Examining Cooperative Sustainable Growth Rates: Who is Growing Broke?

Nathan Smart
Graduate Research Assistant
Department of Agricultural Economics
Kansas State University

Brian C. Briggeman, Ph.D.
Professor and Arthur Capper Cooperative Center (ACCC), Director
Department of Agricultural Economics
Kansas State University

Why Sustainable Growth Rate?

- Cooperative growth has been tremendous over the past five years.
  - Hitting an annualized 60% at one point (CoBank RiskAnalyst Data)
- Exceptional growth may be unsustainable
  - Growing broke
- The SGR is already employed by many businesses

What is a sustainable growth rate?

- A Sustainable growth rate is the rate at which a company can grow without borrowing to fund its growth.
  - How fast can retained earnings build?
- Boosting retained earnings boosts the SGR
- Four growth levers and sustainable growth
  - Earnings retention, leverage, profit margin, and operating efficiency

The Sustainable Growth Rate

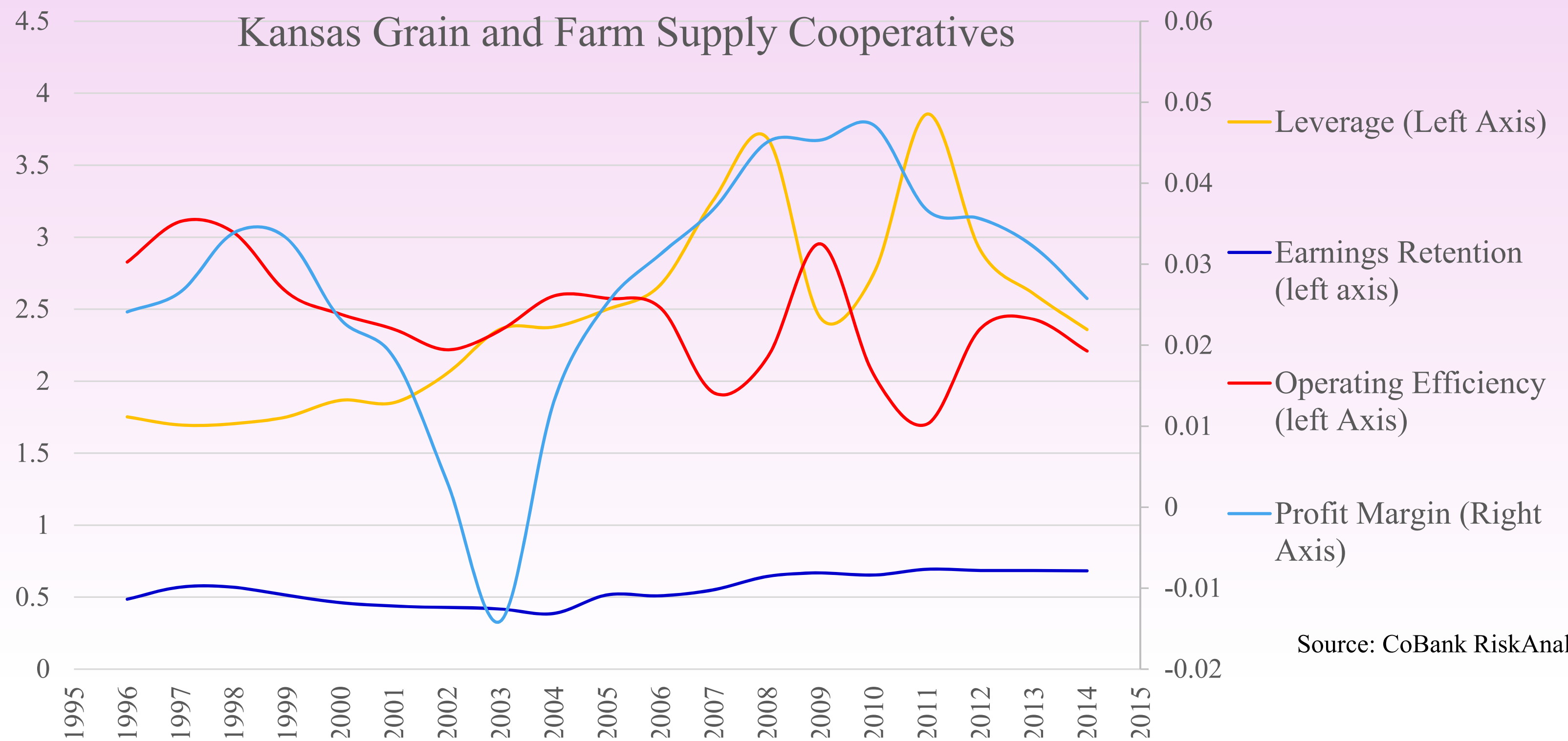
- Boosting the SGR can be done by boosting one or a combination of the growth levers below
- Higgins (2007) presents a straightforward model for co-ops:

$$SGR = \underbrace{\left(1 - \frac{Pat}{NI}\right)}_{\text{Earnings Retention}} \underbrace{\left(1 + \frac{Debt}{Equity}\right)}_{\text{Leverage}} \underbrace{\left(\frac{NI}{Sales}\right)}_{\text{Profit Margin}} \underbrace{\left(\frac{Sales}{Assets}\right)}_{\text{Operating Efficiency}}$$

Using the SGR

- Little information gained if not compared to actual growth rates across time and industry
  - Growth of a firm refers to change in sales
- Sustainable growth challenge, SGC, is SGR minus actual
  - Negative SGC shows borrowing
  - Positive SGC shows buildup of capital
  - SGC equaling zero
- Growth, financial and operating ratios

Breaking down the growth factors



Source: CoBank RiskAnalyst Data

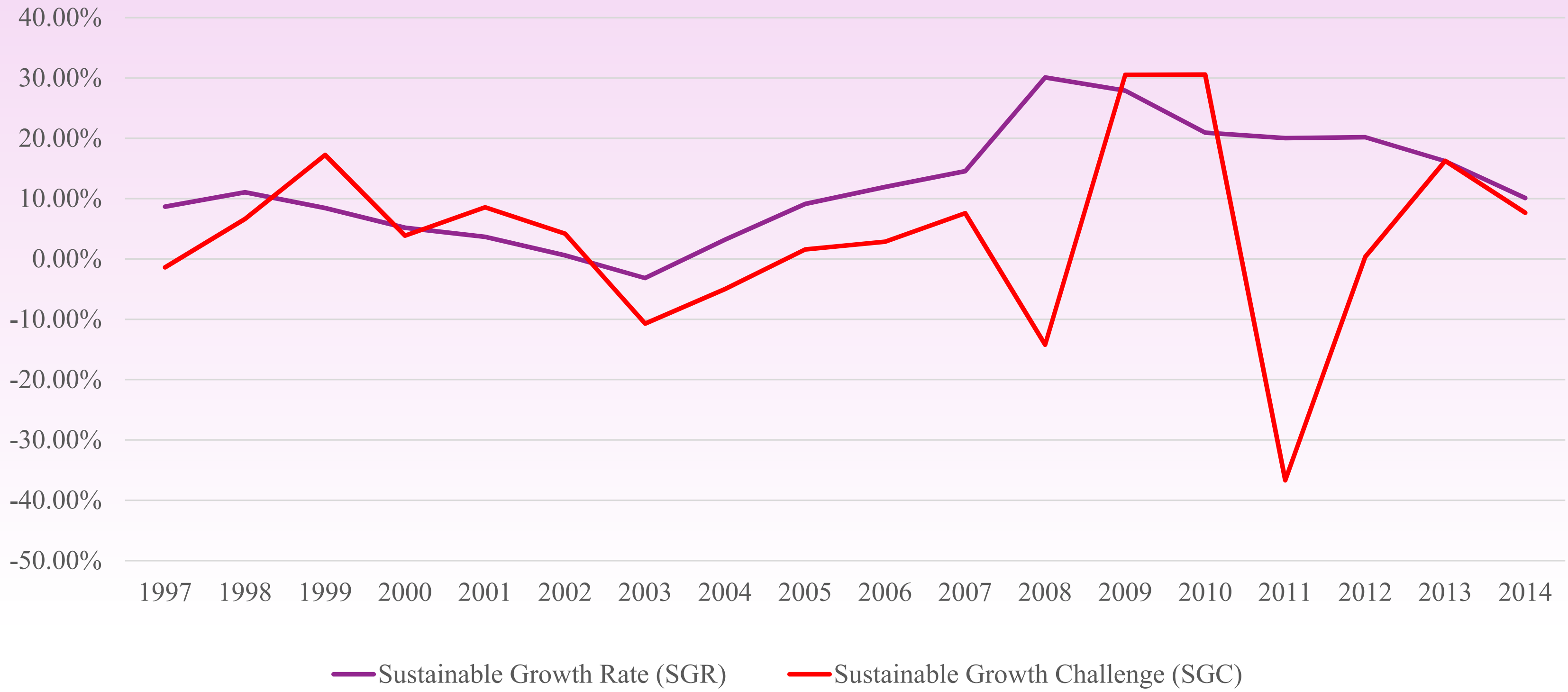
Breaking down the growth factors

- Tremendous growth due to tremendous leverage
- SGR is a product of all factors
- Given only four factors, if two move similarly, will likely pull SGR also
- Operating efficiency and leverage were the two factors that varied the most

Breaking down the growth factors

- Thesis following Turvey model
- Using seemingly unrelated regressions model
  - Correlated error terms
- Analyzing decision factors of high growth vs low co-ops

Applying the SGR to Kansas Grain and Farm Supply Cooperatives

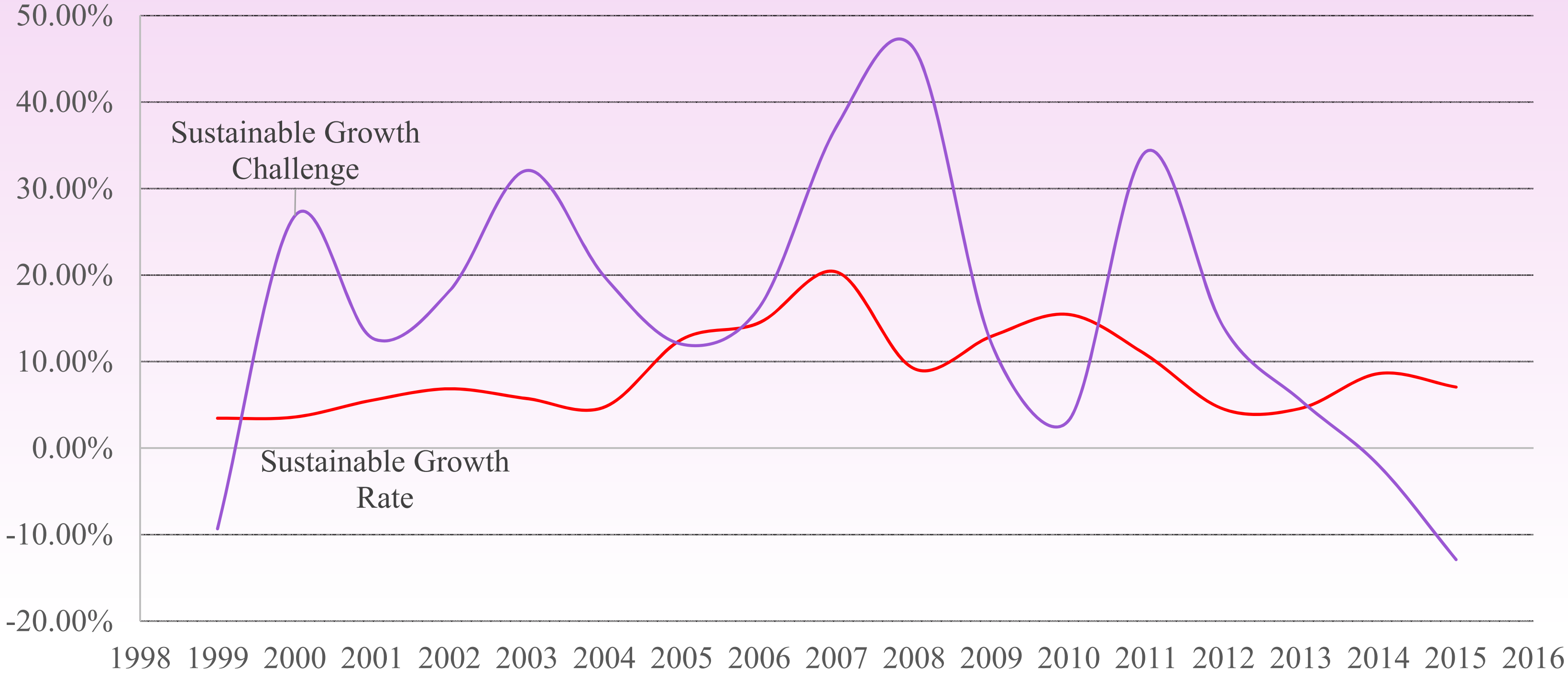


Source: CoBank RiskAnalyst Data

Sustainable Growth Rate

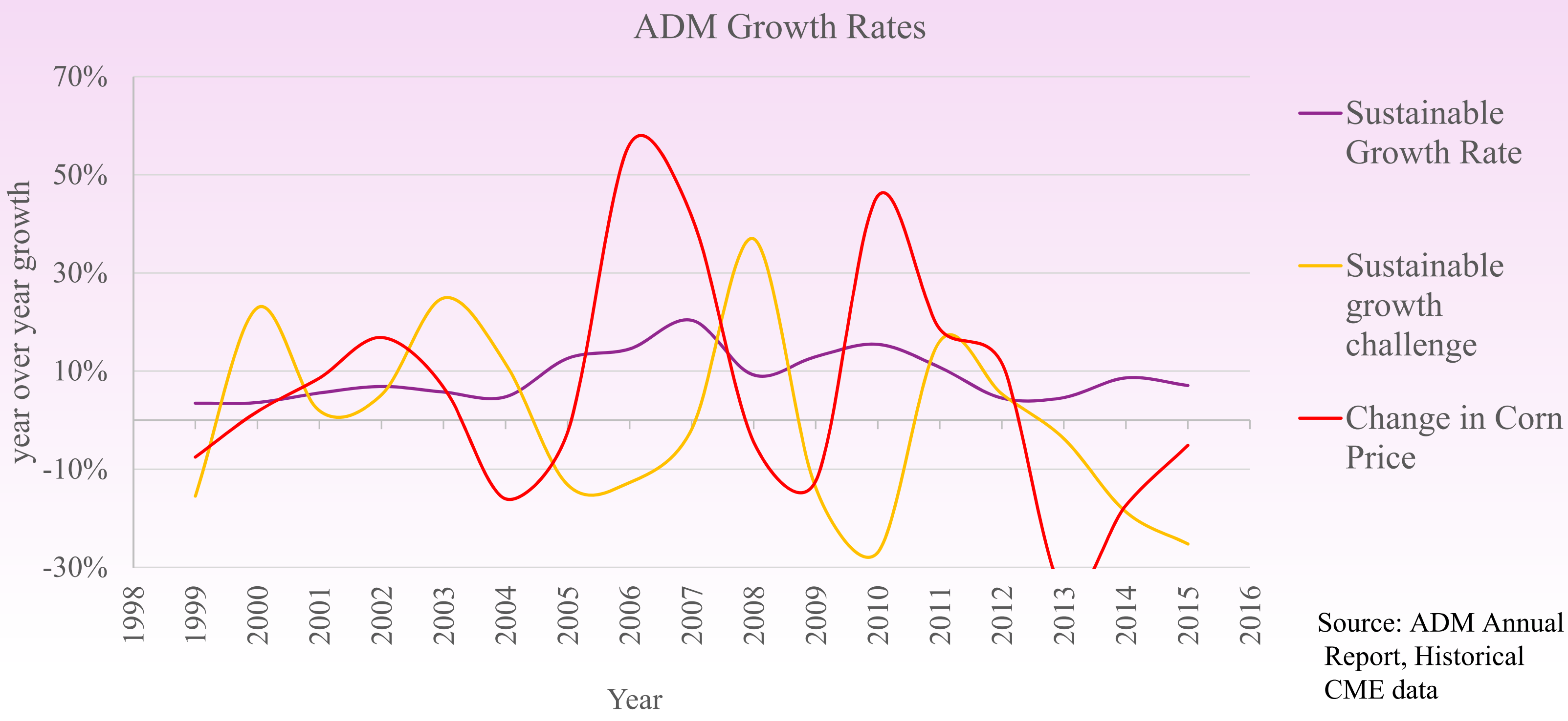
- Sustainable growth near 30% during 2007-2008
  - Actual Growth was faster yet at 40%
- Growth and expansion slowed allowing the actual growth to converge with SGR
- 3 periods of growth – declining, rising, declining

SGR applied to ADM data



Source: ADM annual Report

SGR applied to ADM data



Source: ADM Annual Report, Historical CME data

SGR applied to ADM data

- All growth factors steady to increasing, with profit margin 5x spiking mid-2000s
- Year over year increases in net income 11 of 18 years
  - Kansas co-ops only experienced that for 7 years
- Large driver of ADM steady profits is investments in grain processing facilities – crush plants, ethanol plants, feed plants, etc
  - Without, SGR would likely be lower than Kansas co-ops’

Comparing Kansas Co-ops with ADM

- ADM had perpetually positive and high SGC
  - ADM’s equity doubled from 2007 to 2010
    - Remains nearly unchanged now, ten years later
- Kansas co-op efficiency
- Kansas co-ops maintained higher profit margins, operating efficiencies
    - Higher SGR by 1.21%
- ADM kept higher leverage and 16.5% higher earnings retention

Using the SGR

- Simplifies financial planning – given the existing metrics, how fast should the co-op be growing?
- Quick understanding of what a capital outlay will do to the future ability to grow
  - Couple higher leverage with higher earnings retention
- Localized decision making and keen understanding of growth key to continued SGR outpacing of larger IOF grain companies

Questions, Comments?