

# Near-Term Trajectories in Agri-Food: Implications for Business Strategy

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# Planned Path

Agriculture's productivity and structural shifts

Unintended consequences

Challenges and opportunities

# Agricultural Productivity Trends

U.S. agricultural growth has been driven by productivity and not by addition of inputs

Relative input use has remained virtually flat over the last 70 years

However, output from all of agriculture has been growing rather rapidly

- Output in 1956 was about 50% what it was in 1996
- However, by 2006, output was 112% what it was in 1996

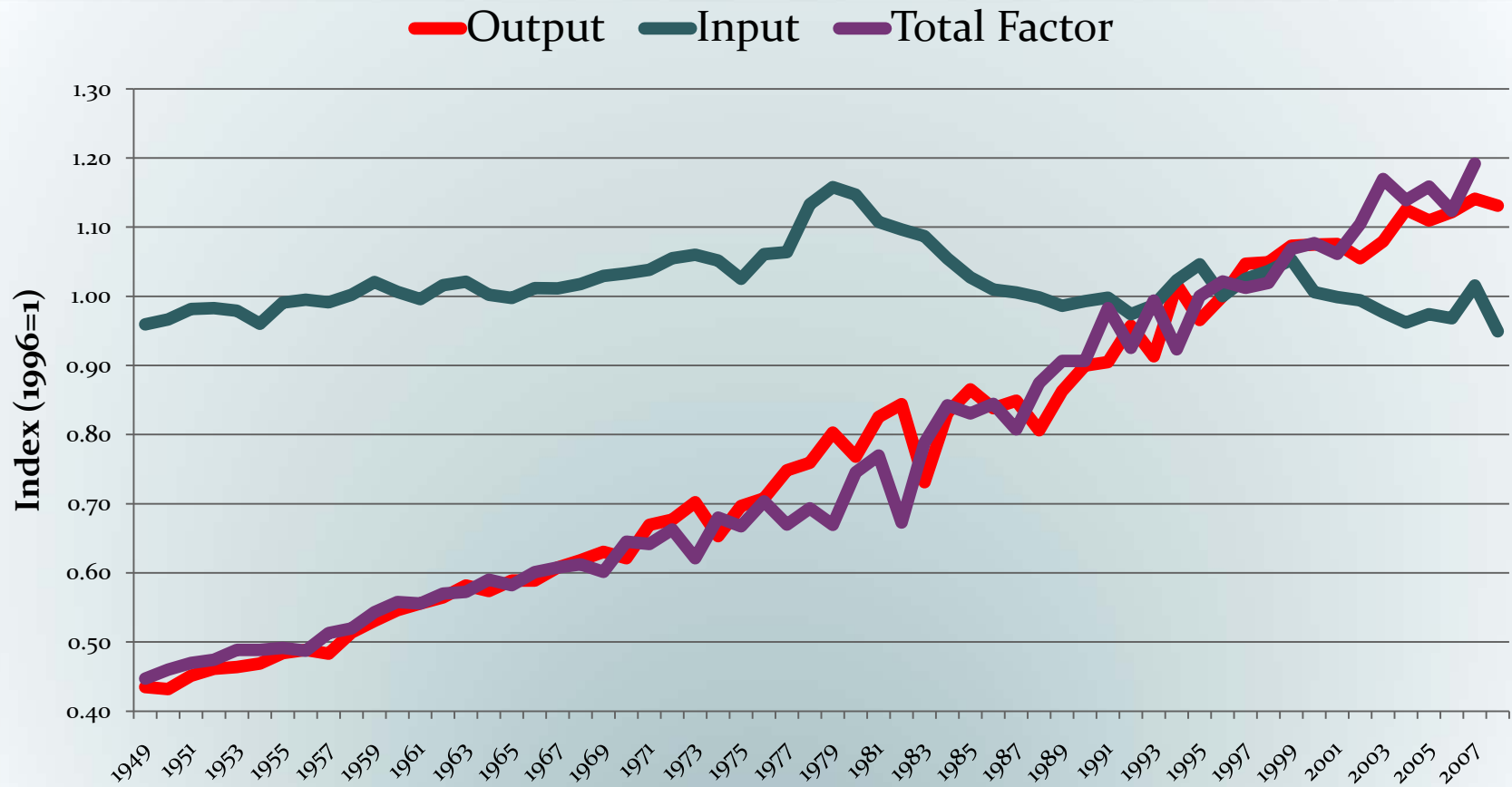
# Agricultural Productivity Trends

Total factor productivity (productivity improvement not related to production inputs) has been growing rapidly too

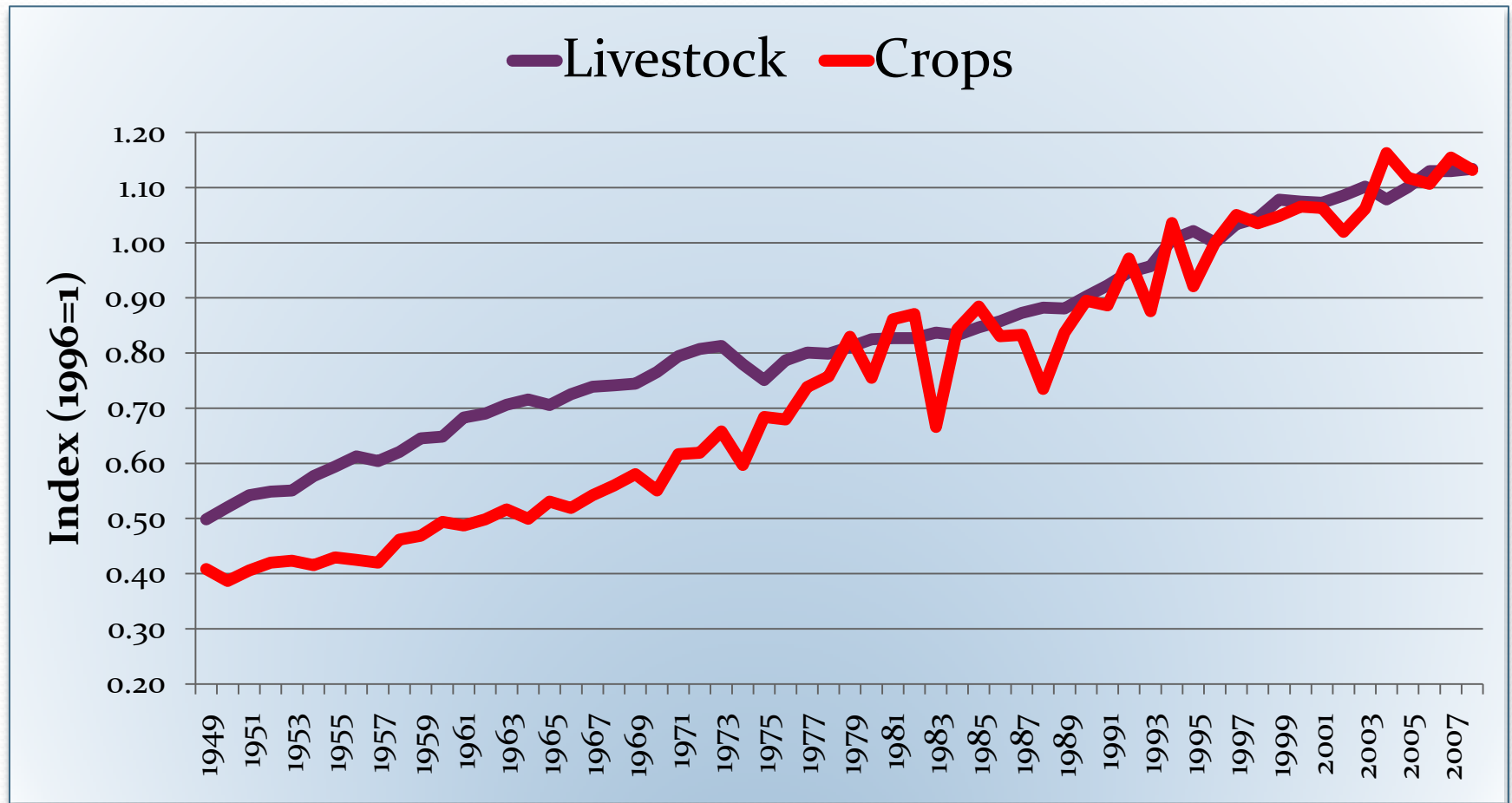
TFP = How intensely and efficiently inputs are used instead of how much of them are used

We have been milking more milk out of the cow drawing on technology and better production know-how

# Productivity in U.S. Agriculture



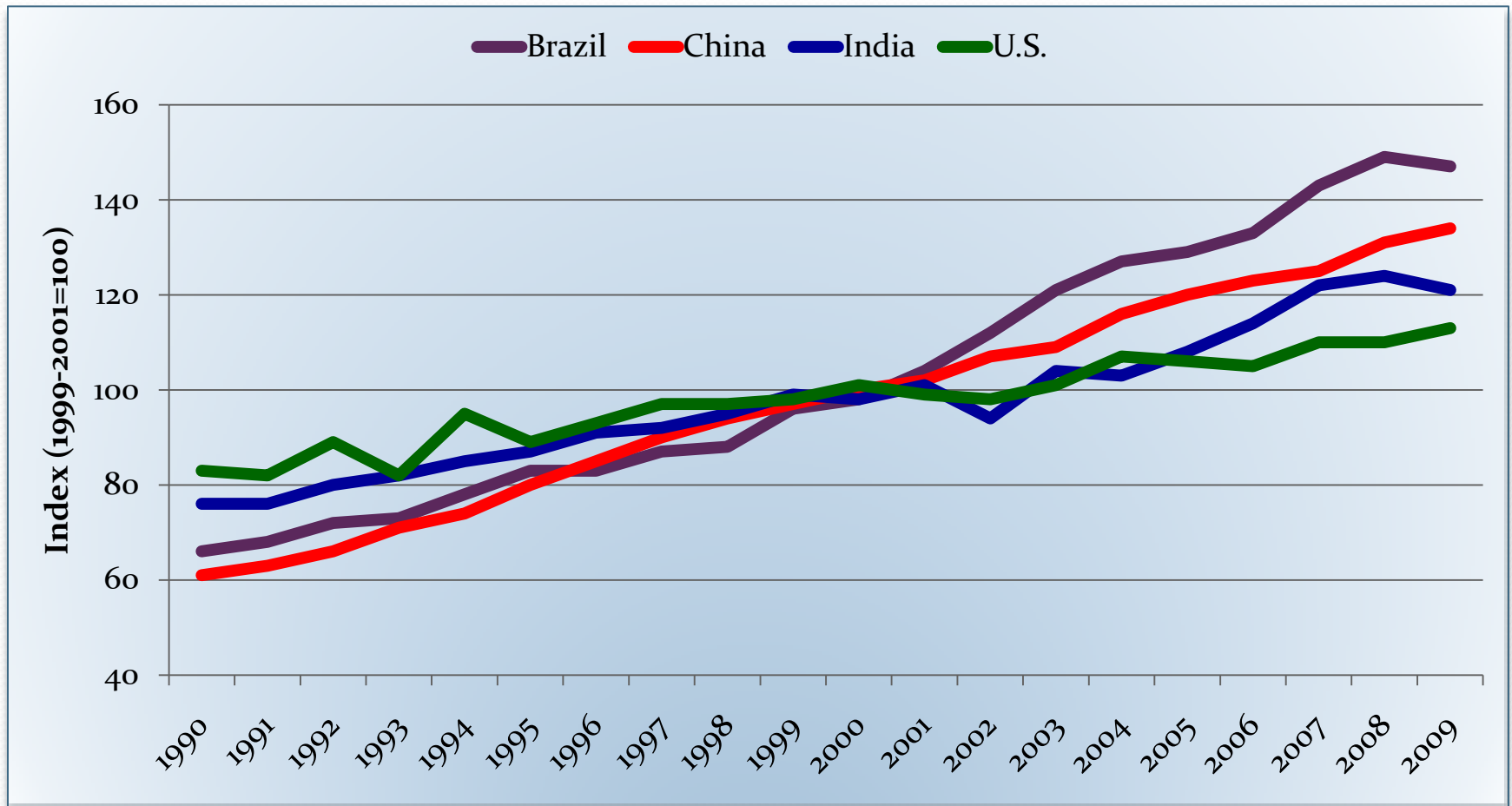
# Crop v. Livestock Productivity



# International Productivity Comparisons

- The U.S. is not the only country experiencing these rapid shifts
  - We have been doing it longer
- But China's agric productivity growth rate has surpassed that of the U.S. in relative terms
- As have Brazil's, and even India's

# All Agriculture Productivity Index



Source: FAOStats.org



# Agricultural Productivity Trends

The result of this efficiency has been income growth

People move from agriculture into other industries

A phenomenon that has significant benefits for national economic growth and performance

As well as growth in national wealth and standards of living

# Agricultural Productivity Trends

But the cost of the  
outmigration from rural  
communities has been  
depopulation of rural  
America

And this is happening in  
many places around the  
world

Increasing cost of living in  
these communities in  
terms of services

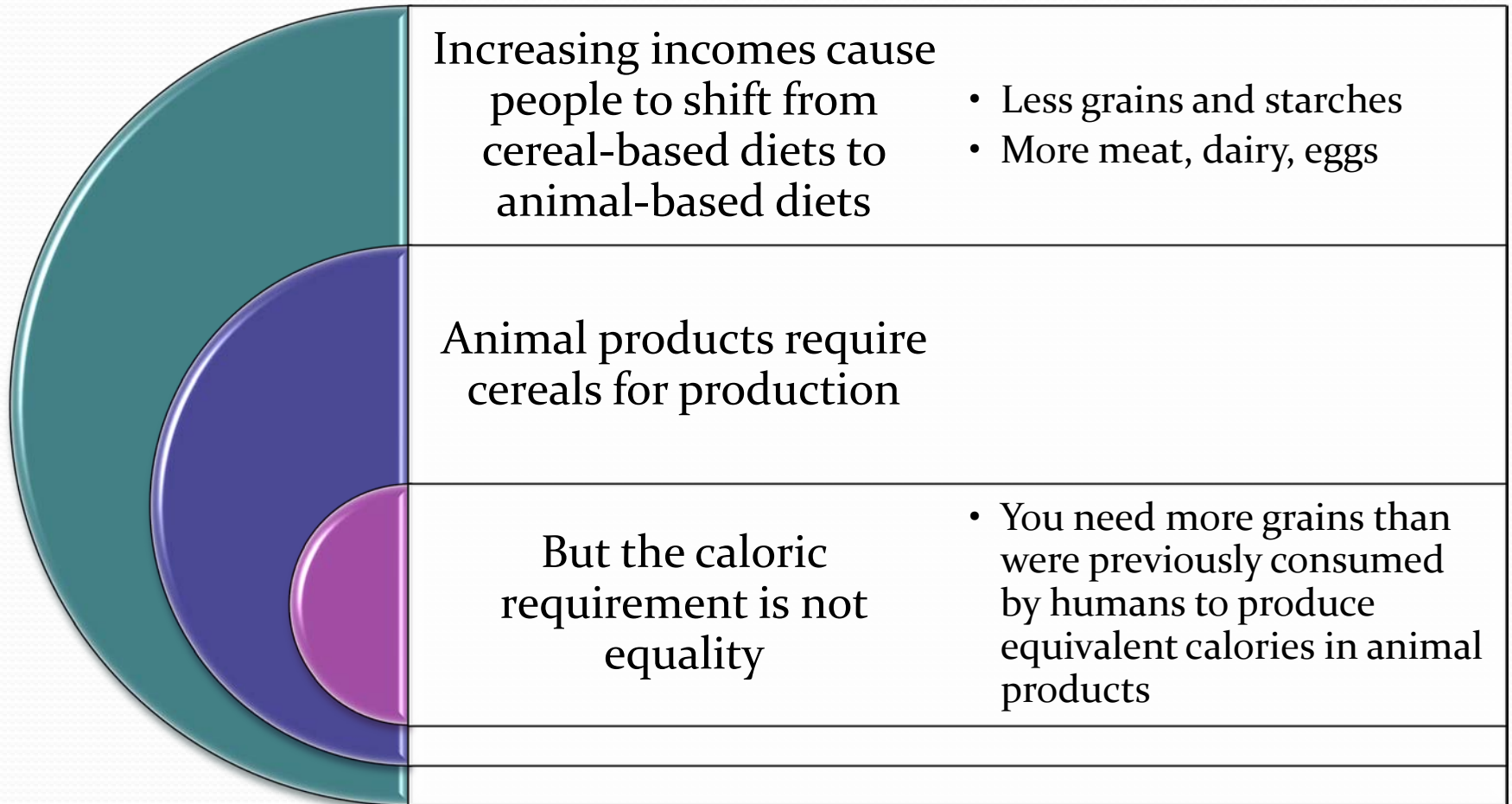
And the transfer of mobile  
wealth away from these  
communities

# Agricultural Productivity Trends

Indeed, in 2010, 51.3% of the global population is living in urban areas

Our planet has been officially urban since 2007 when about 3 billion people were estimated to be living in urban areas

# Agriculture and Increasing Income



# Agriculture and Increasing Income

- Consider the case of China . . .
- Per capita meat consumption in China was 20 kg in 1985
- By 2000, it had increased to 50 kg
- It is projected to reach 85 kg/person by 2030
- And the population of China is growing at about 0.5% per annum

# Challenges and Opportunities

- But it is not just about food
- It is more about energy
  - Transportation
  - Electricity
- China is projected to overtake the U.S. in oil consumption
- And with uncertainty about supply, concerns begin to accentuate

# Challenges and Opportunities

What do these trends mean for global food supply and resource requirements?

How valid are the arguments about food v. fuel debates?

# Solutions

- Let history guide us in our assessment of the near-future trajectories that face us
- Agriculture has grown principally through technology and knowledge
- And there is no reason to believe that will not continue
- However, it is going to follow a different path
  - Different from the monolith we have seen in the last seven decades
  - And the emergence of multiple strategies to meet specific customer needs



# The Principal Trajectories

Large scale  
operations

Small scale  
operations

Market  
Segmentation  
to Maximize  
Performance

# Small Scale Operations

Developed  
Country  
Markets

Local  
foods

Fresh  
foods

Developing  
Country &  
Urban  
Production

Fair trade  
foods

Ethical  
foods and  
products

# Small Scale Operations

Firms on this trajectory are going to be niche oriented

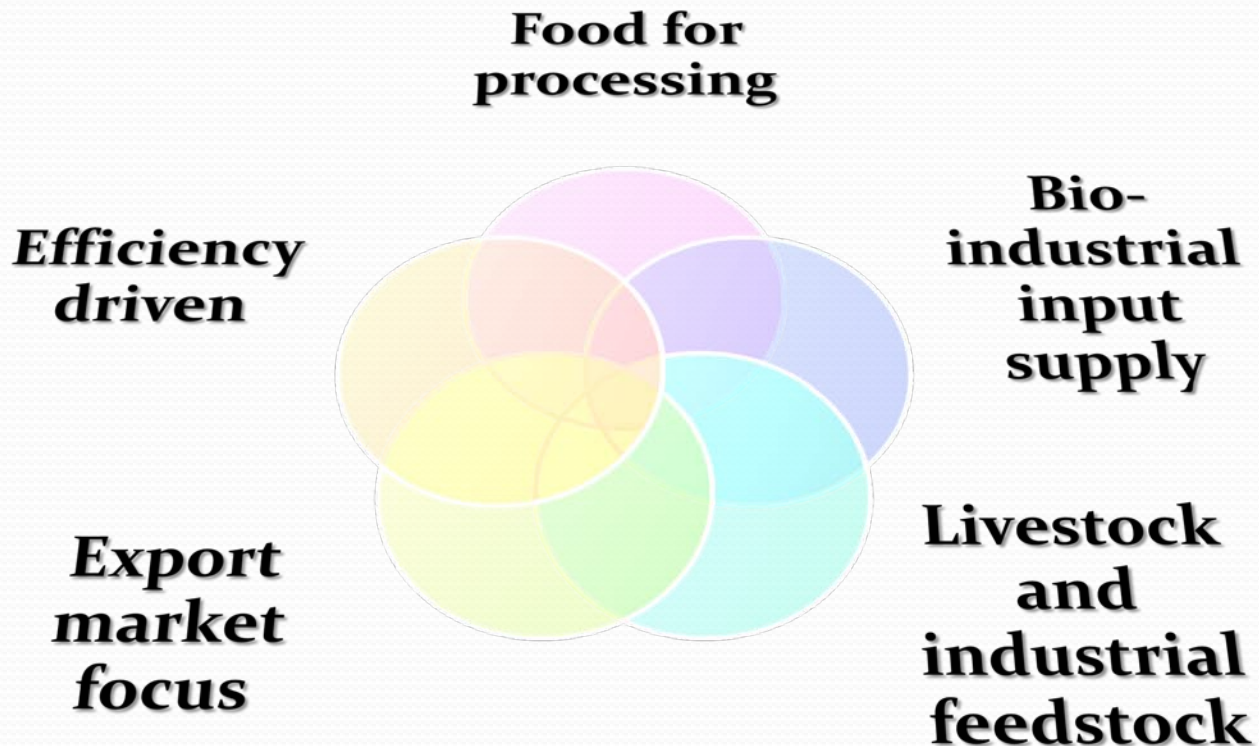
Addressing the idiosyncratic needs of their customers

**Because every successful niche is a commodity market in the making**

They will be customer focused

But they cannot overlook efficiency

# Large Scale Operations



# Large Scale Operations

Efficiency driven

Cost focus

Innovation and technology

Think biotechnology (IV)

- From drought tolerance to drought resistance
- From production to consumer traits
- From commodities to ingredients

# The Risky Segment

Middle  
Producers

Too big to  
be small

Too small  
to be big

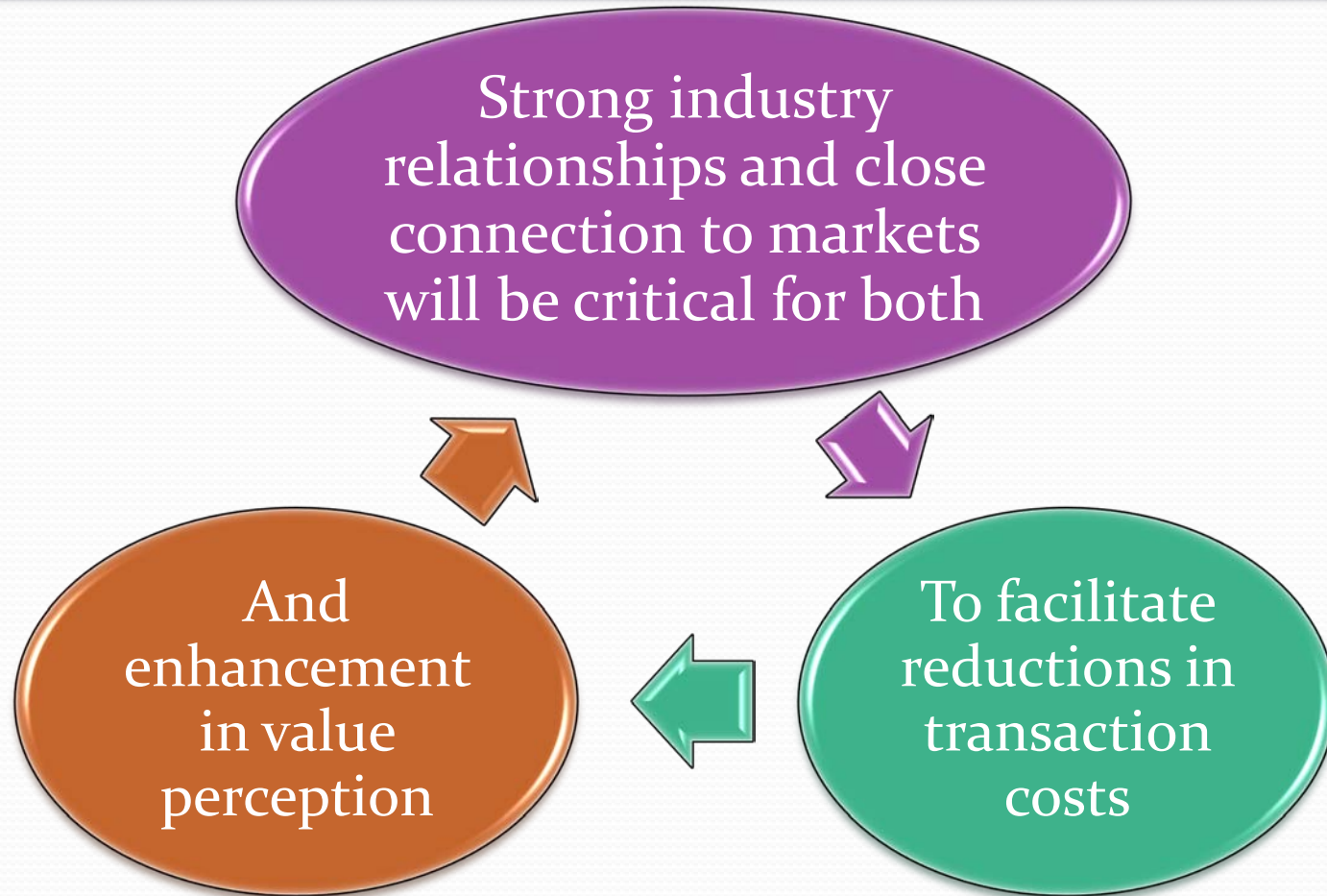
# Signals of Success

The players on each of these trajectories will need to develop keen business and economics perspective on their businesses

It cannot be a religion

Even though it should be a passionate pursuit

# Signals of Success





# The Important Thing to Remember

Charles  
Dubois

- “The important thing is this: to be willing at any moment to sacrifice what we believe ourselves to be, for what we could become.”



# Thank You

Conversations