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Building U.S. Agricultural Exports: One BRIC at a Time

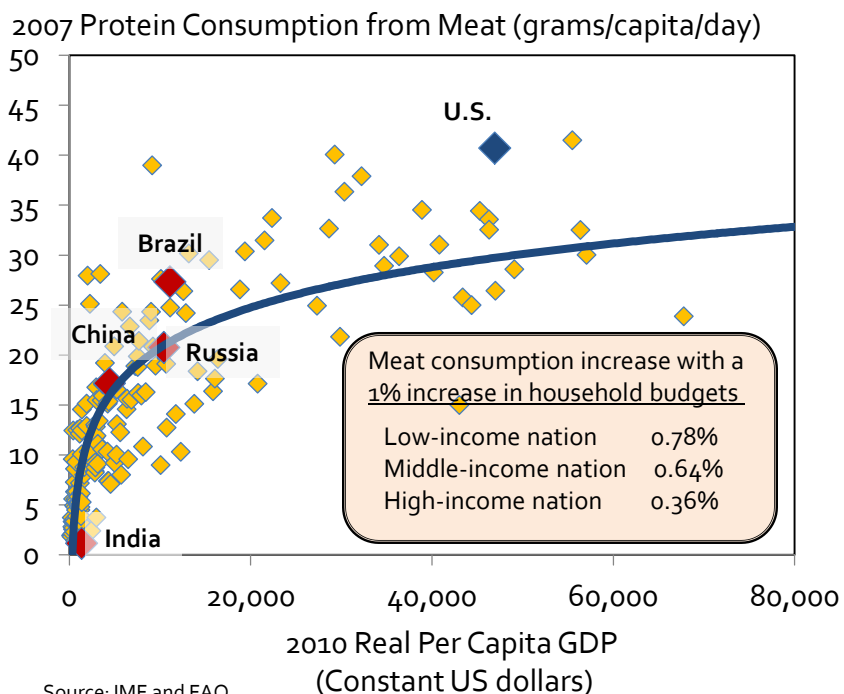


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The Dynamics of Global Food Demand.

Rising incomes boost the demand for protein and processed food.

Economic Growth and Meat Consumption



Packaged Foods Share of Food Spending

High income nations: >50%
Middle-income nations: roughly 25%



2005 Annual Spending on Soft Drinks

High income nations: \$144 per person
Middle-income nations: \$33 per person



2005 Annual Spending on Fast Food

High income nations: \$191 per person
Middle-income nations: \$15 per person

Source: USDA



Fulfilling Global Food Needs

Stages of Agricultural Growth

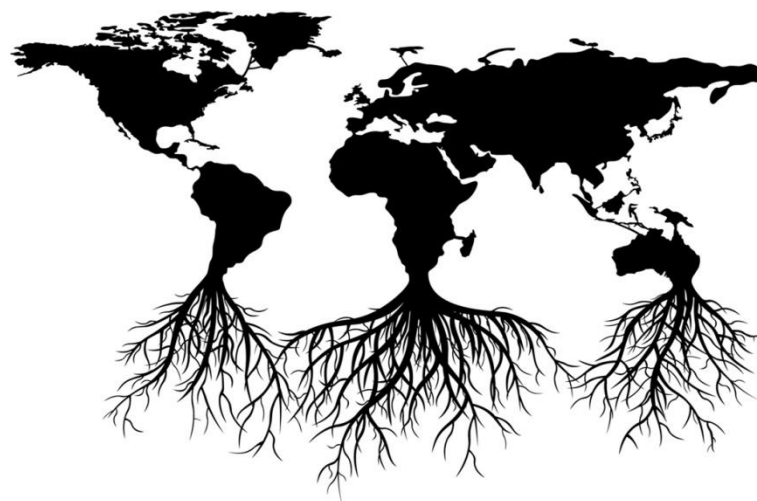
Stage 1: Import Food to Satisfy Demand

Stage 2: Expand Protein Production

- Shrinks Meat Imports
- Grain Imports Remain High

Stage 3: Expand Crop Production

Stage 4: Export Protein and Crops



Is Brazil the model for other BRIC nations?

Stage 1: 1960s to 1980s

Real Per Capita GDP

1960: \$1,537 USD

1980: \$5,110 USD

Stage 2: 1990s

Corn and Soybean Imports: 5-yr avg.

1990: 632 (1000 MT)

2000: 2053 (1000 MT)

Stage 3: 2000s

Corn and Soybean Acre Growth

1990s: 1.5% per year

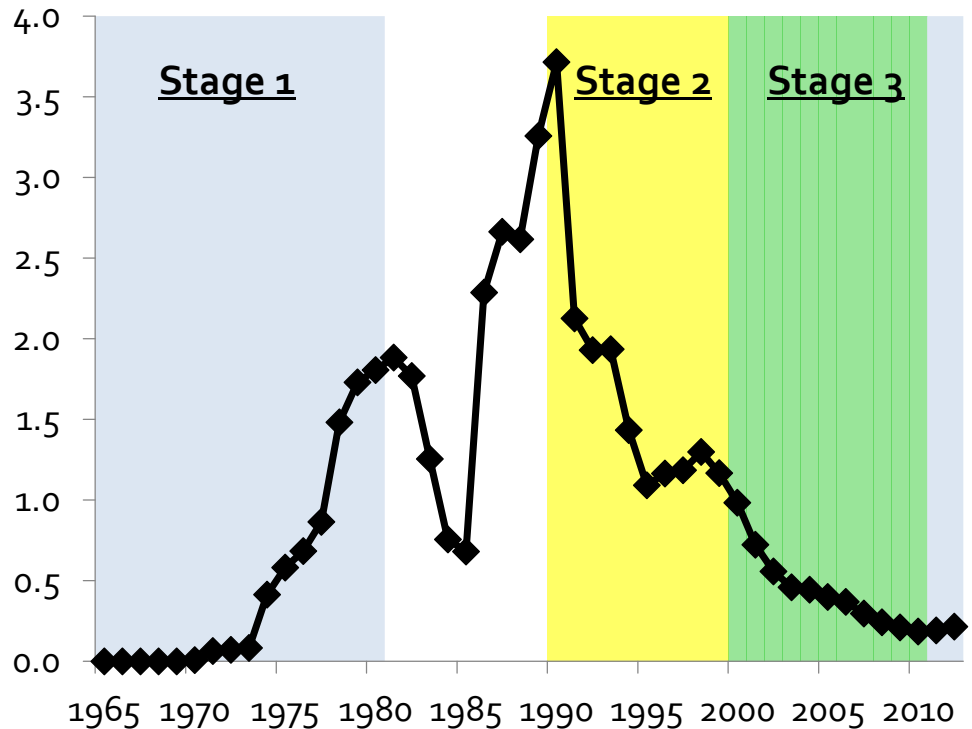
2000s: 3.5% per year

Stage 4: Today

Since 2000, meat exports up 247%

Imports Share of Brazil's Beef, Pork, and Poultry Consumption

Percent of consumption (5-year average)

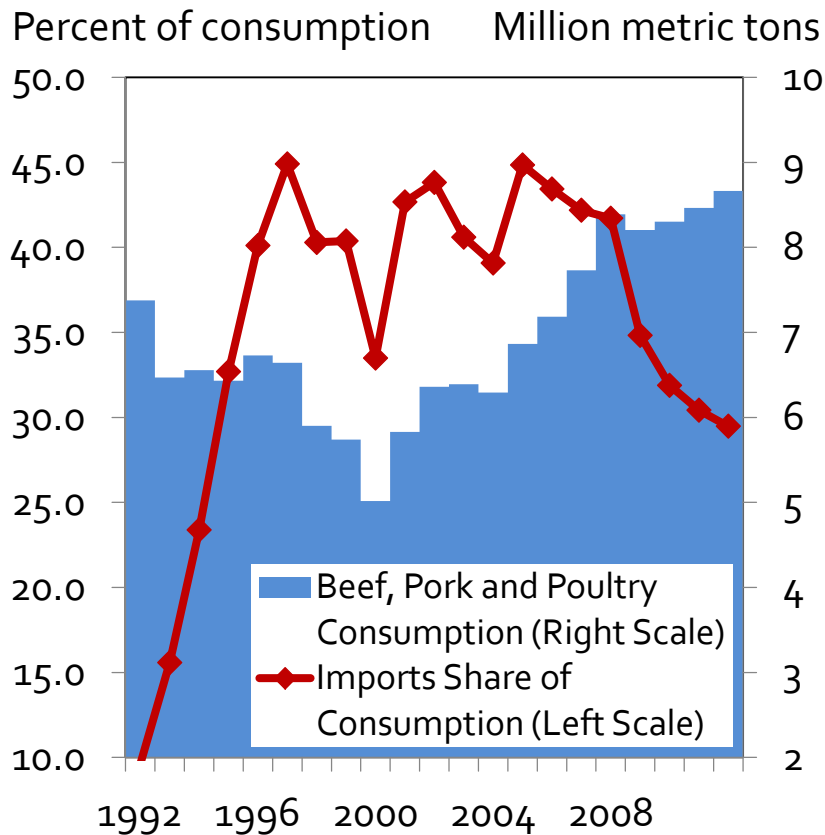


Source: USDA



Is Russia transitioning to Stage 3?

Russian Meat Consumption and Imports



Source: USDA

After collapsing in the 1990s, meat production is rising.

2000:	3.3 MMT
2005:	3.8 MMT
2010:	5.7 MMT
2012:	6.2 MMT



Since 2006, ...

- ↓ Corn and soybean imports down 63%
- ↑ Corn and soybean production up 33%

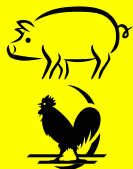


With rising meat production and surging crop imports, China is quickly moving through Stage 2.



After slowing in 2011, China's meat production is rebounding. Up 30% since 2000.

Since 2000, ...



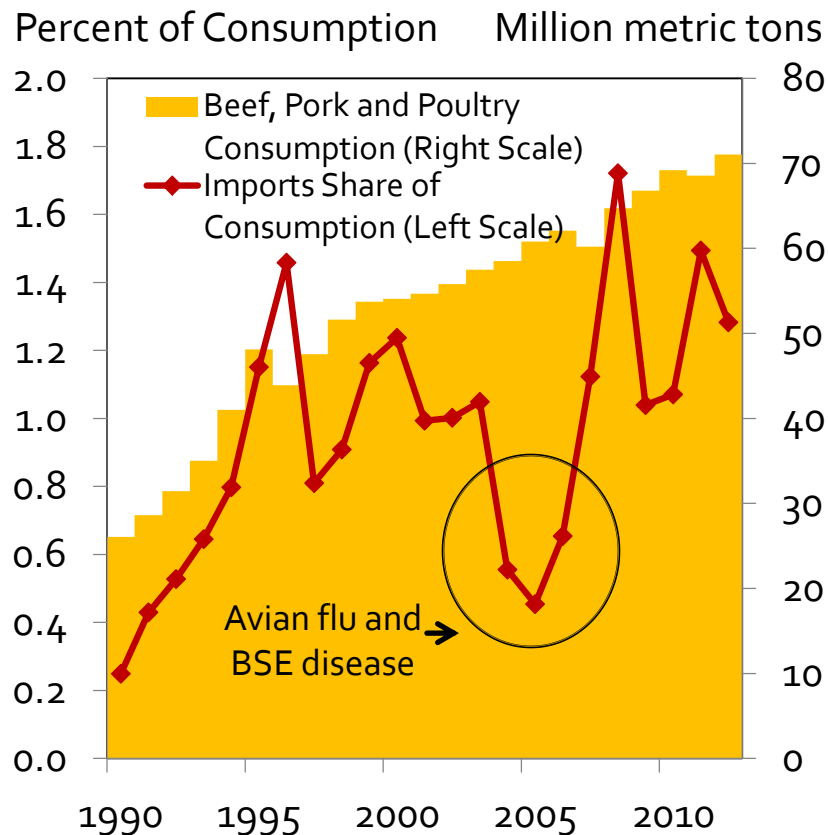
Pork production has risen 30%.

Poultry production has risen 48%.

With surging feed demand soybean imports doubled since 2006. And, corn imports are on the rise.



China's Meat Consumption and Imports



Source: USDA



Will India follow the same path?



Will meat demand rise
with higher incomes?

With stronger incomes, protein demand is rising.

Still, India is a low income nation.

(Annual per capita GDP is \$1,454)

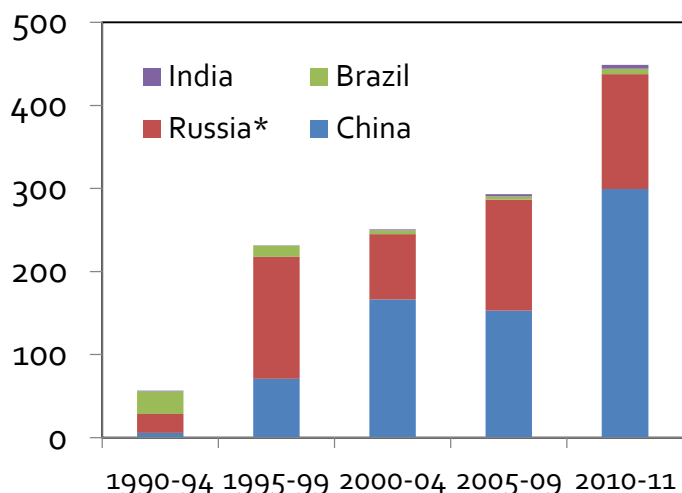
A decade of growth at 10% per year leaves
India as a low-income country.



Will Rising Incomes in BRIC nations boost US Agricultural Exports?

U.S. Livestock and Meat Exports to BRIC Nations

Thousand MT (annual average)



Source: USDA

Who is most likely to benefit from rising incomes in BRIC nations?

- Rising livestock production in BRIC countries could limit meat exports.
- BRIC nations are boosting pork and poultry production, not beef.
- Increased livestock production could spur crop and feed imports.

Share of U.S. Exports to BRIC Nations

1990-94: 2.2% of Livestock & Meat Exports
2010-11: 8.1% of Livestock & Meat Exports

Share of U.S. Exports to BRIC Nations

1990-94: 2.1% of Oilseed Exports
2010-11: 44.5% of Oilseed Exports

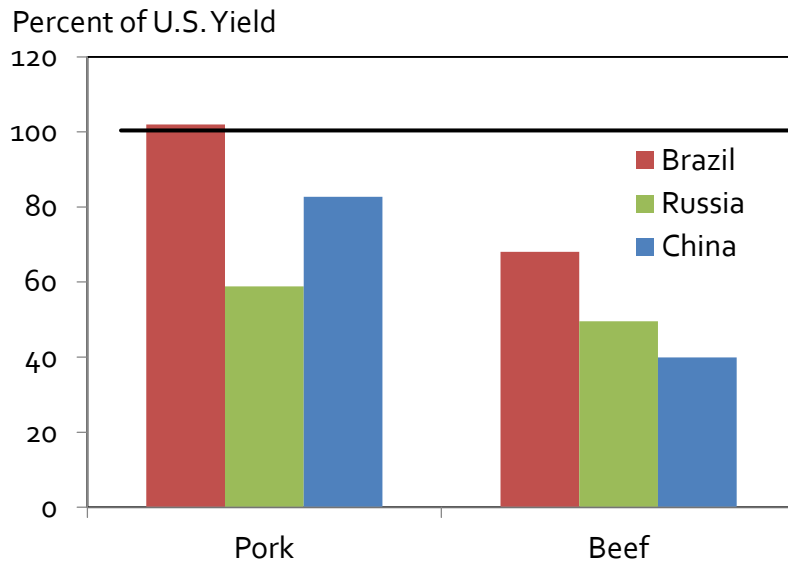


Technology and water will shape global competitiveness in agriculture.

Technological innovations (*genetics and production practices*) will be needed to boost efficiency.

Water efficiency will be a necessity.
Agriculture uses 70% of the world's freshwater.

Per Animal Meat Production in BRIC Countries



Calculations based on USDA data

Between 2002 and 2009,
world freshwater withdrawals
rose 36%



- India's freshwater withdrawals rose 24%
- Agriculture accounts for 90% of India's freshwater withdrawals

Source: World Bank



Conclusions

- Rising incomes will boost BRIC protein consumption.
- How this demand is satisfied will depend on the stage of agricultural development?
 - Brazil – a major agricultural competitor
 - Russia– building a livestock sector
 - China – enhancing crop and livestock production
 - India – economic growth is needed
- While BRIC nations want more proteins and processed foods, the best export opportunities could be feed grains.
- Technology and water will determine the competitiveness of global agricultural systems and U.S. agricultural exports.

