

FARMLAND TRENDS AND OWNERSHIP

Midwest Agriculture Conference

Federal Reserve Bank of Chicago

November 28, 2023



Center for Commercial Agriculture

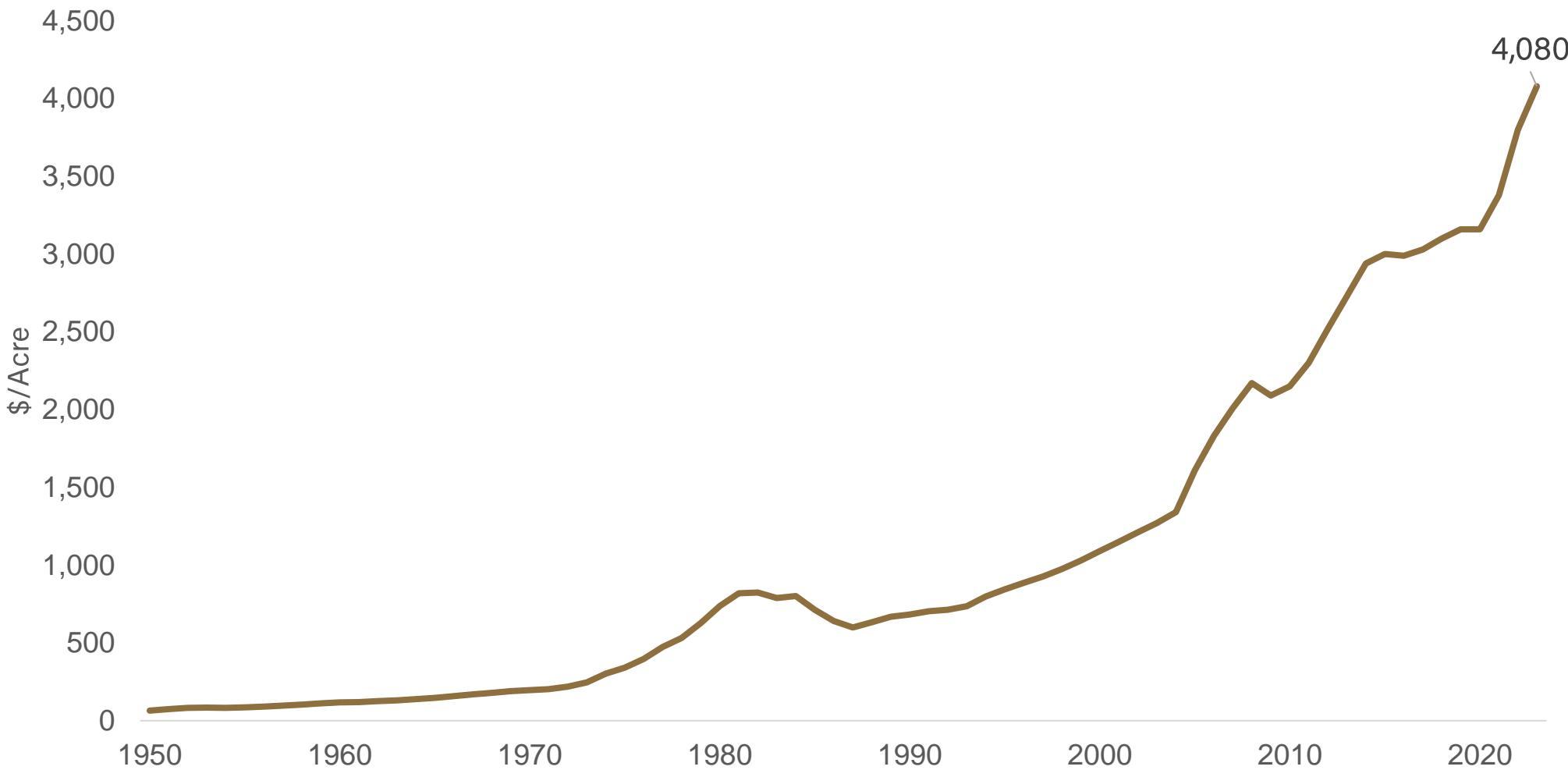
Farm Sector Balance Sheet

Billions of dollars

	2000	2005	2010	2015	2020	2022	2023F
Farm Assets	1,203	1,709	2,171	2,880	3,175	3,837	4,088
Real Estate	946	1,373	1,660	2,366	2,641	3,175	3,418
Farm Debt	164	209	279	357	441	496	520
Real Estate	85	114	154	209	289	335	354
Equity	1,039	1,500	1,892	2,523	2,733	3,340	3,568
Debt/Asset Ratio	13.6	12.2	12.8	12.4	13.9	12.9	12.7
Real Estate/Assets	78.7	80.3	76.5	82.1	83.2	82.7	83.6
Real Estate/Debt	51.7	54.5	55.2	58.5	65.4	67.5	68.1

Source: USDA-ERS

Long-run US farm real estate values (\$/acre)



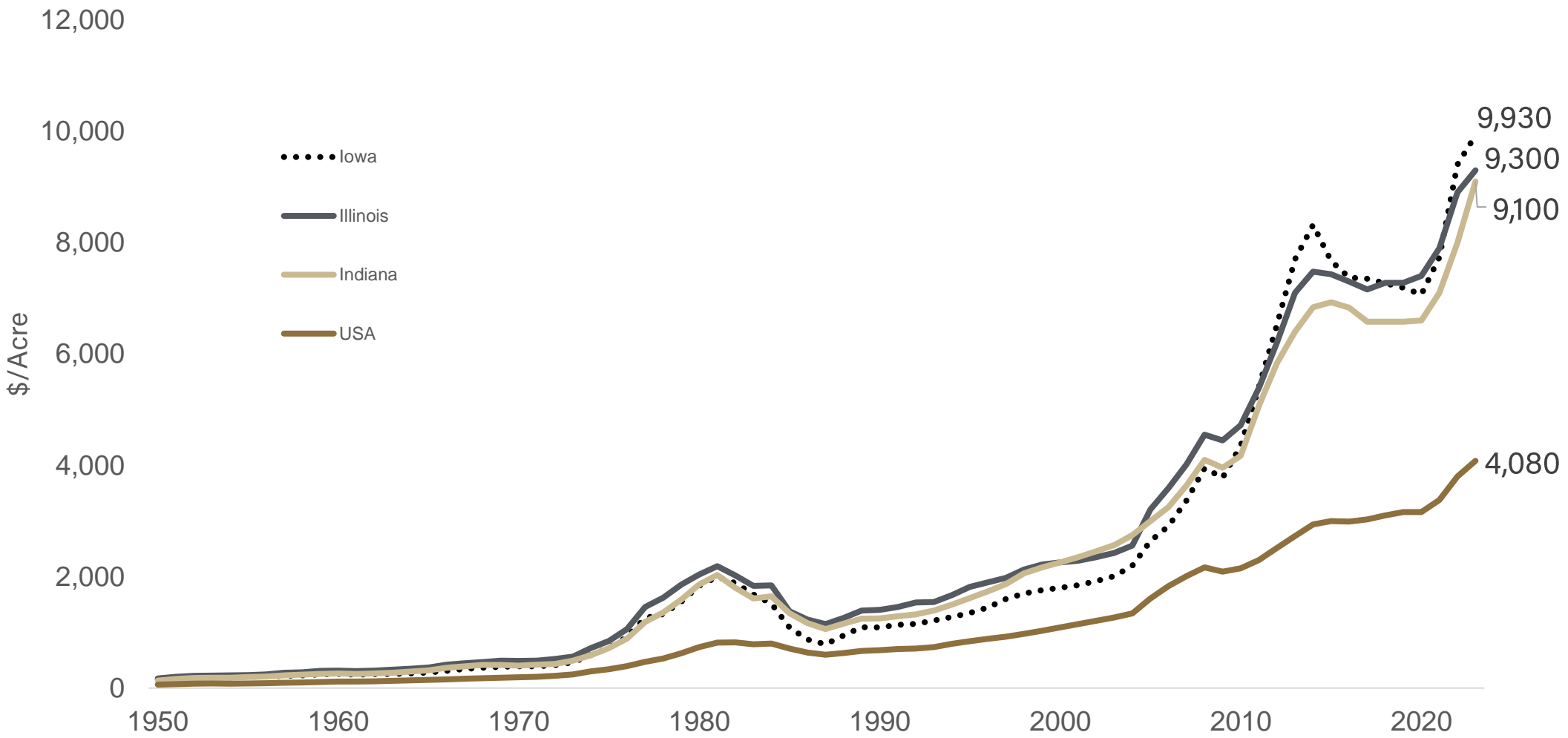
Source: USDA-NASS



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Crop Outlook Webinar October 9, 2020

Long-run US farm real estate values (\$/acre)



Source: USDA-NASS

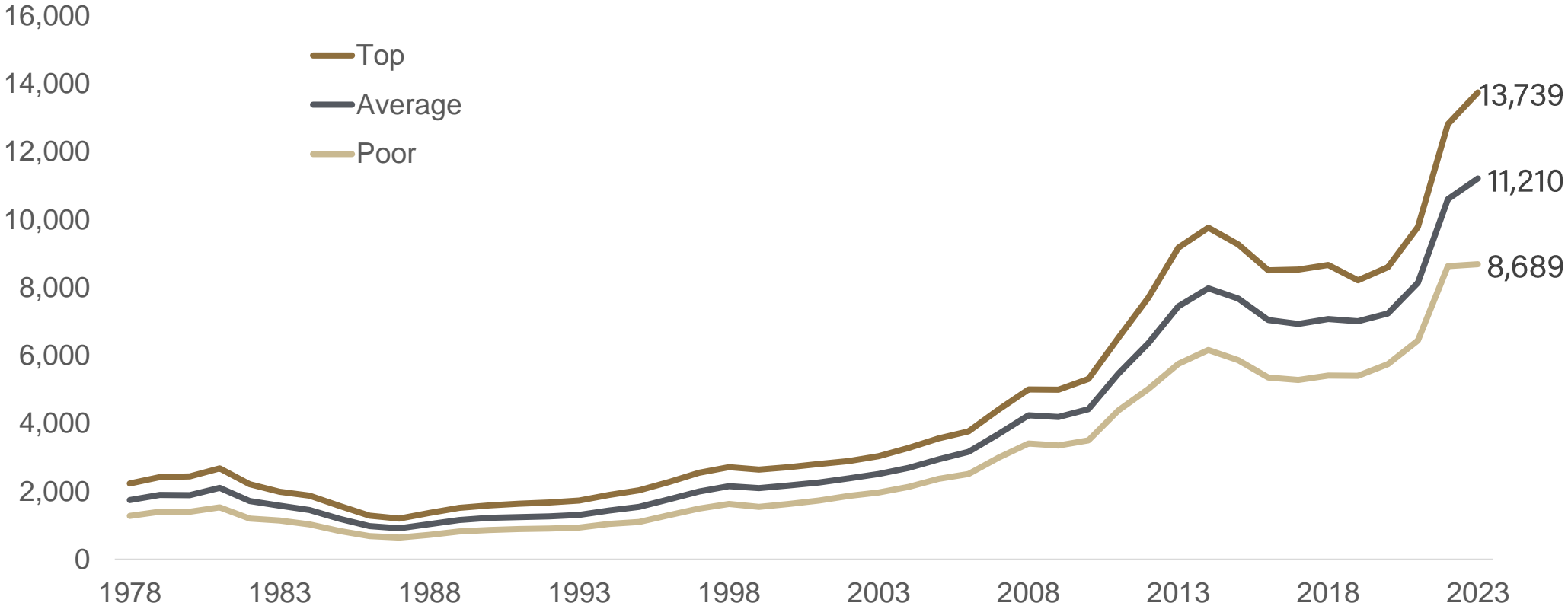


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Indiana Farmland Values

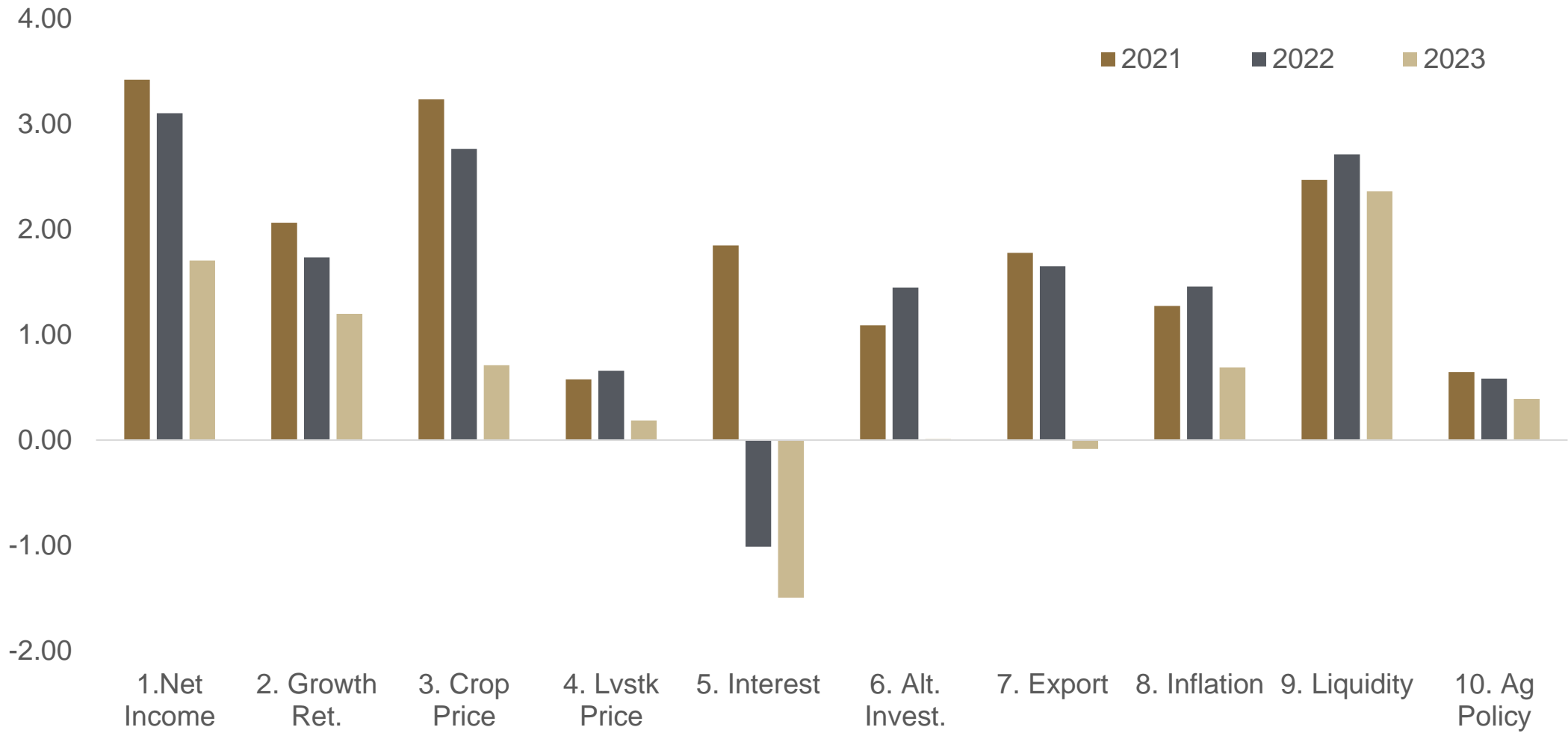
Top, Average, and Poor Quality Land, 1978 – 2023



Source: Purdue Land Value and Cash Rent Survey
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Land Value Drivers



Farmland Outlook

A simple model of farmland prices

A simple model of farmland prices

$$\text{Price} = \frac{\text{Expected returns}}{(\text{Discount rate} - \text{growth rate})}$$

A simple model of farmland prices

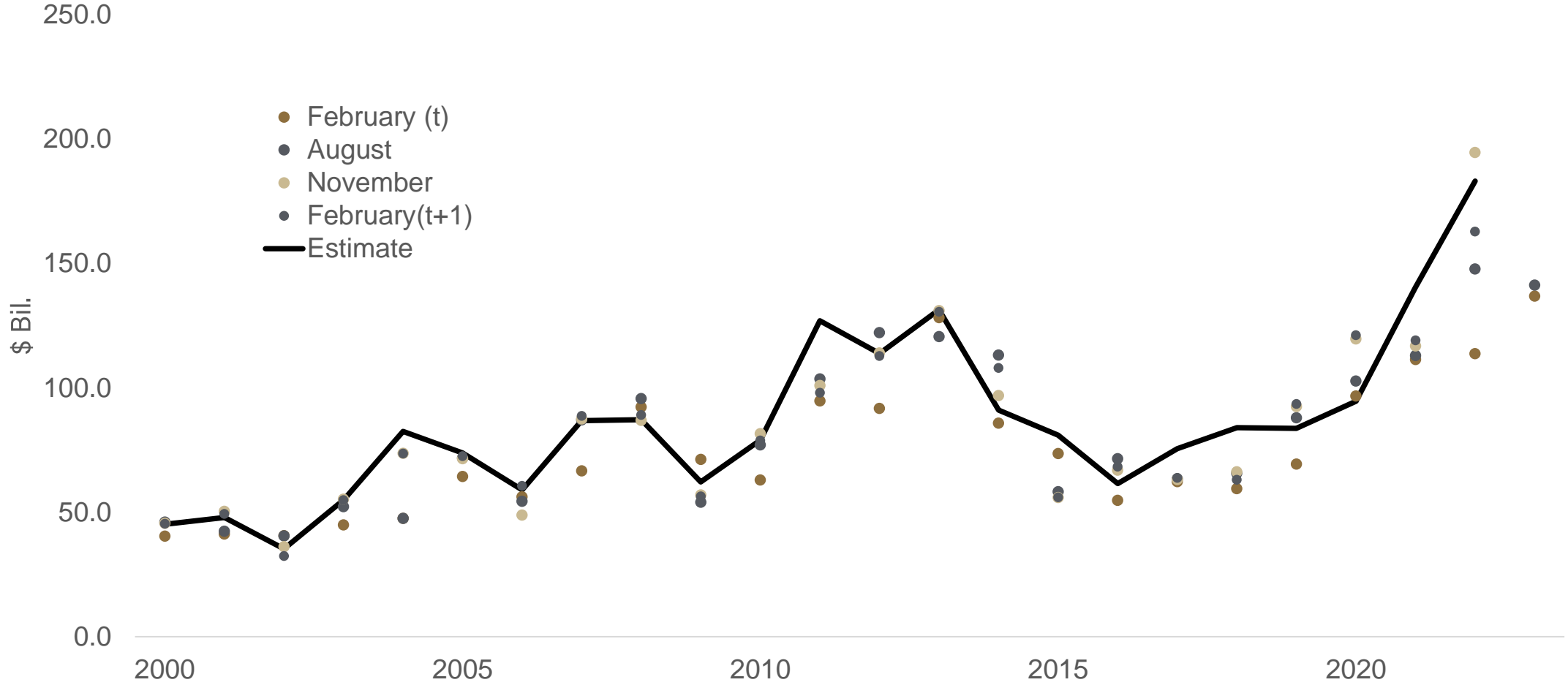
$$\text{Price} = \frac{\text{Expected returns}}{(\text{Discount rate} - \text{growth rate})}$$

Assuming a growth rate of 1%:

		Discount rate		
		3%	4.5%	6.0%
Expected returns	200	10,000	5,714	4,000
	300	15,000	8,571	6,000
	400	20,000	11,429	8,000

Farmland Returns

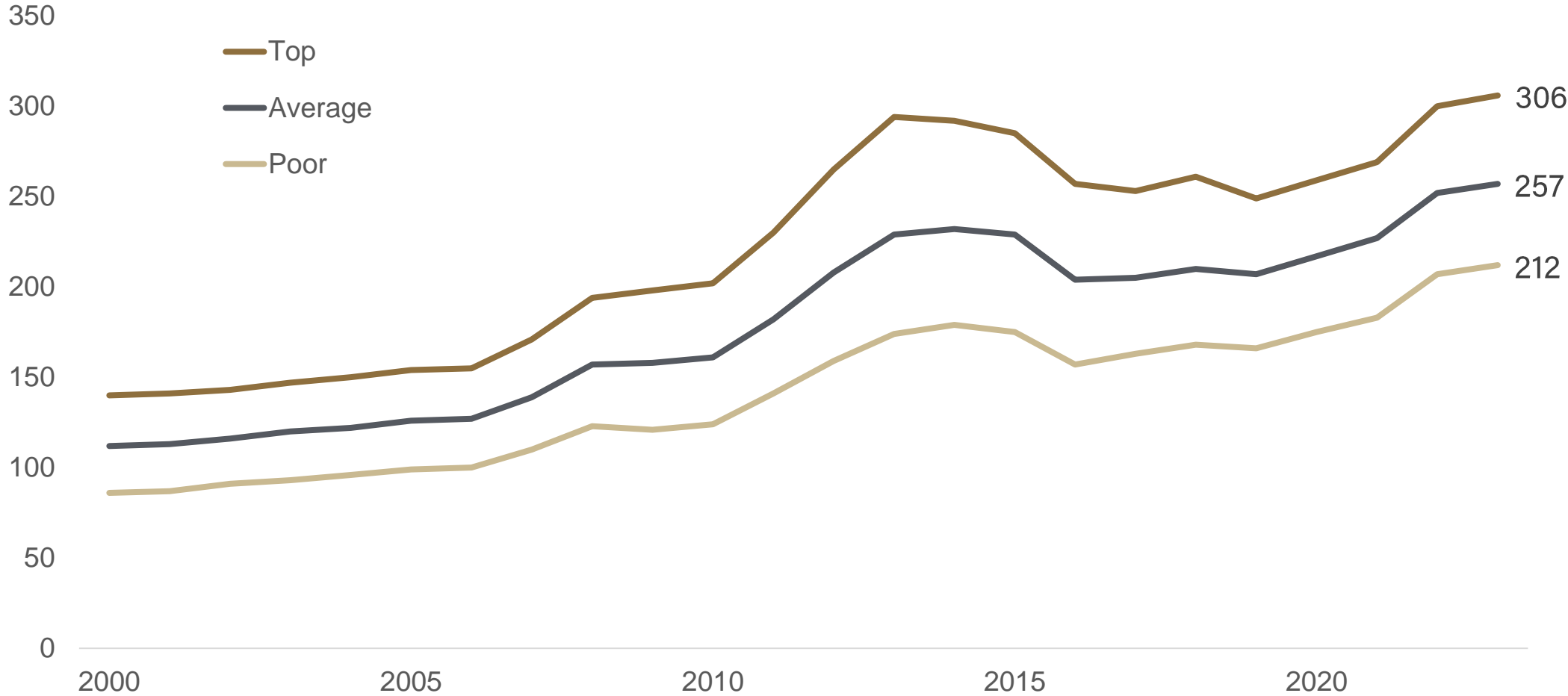
Farm Incomes Forecast to decrease in 2023



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Cash rents, 2000 - 2023

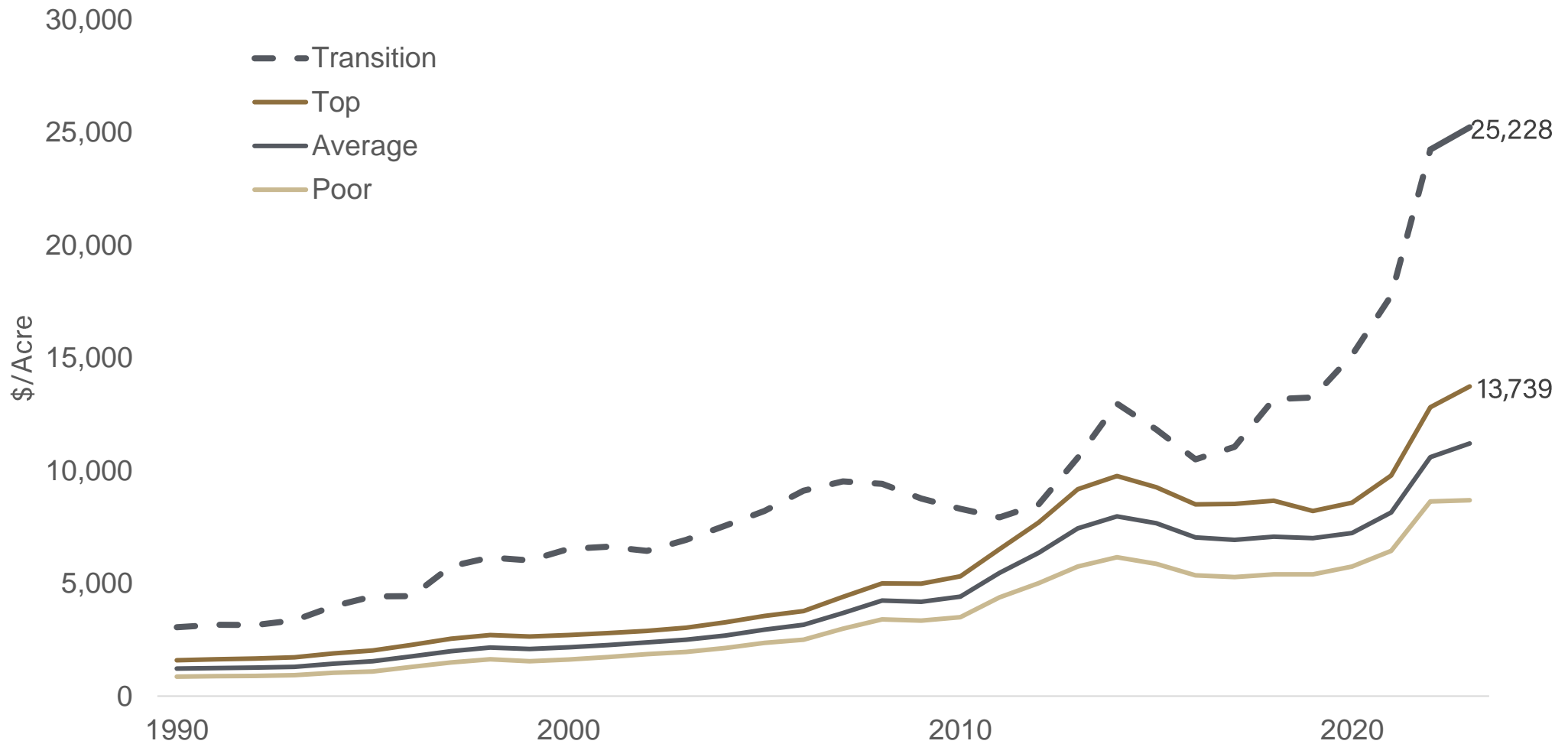


Source: Purdue Land Value and Cash Rent Survey

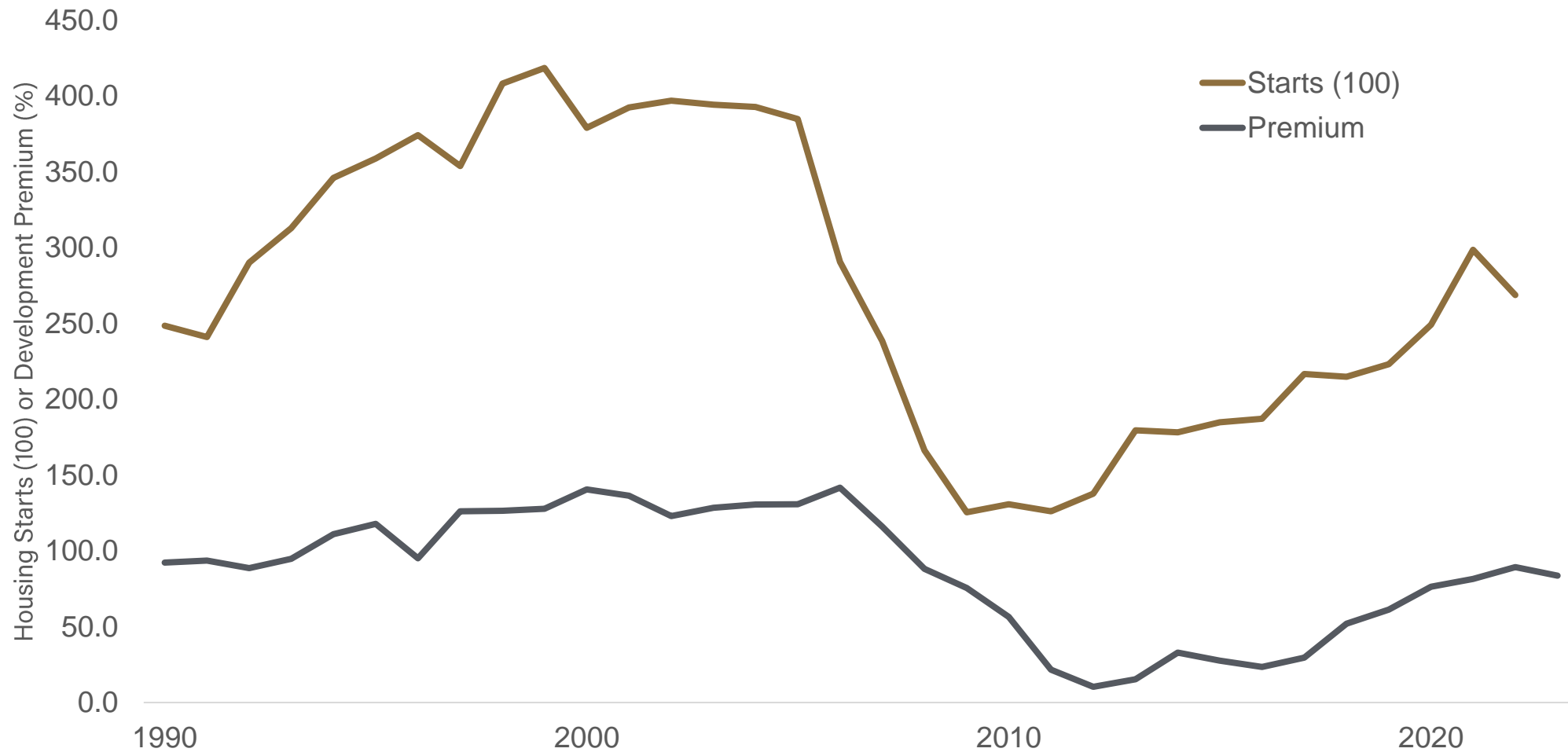
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Development premium

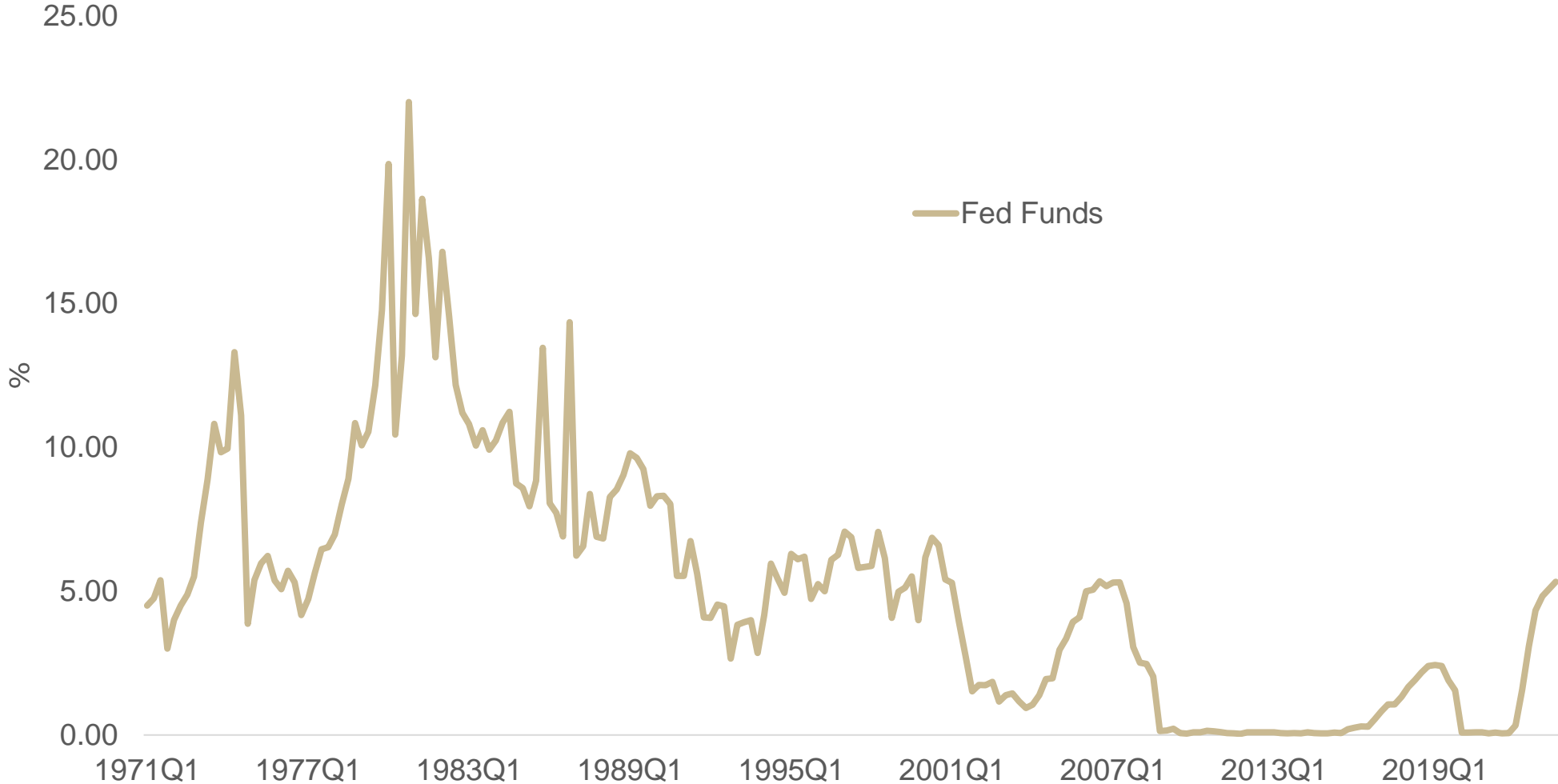


Development premium and housing starts



Discount Rates

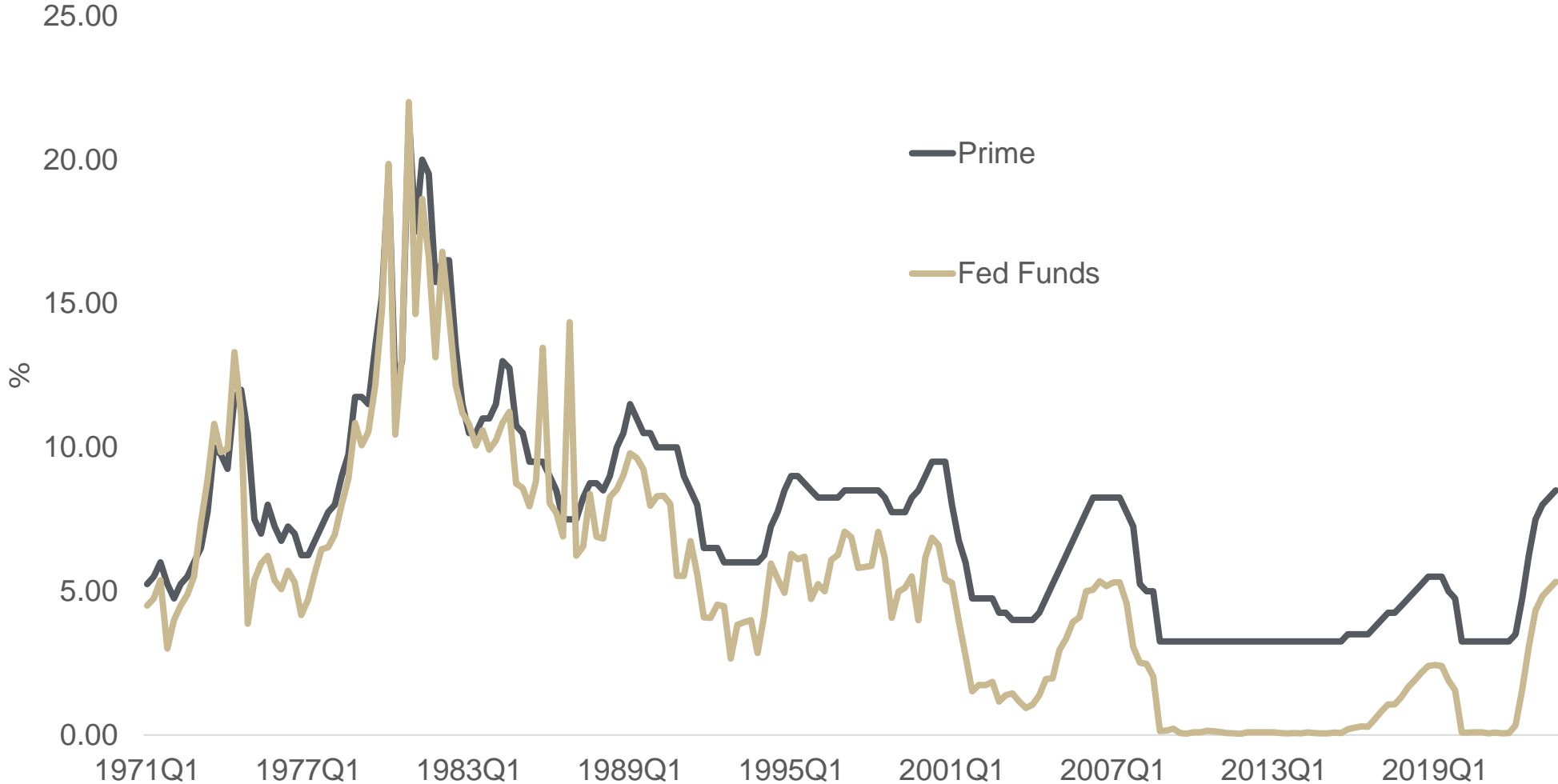
Discount rates



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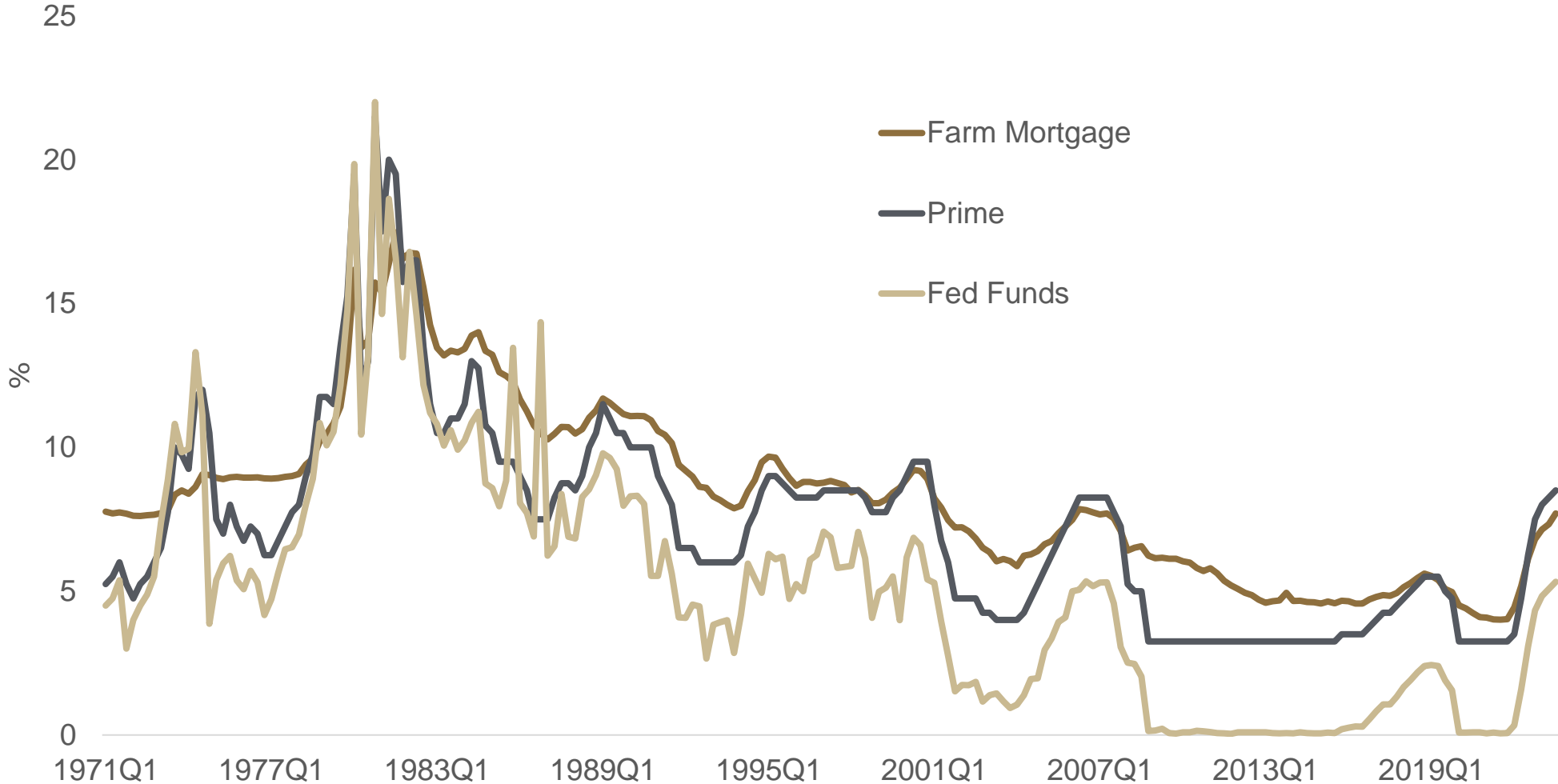
Discount rates



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THANK YOU

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