



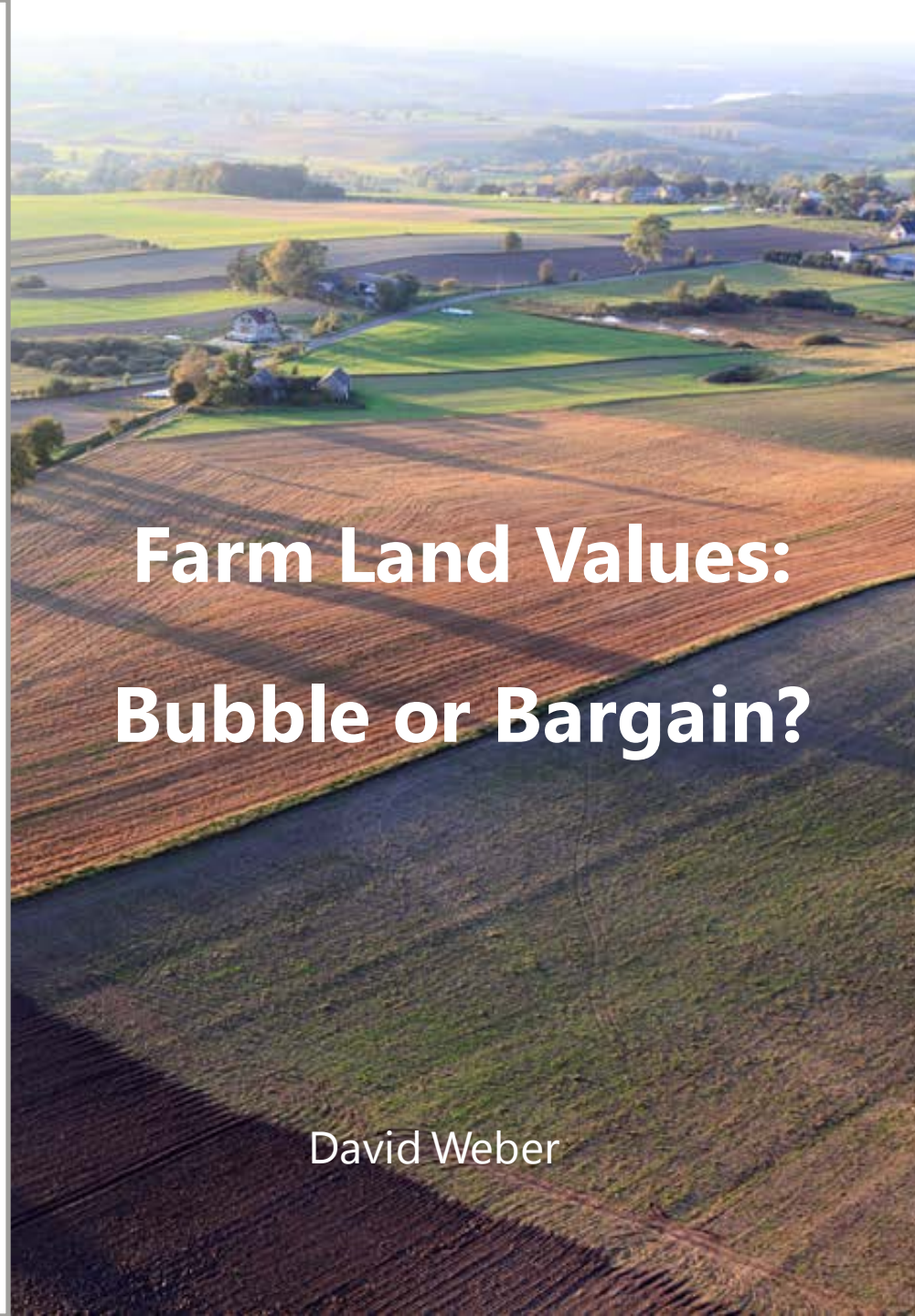
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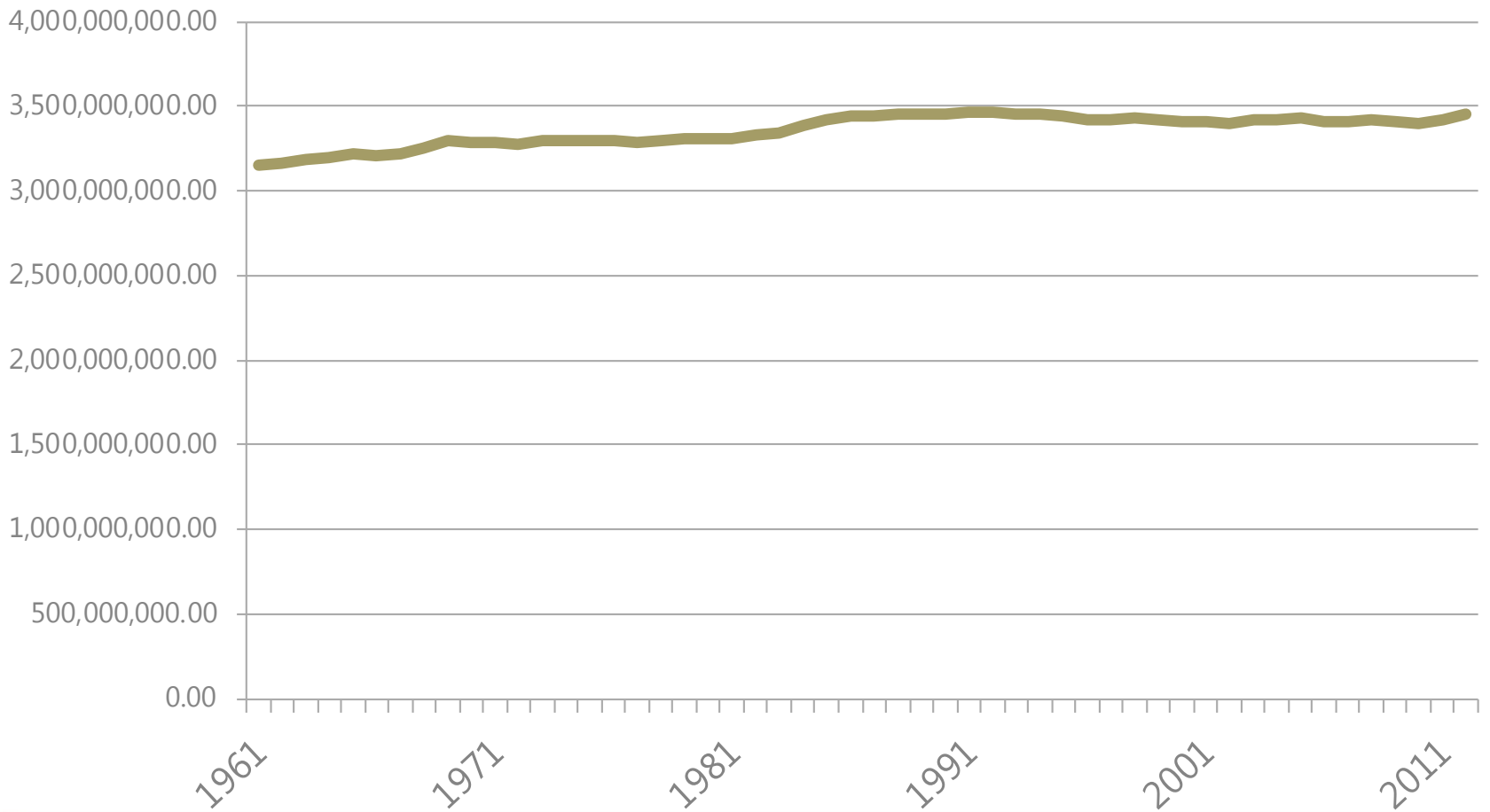


Farm Land Values: Bubble or Bargain?

David Weber

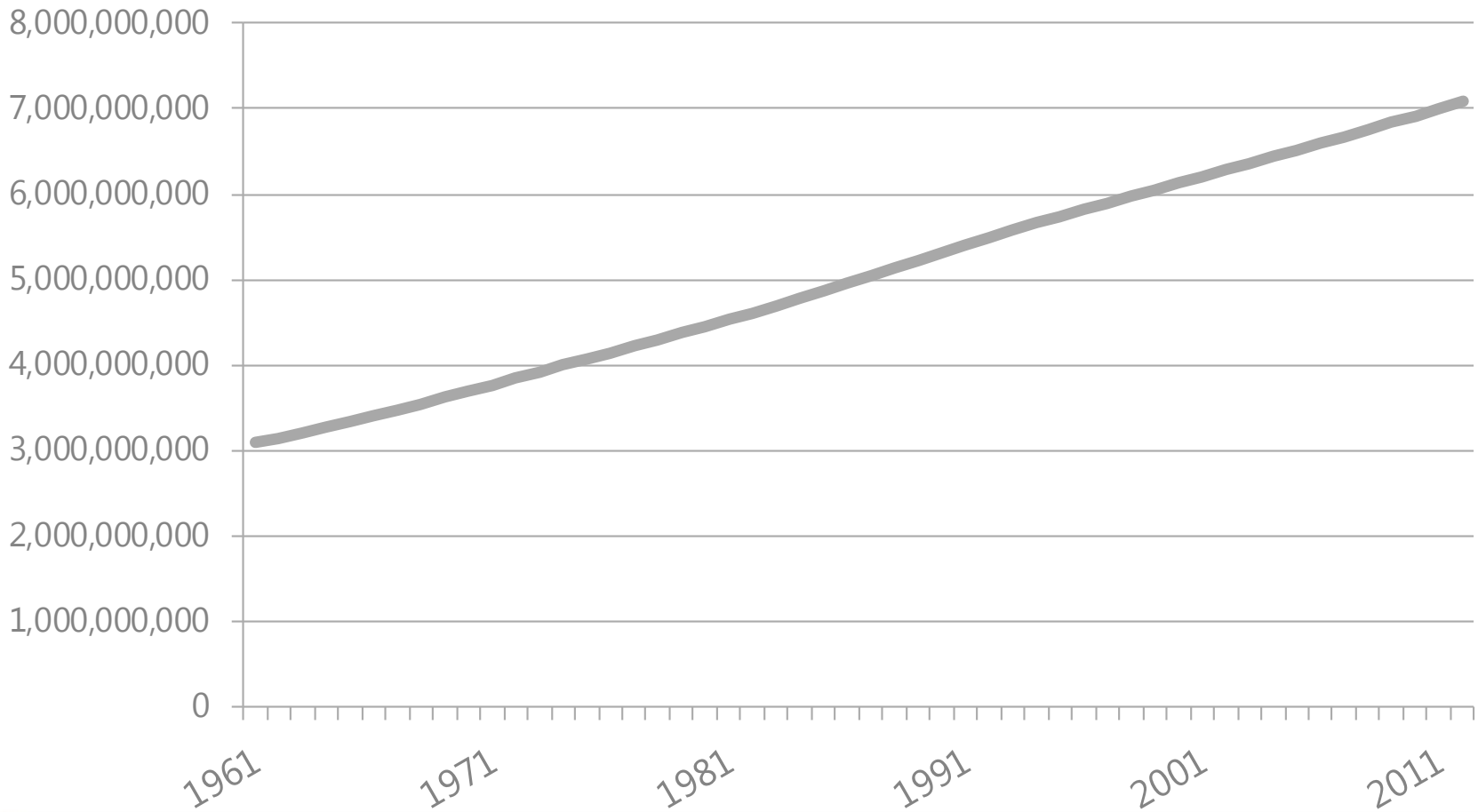
Land Economics

Supply : World Arable Acres

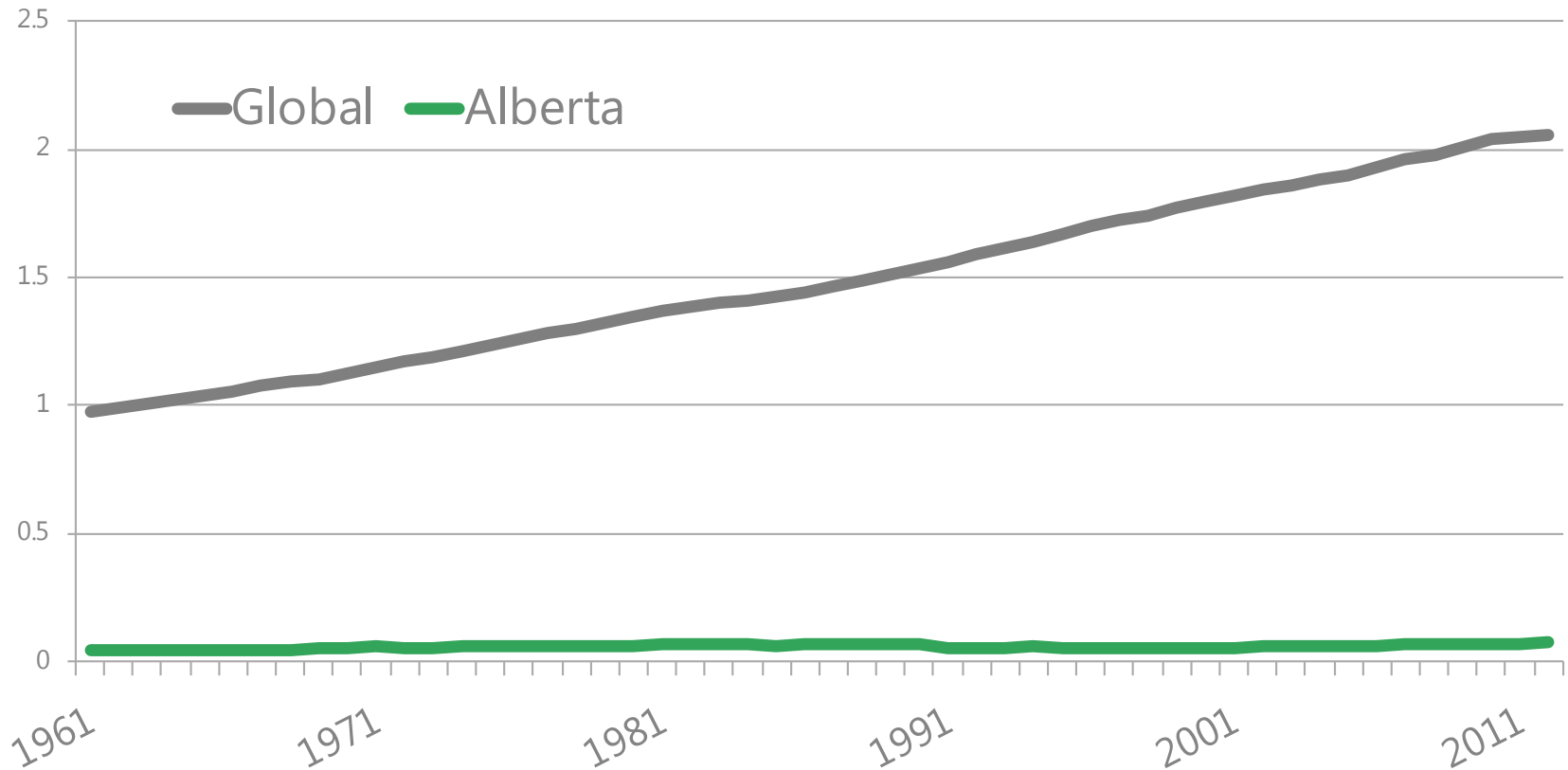


Land Economics

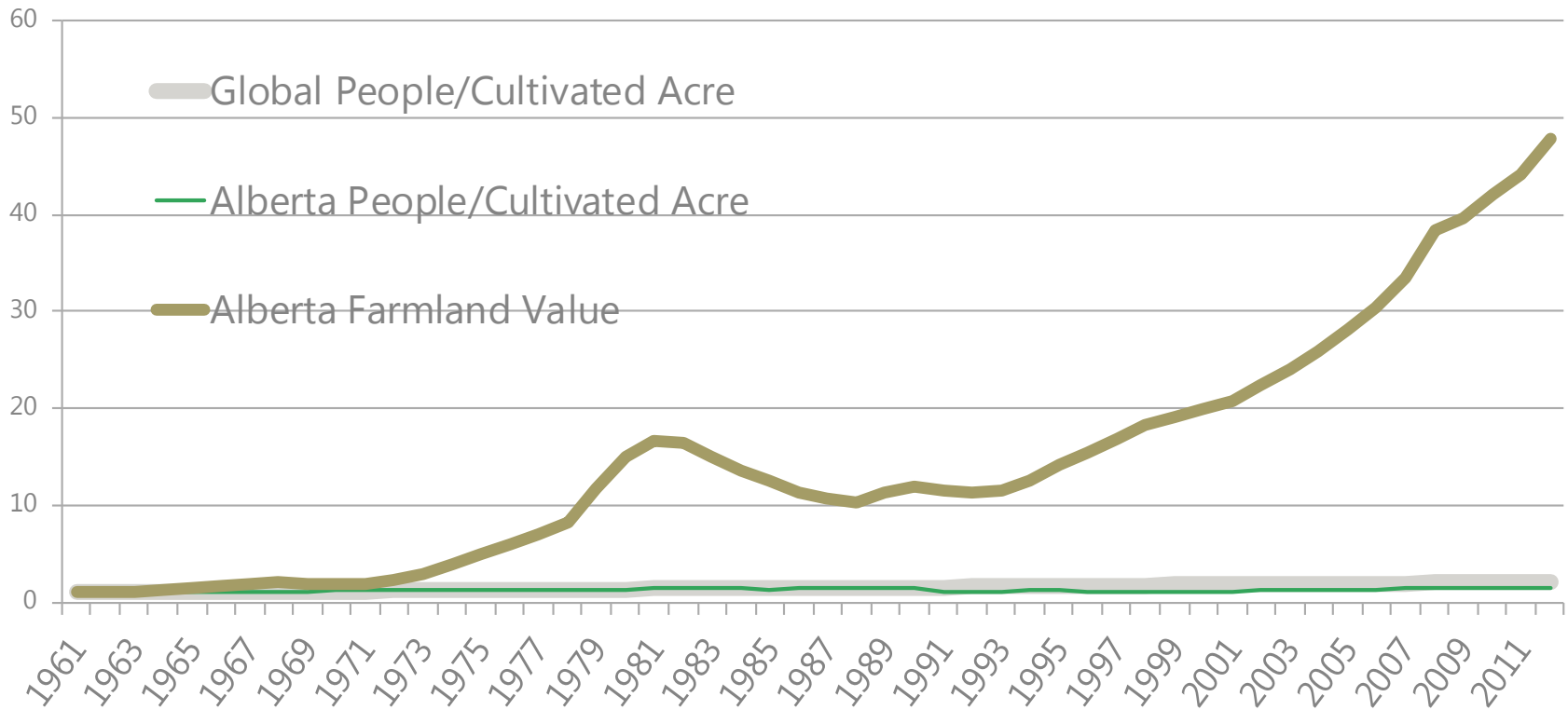
Demand: World Population



People Per Acre



Increase in Alberta Land Value Relative to People per Acre



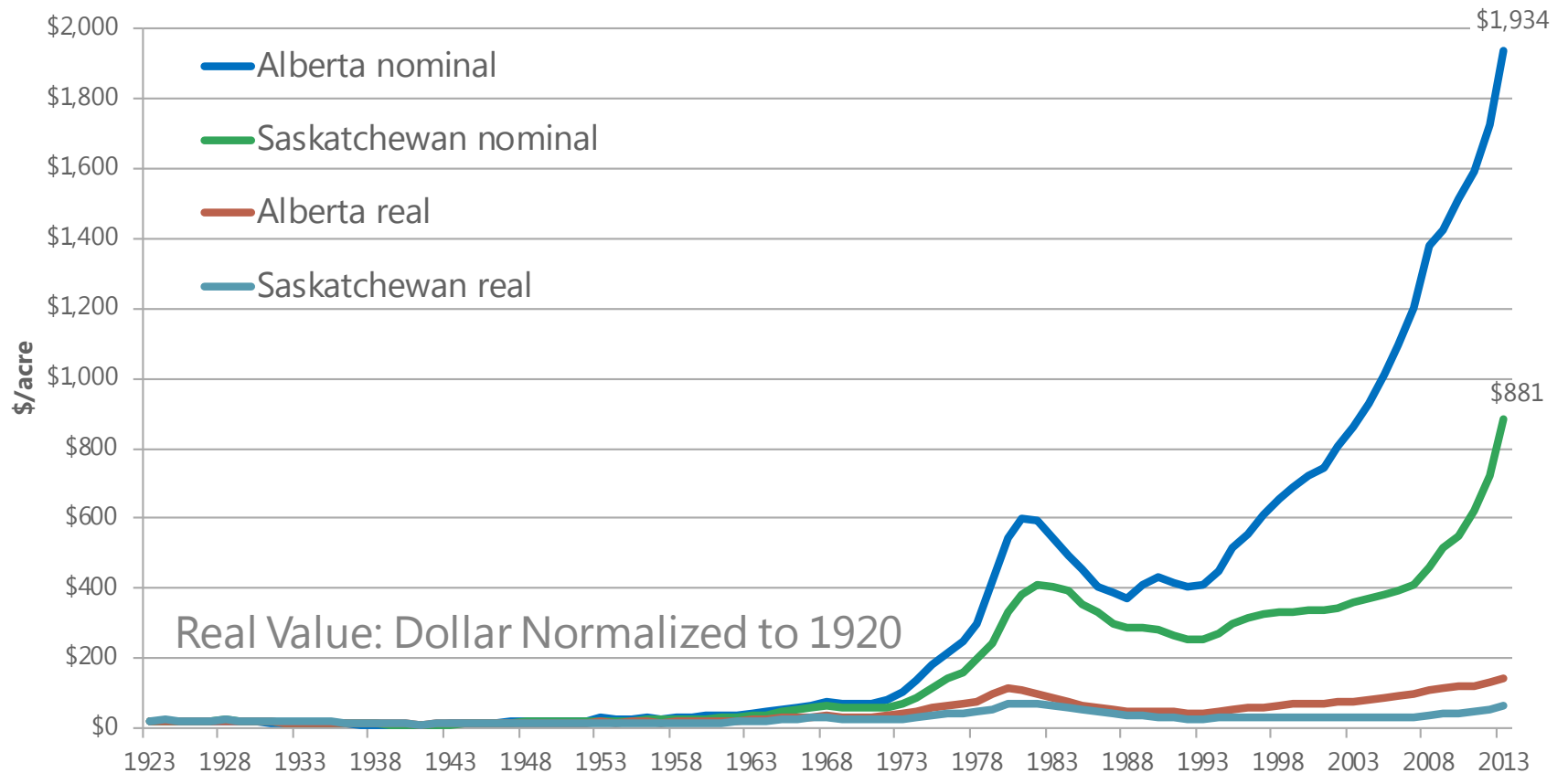
Farmland: Bubble or Bargain?

- Long Term Trends
- Comparison with Long Term Bonds
- Comparison with Farm Income
- Relation with Other Factors and Drivers
- Recent Trends
- Simulation Model for Farm Land Values
- Projections of Future Farm Land Values

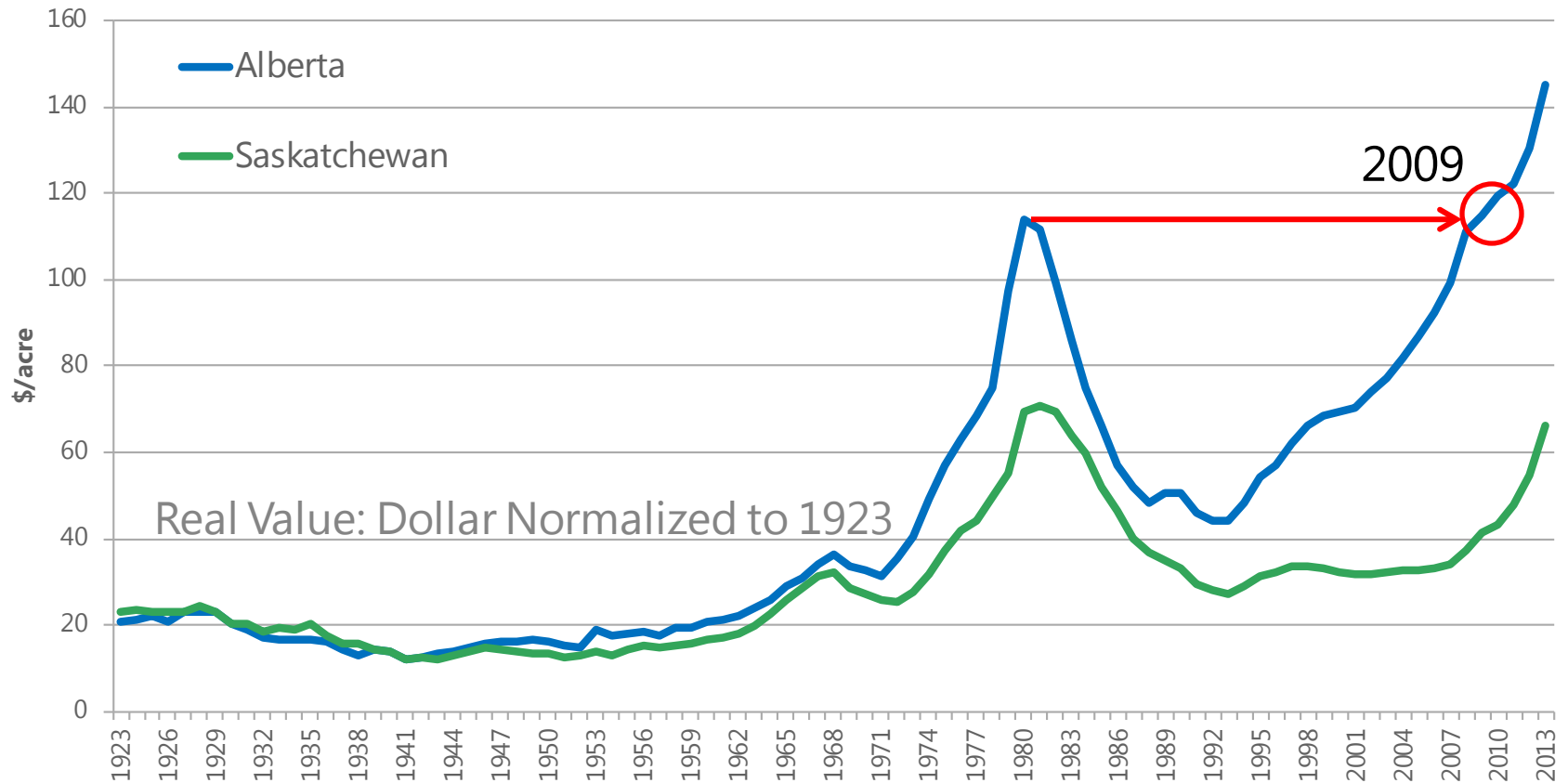


Long Term Trends

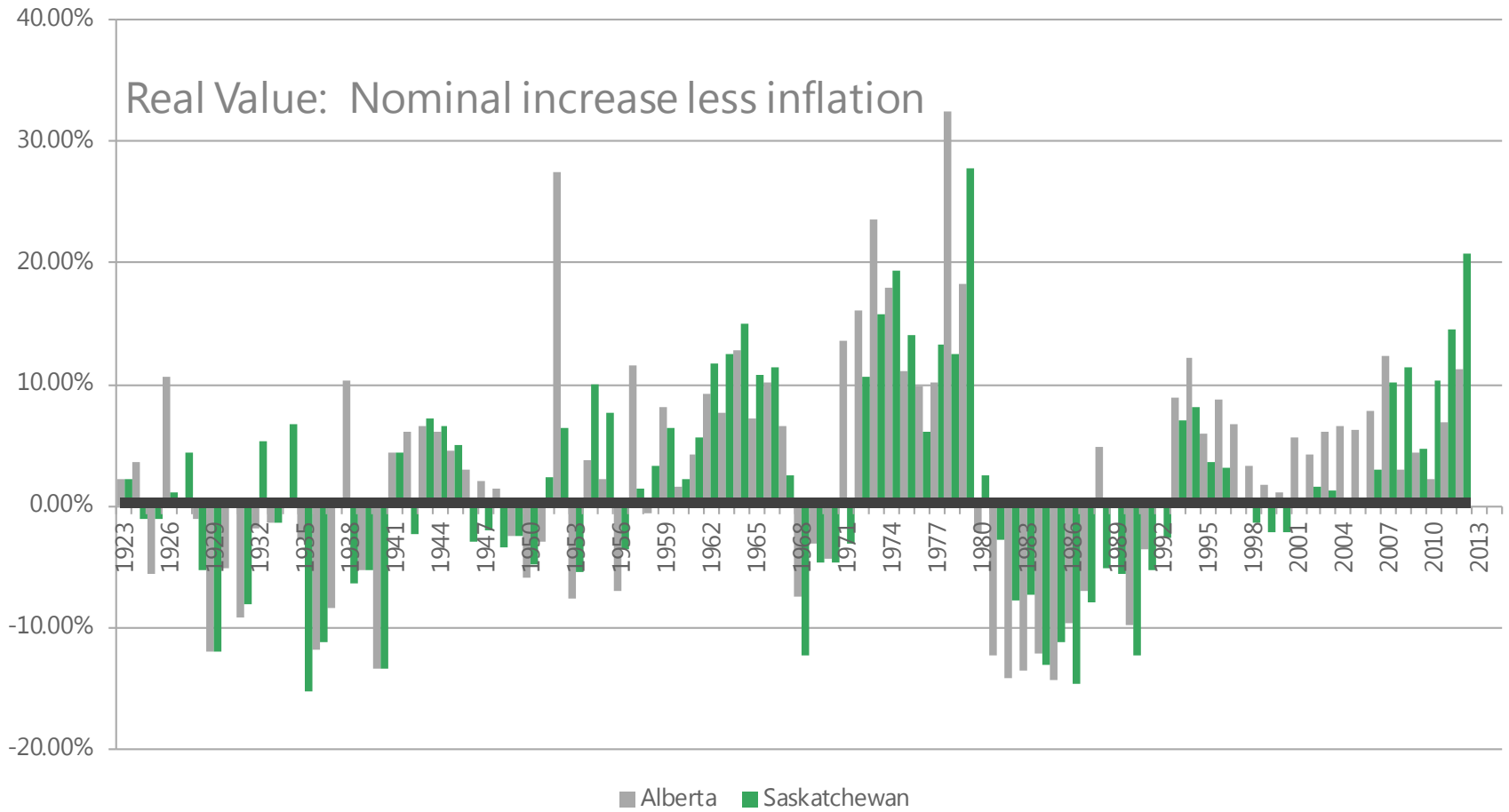
Nominal vs Real Farmland Values



Real Farmland Values



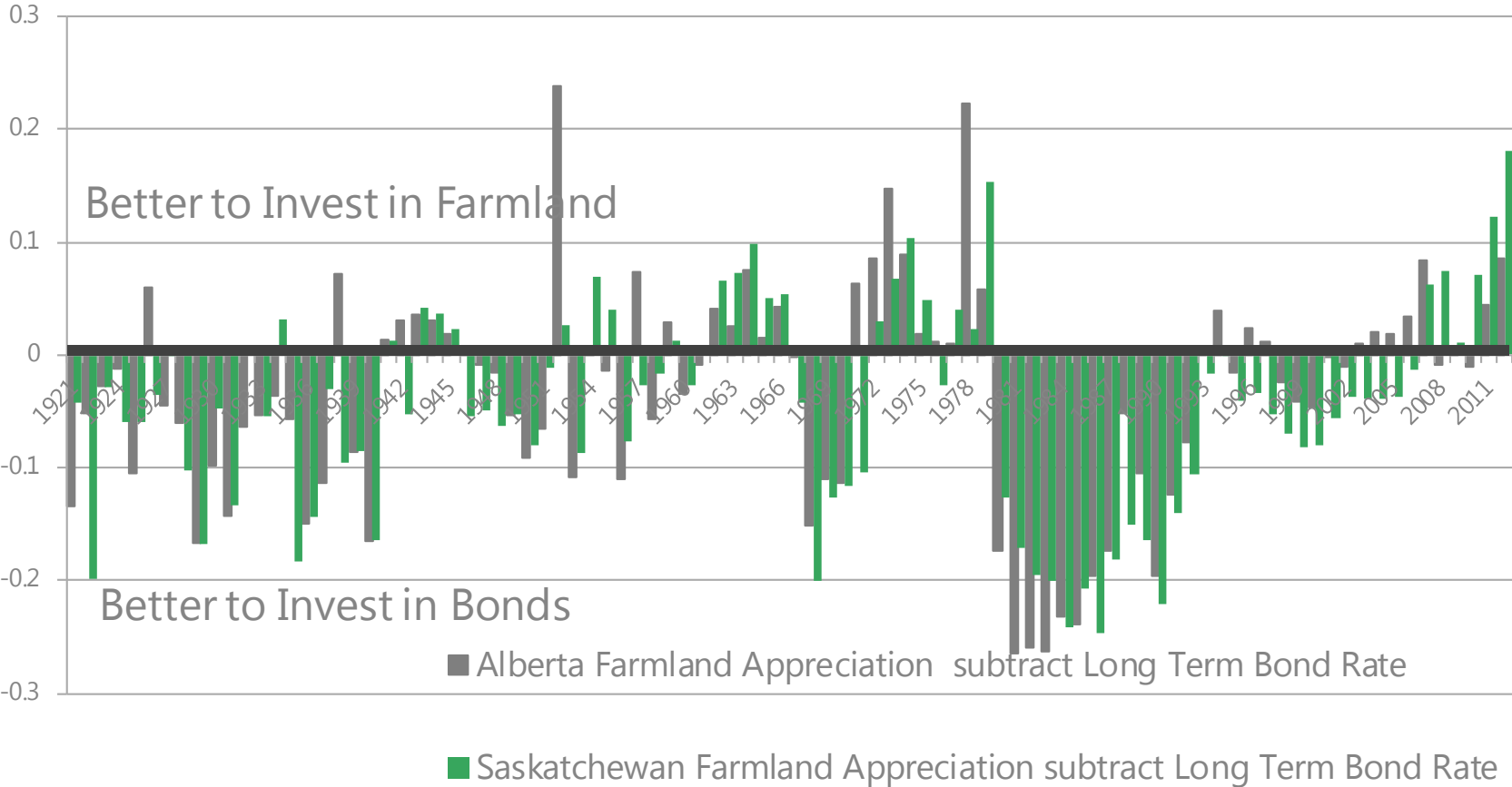
Real Increase in Farmland Values



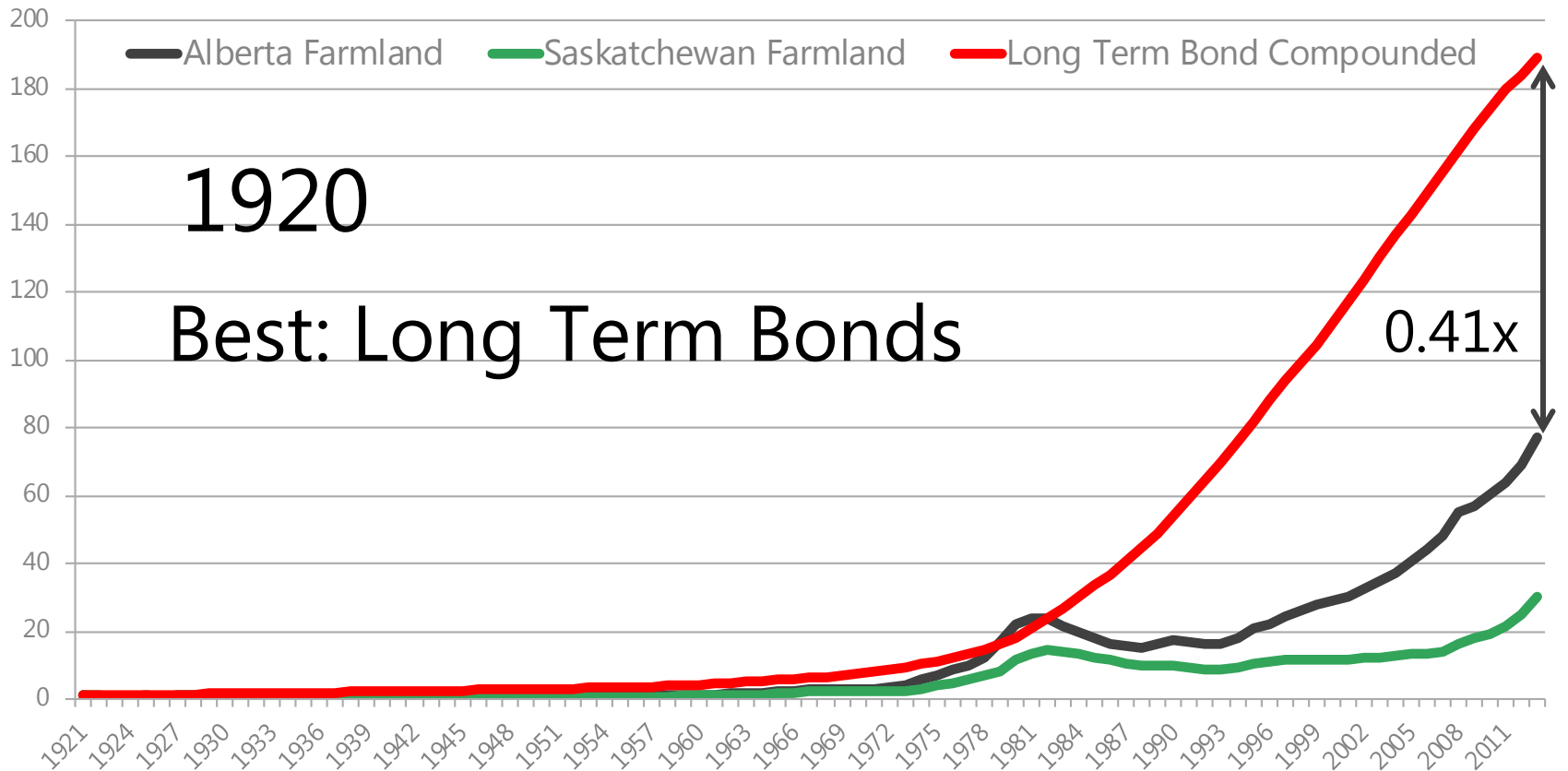


Comparison with Bonds

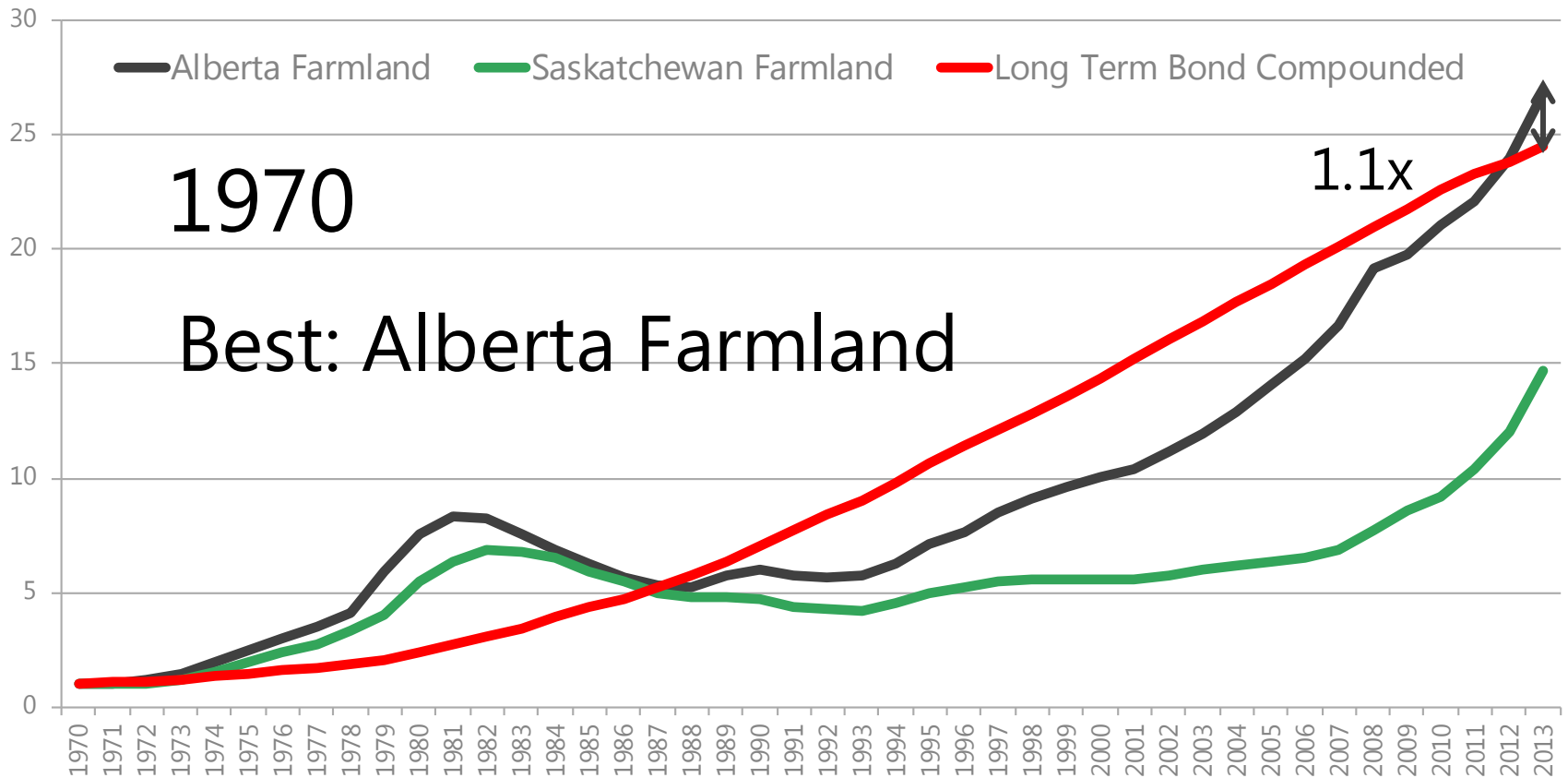
Farmland Appreciation Subtract Long Term Bond Rates



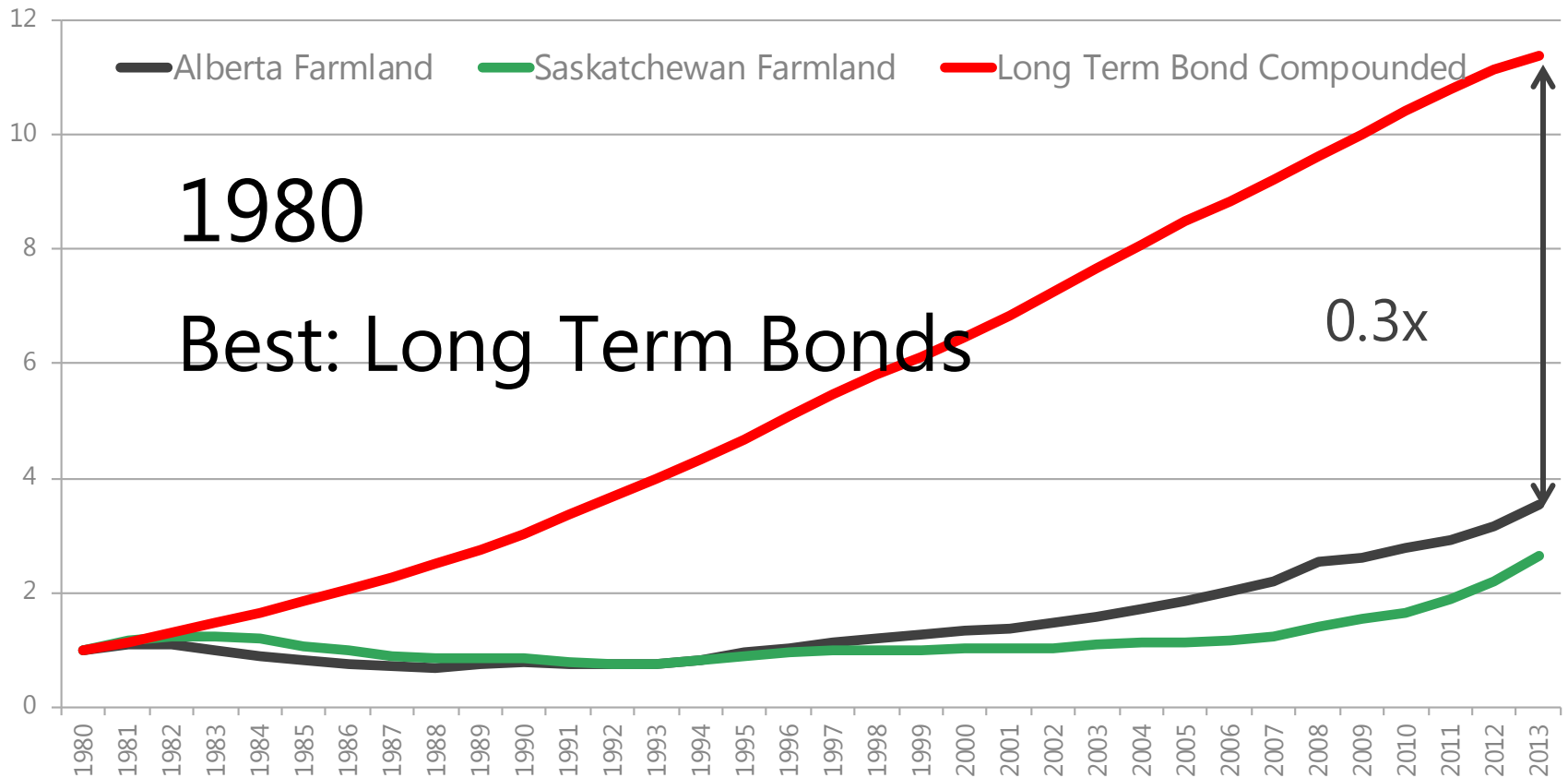
If you invested \$1 then... What would it be worth now?



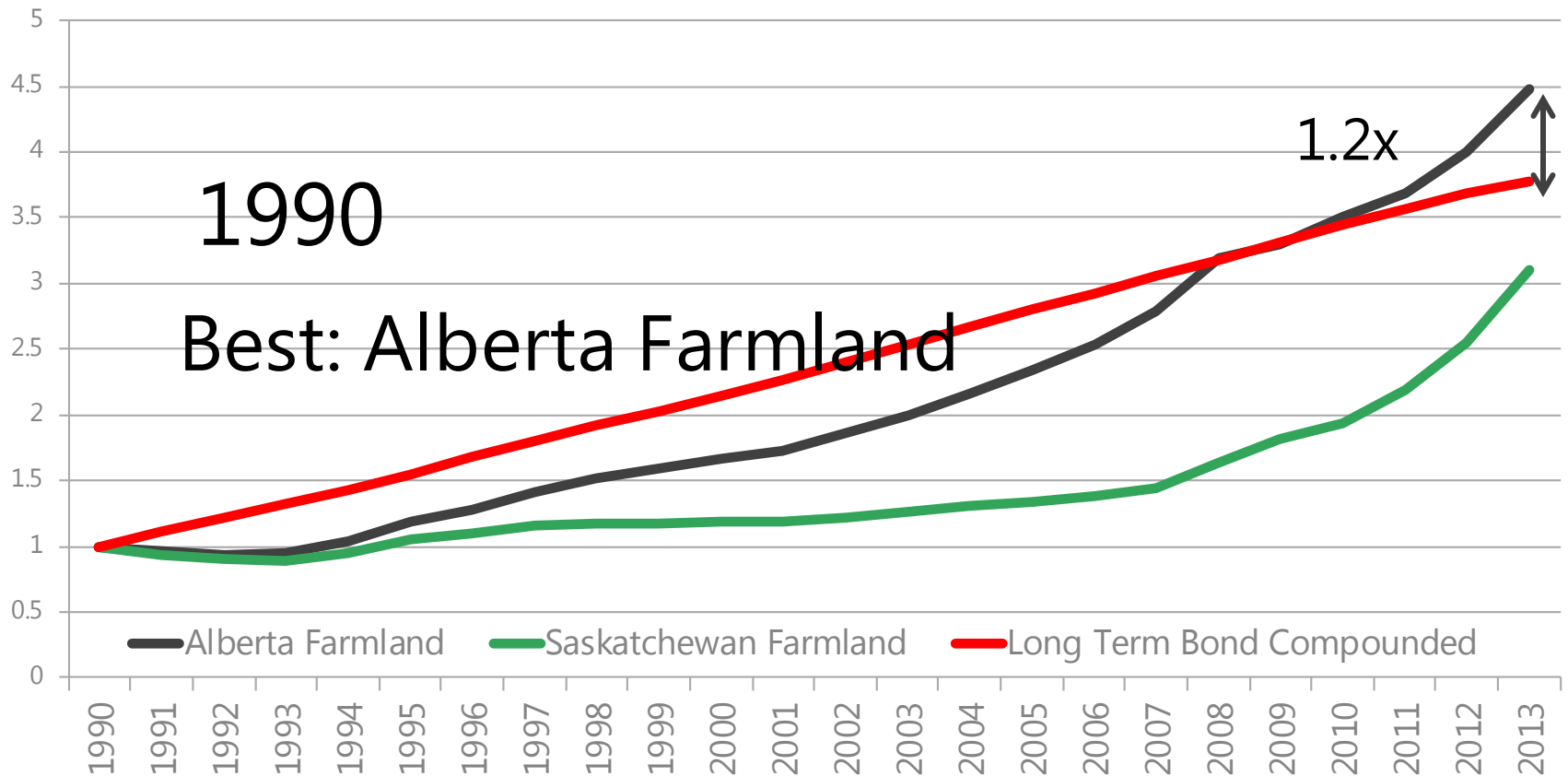
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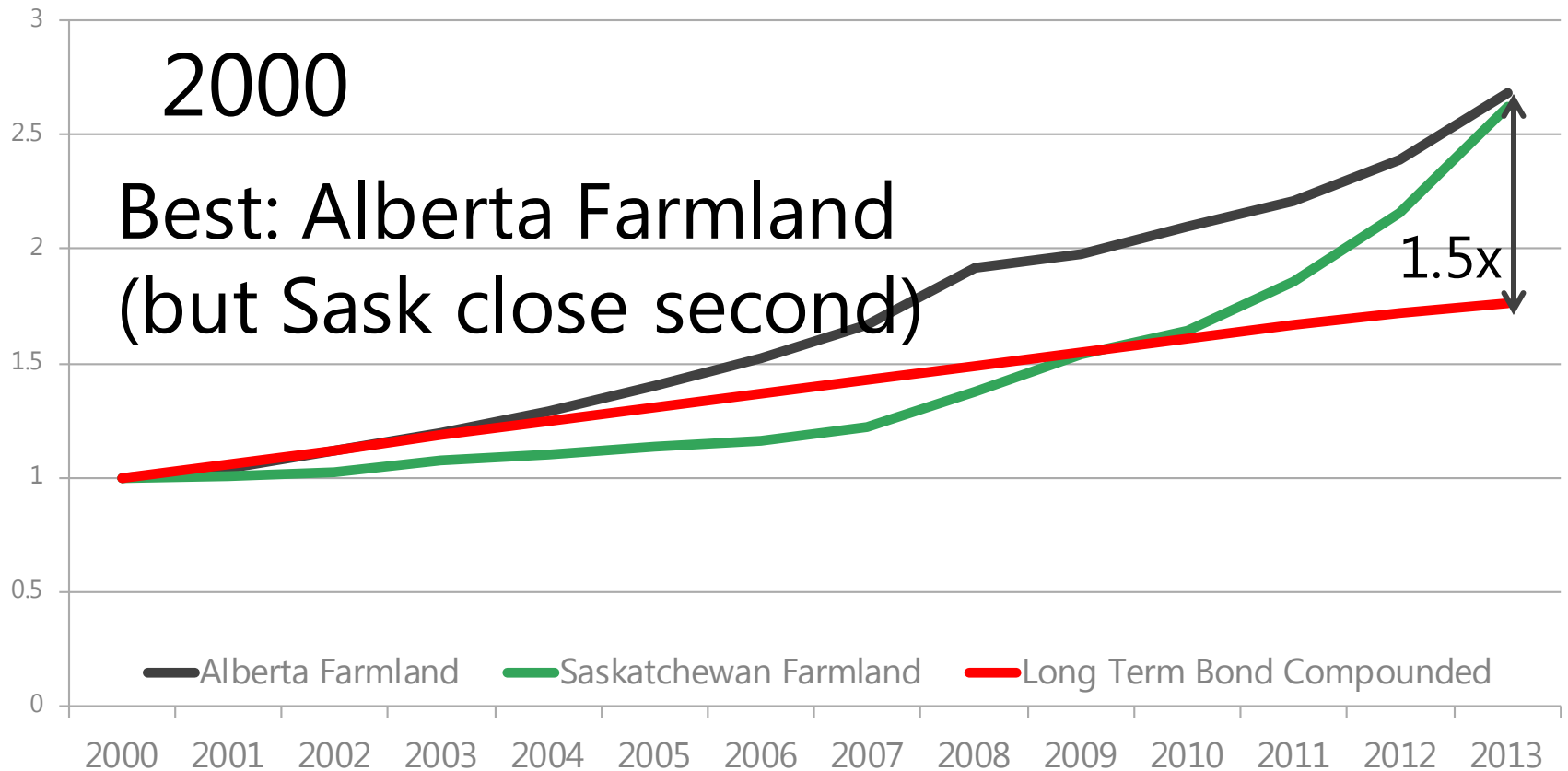
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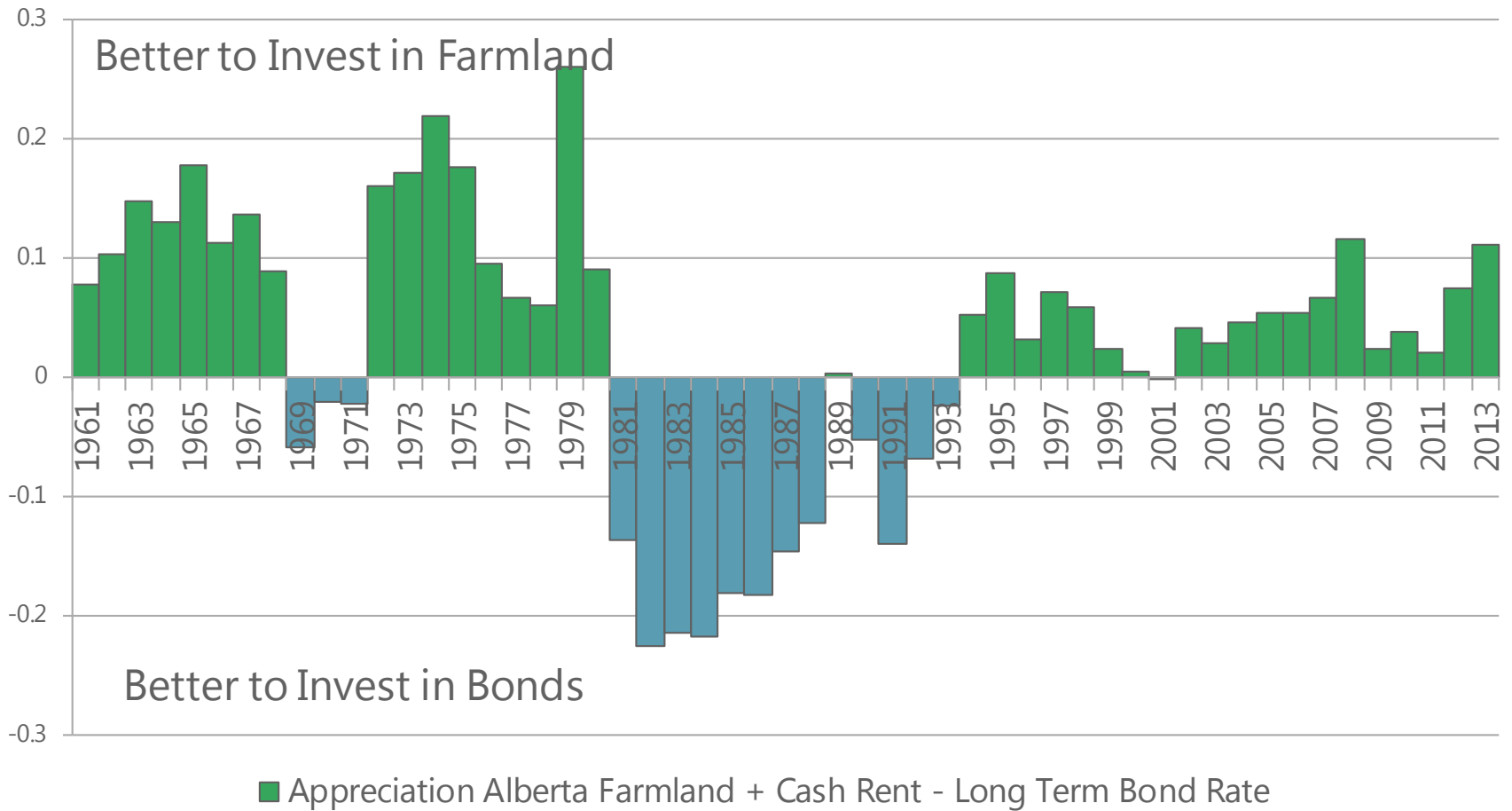
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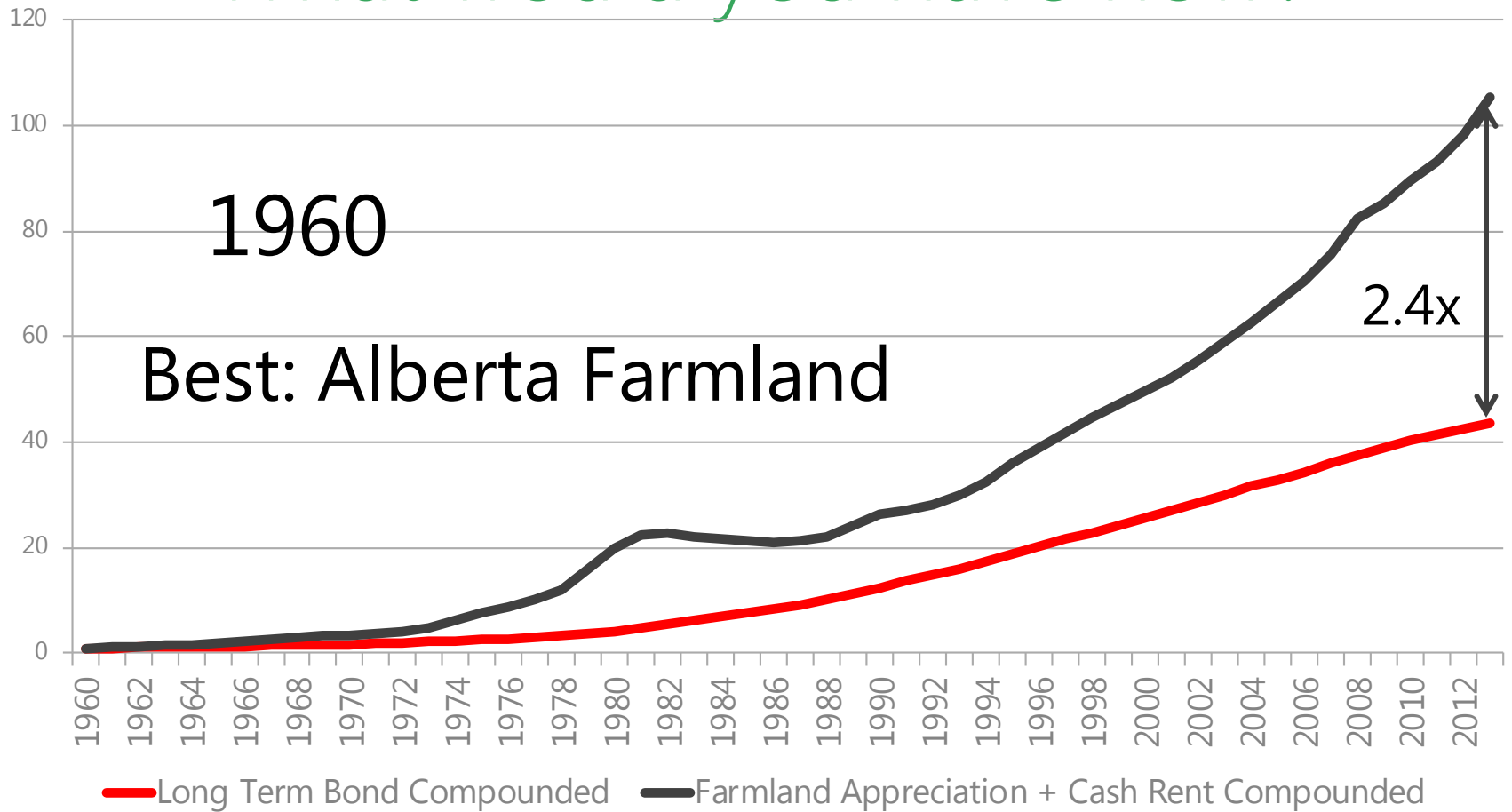
If you invested \$1 then...
What would it be worth now?



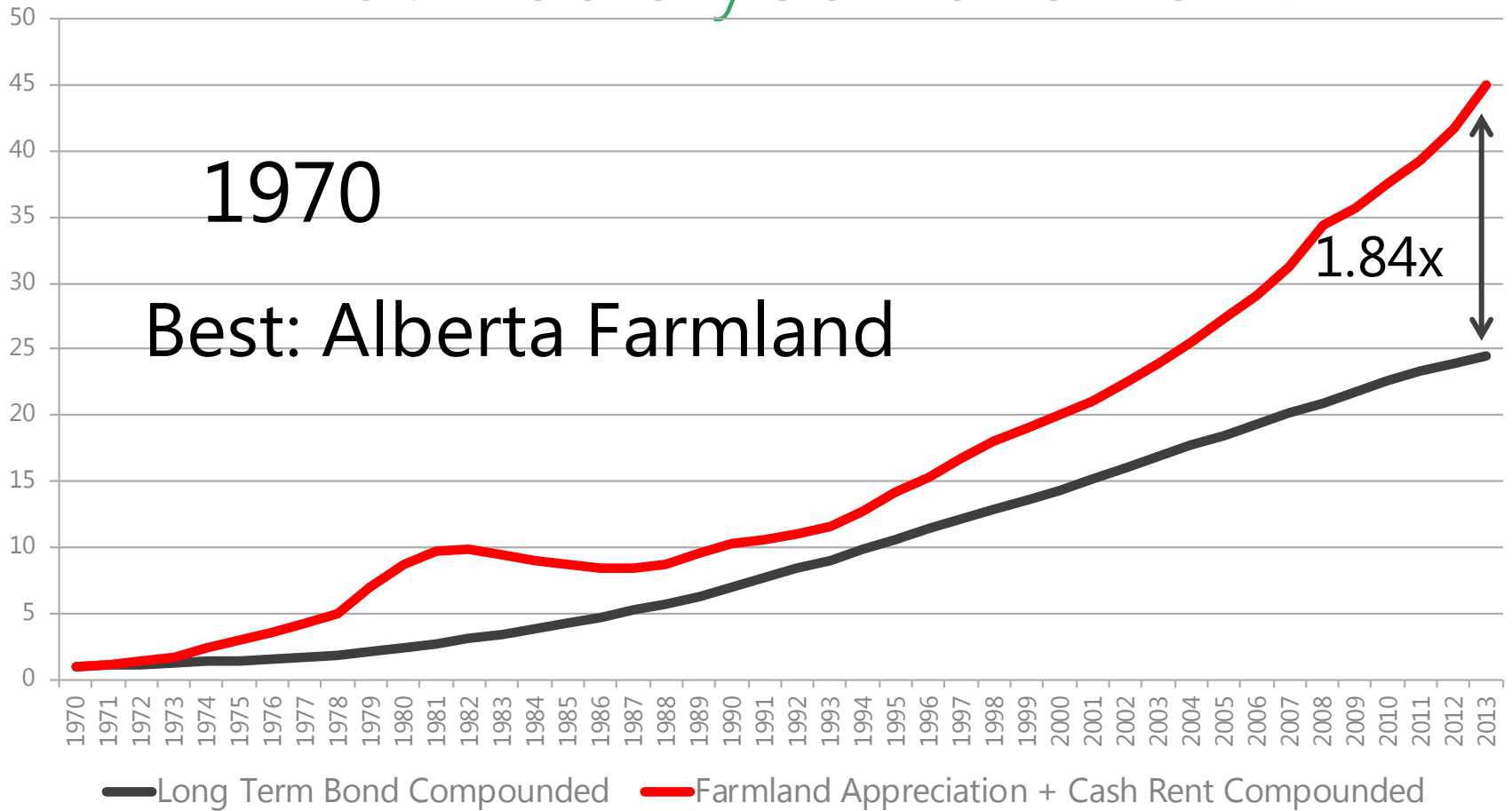
Appreciation Alberta Farmland + Cash Rent - Long Term Bond Rate



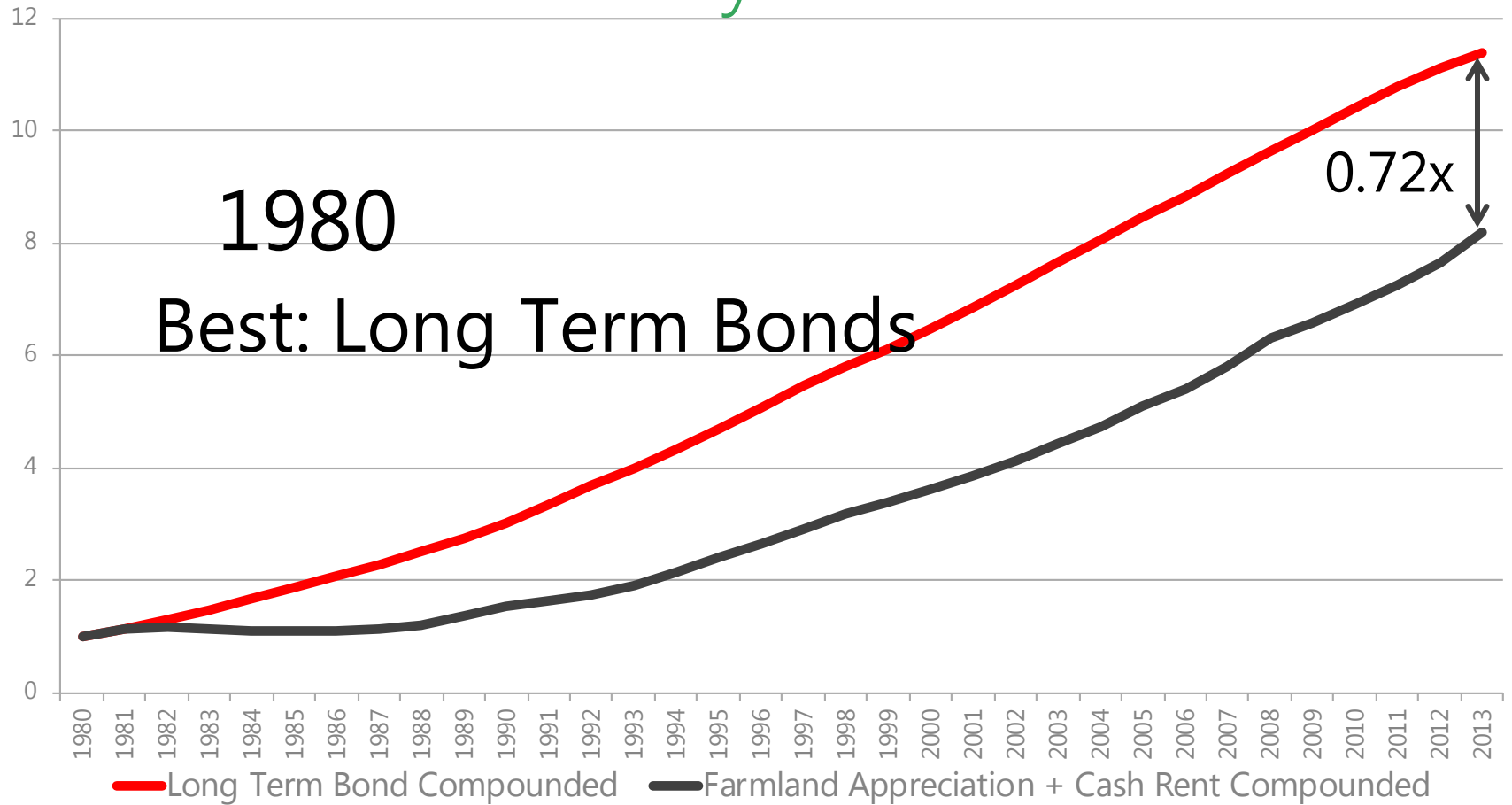
If you invested \$1 then and
reinvested cash rent...
What would you have now?



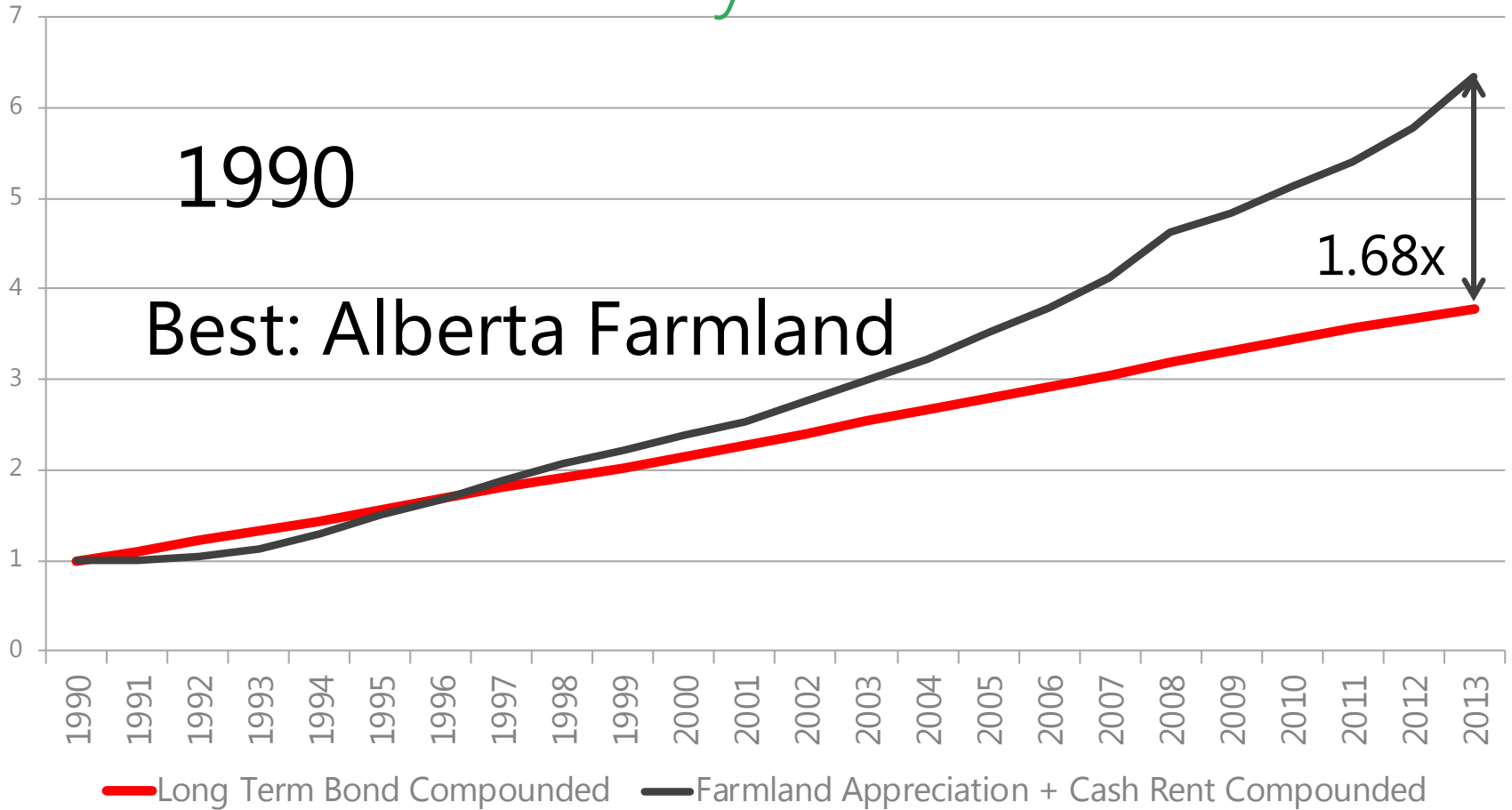
If you invested \$1 then and
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What would you have now?



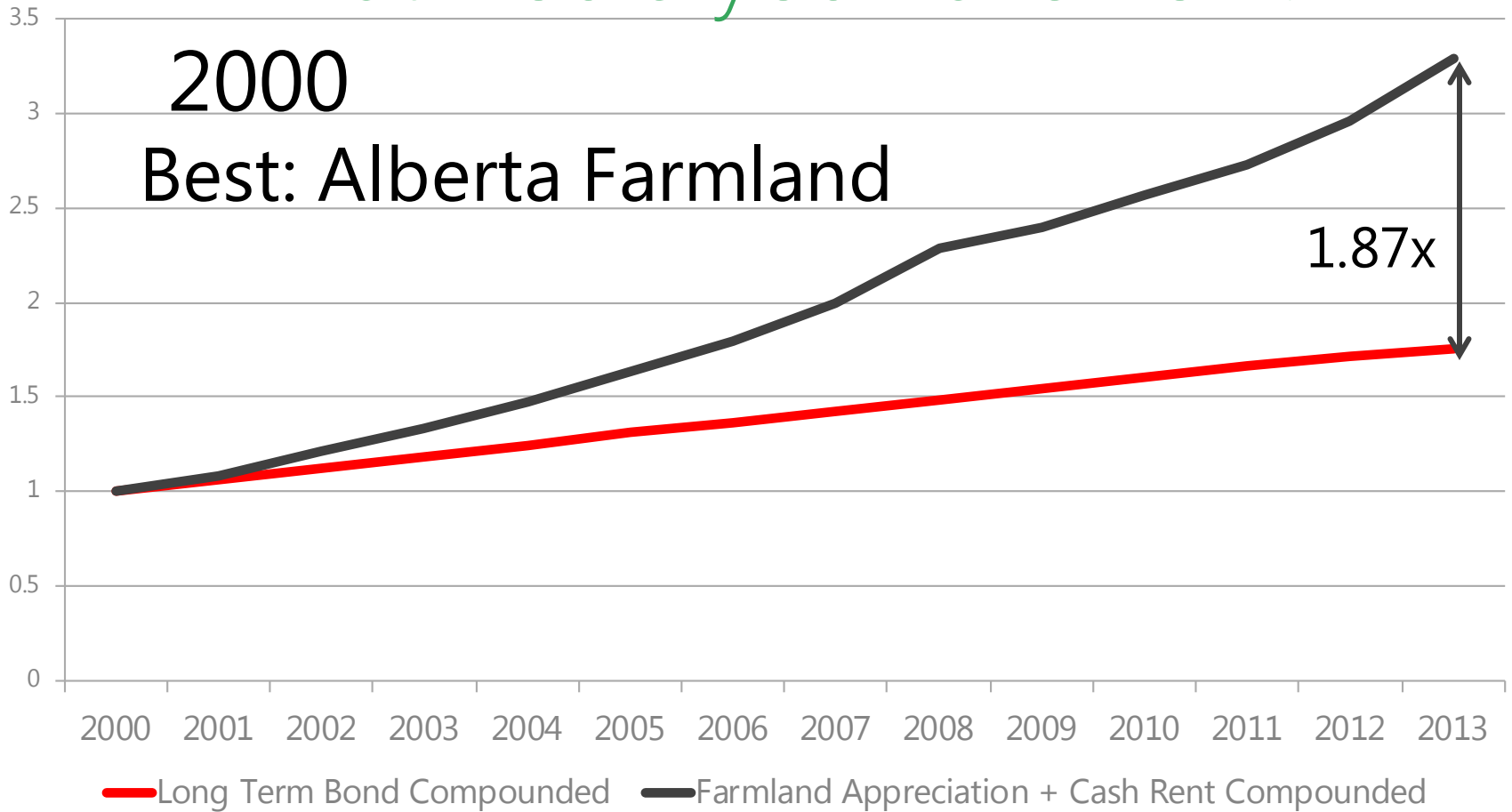
If you invested \$1 then and
reinvested cash rent...
What would you have now?



If you invested \$1 then and
reinvested cash rent...
What would you have now?



If you invested \$1 then and
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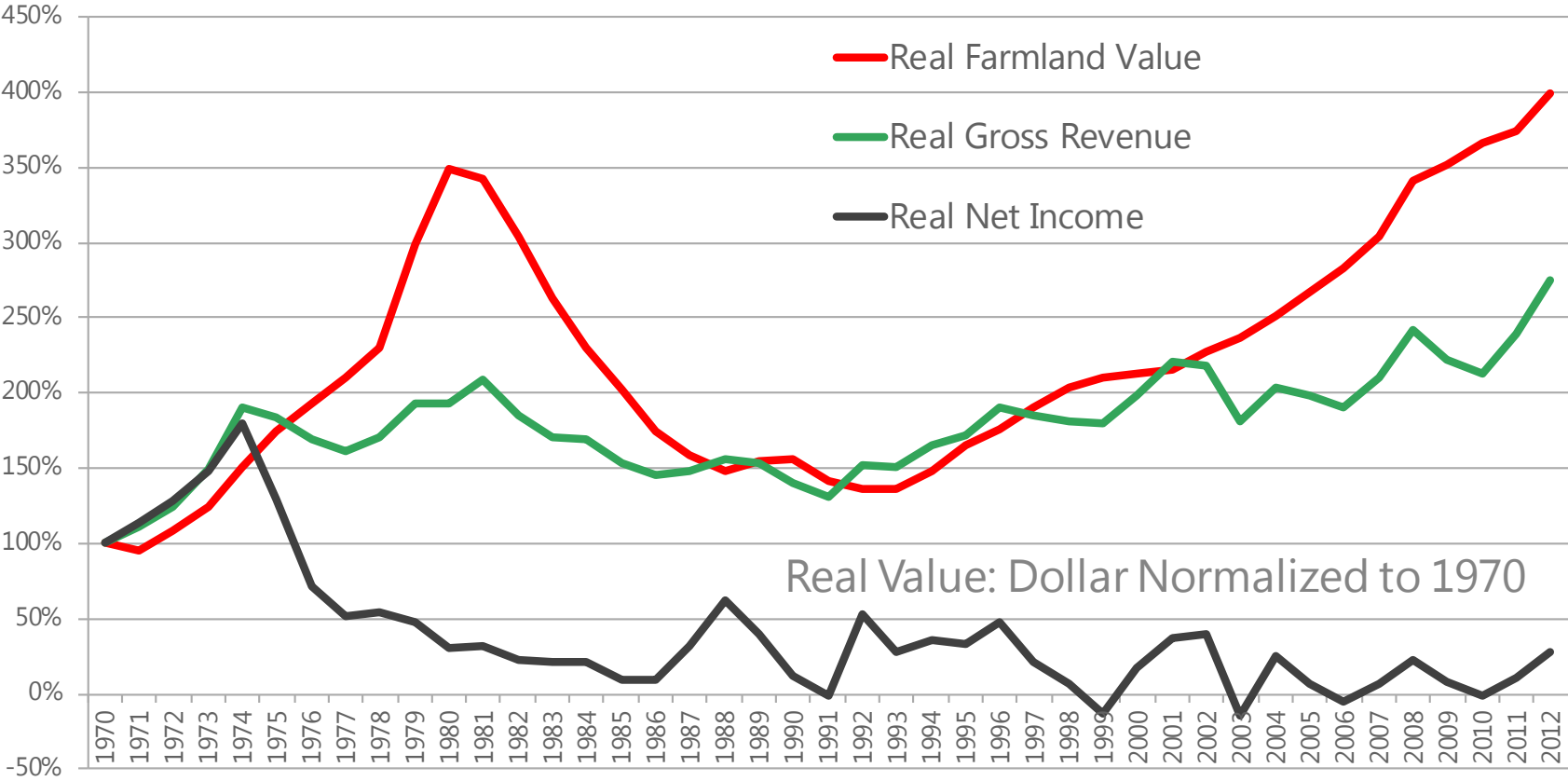
Comparison with Farm Income

Gross Revenue

Net Income

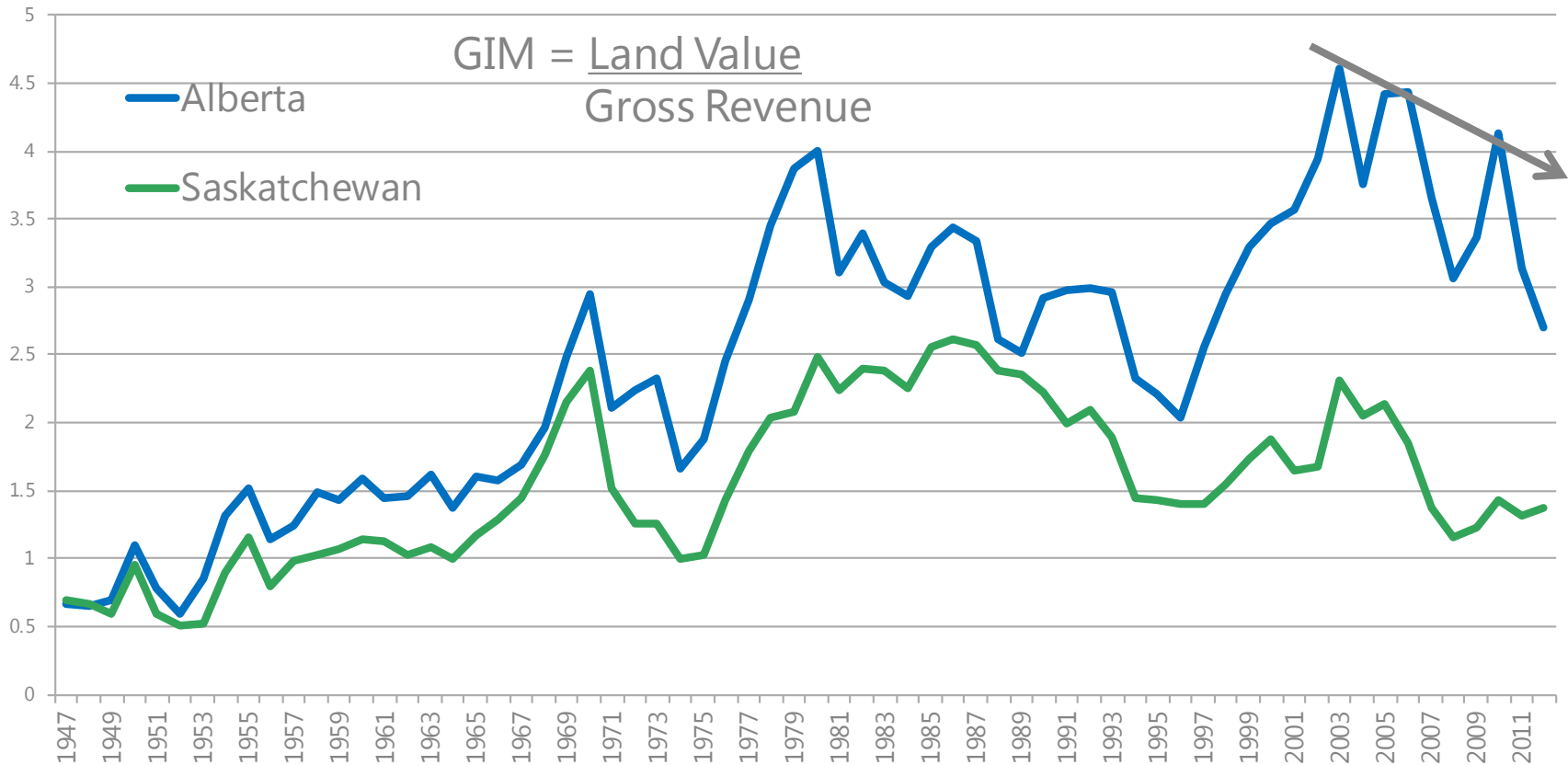
Farmland Value vs Farm Revenue

Real Values

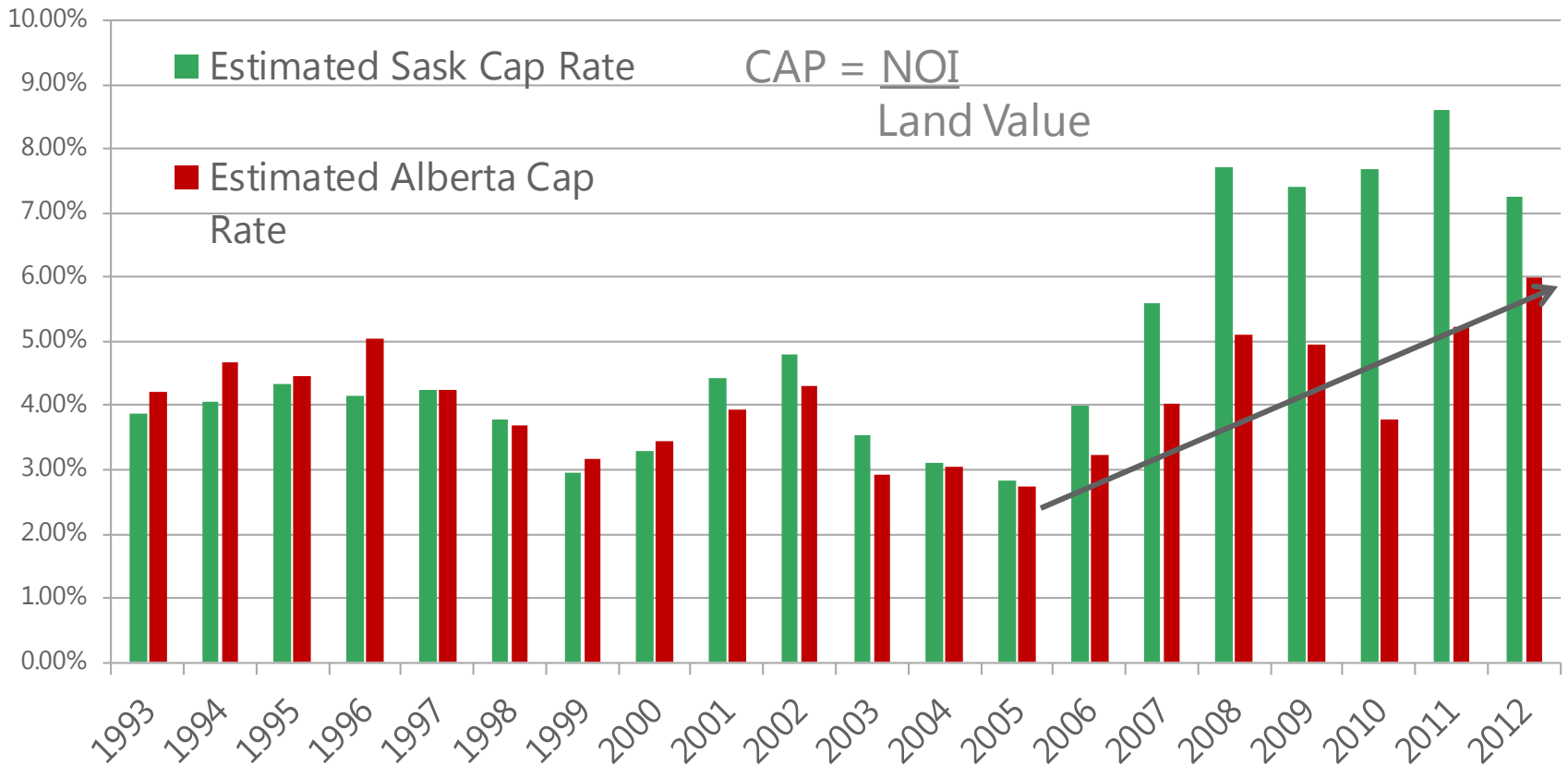


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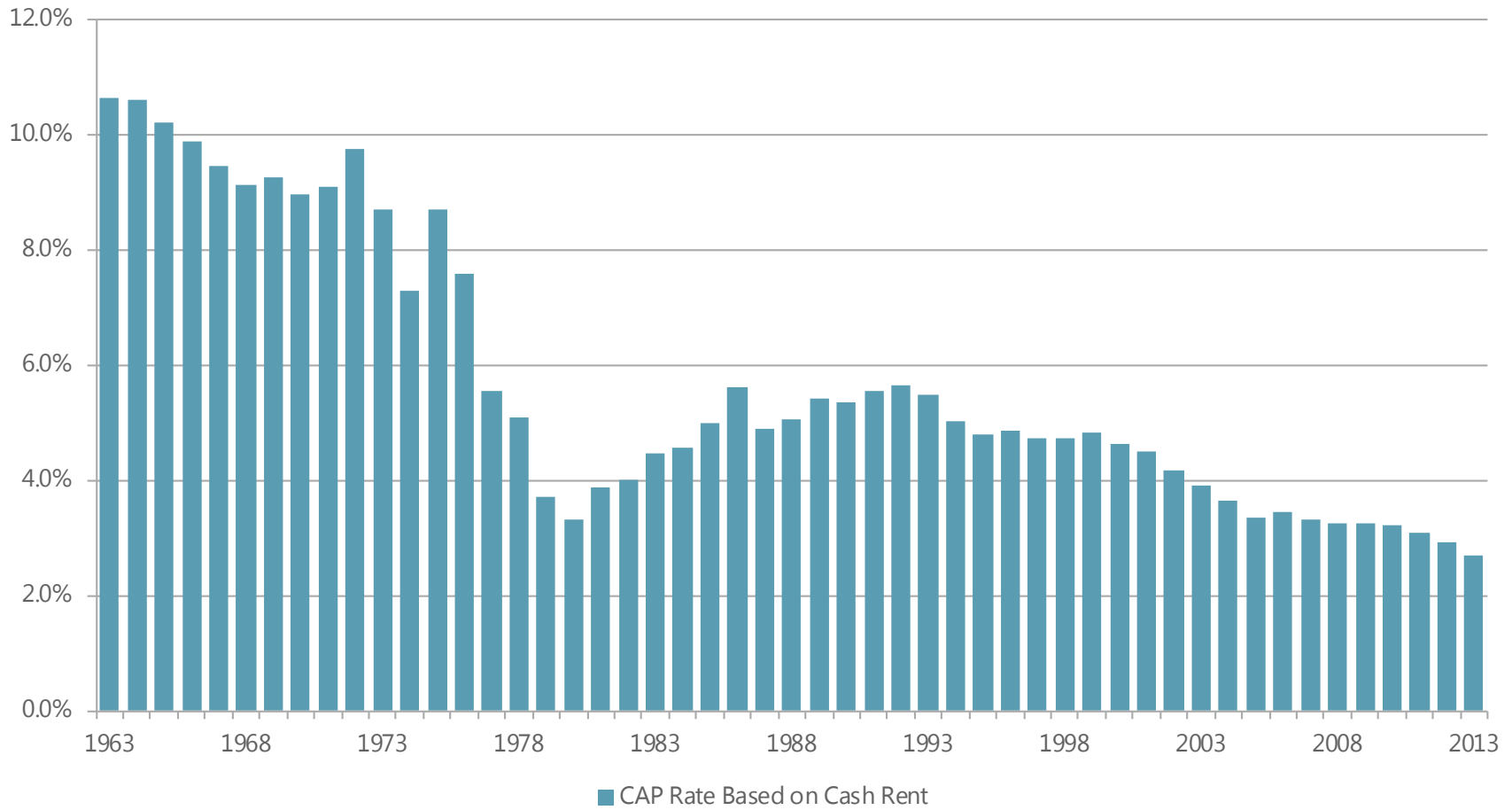
Gross Income Multiplier



CAP Rate: Based on Net Operating Income for Crop Production



Alberta CAP Rate: Based on Cash Rent

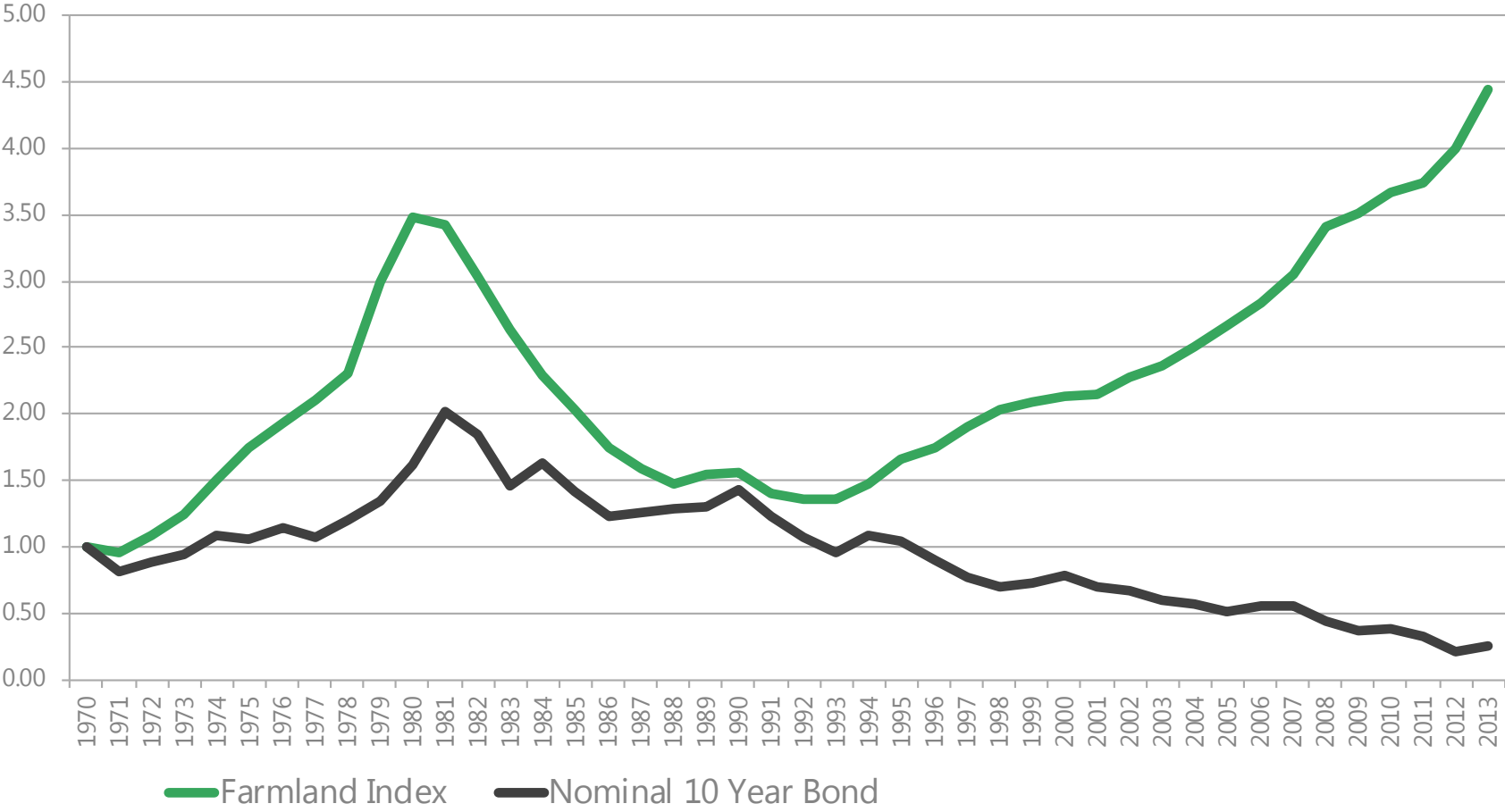




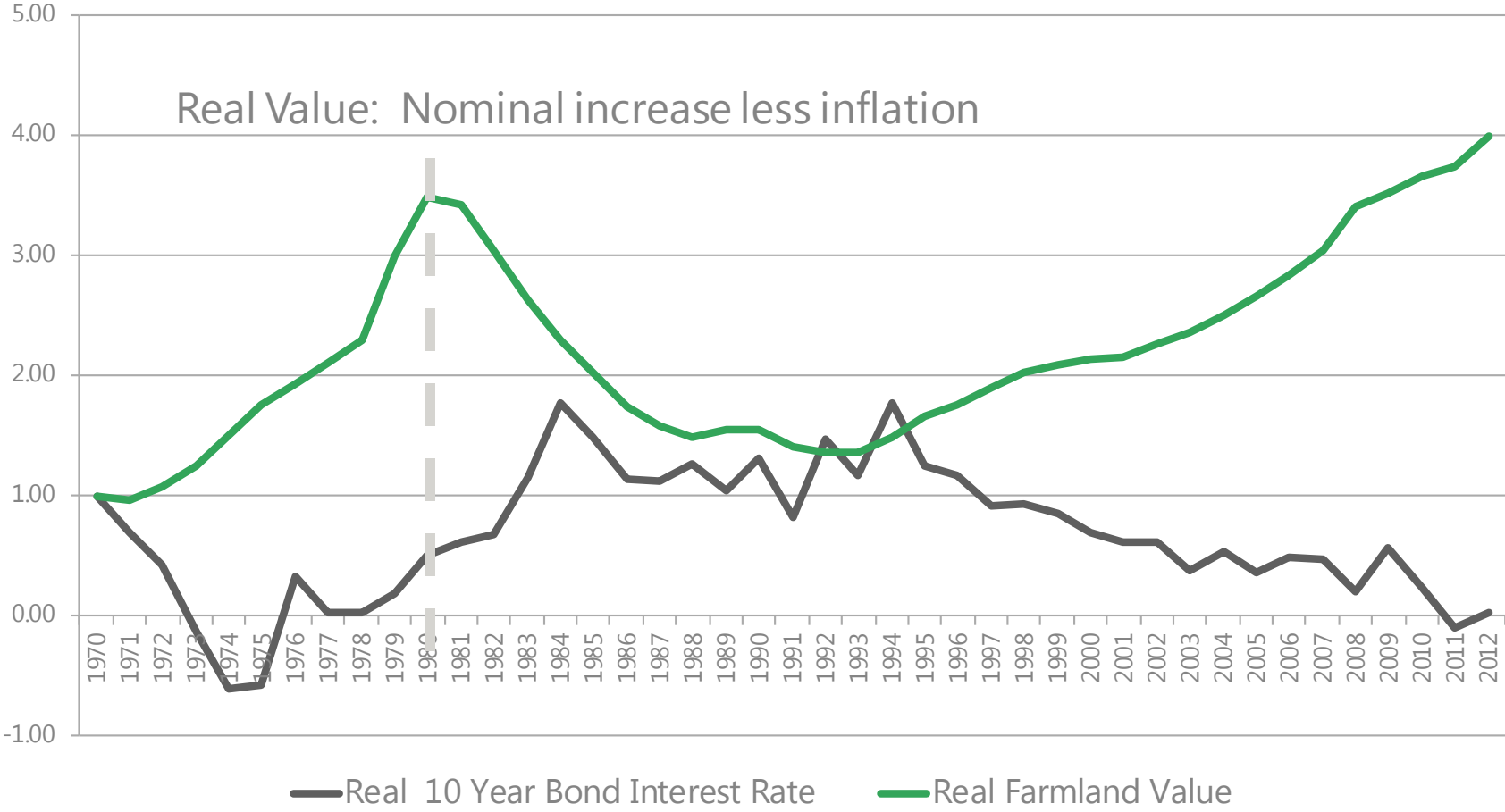
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Other Factors

Farmland Value vs Nominal Interest Rate

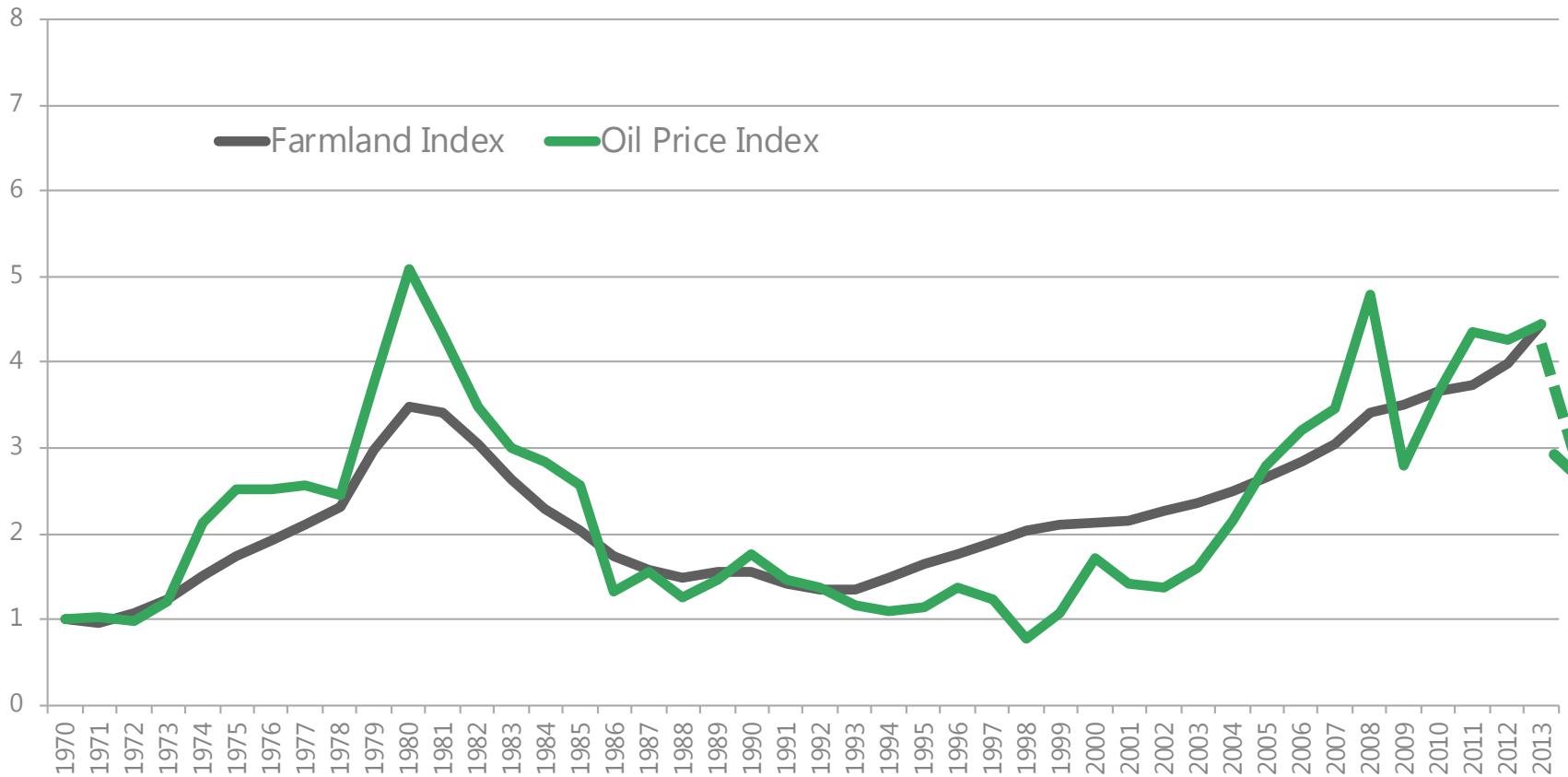


Real Farmland Value vs Real Interest Rate



Farmland vs Oil

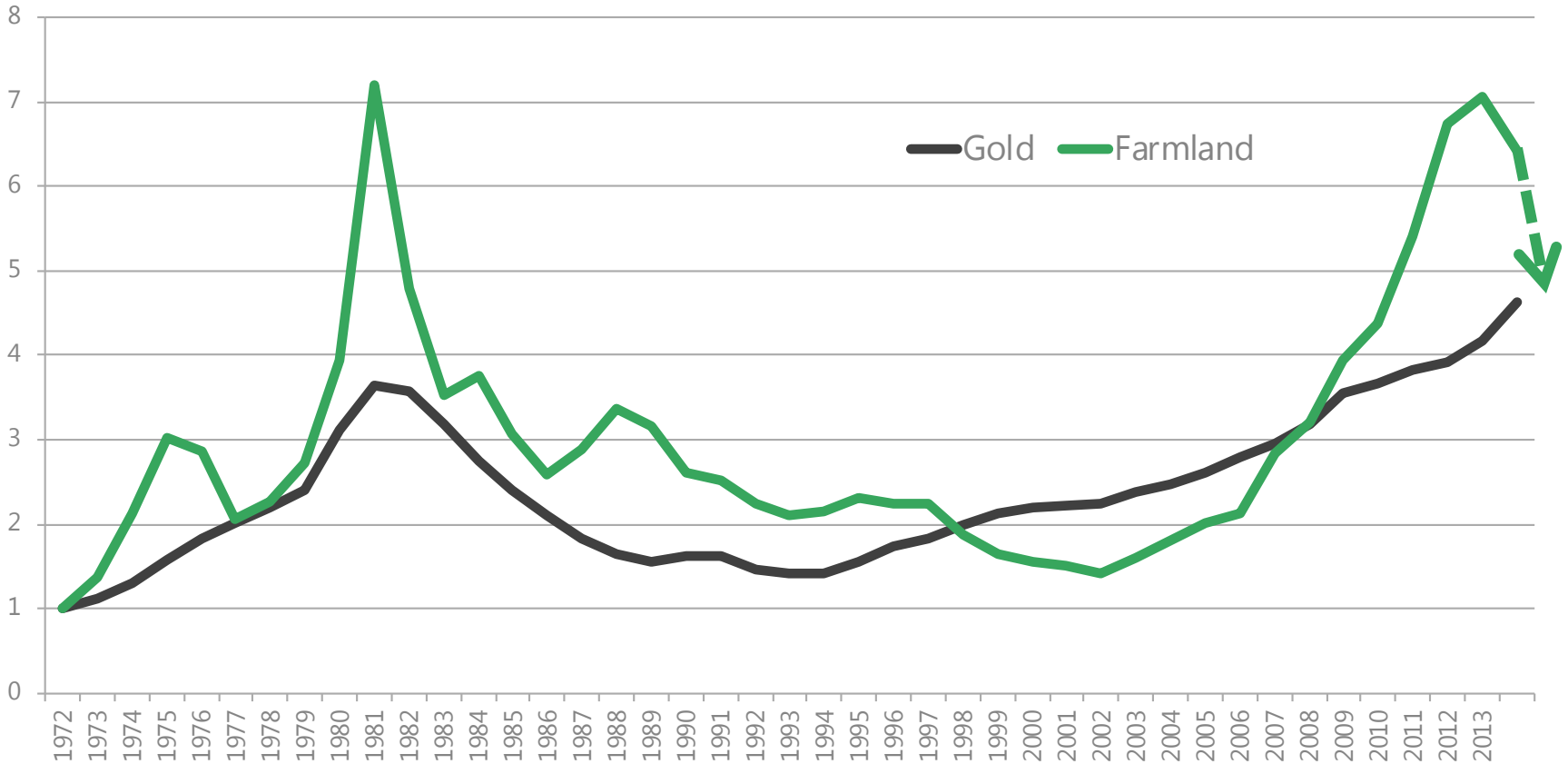
Real Values



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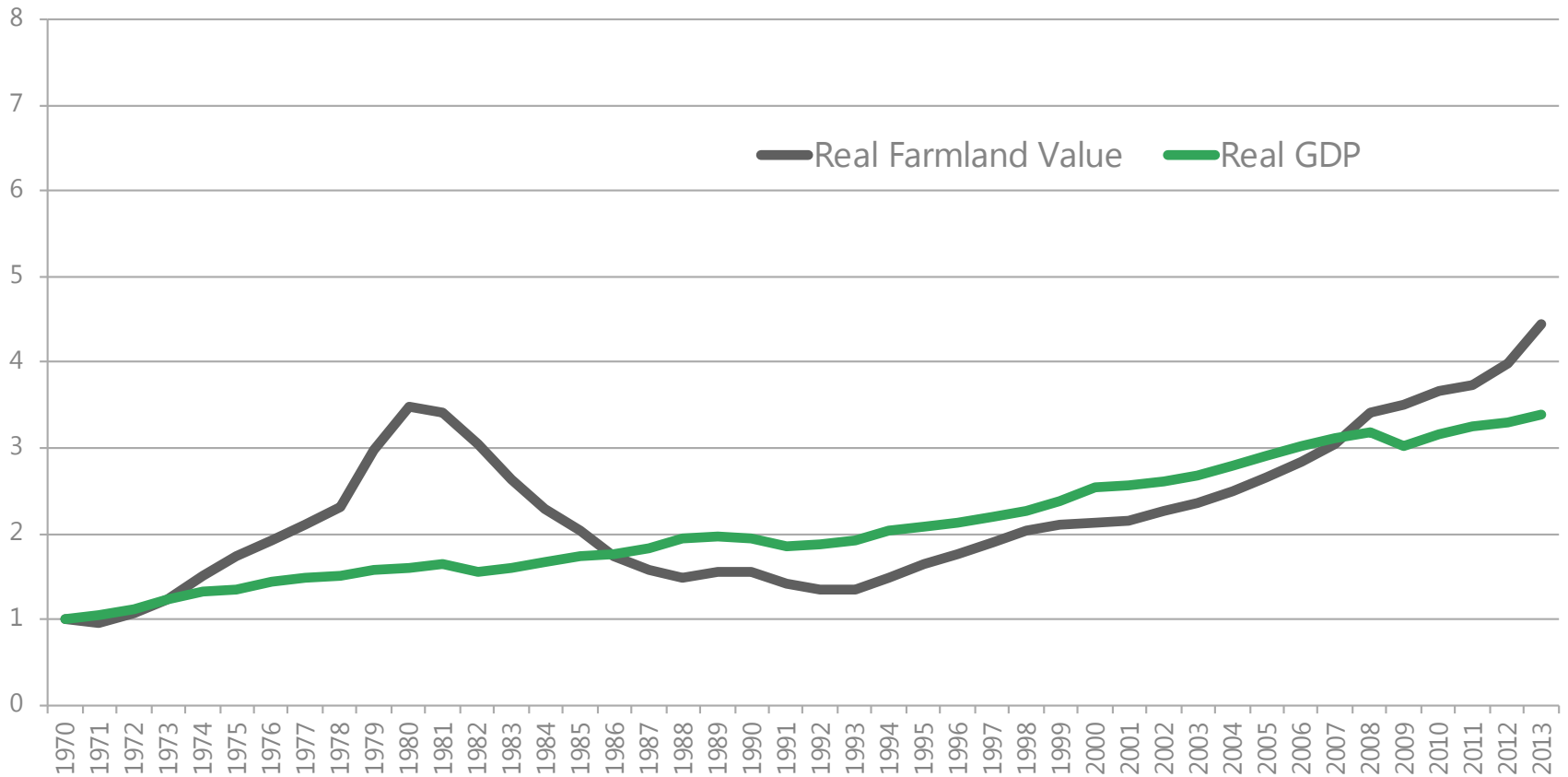
Farmland vs Gold

Real Values

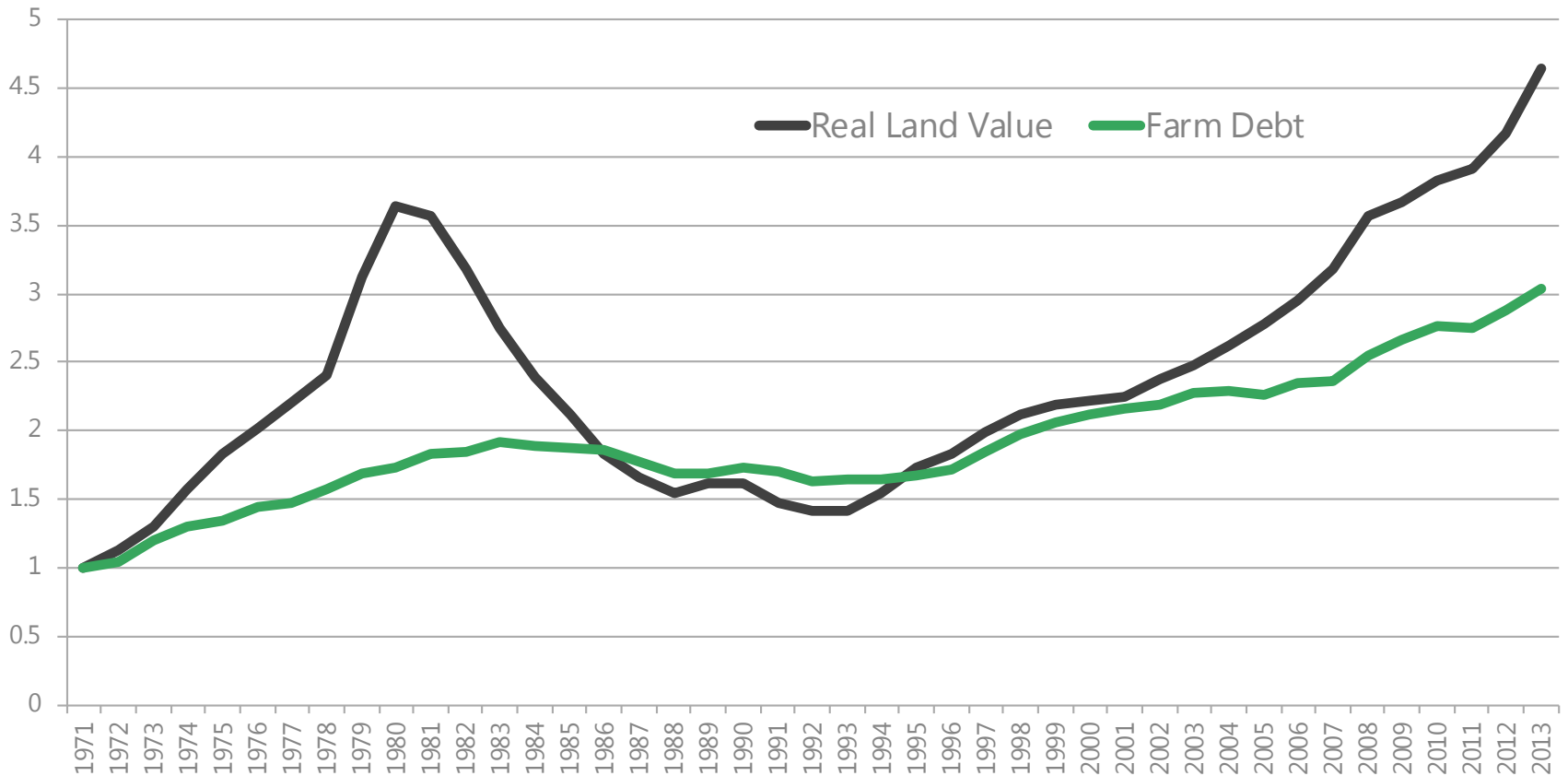


Farmland Value vs GDP

Real Values

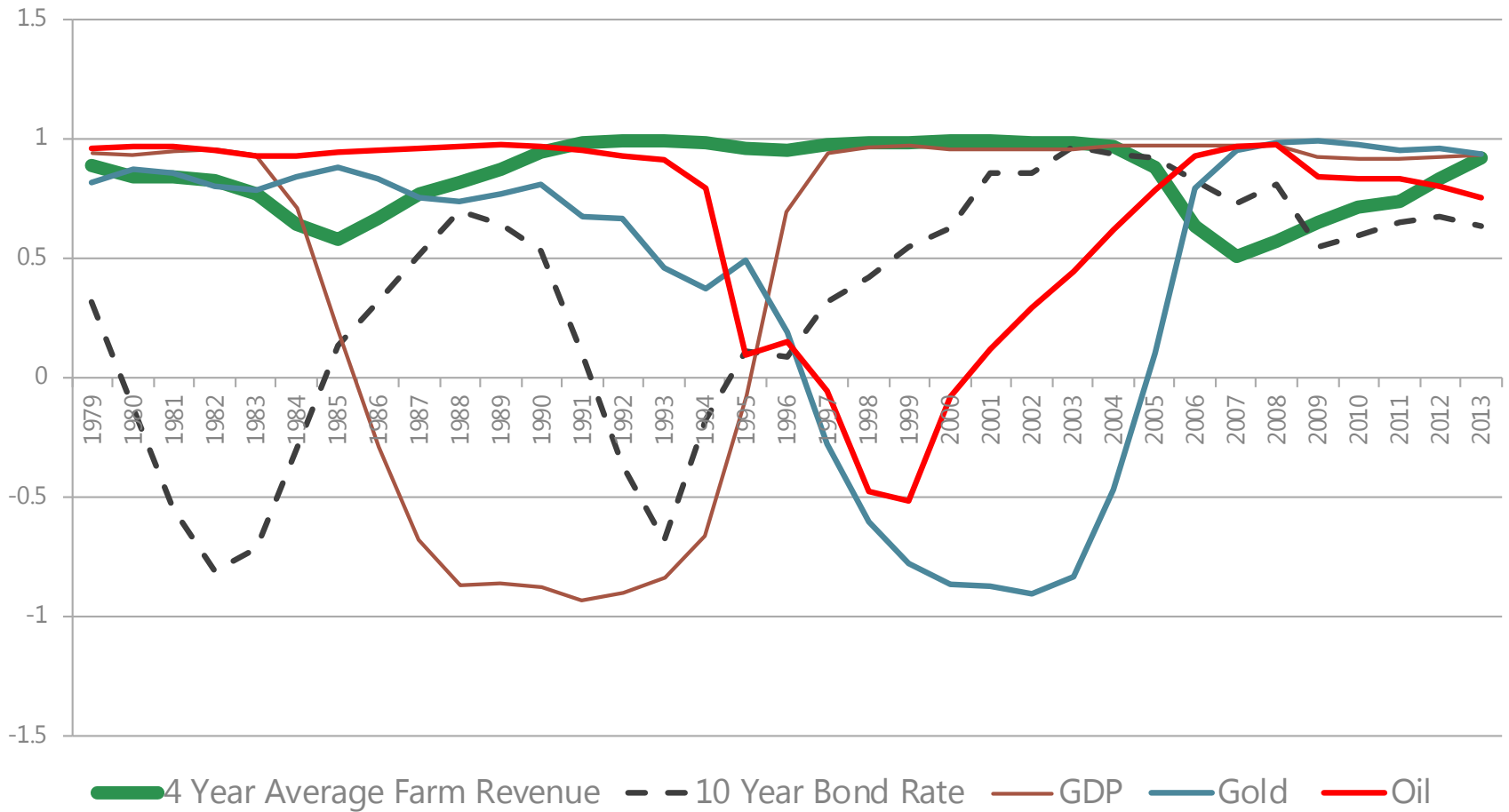


Farmland Value vs Farm Debt Real Values



10 Year Moving Average Correlation

Alberta



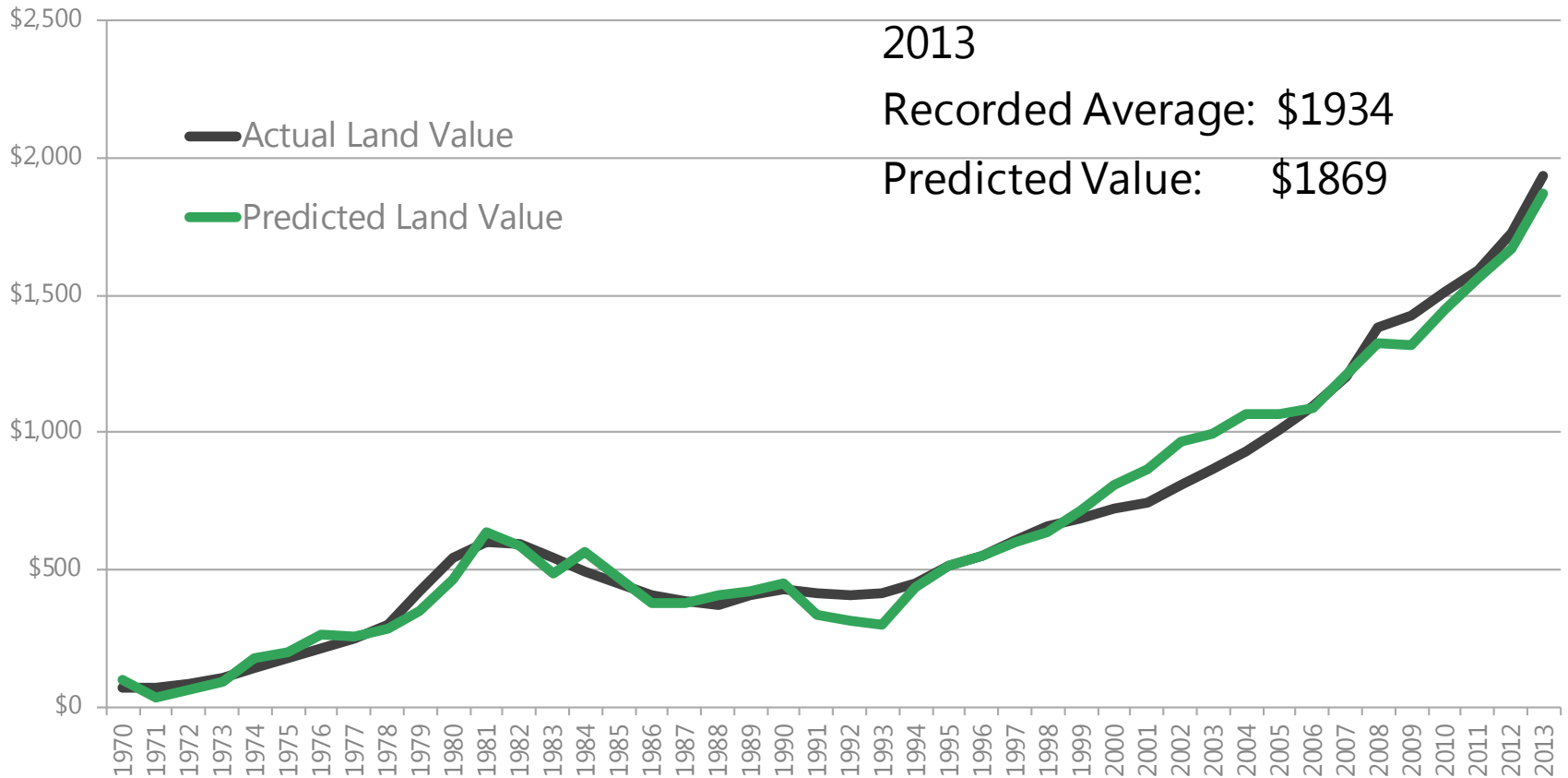


Land Value Simulation

Land Value Simulation

- Looked at combinations of multiple regression for many different variables
- Best correlation:
 - 4 Year Average Gross Farm Revenue
 - Interest Rate
 - GDP
 - Inflation

Our Land Value Model: Simulating the Past



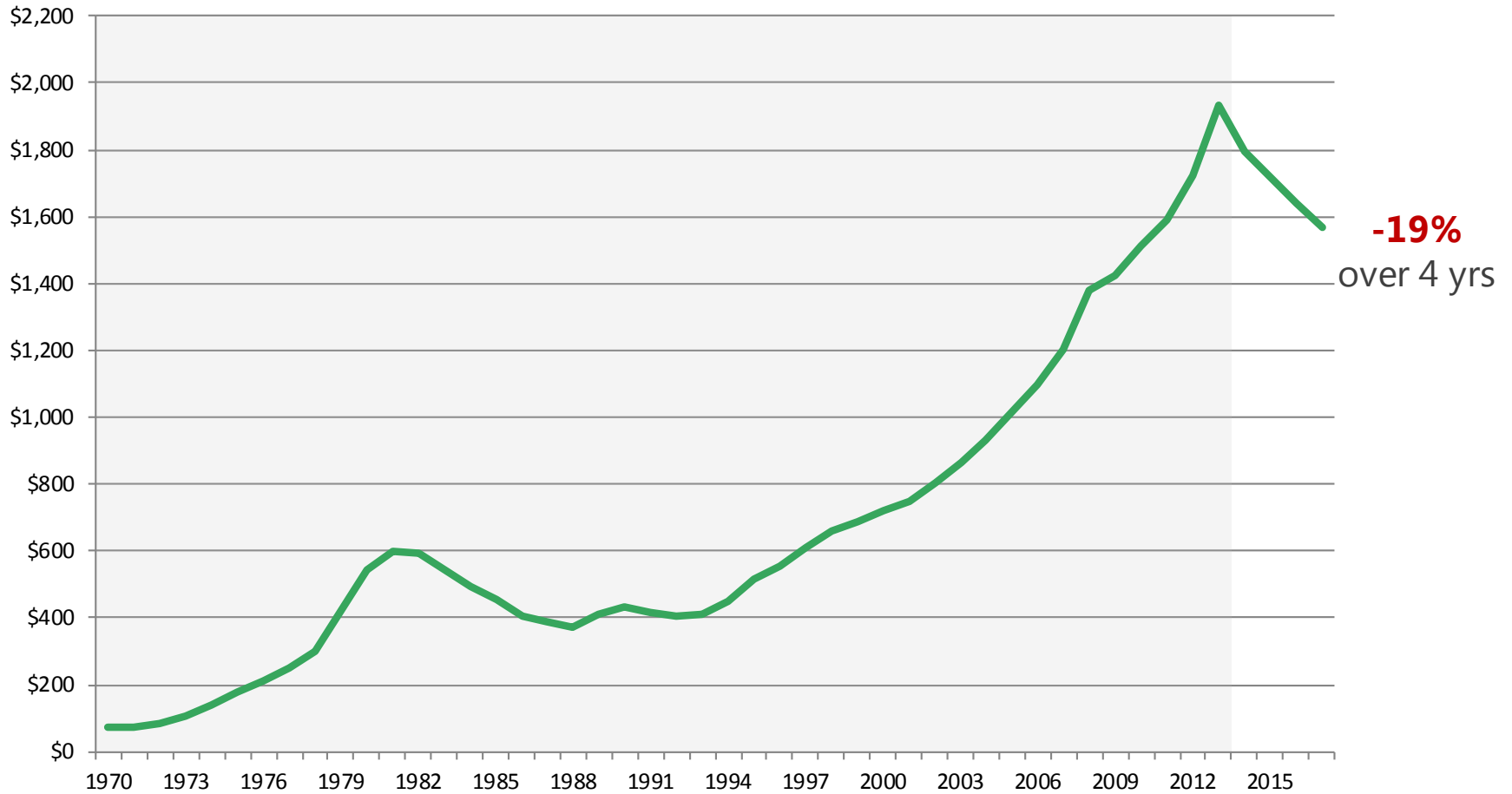
Our Land Value Model: Forecasting the Future

	Magnitude	Impact on Land Value
Interest Rate	1%	-5.3%
4 Year Average Farm Revenue	<u>+10%</u>	<u>+9.0%</u>
GDP	<u>+10%</u>	<u>+6.7%</u>

The next 4 Years: What if.....

- Interest rates rise 0.5% annually
- Average Farm Revenue drops 5% annually
- Assume GDP & Inflation rise 2% annually

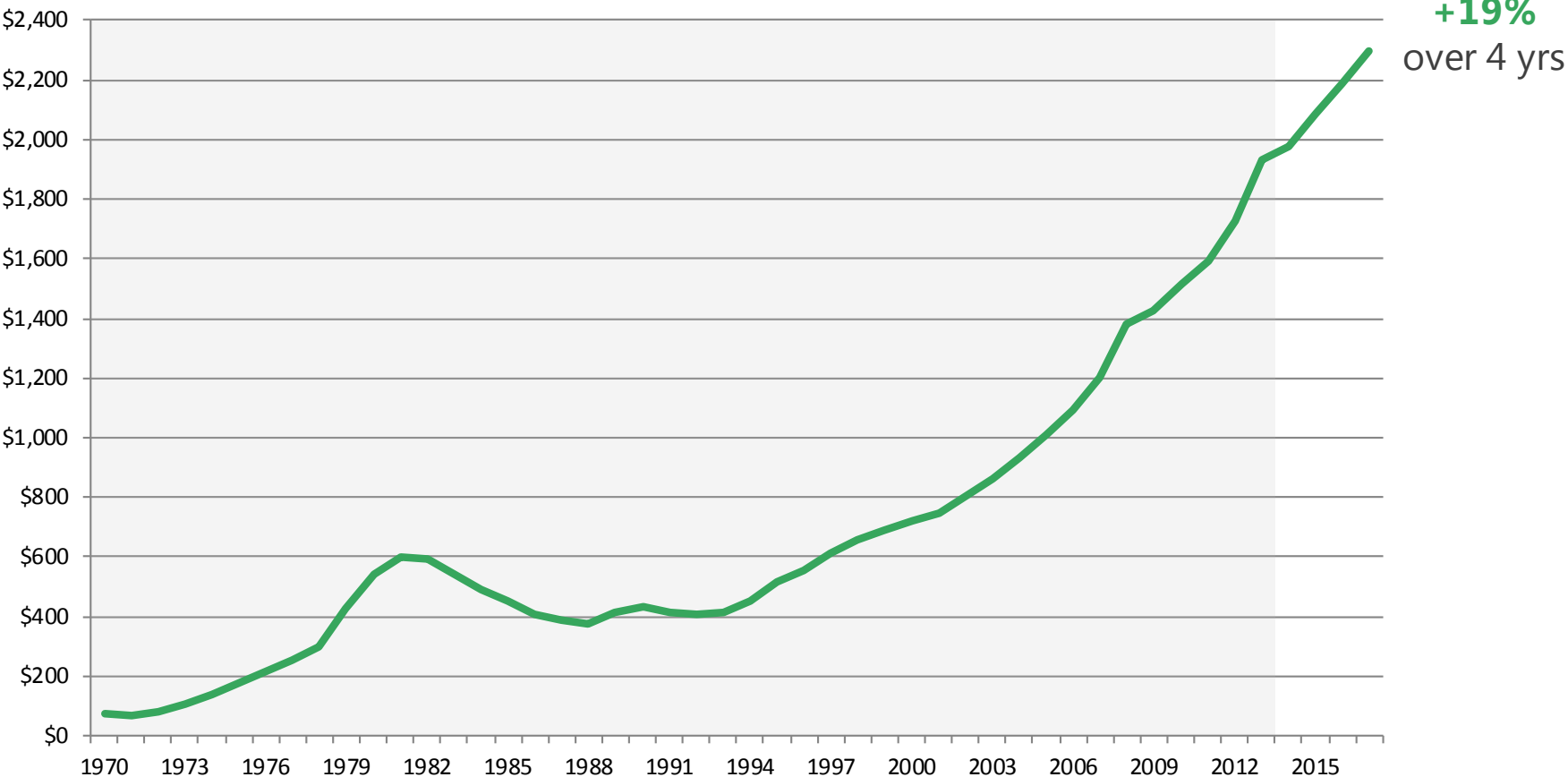
Then.....



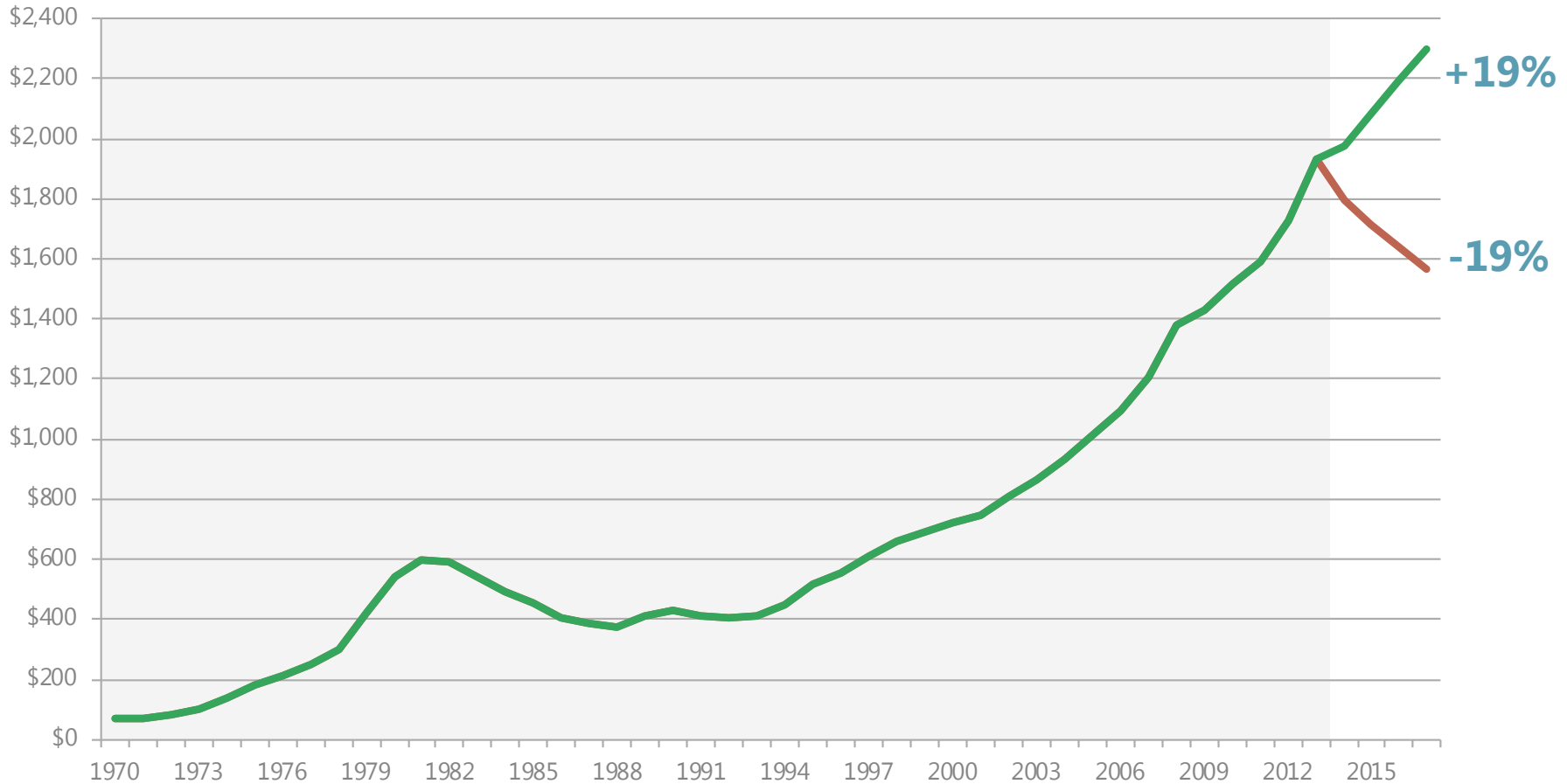
The next 4 Years: What if.....

- Interest rates steady
- Average Farm Revenue rises 3% annually
- Assume GDP & Inflation rise 2% annually

Then...



Possible Range...



Recent Trends: Resale Analysis

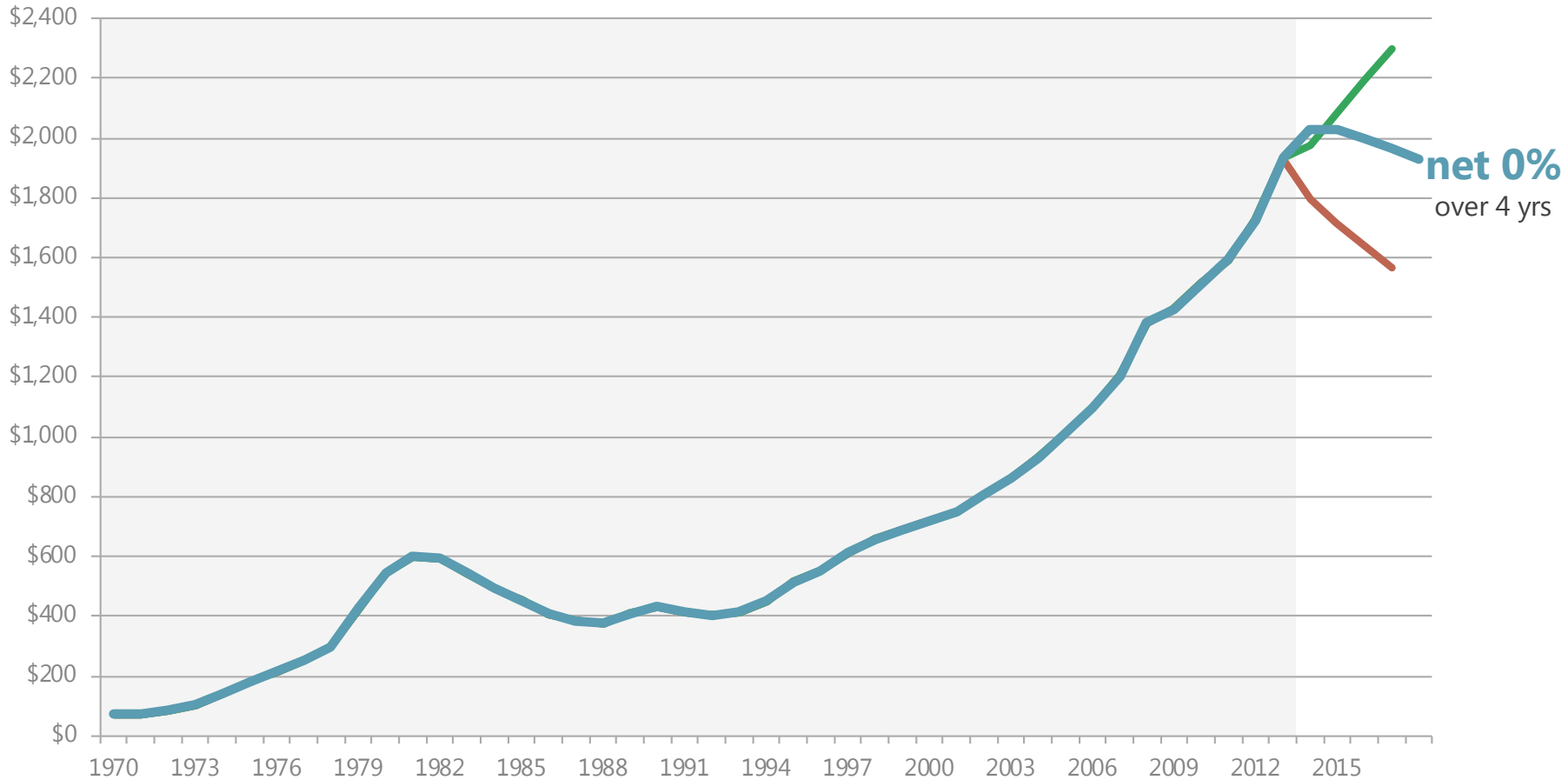
Percent Monthly Change



The next 4 Years: Best Guess

- Farm Revenue lower
- Interest Rates relatively steady
- GDP and Inflation – stable

Our Best Estimate ...



Conclusion

- Is it a bubble?.... Doesn't look that way.
- Is it a bargain?....Doesn't look that way
- Which direction?...It depends.

- Other things to watch for...
 - Less sales and expired listings
 - Local market factors
 - Cattle Prices



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Land Value Trends

... Discussion

David Weber
dweber@serecon.ca