Global Macroeconomic Overview

- Sustained and widespread real economic growth for the decade averaging 3.1%.

- Industrialized countries including, the US, EU-15, and Japan post average growth rates of 3.3%, 1.9%, and 1.8%.

- China, India and other Asian economies continue their high growth rates in the coming decade at 7.6% and 6.1%.

- South America shows strong economies with Brazil and Argentina growing at 3.6% and 4.4%.
Global Macroeconomic Overview

- Strengthening of the Euro and many other OECD currencies against the US dollar (around 1.2 to 3.8 % per year in the next 5 years), inducing increased competitiveness of US exports.

- South American currencies appreciate against the dollar in 2005. From 2006 on, all currencies depreciate at 2.3% to 3.7% for Brazil and Argentina.

- Strengthening of currencies in many CEECs, Baltic, and CIS countries continue relative to the dollar.

- Strengthening of currencies in Malaysia, Taiwan, and Thailand. The Chinese Yuan appreciates by 1.9% annually in the next decade.
Average Growth in Exchange Rate

percent

-4 -2 0 2 4

AU  NZ  EU-15  HU  PO  CN  TH  CA  AR  BR
Policy and Other Assumptions

- EU CAP Reform and Enlargement.
  - EU Sugar Reforms.

- Full implementation of the URAA commitments for developed and developing countries.

- Recovery from BSE and AI shocks. Limited impact of FMD in Brazil.

- Rising interest in renewable fuels.
  - Mandatory 2% blend of biodiesel in 2008 in Brazil.
Meat Outlook Overview

- SPS shock, BSE in North America, AI in Asia and Russia, and FMD in South America shape the short-run outlook outcomes.
- Demand growth drive long-run outlook.
- After reaching historic highs in the last three years, meat prices adjust downwards in the short-run and strengthens again in the outer period.
- Rising income drives per capita meat consumption to increase by 6.8 kg per person per year in the next decade.
- Strong meat demand fuels trade and production to increase by 25.6% and 20.4%, respectively.
- South American countries gain increasing market share in world meat trade.
- After losing 7 percentage points of market share in 2004, the U.S. regains 4 percentage points by 2010, and maintains its share the rest of the decade.
Change in Average Per Capita Consumption

percent

Meat
Dairy
Oil
Sugar
Grains
Japanese Beef Supply and Utilization

Production  Consumption  Net Imports

thousand mt

pre-1995 data not available
Per Capita Average Meat Consumption

kg per person

- Beef
- Pork
- Poultry

Dairy Outlook Overview

- Steady Asian import, declining EU exports and currency appreciation in major exporter raise prices of milk products.

- EU milk production is restricted by marketing milk quota averaging at 142 million mt.

- China expands milk production meet growing demand with 3.8% growth in dairy cows and 3% growth in productivity.
Asian Dairy Consumption

thousand mt

percent

Dairy Consumption  Share of China and India
Livestock and Dairy Market Share Change

percentage point

AU  BR  AR  EU  BR  U.S.  TH  BR  U.S.  U.S.  AU  EU

Beef  Pork  Broiler  NFD

IOWA STATE UNIVERSITY  FAPRI
Meat Production and Feed Use

- **Meat Production**
- **Coarse Grain Feed Use**
- **Oilseed Meal Feed Use**
World Feed Grain Outlook Overview

- Growth in livestock sector of Asian and Latin American countries drives the increase in demand for feed grains.

- Stronger prices increase area. Combined with yield growth, production increases. Increase in area grows supply in the short-run, while yield improvement is the major source of growth in the long-run.

- U.S. increases its market share at the expense of Argentina and EU New Member States.
Coarse Grain Major Importers

Coarse Grain = Corn, Barley, and Sorghum
World Corn Area and Yield

- **Area** (million ha)
  - 1995/96: 130
  - 1999/00: 140
  - 2003/04: 150
  - 2007/08: 160
  - 2011/12: 170
  - 2015/16: 180

- **Yield** (mt per ha)
  - 1995/96: 3.0
  - 1999/00: 3.5
  - 2003/04: 4.0
  - 2007/08: 4.5
  - 2011/12: 5.0
  - 2015/16: 5.5
Corn Net Imports by Major Regions

[Bar chart showing corn net imports by major regions from 1995/96 to 2015/16. Regions include Asia, Latin America, Middle East, and Africa. The chart indicates a steady increase in imports over time, with a significant growth in the last two years.]
corn production by major competitors

thousand mt

- Argentina
- EU NMS
- South Africa

Oilseed Outlook Overview

- Oilseed sector grows with strong demand for both oil and meal products driven by population and income growth, and expansion of the livestock sector.
- Both growth in area and improvement in yield contribute to increase in production.
- About 76% of increase in area is due to soybean area expansion in South America.
- China’s support of its domestic crushing industry drive faster growth in soybean trade compared to oil and meal products.
- Room for area expansion in South America dampens price growth in the next decade.
- Increasing interest in renewable fuels.
World Vegetable Oil Consumption

thousand mt


Soy Oil  Sunflower Oil  Rapeseed Oil  Peanut Oil  Palm Oil
World Soybean Area and Yield
World Soybean Production

thousand mt

Argentina
Brazil
China
U.S.
ROW

IOWA STATE UNIVERSITY

FAPRI
World Soybean and Products Trade

thousand mt


Soybeans
Soybean Meal
Soybean Oil
World Oilseed Prices

dollars per mt

Soybeans
Rapeseed
Sunflower Seed

Crops Market Share Change

percentage point

<table>
<thead>
<tr>
<th>U.S.</th>
<th>Argentina</th>
<th>Brazil</th>
<th>U.S.</th>
<th>Argentina</th>
<th>Brazil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soybeans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
World Food Grain Outlook Overview

- Food grain per capita consumption declines with growth in income as consumers “trade-up” away from staple crops to protein rich products.
- With declining per capita consumption, demand growth comes mainly from population growth.
- Growth in consumption in regions such as Asia, Africa, and the Middle East with limited potential to meet expanding demand fuels growth in trade and strengthen food grain prices.
- Long-run production growth driven by yield improvement.
- Australia, the EU, and Argentina regain market share, while Canada and the U.S. lose market share.
World Per Capita Food Grain Consumption

kg per person


Wheat  Rice

IOWA STATE UNIVERSITY  FAPRI
World Grain Prices

dollars per mt


- Corn, U.S. FOB Gulf
- Wheat, U.S. FOB Gulf
- Rice, FOB Bangkok 100% B Grade
World Wheat Feed and Food Use

thousand mt


Feed Use  Food Use
World Wheat Area and Yield

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (million ha)</th>
<th>Yield (mt per ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995/96</td>
<td>220</td>
<td>2.2</td>
</tr>
<tr>
<td>1999/00</td>
<td>225</td>
<td>2.4</td>
</tr>
<tr>
<td>2003/04</td>
<td>220</td>
<td>2.6</td>
</tr>
<tr>
<td>2007/08</td>
<td>225</td>
<td>2.8</td>
</tr>
<tr>
<td>2011/12</td>
<td>230</td>
<td>3.0</td>
</tr>
<tr>
<td>2015/16</td>
<td>235</td>
<td>3.2</td>
</tr>
</tbody>
</table>
World Rice Area and Milled Yield

million ha

mt per ha

Area Yield
Other Crop Outlook Overview

- **Sugar**
  - Sugar reform in the EU tightens world excess supply fueling prices to rise.
  - Area and yield growth drive the increase in production.

- **Ethanol**
  - Rising interest in renewable fuels boost world ethanol trade and sustains price strength in the outer period.
  - Brazil expands ethanol production to meet growth in domestic and export demand.

- **Cotton**
  - Chinese cotton consumption and imports sustain modest price strength under consecutive large world crops.
Thank You!
World Sugar Price and Net Trade

Net Exports

FOB Caribbean Price

thousand mt

dollars per mt


IOWA STATE UNIVERSITY  FAPRI
World Cotton Trade

thousand mt

Brazil Net Export  China Net Import

World Crop Trade and U.S. Value Share

Crops include wheat, rice, corn, sorghum, barley, soybean, rapeseed, peanuts, and sunflower.
World Meat Trade and U.S. Market Share

million mt

percent


U.S.  Other Exporters  U.S. Market Share
Sugar Stock-to-Use Ratio and Price

[Graph showing trends in the Sugar Stock-to-Use Ratio and FOB Caribbean Price from 1995/96 to 2015/16.]

- **Stocks-to-Use Ratio** (represented by blue diamonds)
- **FOB Caribbean Price** (represented by red squares)

The graph indicates fluctuations in both the stock-to-use ratio and price over the period, with notable changes occurring in 2003/04 and 2007/08.
World Rice Production, Use, and Per Capita Consumption

- Production
- Use
- Per Capita Consumption

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>350</td>
<td>400</td>
<td>450</td>
<td>500</td>
<td>550</td>
<td>600</td>
</tr>
<tr>
<td>Use</td>
<td>330</td>
<td>380</td>
<td>430</td>
<td>480</td>
<td>530</td>
<td>580</td>
</tr>
<tr>
<td>Per Capita</td>
<td>650</td>
<td>600</td>
<td>550</td>
<td>500</td>
<td>450</td>
<td>400</td>
</tr>
</tbody>
</table>

kg per person:

- 1995/96: 65
- 1999/00: 60
- 2003/04: 55
- 2007/08: 50
- 2011/12: 45
- 2015/16: 40
## EU-15 CAP Reform and Enlargement

<table>
<thead>
<tr>
<th>Policy</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decoupling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livestock and Dairy</td>
<td>0</td>
<td>23</td>
<td>47</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Crops</td>
<td>0</td>
<td>33</td>
<td>67</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Modulation</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Set-aside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU15</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>EU NMS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Top-up Payments</td>
<td>20</td>
<td>27</td>
<td>22</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td><strong>(euro per ha)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durum Aid</td>
<td>313</td>
<td>291</td>
<td>285</td>
<td>285</td>
<td>285</td>
</tr>
<tr>
<td>Dairy Quota</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU15</td>
<td>119</td>
<td>119</td>
<td>119</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>EU NMS</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Target/Intervention Price</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk</td>
<td>31</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Butter</td>
<td>317</td>
<td>294</td>
<td>271</td>
<td>253</td>
<td>246</td>
</tr>
<tr>
<td>NFD</td>
<td>200</td>
<td>191</td>
<td>180</td>
<td>177</td>
<td>175</td>
</tr>
</tbody>
</table>
World Wheat Stocks-to-Use Ratio vs. Price

- U.S. FOB Gulf Price
- Stocks-to-Use Ratio
World Wheat Area, Production, and Consumption

thousand mt

thousand ha


Production  Consumption  Area
World Wheat Trade and U.S. Market Share

Net Trade

U.S. Market Share

thousand mt

percent

0 5 10 15 20 25 30 35 40 45

120,000 110,000 100,000 90,000 80,000 70,000 60,000 50,000 40,000 30,000 20,000 10,000 0


Net Trade 

U.S. Market Share
World Rice Trade

thousand mt

World Corn Trade and U.S. Market Share

- **Net Trade**
- **U.S. Market Share**

Data points for years 1995/96 to 2015/16 are shown.
World Sugar Stocks-to-Use Ratio vs. Price

percent

FOB Caribbean Price  Stocks-to-Use Ratio

IOWA STATE UNIVERSITY
Major Sugar Importers

million mt


Indonesia Japan Russia and Ukraine South Korea United States

IOWA STATE UNIVERSITY FAPRI
Major Beef Importing Countries

thousand mt

1999 2001 2003 2005 2007 2009 2011 2013 2015

China  Japan  Russia  Mexico  South Korea  Egypt  Philippines

FAPRI
Beef Export Market Share (percent)

2001-2005
- Australia: 22.5%
- Brazil: 7.1%
- New Zealand: 7.6%
- India: 8.9%
- Argentina: 8.9%
- Canada: 20.1%

2006-2010
- Australia: 20.9%
- Brazil: 9.0%
- New Zealand: 8.6%
- India: 9.1%
- Argentina: 8.3%
- Canada: 27.9%

2011-2015
- Australia: 21.0%
- Brazil: 8.9%
- New Zealand: 8.2%
- India: 8.9%
- Argentina: 8.6%
- Canada: 26.9%
World Pork Production and Trade

thousand mt

120,000
110,000
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000

1999 2001 2003 2005 2007 2009 2011 2013 2015

thousand mt

7,000
6,000
5,000
4,000
3,000

Production
Trade
Major Pork Importing Countries

thousand mt

1999 2001 2003 2005 2007 2009 2011 2013 2015

China Japan Russia Hong Kong Mexico Philippines
Pork Export Market Share

2001-2005
- EU: 24.6%
- Canada: 9.3%
- U.S.: 15.0%
- Brazil: 14.3%

2006-2010
- EU: 23.4%
- Canada: 14.8%
- U.S.: 17.2%
- Brazil: 12.7%

2011-2015
- EU: 21.3%
- Canada: 16.9%
- U.S.: 16.9%
- Brazil: 13.5%
World Broiler Production and Trade

thousand mt

Production

Trade
Major Broiler Importing Countries

thousand mt

China  Japan  Russia  Hong Kong  Saudi Arabia  Mexico
Broiler Export Market Share

2001-2005
- U.S.: 32.1%
- Brazil: 15.3%
- EU: 5.9%
- Thailand: 37.5%

2006-2010
- U.S.: 41.5%
- Brazil: 11.9%
- EU: 7.6%
- Thailand: 35.5%

2011-2015
- U.S.: 39.5%
- Brazil: 10.6%
- EU: 7.6%
- Thailand: 35.9%
FOB Northern European Dairy Product Prices

dollars per mt

1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015

Butter Cheese NFD WMP

Butter Cheese NFD WMP
Annual Growth in Milk Production and Total World Output

N. America  S. America  EU  Russia & Ukraine  Asia  Oceania
Butter Net Exports for Selected Countries

thousand mt

Australia, New Zealand, EU-15, Other ROW
Cheese Net Exports for Selected Countries
Cheese Net Imports for Selected Countries

thousand mt

1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015

Japan  Mexico  Russia  United States  Other Asia
NFD Net Exports for Selected Countries

thousand mt

Australia | EU-15 | New Zealand | U.S. | India | Other Exporters

1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015
WMP Net Exports for Selected Countries

thousand mt

Argentina Australia EU-15 New Zealand Other Exporters
NAFTA Real GDP Growth Rates

percent

1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015

-8 -6 -4 -2 0 2 4 6 8

United States  Canada  Mexico
U.S. Livestock and Poultry Prices

dollar per cwt

1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015

Cattle Hogs Poultry

IOWA STATE UNIVERSITY
World Meat Trade and U.S. Market Share

million mt

percent


U.S.
Other Exporters
U.S. Market Share (percent)
Russian Poultry Supply and Utilization

thousand mt

1997 1999 2001 2003 2005 2007 2009 2011 2013 2015

thousand mt

Production
Consumption
Net Imports
Chinese Soybean Production and Utilization

Production
Consumption
Net Imports

thousand mt


thousand mt

0 5,000 10,000 15,000 20,000 25,000 30,000 35,000 40,000 45,000 50,000

0 10,000 20,000 30,000 40,000 50,000

IOWA STATE UNIVERSITY

FAPRI