing!

Amortization Schedule ($200,000; 7.5%; 15- vs. 10-year Amortization)



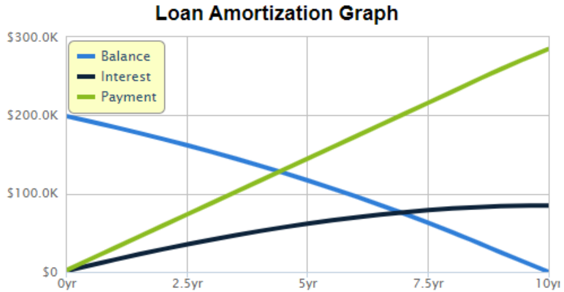


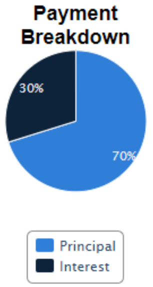
Payment $22,248
Total Interest = $133,724

Annual Amortization Schedule

Annual Schedule | Monthly Schedule

	Beginning Balance	Interest	Principal	Ending Balance
1	$200,000.00	$14,745.57	$7,502.67	$192,497.28
2	$192,497.28	$14,163.12	$8,085.12	$184,412.10
3	$184,412.10	$13,535.46	$8,712.78	$175,699.25
4	$175,699.25	$12,859.05	$9,389.19	$166,310.00
5	$166,310.00	$12,130.13	$10,118.11	$156,191.84
6	$156,191.84	$11,344.65	$10,903.59	$145,288.17
7	$145,288.17	$10,498.15	$11,750.09	$133,538.03
8	$133,538.03	$9,585.97	$12,662.27	$120,875.69
9	$120,875.69	$8,602.95	$13,645.29	$107,230.35
10	$107,230.35	$7,543.64	$14,704.60	$92,525.68
11	$92,525.68	$6,402.07	$15,846.17	$76,679.44
12	$76,679.44	$5,171.87	$17,076.37	$59,603.03
13	$59,603.03	$3,846.19	$18,402.05	$41,200.92
14	$41,200.92	$2,417.59	$19,830.65	$21,370.22
15	$21,370.22	$878.08	$21,370.16	$0.00





Annual Amortization Schedule

Payment $28,488
Total Interest = $84,884

Annual Schedule | Monthly Schedule

	Beginning Balance	Interest	Principal	Ending Balance
1	$200,000.00	$14,526.52	$13,961.96	$186,038.11
2	$186,038.11	$13,442.64	$15,045.84	$170,992.33
3	$170,992.33	$12,274.58	$16,213.90	$154,778.50
4	$154,778.50	$11,015.87	$17,472.61	$137,305.96
5	$137,305.96	$9,659.44	$18,829.04	$118,476.97
6	$118,476.97	$8,197.69	$20,290.79	$98,186.24
7	$98,186.24	$6,622.46	$21,866.02	$76,320.28
8	$76,320.28	$4,924.96	$23,563.52	$52,756.82
9	$52,756.82	$3,095.67	$25,392.81	$27,364.06
10	$27,364.06	$1,124.37	$27,364.11	$0.00

Compounding Period

- A compounding period is the span of time between when interest was last compounded and when it will be compounded again.

- Annual compounding means that a full year will pass before interest is compounded again.
  - When interest compounding occurs, interest is added to the principal (or payment) on a loan.

- A lender may engage in more aggressive monthly or quarterly compounding, which increases the amount to be repaid by the borrower.

Compounding Example

- The interest on a $200,000 mortgage compounded monthly or annually.
- If the annual interest rate on that mortgage is 6%, the periodic interest rate used to calculate the interest assessed in any single month is 0.06 divided by 12, working out to 0.005 or 0.5%.
- If the mortgage is paid annually, but compound monthly you are paying interest on interest.

Interest Rate = 6% (0.5% per month)		
	Compounded	
Compounding Periods	Monthly	Annually
Initial Balance	200,000	200,000
1	201,000	212,000
2	202,005	
3	203,015	
4	204,030	
5	205,050	
6	206,076	
7	207,106	
8	208,141	
9	209,182	
10	210,228	
11	211,279	
12	212,336	
Payment	36,000	36,000
Ending Balance	176,336	176,000

Repayment

- Repayment period (weekly, monthly, semi-annually, or annually) should coincide with the frequency of cash flow from your operation.
  - In some cases, this may coincide with income generated from the financed asset.
  - Do you have multiple sources of repayment?

- Payment timing – should be modified to occur after income is received (avoid payment residency time in an operating loan or other short term debt instrument).
  - Example: 3-5 days after a milk check is received.
  - November, December, or January for crops (consider tax implications in your loan repayment strategy).

Prepayment

- Determine if prepayment of the loan can occur without penalty (i.e. prepayment fee).

- Maintain payment flexibility if possible.
  - Add years on amortization to lower the annual payment, rather than stress cash flow if prepayment without penalty is available.

Types of Farm Credit

- Revolving credit
  - Credit cards, operating loans, supplier lines of credit etc.
- Intermediate loans
  - Machinery and livestock
  - Dealership financing
- Long-term loans
  - Buildings and farm infrastructure
  - Land / mortgages

Credit Cards

- Every farm should have one…….if it is used correctly.
  - Appropriate limit will vary by industry and operation ~ annual farm expenses / 12 months (can depend on expense timing)
  - Reward points, cash back/dividend
  - Fees (annual or maintenance fee)
  - Interest rate (if you are using a credit card correctly this becomes irrelevant). Average interest rate on a credit card is 17.3%!
- Pay **full balance** monthly, on time.
- Be aware of purchases that add to the price of the product or service if a credit card is used.

Credit Cards

- Make sure you understand how your credit card fees and interest are calculated.
  - For example, cash advances typically immediately start accruing interest purchases do not.
  - **Read the fine print!**

New Balance	**$2,683.32**
Minimum Payment Due	**$53.66**
Payment Due Date	**02/05/20‡**

‡**Late Payment Warning:** If we do not receive your Minimum Payment Due by the Payment Due Date of 02/05/20, you may have to pay a late fee of up to $39.00 and your APRs may be increased to the Penalty APR of 29.99%.

Minimum Payment Warning: If you make only the minimum payment each period, you will pay more in interest and it will take you longer to pay off your balance. For example:

If you make no additional charges and each month you pay...	You will pay off the balance shown on this statement in about...	And you will pay an estimated total of...
Only the Minimum Payment Due	10 years	$5,671
$100	3 years	$3,608 *(Savings = $2,063)*

Hilton Honors Points
Earned this Period
11,505

For more details about Rewards, please visit **americanexpress.com/rewardsinfo**

Account Summary

Previous Balance	$4,400.59
Payments/Credits	-$4,400.59
New Charges	+$2,683.32
Fees	+$0.00
Interest Charged	+$0.00
New Balance	**$2,683.32**
Minimum Payment Due	**$53.66**
Credit Limit	$21,100.00
Available Credit	$18,416.68
Cash Advance Limit	$3,700.00
Available Cash	$3,700.00

Days in Billing Period: 30

Customer Care

Pay by Computer

Credit Cards (musts)

- **<u>Pay NO interest</u>**
- No cash advances
- Minimize fees subject to rewards or dividends.

Fees

	Amount
Total Fees for this Period	**$0.00**

Interest Charged

	Amount
Total Interest Charged for this Period	**$0.00**

About Trailing Interest

You may see interest on your next statement even if you pay the new balance in full and on time and make no new charges. This is called "trailing interest." Trailing interest is the interest charged when, for example, you didn't pay your previous balance in full. When that happens we charge interest from the first day of the billing period until we receive your payment in full. You can avoid paying interest on purchases by paying your balance in full and on time each month. Please see the "When we charge interest" sub-section in your Cardmember Agreement for details.

2019 Fees and Interest Totals Year-to-Date

	Amount
Total Fees in 2019	$95.00
Total Interest in 2019	$0.00

Interest Charge Calculation

Your Annual Percentage Rate (APR) is the annual interest rate on your account.

	Transactions Dated From	To	Annual Percentage Rate	Balance Subject to Interest Rate	Interest Charge
Purchases	01/12/2019		20.24% (v)	$0.00	$0.00
Cash Advances	01/12/2019		26.74% (v)	$0.00	$0.00
Total					**$0.00**

(v) Variable Rate

Operating Loans

- Should revolve at least annually and are typically renewed on an annual basis.
  - Fee disclosures
    - Loan administration fee
    - Annual review or maintenance fee
    - Document preparation fee
  - Security assignment of crops, livestock, cash instruments, account receivable, machinery, or land and buildings.
    - The security pledged, farm's financial situation, and ability to repay should be reflected in the interest rate and fees negotiated with the lender.

What should my operating loan limit be?

- Depends on all the farm's short-term liabilities (input supplier, credit cards etc)

- Farm enterprise specific.
  - Multiple enterprises can skew operating loan requirements.

- If you are always at or approaching your operating loan limit you have one of three problems:
  1. Limit is too low.
  2. Loan structure is poor / capital expenditures have not been termed out.
  3. Lack of profitability.

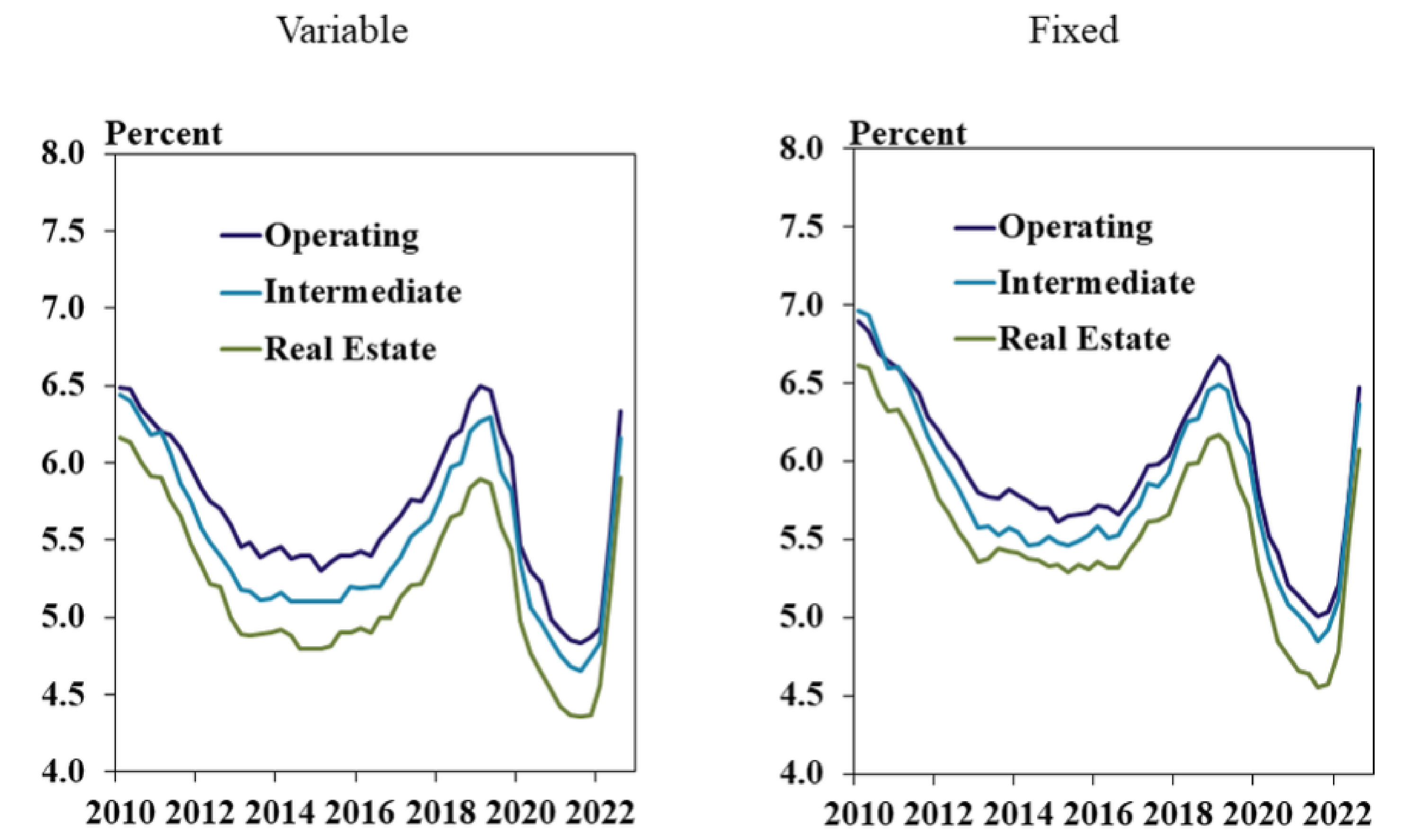
Machinery and Equipment Loans

- Dealer financing may be beneficial but understand the terms and conditions and estimate APR.
  - Is the purchase price for a cash offer different than dealer financing?
- Down payment requirements.
- Amortization should not exceed useful life.
- Avoid financing redundant equipment and liquidate unproductive assets.
- Have a replacement plan for key assets.
- Do not buy equipment if it is only to avoid income taxes!

Land Loans / Mortgages

- Should I be buying this land?
  - Does it fit in my operation?
  - Can it pay for itself?
  - Can the operation afford the payments?
  - Can I afford the down payment?
  - What is the optimal amortization period?
  - Proximity to existing land base (Swap).
- Seek out beneficial credit arrangements (beginning farmer programs etc).
  - Can I use this purchase to get the next generation some skin in the game?
- Evaluate all fees and interest rate offerings.

Average Farm Interest Rates (Kansas City Federal Reserve)



Source: https://www.kansascityfed.org/agriculture/ag-credit-survey/strong-farm-economy-but-interest-expenses-and-drought-intensify-pressures/

Loan Structure

Tennessee Master Farm Manager

Operating

Intermediate

Long-term

Ideally interest rates would be lower for long term debt than short term debt; but this is not usually the case due to timing of when debt was occurred, negotiating, security etc (interest rate is reflective of the banks risk).

Protect working capital!

Refinancing

- **Refinancing** – when a business revises the interest rate, payment schedule, amalgamates credit, and terms of a previous credit agreement (s).

- Types of Refinancing
  1. Rate-and-Term Refinancing
     - Payout existing note(s) with a new note at more beneficial interest rate, terms, or conditions.
  2. Cash-Out Refinancing
     - The underlying asset collateralizing the loan increases in value or exceeds current loan-to-value.
     - The transaction involves withdrawing a portion of the value or equity in the asset in exchange for a higher loan amount.
  3. Consolidation Refinancing
     - Can be used when a farm obtains a loan(s) at a rate that is lower than their current average interest rate across several credit products.
     - Can reduce average annual/monthly payments to reduce debt servicing requirements (at the cost of time and interest paid).
     - Improve terms and conditions compared to previous loan(s).

Refinancing

- Is now a good time to refinance debt?
  - Probably not, but you need to do your due diligence.
- Reasons for refinancing
  - Interest savings
  - Improve loan structure / term out short-term losses
  - Equity draw as part of a long-term strategy
    - Purchase of additional assets
    - Farm transition

Refinancing

- May not solve fundamental issues with profitability in an operation.
  - In which case you signed onto a long-term equity drain that will eventually lead to the sale of assets.
  - Acknowledge the purpose of refinancing.

- Equity / collateral requirements.

- Understand the credit terms and conditions.
  - Investigate government / specialty programs.
  - Evaluate the amortization schedules of current loans.
  - Do not forget about fees and interest rates.

- Most lenders are not receptive to doing refinancing every year or multiple times in a five-year period.

- Refinancing should be part of a larger financial plan or strategy to move the business forward.

- Do not refinance and think it is time to go out and obtain a whole bunch more credit!

- You must calculate the numbers to know if it makes sense.

Tips for Working with Lenders

- Start the relationship early
  - Build honesty and trust
  - Its easier to start small and build a relationship
- Create a narrative
  - Make sure your lender understands your goals and aspirations
- Communication
  - Share the details of your plan
  - Provide essential information
  - Follow up
- Be punctual
  - Arrange and keep meetings; be organized and try to full fill reporting requirements accurately and timely.
- Make use of his / her expertise
- Talk to your lender if you’re experiencing financial distress or unforeseen circumstances

Loan Renewal / Application Checklist

- Tax returns, income statement, and balance sheet.
- Last year's production / yield history or crop insurance record for each crop / animal enterprise on your farm.
- A list of outstanding loans: all your liabilities with all terms and payments.
- A list of crops/products carried over into the next fiscal year (other accrual adjustments).
- A list of capital purchases.
- A projection and budget for the upcoming production year.
- A risk management and marketing plan.
- A succession plan.

- Discuss any proposed changes to the business or management structure.
- Discuss any issues that affected or may affect the financial performance of the business.
- Discuss planned capital purchases or other key decisions.

Take Home Message

- Evaluate all current debt instruments for potential savings.
  - Read the fine print.
  - Run the numbers.
- Direction of interest rates.
  - Short- and long-term.
  - How does this effect your decisions?
- Fully explore borrowing costs for new credit.
  - Know your current financial position and negotiate accordingly
- Structure your loans appropriately.
- Build a relationship with your lender.
- Review outstanding debt and operating credit needs annually.

Tennessee
Master Farm Manager

Input Considerations & Cost of Borrowing

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