

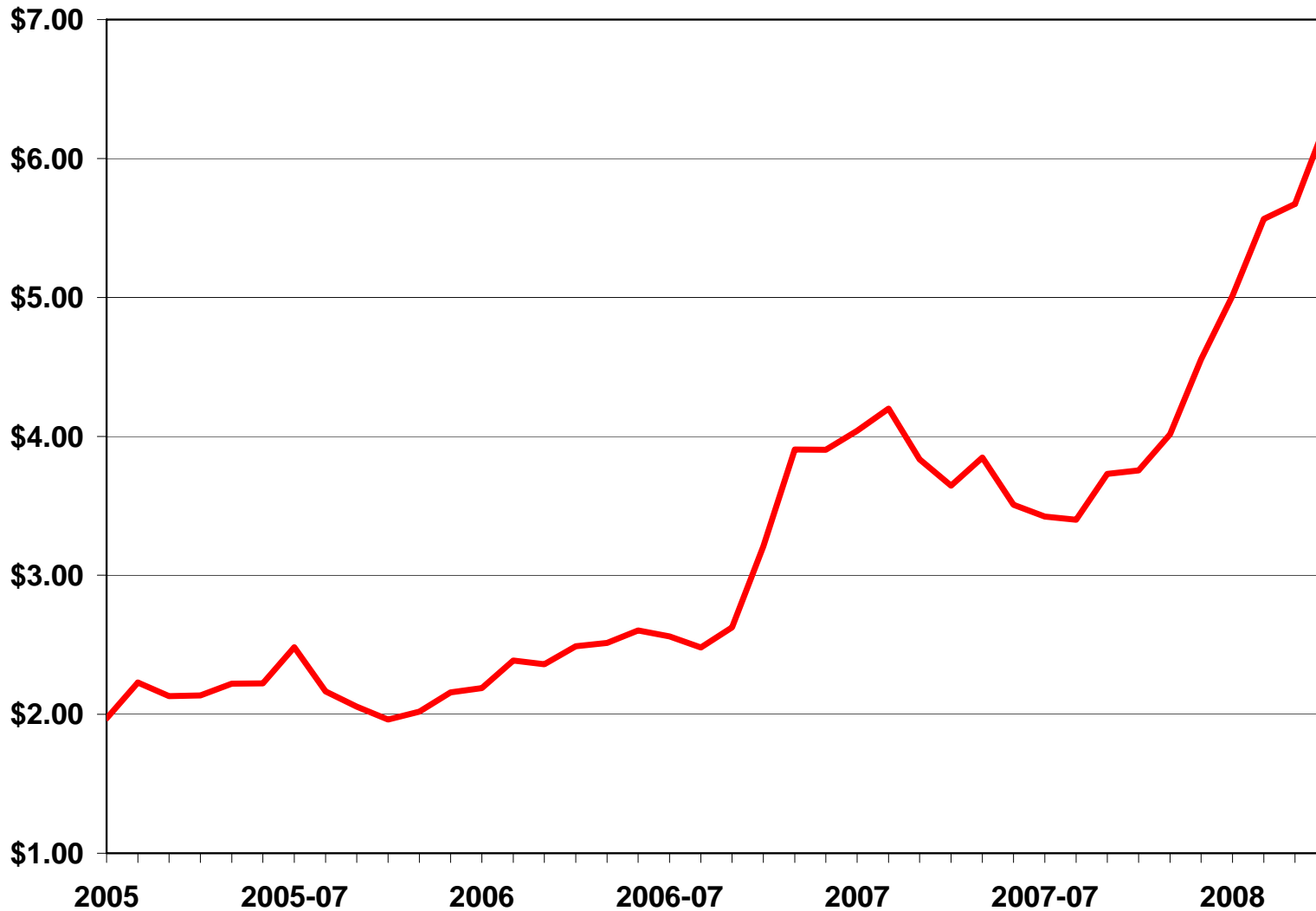
*US Agricultural Policy  
and Trade:  
The China Connection*

**Daryll E. Ray & Harwood Schaffer**

University of Tennessee  
Agricultural Policy Analysis Center

**Rural Development Institute  
Chinese Academy of Social Sciences  
Beijing, China • June 3, 2008**

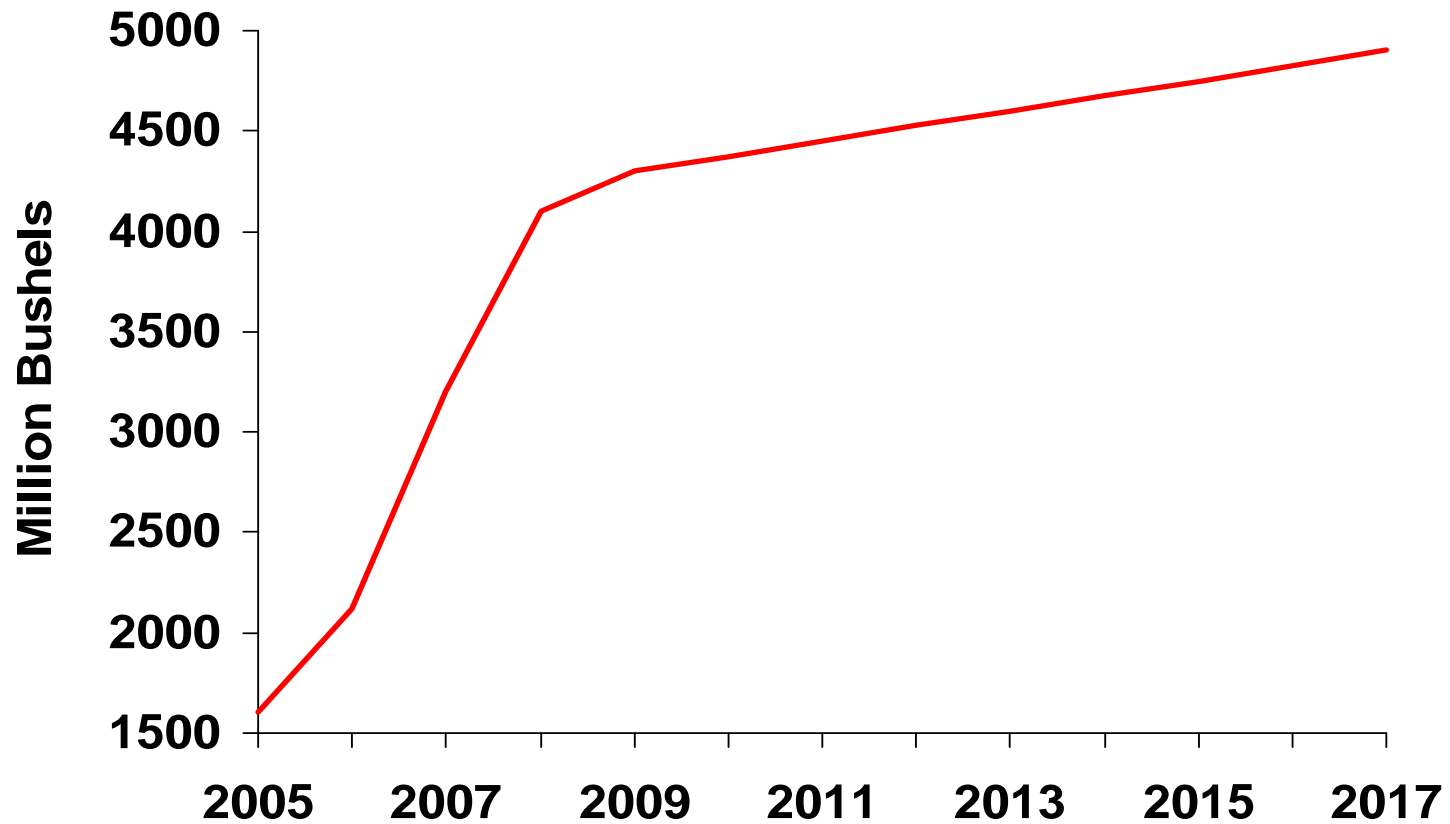
# *Recent U.S. Corn Prices*



# *What are the Most Often Stated Triggers?*

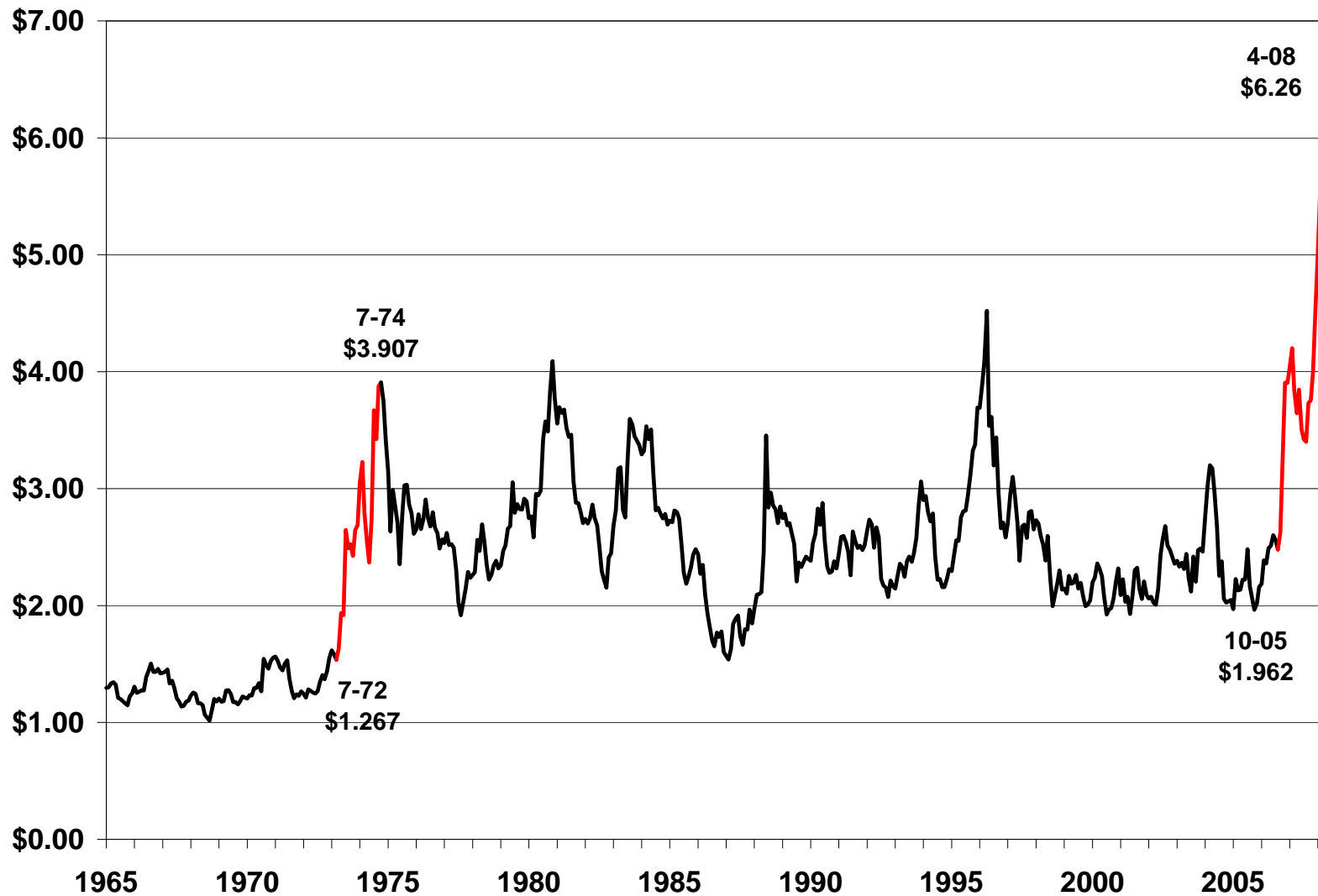
- **Ethanol**
  - US corn-based ethanol production is booming
  - Federal mandates for biofuels
- **Increasing meat consumption in China**
  - Middle class shift from grain-based to meat-based diets

# *Expected U.S. Ethanol Demand*



Source: UDSA Baseline Projections to 2017

# *We Have Seen This Before*



# *What Were the Triggers Then?*

- **Russian grain imports**
  - Crop failure
  - Decision not to liquidate cattle herds
- **Petrodollar driven exports**
  - Loans to developing countries
  - Used to import food to feed people

# *Laying the Blame: Then & Now*

- **Then**

- **Food vs. feed**—Western grain-based-meat diets
- Eat less meat so the poor of the world can have grain to eat

- **Now**

- **Food vs. fuel**—US ethanol mandates
- Eliminate grain-based biofuels so the poor of the world can have grain to eat

# *Looking More Closely*

- **Low price regimen**
- **Reduced world-wide grain stocks**
- **Increased demand for meat in China**
  - **But has this put significant upward pressure on international grain prices?**

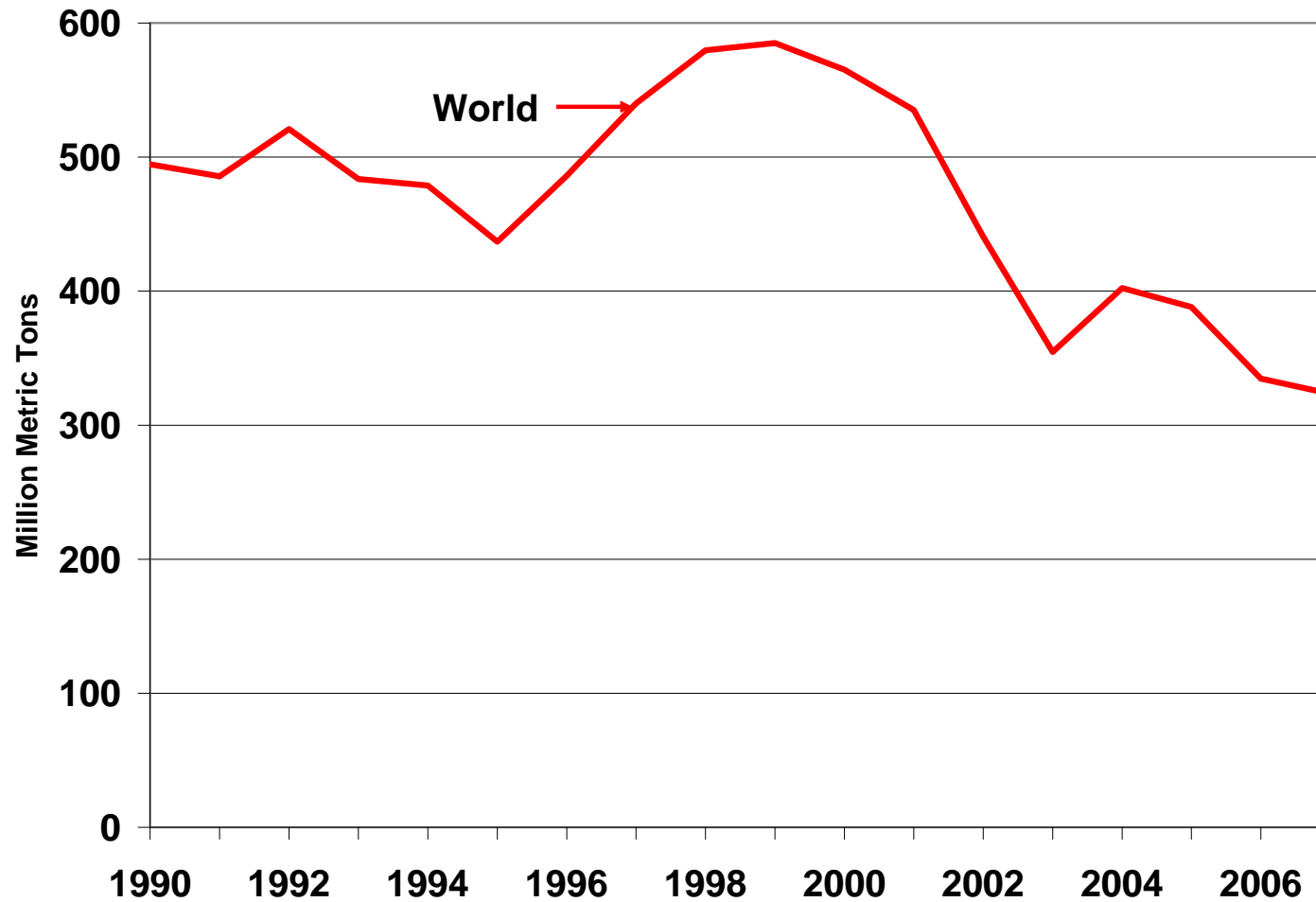
# *Looking More Closely*

- **Low price regimen**
  - US farm program design suppressed prices
  - Leaving little incentive to invest and expand production
- **It has often been said:**
  - World consumption of grains has exceeded production in 7 of the last 8 years

# *Looking More Closely*

- **Dismantling of government stocks**
  - Expectation that commercials would hold any needed stocks
  - Concerns about cost of government stocks programs
  - Stocks discouraged by trade policies that put decisions in the hands of markets
- **Random weather events**
  - Australia and Ukraine

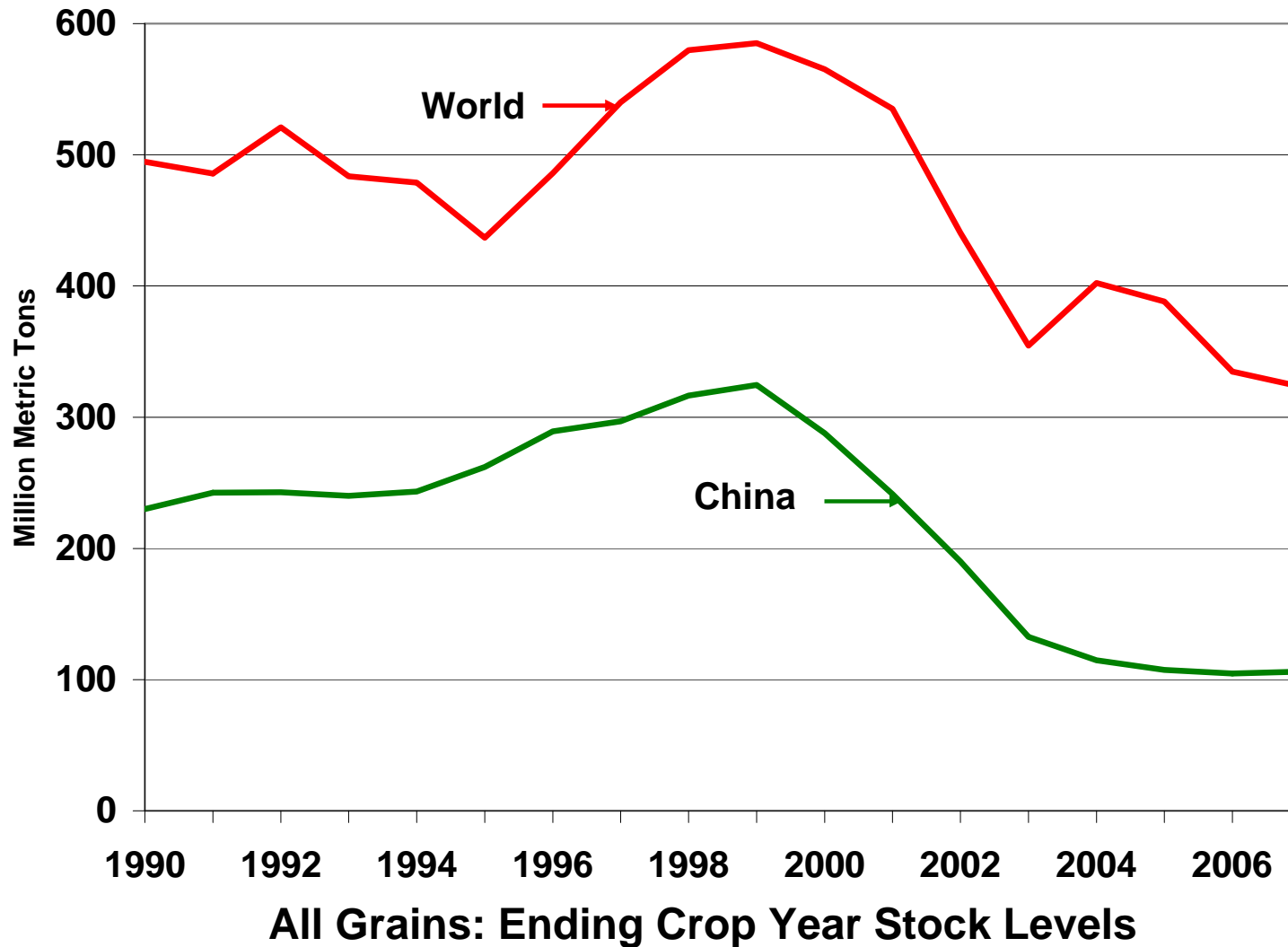
# World Ending-Year Stocks



World Grains: Ending Crop Year Stock Levels

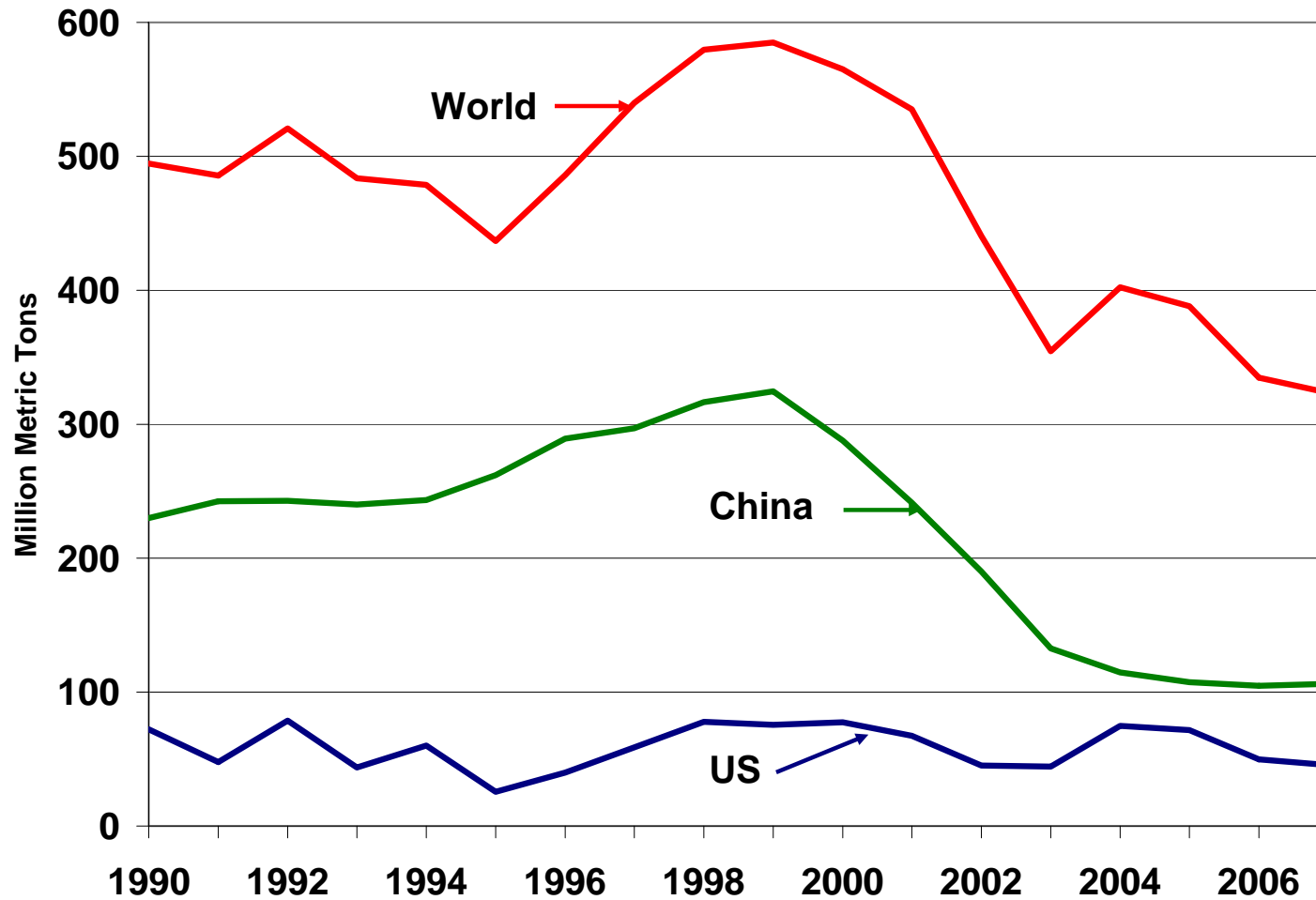
Source: USDA PS&D

# World Grain Stocks



Source: USDA PS&D

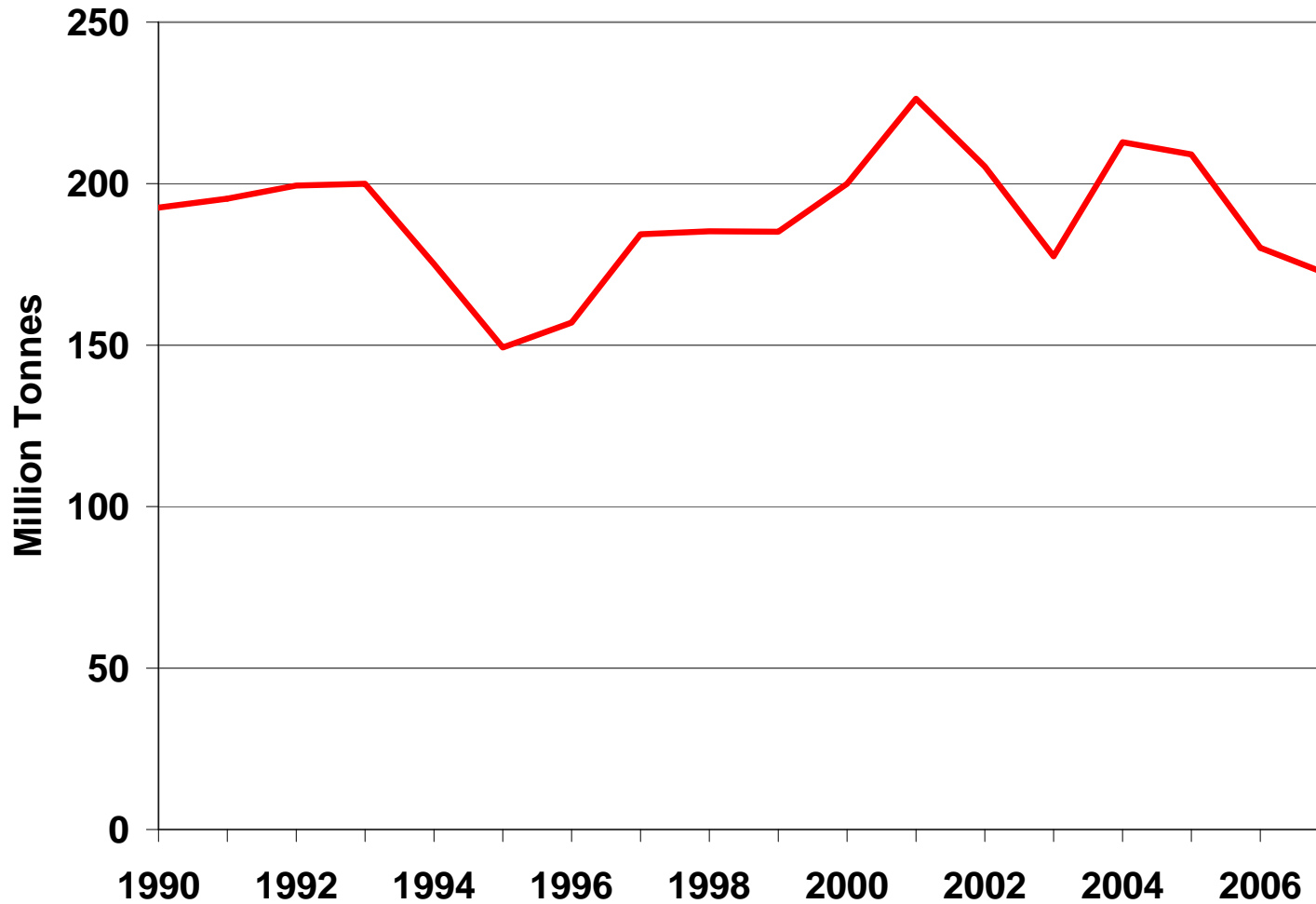
# World Grain Stocks



All Grains: Ending Crop Year Stock Levels

Source: USDA PS&D

# World Grain Stocks



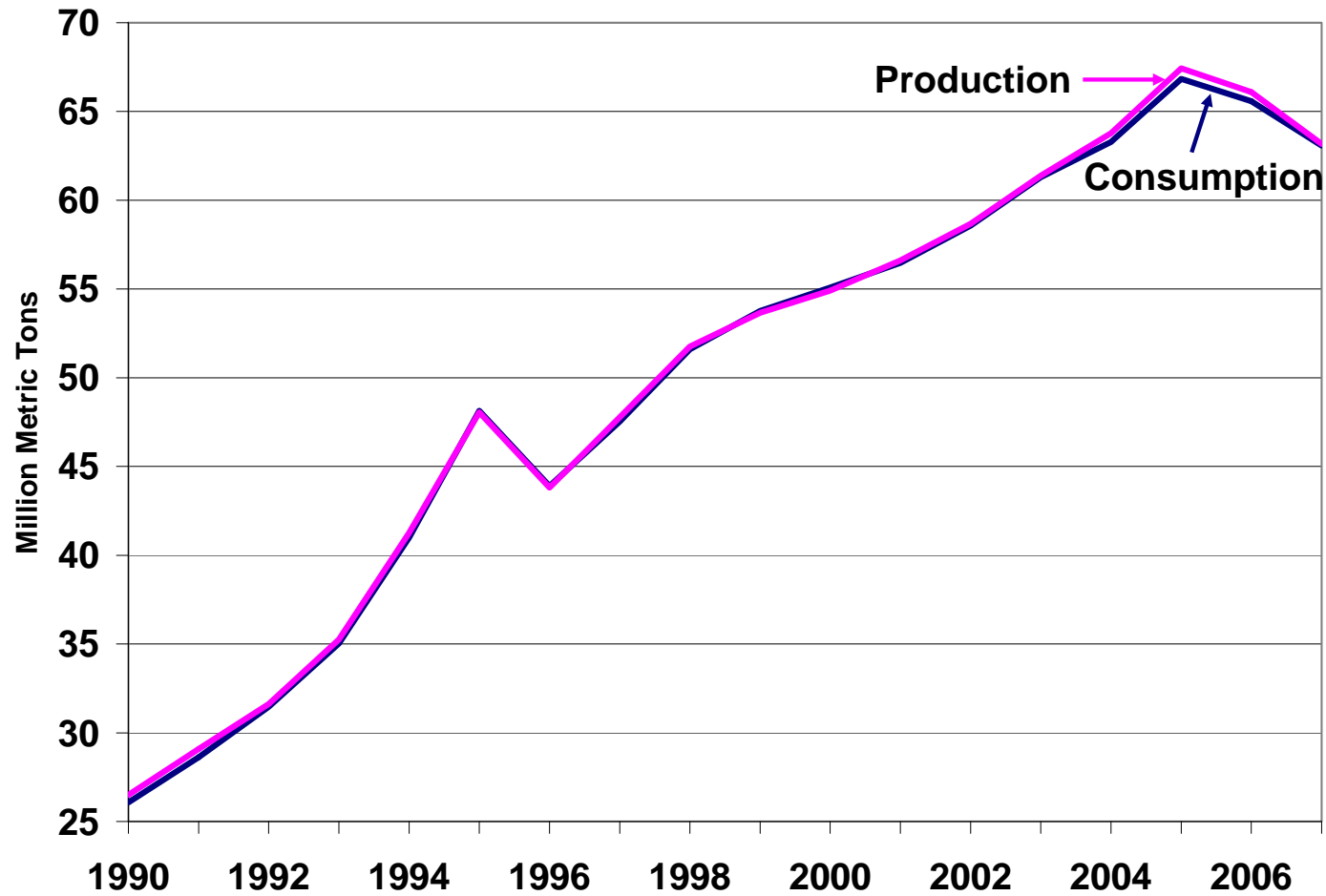
All Grains: World less China and the US, Ending Crop Year Stock Levels

Source: USDA PS&D

# *Looking More Closely*

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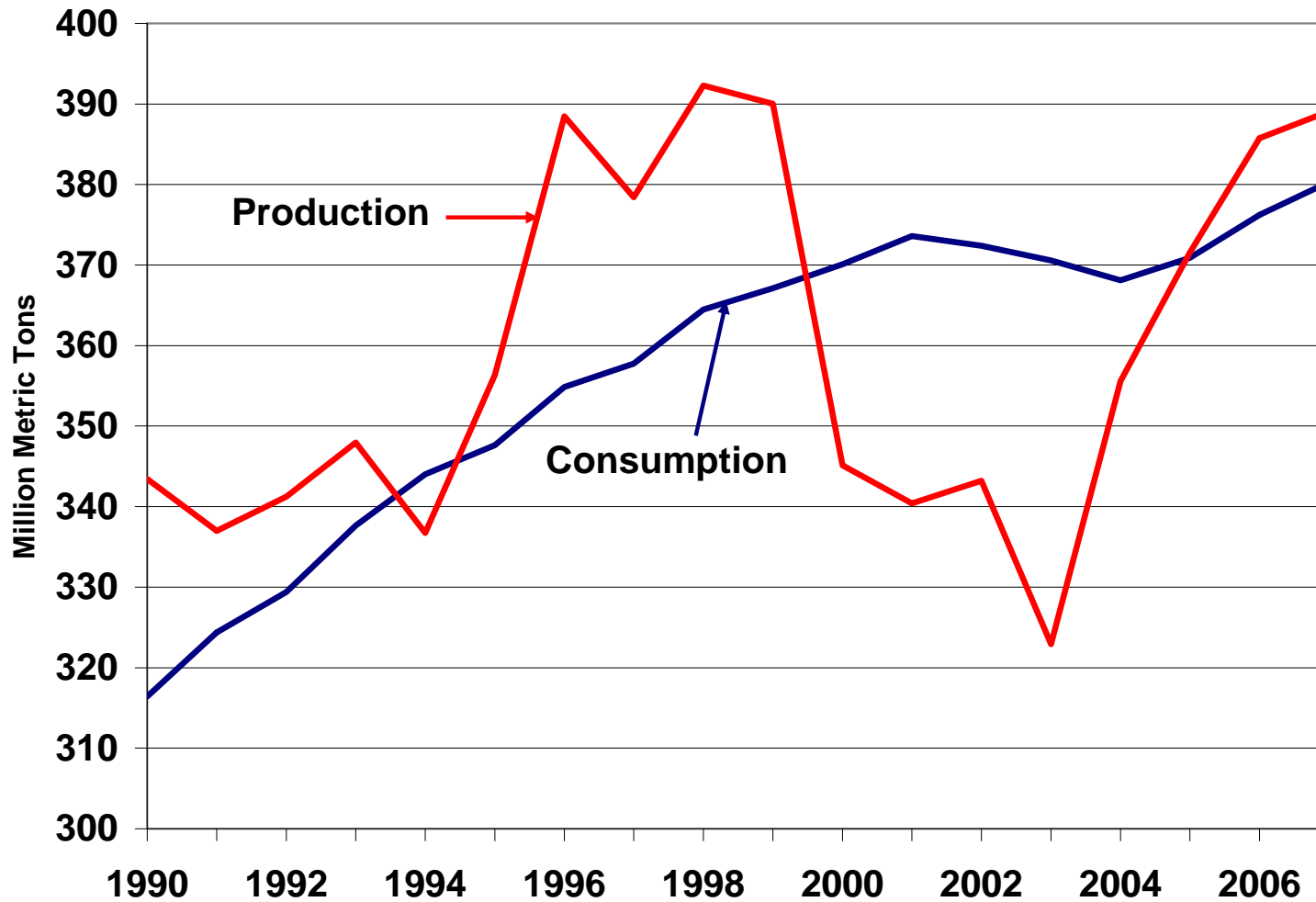
# China Meat



**Production and Consumption of Beef, Pork, and Broilers**

Source: USDA PS&D

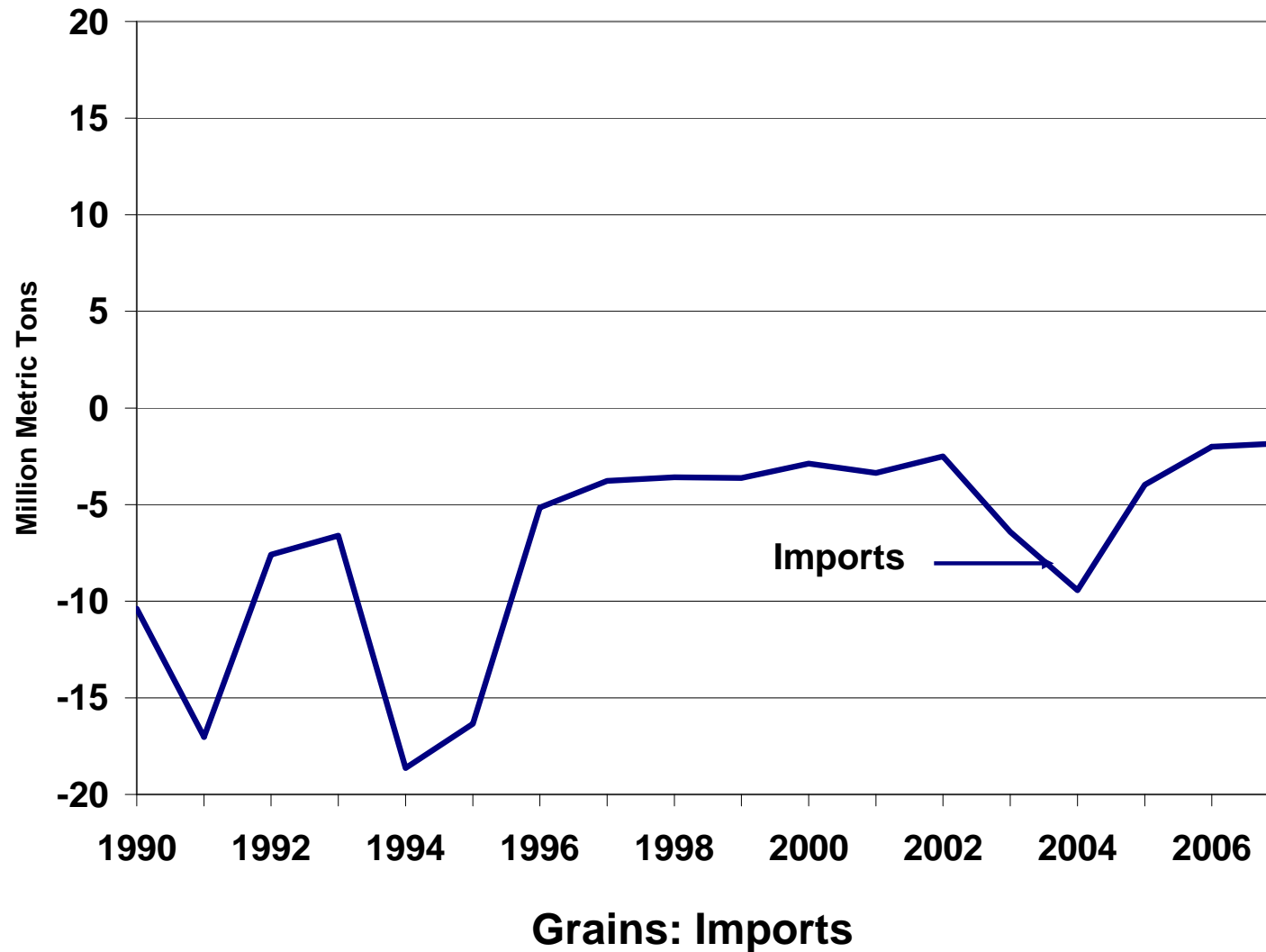
# China Grains



Grains: Production and Consumption

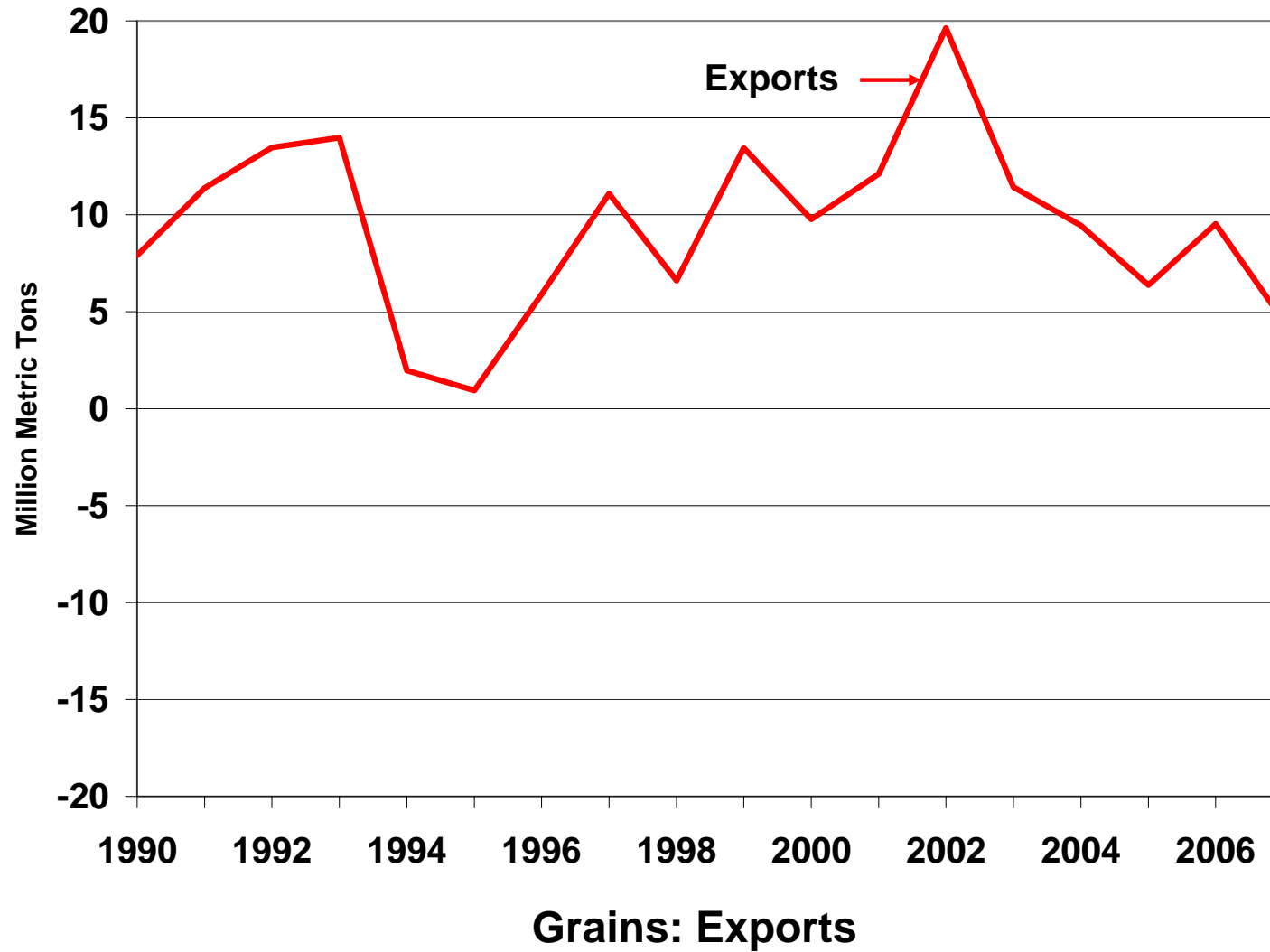
Source: USDA PS&D

# China Grain Imports



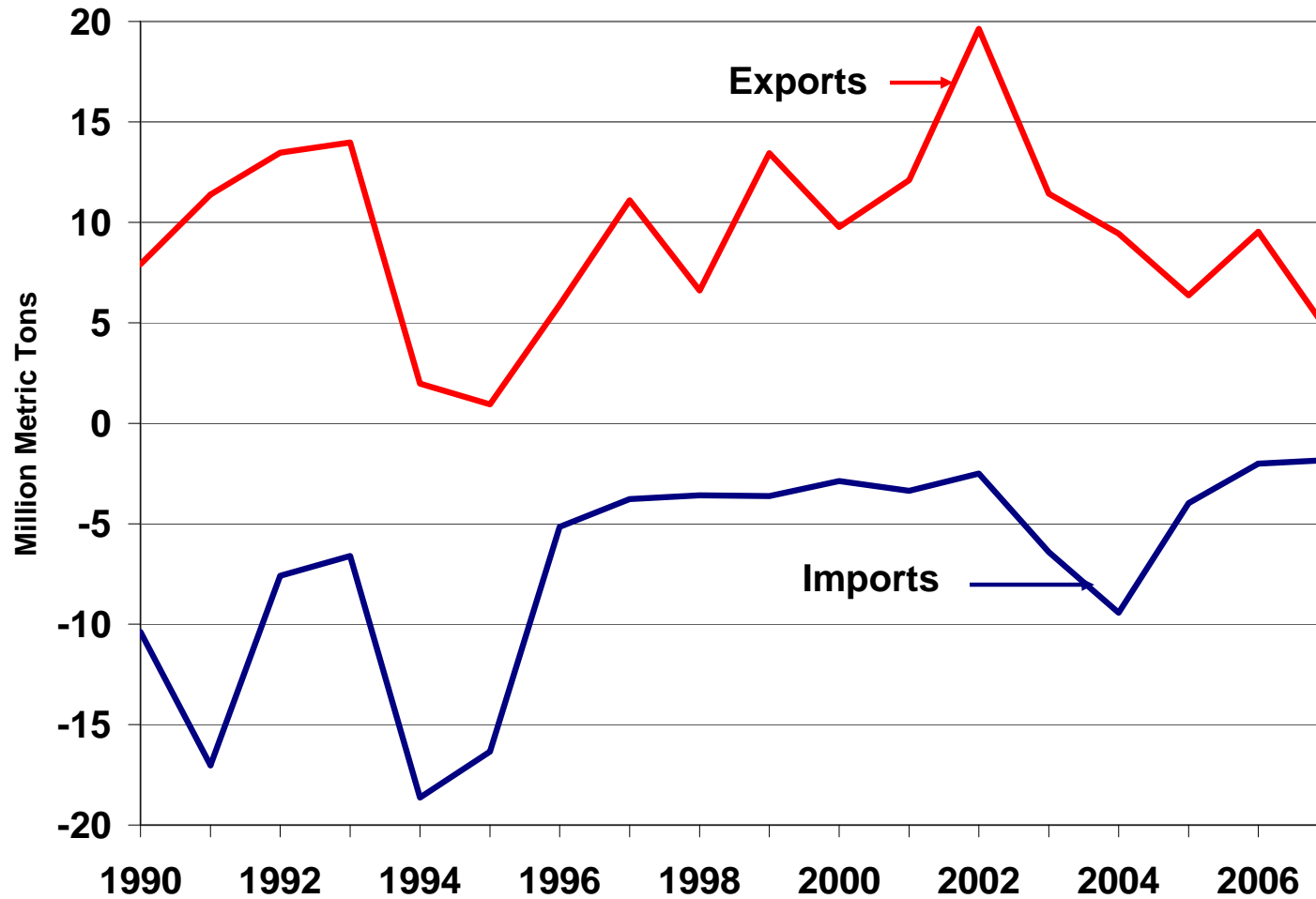
Source: USDA PS&D

# China Grain Exports



Source: USDA PS&D

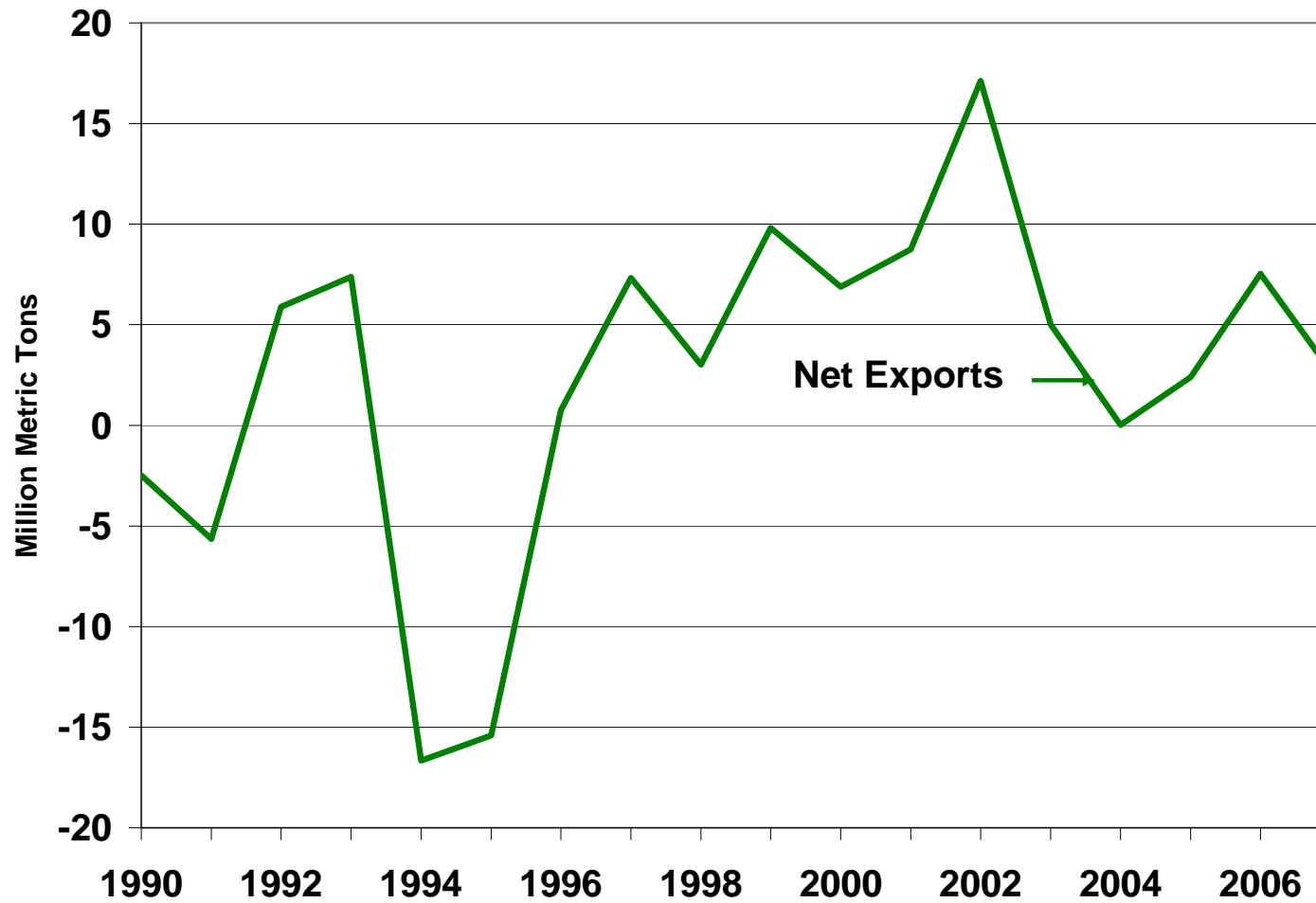
# China Grain Trade



Grains: Exports, Imports

Source: USDA PS&D

# China Grain Trade



Grains: Exports, Net Exports, Imports

Source: USDA PS&D

# *China Connection*

- **Yes, average meat consumption per person is increasing relatively rapidly in China**
- **Yes, this has caused increased use of corn and protein meals in China**
- **So are China's diet changes causing high corn/grain prices in the US and internationally?**
- **No! (No? Why not?)**
- **Because China has used its own grain (production and stocks) to produce meat**
- **Meat and grain markets are walled within China and have virtually no affect on outside prices**

*Historically—there have been  
Two Major Components of U.S.  
Farm Commodity Policy*

- **Policy of Plenty:** Ongoing public support to expand agricultural productive capacity through research, extension and other means
- **Policy to Manage Plenty:** Mechanisms to manage productive capacity and to compensate farmers for consumers' accrued benefits of productivity gains

# *Ag Policy Did Not Start in 1932*

- **Historic policy of plenty**
  - Land distribution mechanisms – 1620 onward
  - Canals, railroads, farm to market roads
  - Land Grant Colleges – 1862, 1890, 1994
  - Experiment Stations – 1887
  - Cooperative Extension Service – 1914
  - Federal Farm Credit Act – 1916
- **This policy of plenty often results in production outstripping demand**

# *When Policy of Plenty is Too Much*

- **Given agriculture's inability to quickly adjust to overproduction and low prices, there are 3 policy strategies:**
  - Supply side
  - Demand side
  - Just pay money

# *Traditional Farm Policy Elements*

- From 1973 (or earlier) to 1996, U.S. domestic farm policy generally included the following elements:
  - Base acreage
  - Acreage reduction / set-asides
  - Nonrecourse loans to support prices
  - Government storage of commodities
  - Domestic and foreign demand expansion
  - Target price for major crop commodities
    - Deficiency payments for the difference between target price and market price

# *Critical Changes in U.S. Policy*

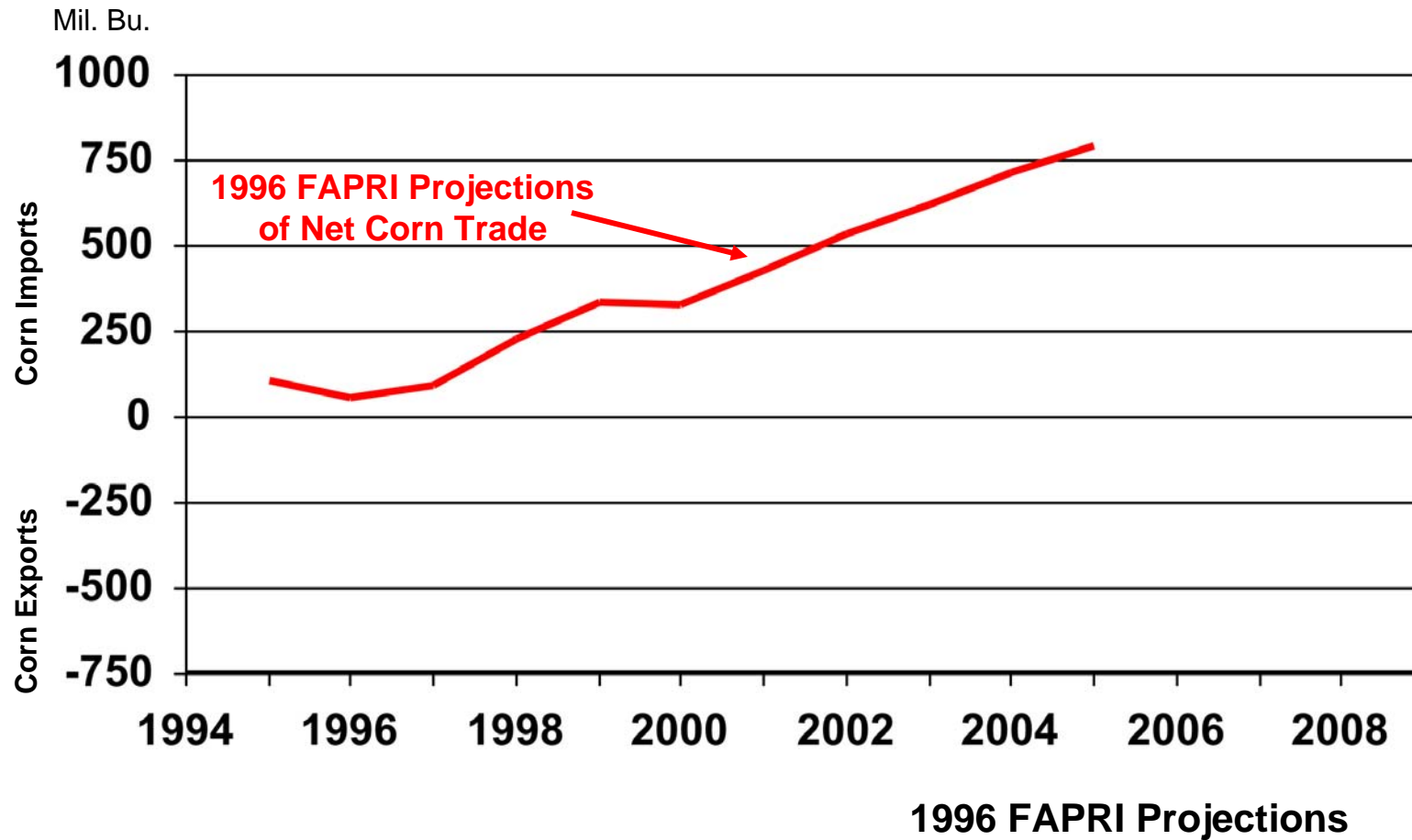
- **Since 1985 there has been:**
  - An export “mindset”
  - A movement away from “managing plenty” to supporting income with government payments
- **This view culminated in the 1996 FAIR Act:**
  - Elimination of supply control instrument: set aside program
  - Replaced “price floors” with government payments

# *Exports, Exports, Exports*

- **For the last quarter century, exports have been heralded—and continue to be by some—as crop agriculture’s salvation**
  - **Exports is the production safety valve that can rebalance agricultural markets**
  - **Exports will grow at accelerating rates**
- **But it is that what happened?**

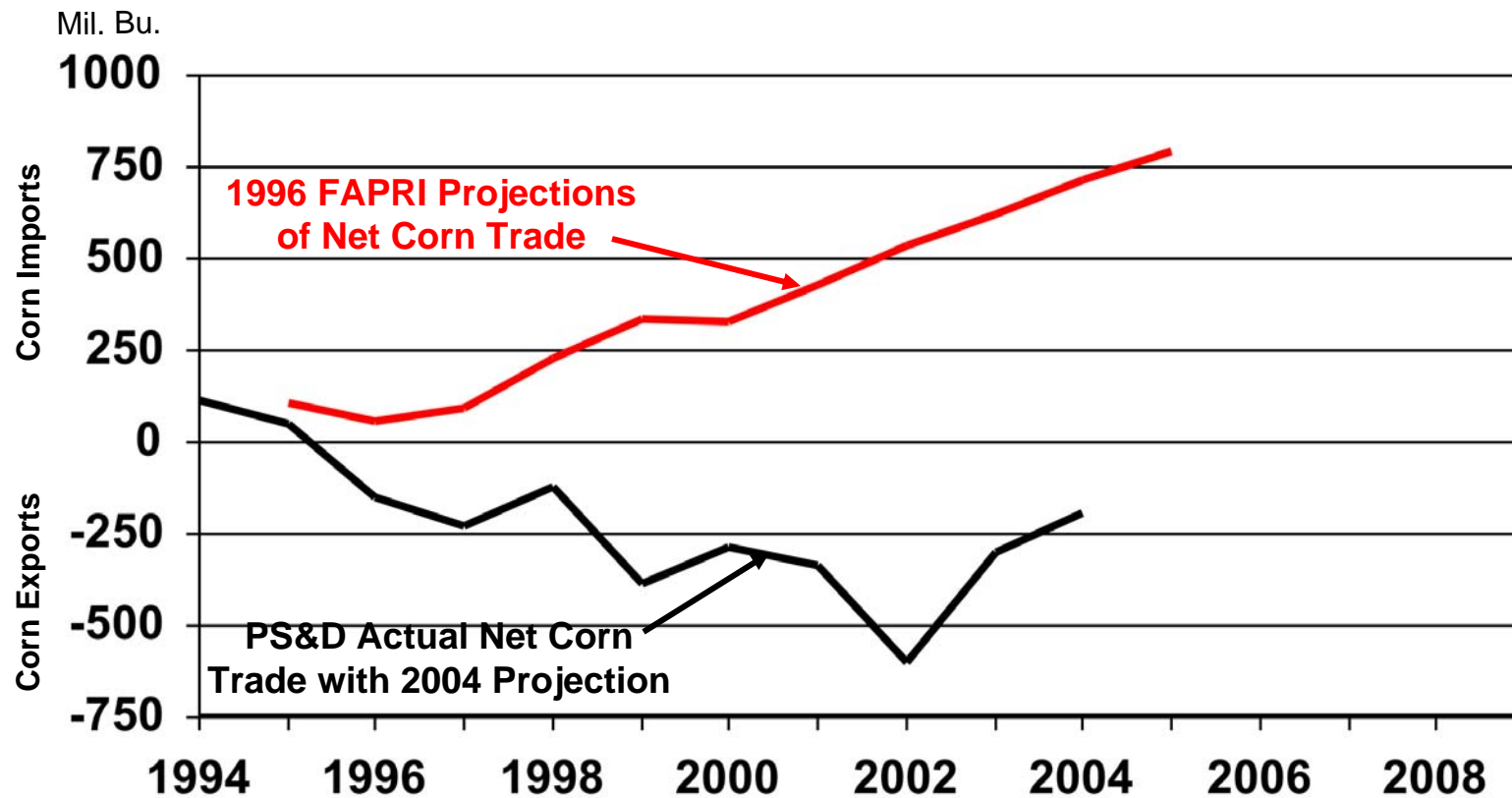
# China Net Corn Trade

What We Expected During Debate of 1996 FB:

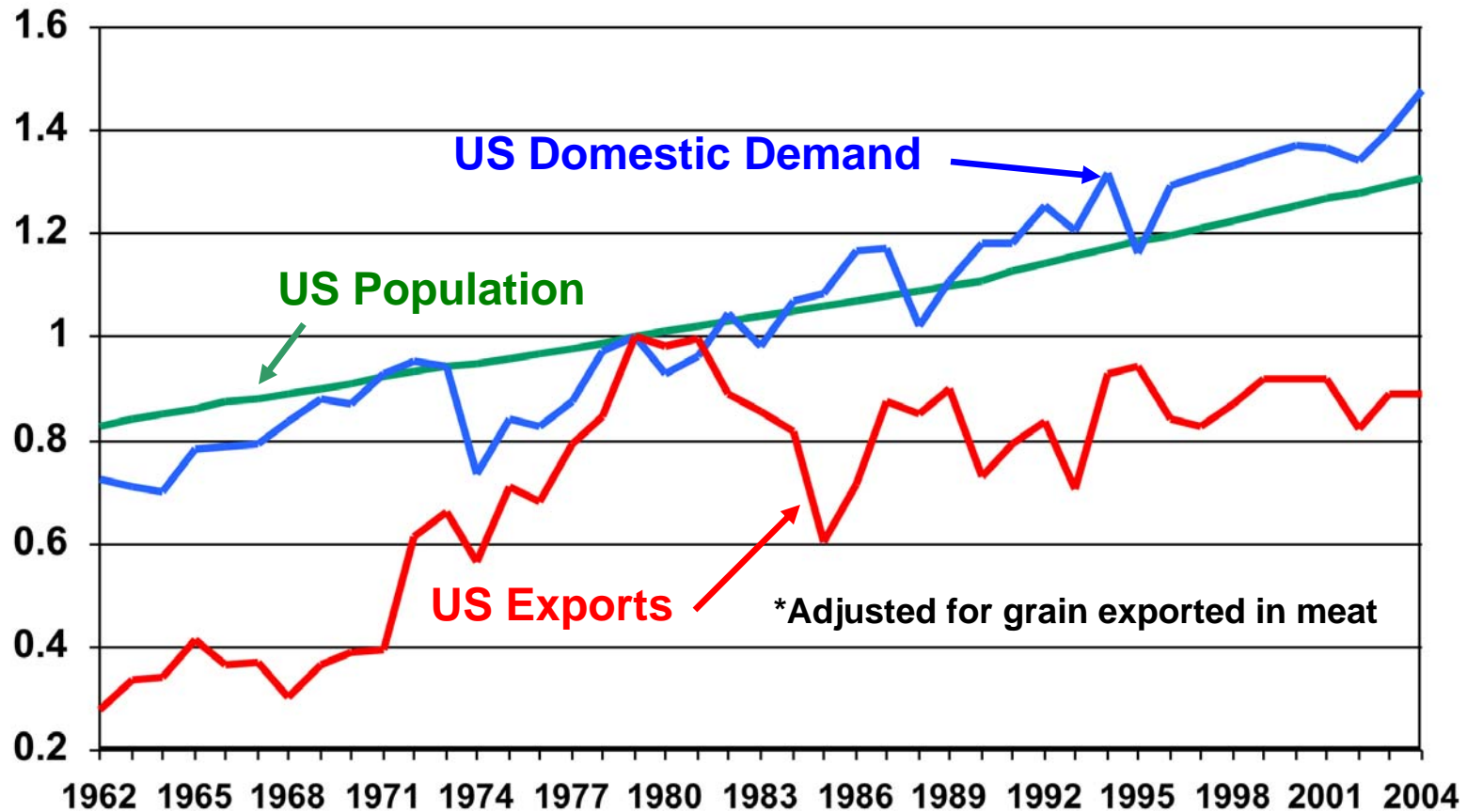


# China Net Corn Trade

## What We Got:



# What About Exports



Index of US Population, US Demand for 8 Crops and US Exports\* of 8 Crops  
1979=1.0

# *What About Exports?*

- **Why have exports not fulfilled our hopes?**
  - **Export demand is braked by issues of food security/food sovereignty**
  - **International crop production is impacted by:**
    - **Increased acreage: Stage of development**
    - **Yield advances: World-wide distribution of technology**
    - **US role as the leading nation in the world**
      - **Politically, economically, technologically, and militarily**
      - **And in prices too: Others price off US prices**

# *Characteristics of Ag Sector*

- **Agriculture is different from other economic sectors.**

## **On the demand side:**

### **– With low food prices—**

- **People don't eat more meals a day**
- **They may change mix of foods**
- **Aggregate intake remains relatively stable**

# *Characteristics of Ag Sector*

- **Agriculture is different from other economic sectors.**  
**On the supply side:**
  - **With low crop prices—**
    - **Farmers continue to plant all their acres**
    - **Farmers don't and “can't afford to” reduce their application of fertilizer and other major yield-determining inputs**
    - **Who farms land may change**
    - **Essential resource—land—remains in production in short- to medium-run**

# *Why Chronic Problems In Ag?*

- **Technology typically expands output faster than population and exports expand demand**
  - Much of this technology has been paid for by US taxpayers
- **The growth in supply now is being additionally fueled by**
  - increased acreages in Brazil, etc.
  - technological advance worldwide

# *Why Chronic Problems In Ag?*

- **Lower prices should automatically correct itself**
  - Consumers buy more
  - Producers produce less
  - Prices recover—problem solved!
- **But in agriculture lower prices do not solve the problem**
  - Little self-correction on the demand side
    - People do not consume significantly more food
  - Little self-correction on the supply side
    - Farmers do not produce significantly less output

# *What Was That Again?*

- **Supply and demand characteristics of aggregate agriculture cause chronic price and income problems**
  - **On average supply grows faster than demand**
  - **Agriculture cannot right itself when capsized by low prices**
  - **(Always year-to-year random variability)**

# *Greatest Risks*

- **Short-term**

- **Weather, weather, weather: US, Brazil, China, India, elsewhere**

- **For example, US annual corn yields have dropped by 20 percent in years past ('83 '88 '93)**

- **High input prices**

- **Long-term**

- **Acreage and yields greatly increase worldwide (not if with current prices)**

- **Low prices will return**

- **Reduced farm asset values, especially land**

# *On Knife's Edge*

- **Short-term object lesson?**
  - **Need strategic reserves**
    - A properly managed stocks reserve
    - Reduce economic dislocation
- **Long-term reality?**
  - “**New Era?**” (fourth “**New Era**” in my lifetime)
  - **Supply growth has always caught and then surpassed demand growth** (and it does not take long)
    - This time, surge in productive capacity will be global suggesting need for global supply management

# *Long-Term Considerations*

- **International supply response—yield**
  - **Development and adoption of drought and saline resistant crops**
  - **Globalization of agribusiness: Near universal access to the new technologies world-wide**
    - **Narrowing of technology and yield differentials between US and the rest of the world**

# *Long-Term Considerations*

- **International supply response—acreage**
  - *Long-run* land potentially availability for major crops
    - Savannah land in Brazil (250 mil. ac. -- USDA says 350)
    - Savannah land in Venezuela, Guyana, and Peru (200 mil. ac.)
    - Land in former Soviet Union (100 mil. ac.)
    - Arid land in China's west (100 mil. ac. GMO wheat)
    - Savannah land in Sub-Saharan Africa (300 mil. ac. -- 10 percent of 3.1 bil. ac. of Savannah land)
  - Easy to underestimate supply growth

# *Policy for All Seasons*

- **Assume the unexpected will happen**
  - Random policy and weather events do occur—**Plan for them**
- **Establishment of International Grain and Oilseed Reserve**
  - Moderate impacts of random policy and weather events by providing stable supply until production responds

# *Policy for All Seasons*

- **Keep productive capacity well ahead of demand**
  - Public investment in yield enhancing technologies and practices
- **Provide means to hold arable land in rotating fallow during periods of overproduction**
  - This land can then quickly be returned to production in the case of a crisis

# *Thank You*

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## **Agricultural Policy Analysis Center**

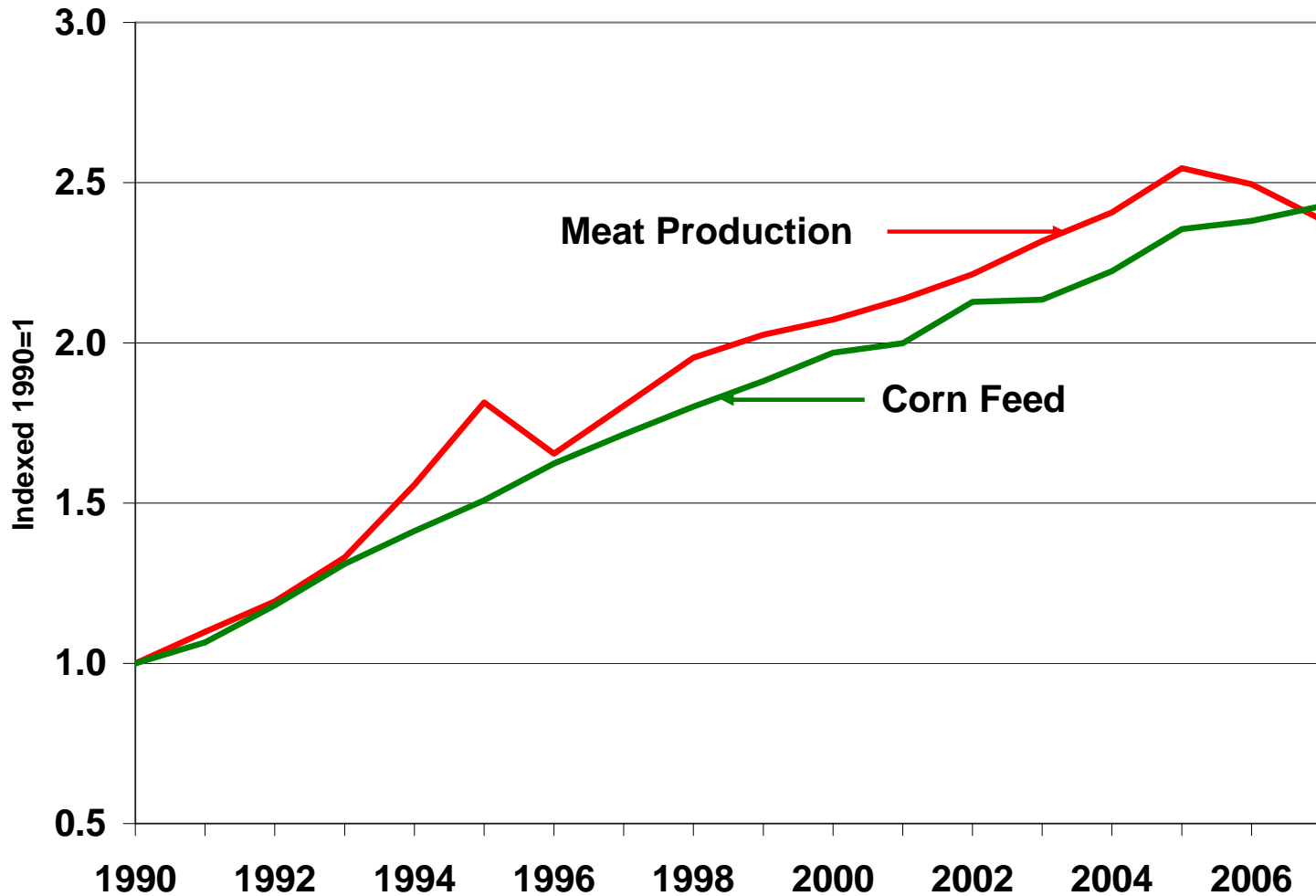
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**[www.agpolicy.org](http://www.agpolicy.org)**





# China Meat and Corn



Indexed Meat Production (Pork, Broilers, Beef) and Corn Feed

Source: USDA PS&D