



## Quarterly Commodity Update

Julie Wroblewski, Kate Schneider  
and Professor Leigh Anderson

EPAR Brief No. 97

*Prepared for the Agricultural Development Division at the  
Bill & Melinda Gates Foundation*

### Evans School Policy Analysis and Research (EPAR)

*Professor Leigh Anderson, PI and Lead Faculty*

*Associate Professor Mary Kay Gugerty, Lead Faculty*

September 27, 2010

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### Executive Summary

This report presents data on selected agricultural commodities for the second quarter of 2010 (April through June) and July, August, and September, where available. This report provides a summary of recent changes and trends in prices, demand, supply, and market conditions for key agricultural commodities as well as several goods of particular importance to the Bill & Melinda Gates Foundation and its work. In contrast to prior reports, this report uses historical daily futures prices on the exchange trading the greatest volume of each commodity, with the exception of dairy and fertilizer. Previous reports sourced historical producer price data from the FAO and industry organizations. The generic futures contracts used in this report provide historic price data for a given commodity on its main exchange by stringing together the front month prices from historic futures contracts. The respective Bloomberg ticker symbols are reported below each chart. *Appendix 2* provides wheat price charts using the former and current data sources for comparative purposes.

Although it is not yet the end of the quarter, world food prices have been changing rapidly in recent months and this report provides an update on the situation. References to the third quarter in this report refer to prices reports through early September. Highlights of this report, and speculated reasons for price movements, include:

- The average monthly FAO Food Price Index (FPI) increased 2.5 percent from the second to the third quarter of 2010. Between July and August, the FPI increased five percent to reach its highest level since September 2008.<sup>1</sup>
- Wheat prices fluctuated modestly in the first six months of 2010, increasing by five percent from the first to the second quarter. In July and August wheat prices surged as concerns intensified over crop loss in Russia and Eastern Europe due to drought.<sup>2</sup>
- Maize prices began to increase gradually during the first six months of the year due to reduced production estimates for maize and other grains.<sup>3</sup> Over recent weeks, maize futures prices have risen

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<sup>1</sup> FAO. (2010). *World Food Price Index*. Available from <http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/>

<sup>2</sup> FAO. (2010, July 15). *Update of Food Security Situation*. Retrieved from <http://www.fao.org/giews/english/shortnews/UFSS100715.pdf>

<sup>3</sup> FAO. (2010, May). *Crop Prospects and Food Situation*. Available from <http://www.fao.org/giews/english/cpfs/index.htm>

NOTE: The findings and conclusions contained within this material are those of the authors and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation.

to record highs as increases in wheat prices triggered a rally in commodity prices and a significant increase in grain prices.

- The World Bank's measure for soybean prices fell by two percent from the first to the second quarter of 2010. In June, however, soybean prices began to increase due to rising world grain prices, market reaction to crop losses in the EU and the Black Sea regions, and concern regarding next year's soybean crop in South America.<sup>4</sup>
- Reduced demand from key rice purchasing countries and ample supplies from exporting countries depressed rice prices earlier this year.<sup>5</sup> In recent weeks, rice prices have edged up slightly due to signs of supply tightening because of crop losses in major exporting countries and price pressures from the increase in world grain prices.<sup>6</sup>
- Average crude oil prices rose slightly from the first to the second quarter of 2010 but remain well below the peak levels observed during the 2008 food price crisis.<sup>7</sup>
- Average daily cocoa prices declined by 4.3 percent from the first to the second quarter of 2010. Prices fluctuated modestly in late July and early August before beginning a gradual downward trajectory.<sup>8</sup>
- Coffee futures prices are at a 13-year high due to lower production in a number of exporting countries, as well as reduced stocks in both importing and exporting countries. Since May, coffee prices have increased rapidly.<sup>9</sup>
- Cotton prices have increased by more than 50 percent in the last year as the USDA forecast that global cotton demand would outstrip supply in 2010/2011. Global cotton stocks are projected to decline as a result of increasing demand and excessive rain damaged crops in China, the world's largest cotton producer.<sup>10</sup>
- The average monthly FAO Dairy Price Index increased 6.2 percent from the first to the second quarter. The price index fell slightly in July and August before increasing again. In September, the FAO Dairy Price Index increased 2.6 percent to reach a level of 198.
- Prices of two of the five main fertilizers tracked by the World Bank increased from the first to second quarter of 2010. Despite fluctuations in recent months, prices for all five fertilizers increased from July to August.<sup>11</sup>

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<sup>4</sup> World Bank. (2010, September 10). *Commodity Markets Review*. World Bank, DECPG. Retrieved from [http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview\\_September2010.pdf](http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview_September2010.pdf)

<sup>5</sup> USDA Economic Research Service. (2010, April 12). *Rice Outlook*. Available from <http://www.ers.usda.gov/Briefing/Rice/>

<sup>6</sup> FAO. (2010, September 1). *Global Cereal Supply and Demand Update*. Retrieved from [http://www.fao.org/giews/english/shortnews/GlobalSD\\_update\\_01092010.pdf](http://www.fao.org/giews/english/shortnews/GlobalSD_update_01092010.pdf)

<sup>7</sup> Energy Information Administration. (2010, June). *Petroleum Marketing Monthly*. Energy Information Administration.

<sup>8</sup> Campbell, E. & Kay, C. (2010, September 10). *Cocoa Drops to 14-Month Low in N.Y.; Sugar Gains to Highest Since March*. Retrieved from <http://www.bloomberg.com/news/2010-09-10/sugar-gains-in-london-on-brazil-port-delays-inventories-coffee-advances.html>

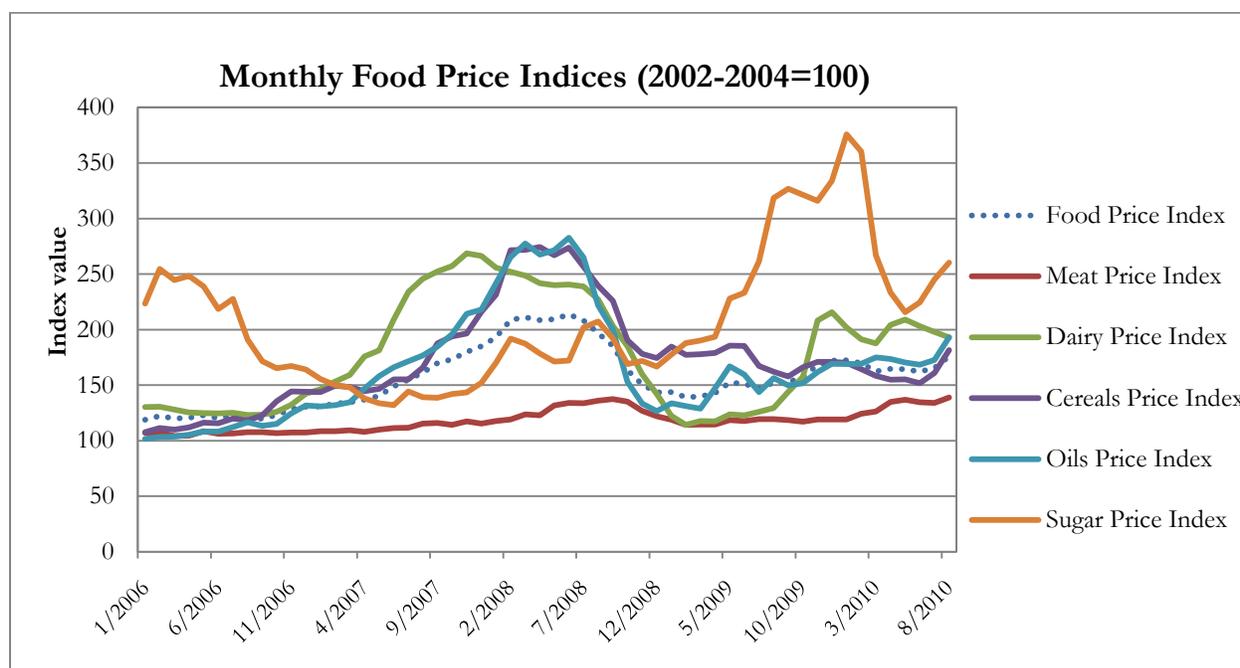
<sup>9</sup> International Coffee Organization. (2010, August). *Coffee Market Report*. Retrieved from <http://www.ico.org/>

<sup>10</sup> U.S. Department of Agriculture. (2010, September 10). *World Agricultural Supply and Demand Estimates* [WASDE-481-18]. Available from

<sup>11</sup> World Bank. (2010, April 10). *Commodity Price Data (Pink Sheet)*. Retrieved from <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:21148472~menuPK:476941~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html>

## FAO Food Price Index<sup>12</sup>

The FAO Food Price Index (FPI) is a composite measure of changes in average food prices over time. It consists of an average of the 5 commodity group indices (meat, dairy, cereals, oils and fats, and sugar) weighted by global export shares. The monthly index average increased 2.5 percent from the second to the third quarter of 2010. Between July and August, the FPI increased five percent to reach its highest level since September 2008. The recent rise in global food prices has been driven largely by a surge in wheat prices due to reduced production in Russia and Eastern Europe where drought has significantly compromised wheat production this season. In addition to rising grain prices, the recent increases in the FPI also reflect higher sugar and oilseed prices and a weak U.S. dollar.<sup>13,14</sup> Sugar prices skyrocketed earlier in the year as the FAO and others forecast that global output would fall short of consumption levels this year. Sugar prices have continued to increase recently as adverse weather in Brazil and other major producers has caused further concern over tightening supplies amid rising demand.<sup>15</sup>



Source: FAO

The sharp rise in wheat prices has contributed to a rally in commodity prices over the past month causing some to question whether there might be a repeat of the 2008 food price crisis. The International Food and Policy Research Institute (IFPRI), however, cautions that panic over rising wheat prices is “baseless and could only hurt the poor.” IFPRI notes that the current food price environment is different from the 2008 environment in several important respects. Mainly, crude oil prices remain well below the levels observed during the 2008 food price crisis and stocks of wheat and other grains are much higher than 2007/2008 stock

<sup>12</sup> FAO. (2010). *World Food Price Index*. Available from <http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/>

<sup>13</sup> FAO. (2010). (2010, September 1). *Wheat Sends Food Prices Up*. Retrieved from <http://www.fao.org/news/story/en/item/45006/icode/>

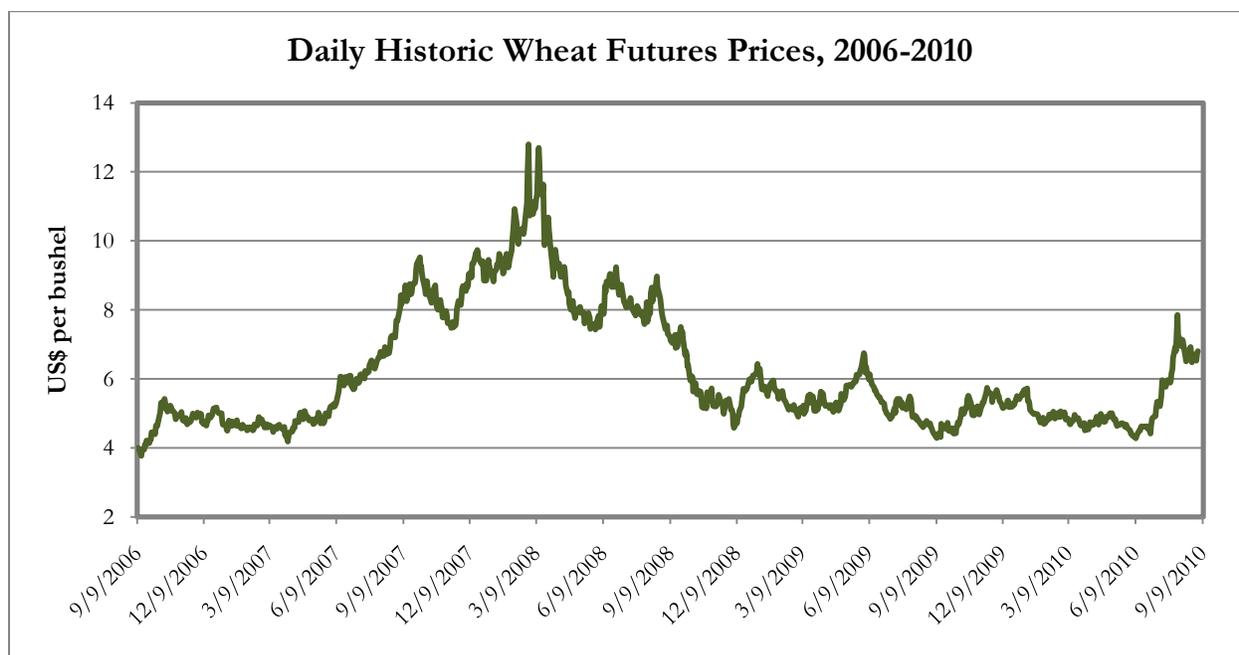
<sup>14</sup> USDA. (2010, September). *Oil Crops Outlook*. USDA Economic Research. Retrieved from <http://usda.mannlib.cornell.edu/usda/current/OCS/OCS-09-13-2010.pdf>

<sup>15</sup> Shore, S. (2010, September 11). *Sugar Prices Soar on Global Supply Concerns*. Associated Press. Retrieved from [http://www.google.com/hostednews/ap/article/ALeqM5hLdQzzkk\\_vLW3OsMLzbo-eZnRKbAD9I58OMO0](http://www.google.com/hostednews/ap/article/ALeqM5hLdQzzkk_vLW3OsMLzbo-eZnRKbAD9I58OMO0)

levels (at around 175 million metric tons, wheat stocks are approximately 50 million metric tons greater than in 2007/2008).<sup>16</sup> In the past few weeks commodity markets have shown some signs of stabilization, but world food prices appear to still be in a critical state of flux as prices of grains and other food staples remain volatile. The FAO and other food security watch organizations have called special meetings in recent weeks to consider the situation as markets continue to react to production and price news.

## Wheat

A rise in wheat prices in July and August led the recent increase in world food prices. Wheat futures prices fluctuated modestly in the first six months of 2010, increasing by five percent from the first to the second quarter. In July and August wheat prices surged as concerns intensified over crop loss in Russia and Eastern Europe due to drought. The FAO, USDA, and others reduced wheat production estimates as countries in the spring wheat belt of the former Soviet Union grappled with the worst drought in 130 years. International prices of wheat and maize increased by 19 percent and 12 percent, respectively, in the first two weeks of August, according to measures from the International Grains Council.<sup>17</sup> World wheat prices increased further on news in early August that Russia will ban wheat exports in response to reduced domestic production. The ban extends from August 15 to December 31, 2010 and includes wheat, barley, rye and maize, as well as the flour from wheat and rye.<sup>18</sup>



Source: Bloomberg, Chicago Board of Trade (CBOT) generic wheat futures contract W 1

Russia is the largest wheat producer in the Former Soviet Union-12 (FSU-12), which is a major wheat exporting region (see chart below). On August 5, world wheat prices reached their highest level in two years

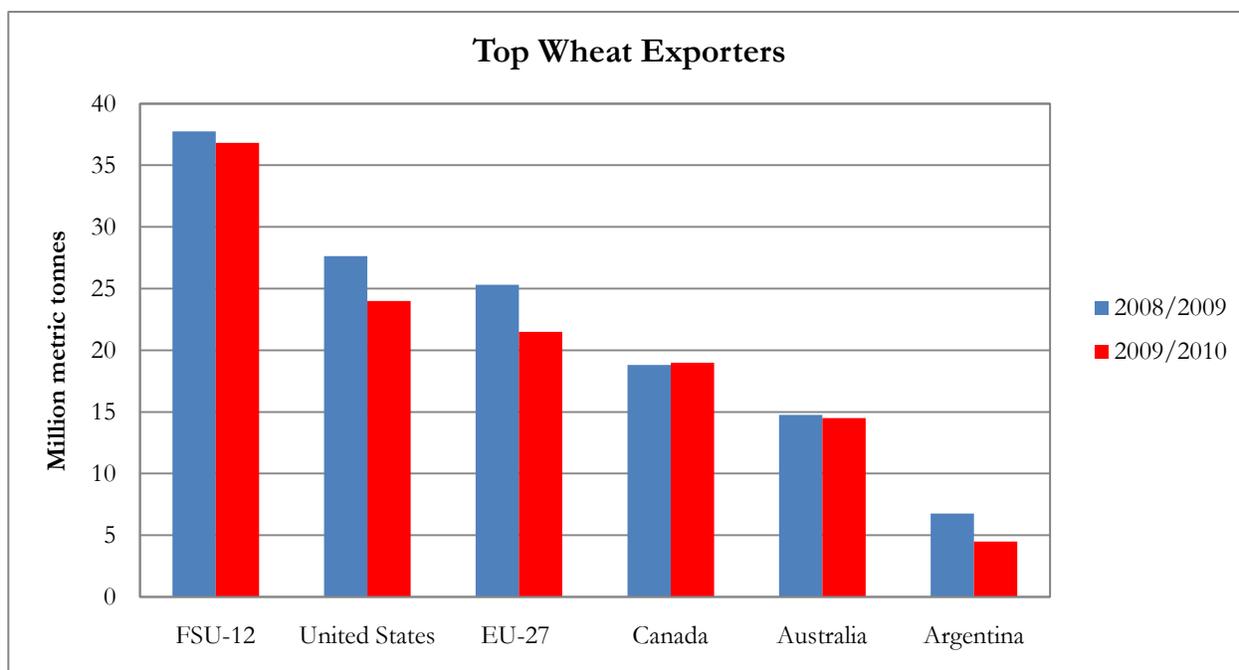
<sup>16</sup> IFPRI. (2010, September 13). "Wheat Price Volatility." Retrieved from <http://www.ifpri.org/pressrelease/wheat-price-volatility>

<sup>17</sup> FAO. (2010, July 15). *Update of Food Security Situation*. Retrieved from <http://www.fao.org/giews/english/shortnews/UFSS100715.pdf>

<sup>18</sup> BBC News. (2010, August 5). *Russia to Impose Temporary Ban on Grain Exports*. Retrieved from <http://www.bbc.co.uk/news/business-10879138>

at \$7.56 per bushel and commodities rallied as markets responded to rumors about potential contract defaults and supply tightening.<sup>19</sup>

In recent weeks, wheat prices have retreated but remain near two-year highs. The generic futures contract registered \$7.06 at the end of trading on September 9. Despite the significant increase in wheat prices in recent months, the FAO estimates world wheat production at 646 million tons this year, which represents a 5 percent decrease from 2009 production but is still the third highest crop on record.<sup>20</sup> Although crop loss is expected in major FSU-12 exporters, abundant harvests are anticipated in the United States and Canada, the world's two largest wheat exporting nations. Some officials, including those at IFPRI and the FAO, recently suggested that the surge in wheat prices this summer is due largely to market panic and speculation.<sup>21,22</sup> In a report released on September 13, Maximo Torero, Director of Markets, Trade, and Institutions Division at IFPRI warned that comparisons of the current food price situation to the crisis of 2007/2008 are unfounded and “serve to drive up prices and hurt poor people.”<sup>23</sup> Despite ample supplies, grain prices appear to continue in a state of flux and the UN and other aid organizations have raised concerns over food security issues.<sup>24</sup>



Source: USDA, *World Supply and Demand Estimates (WASDE)*

Note: The FSU-12 is the world's largest wheat producing region. On a country-by-country basis, the United States leads the world in wheat exports followed by Canada and Russia.

<sup>19</sup>Blas, J., Farchy, J., & Belton, C. (2010, August 6). *Commodities Sell-off Eases Wheat Prices*. Retrieved from <http://www.ft.com/cms/s/0/b064cd1c-a129-11df-bdea-00144feabdc0.html>

<sup>20</sup>FAO. (2010, September 1). *Global Cereal Supply and Demand Update*. FAO/GIEWS Global Watch. Retrieved from [http://www.fao.org/giews/english/shortnews/GlobalSD\\_update\\_01092010.pdf](http://www.fao.org/giews/english/shortnews/GlobalSD_update_01092010.pdf)

<sup>21</sup>BBC News. (2010, August 5). *Russia to Impose Temporary Ban on Grain Exports*. Retrieved from <http://www.bbc.co.uk/news/business-10879138>

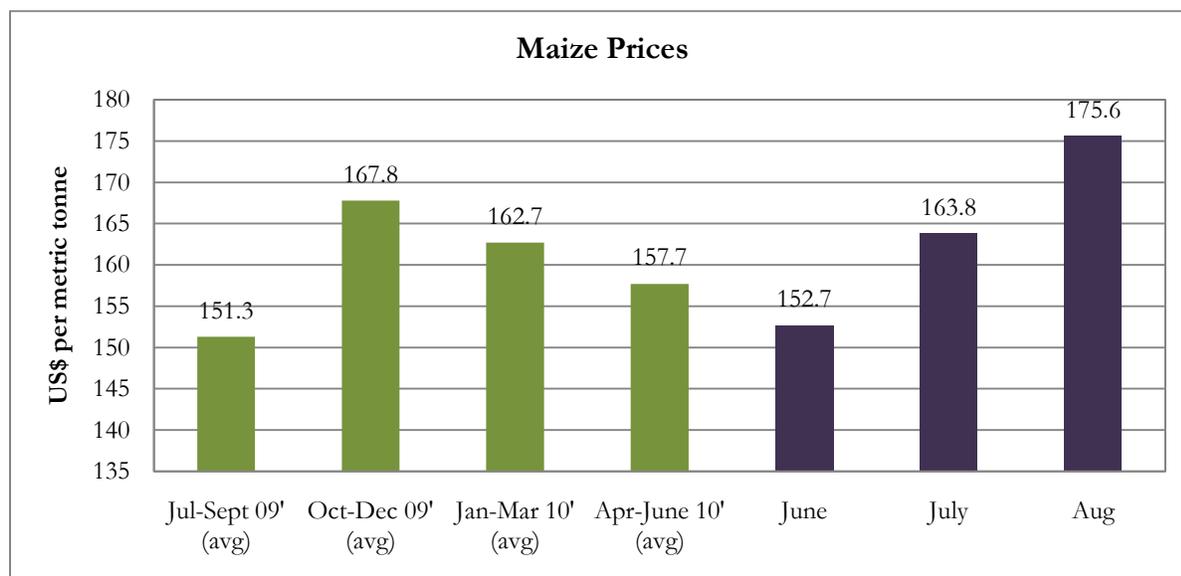
<sup>22</sup>FAO. (2010, August 4). *FAO Cuts Wheat Production Forecast But Considers Supplies Adequate*. FAO Media Centre. Retrieved from <http://www.fao.org/news/story/en/item/44570/icode/>

<sup>23</sup>IFPRI. (2010, September 13). *Wheat Price Volatility*. Retrieved from <http://www.ifpri.org/pressrelease/wheat-price-volatility>

<sup>24</sup>Reuters Africa. (2010, September 7). *Wheat price spike raises food insecurity: UN expert*. Retrieved from <http://af.reuters.com/article/investingNews/idAFJJOE68607E20100907>

## Maize

The recent surge in wheat prices has contributed to increases in the prices of other grains including maize, oats, corn, and soybeans. As shown in the chart below, maize prices began to increase gradually during the first six months of the year in response to lower production estimates for maize and other grains.<sup>25</sup> The average daily price of maize increased by five percent between the first and second quarter of 2010, according to the maize price provided in the World Bank Pink Sheet. Maize prices began to increase rapidly in July and August as world grain prices surged. The International Grains Council notes that the recent maize price appreciation can be attributed primarily to reduced yields, heavier world demand, and the overall increase in world grain prices in recent months.<sup>26</sup> The average price of maize, according to a price index from the World Bank, increased by 15 percent from June to August to reach \$175.6 per metric tonne, as shown in the chart below.



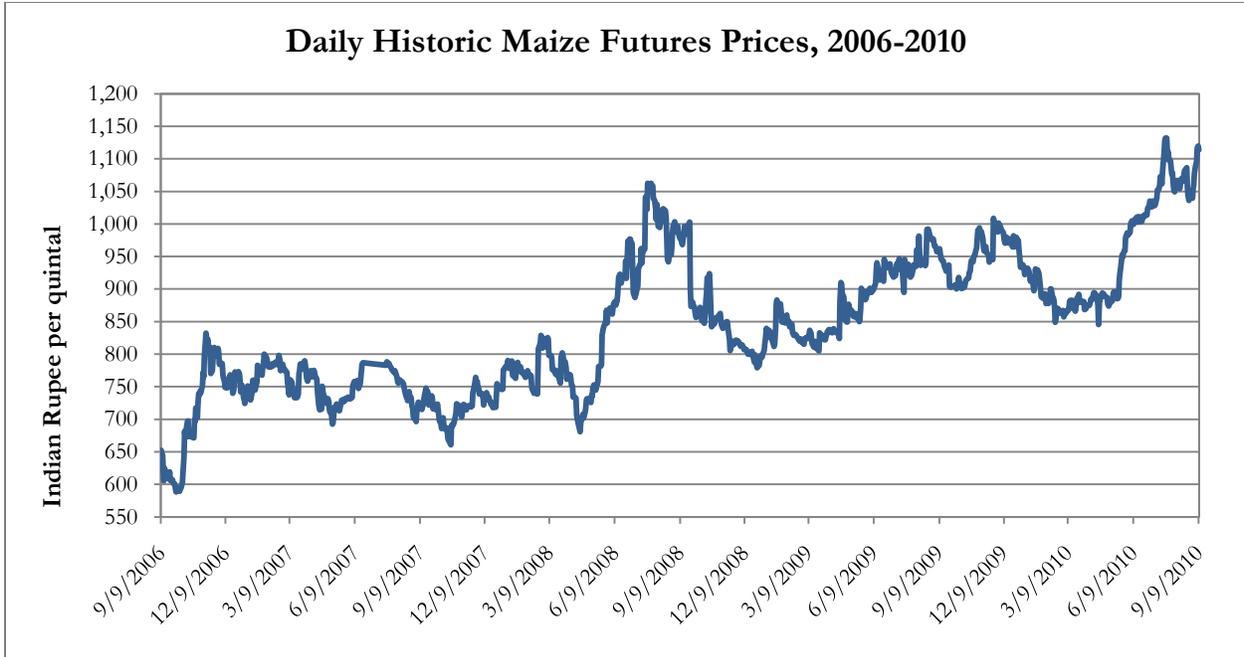
Source: World Bank, *Commodity Market Review*

Note: Maize prices referenced by the World Bank represent Maize, U.S. no. 2, yellow, f.o.b. US Gulf ports.

Over recent weeks, maize futures prices have risen to record highs as wheat prices triggered a rally in commodity prices and a significant increase in grain prices. The price of a generic maize futures contract increased to 1,149 Rs per quintal at the end of trading on September 9th.

<sup>25</sup> FAO. (2010, May). *Crop Prospects and Food Situation*. Available from <http://www.fao.org/giews/english/cpfs/index.htm>

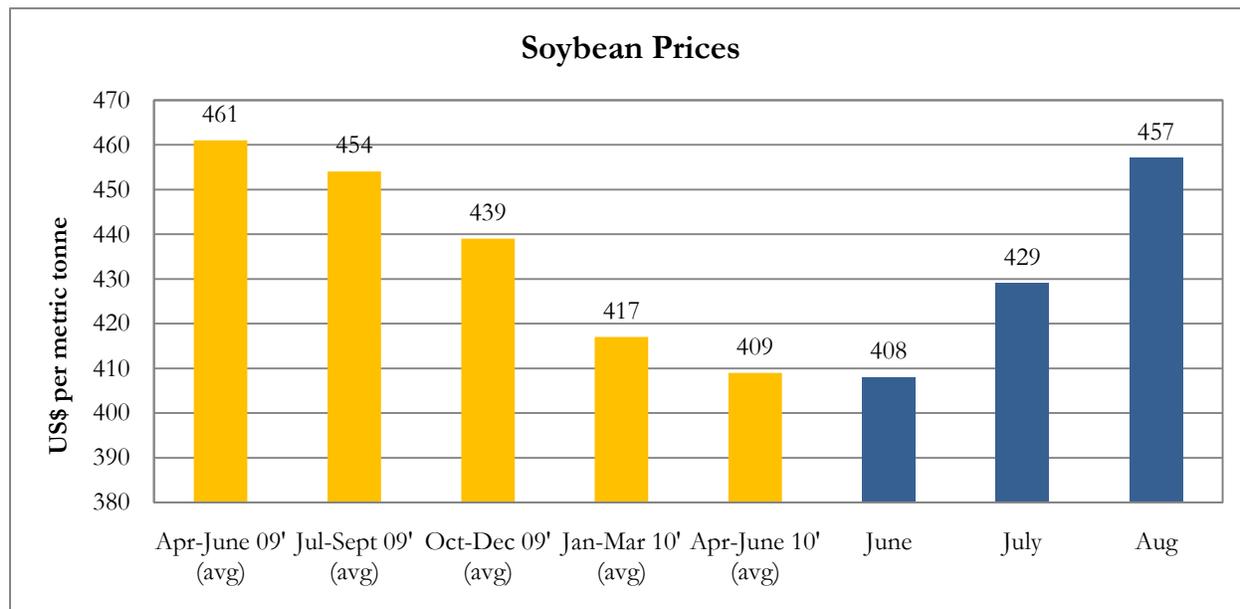
<sup>26</sup> International Grains Council. (2010, August 26). *Grain Market Report (GMR No. 403)*. Available from <http://www.igc.int/downloads/gmrsummary/gmrsumme.pdf>



Source: Bloomberg, National Commodities and Derivatives Exchange (Nizamabad) generic maize futures contract G81

## Soybeans

The World Bank's measure for soybean prices fell by two percent from the first to the second quarter of 2010. In June, soybean prices began to increase due to rising world grain prices, market reaction to soybean crop losses in the EU and the Black Sea regions, and concern regarding next year's soybean crop in South America.<sup>27</sup> Soybean prices increased by 15 percent between June and August to reach \$457 per metric ton, as shown in the chart below.



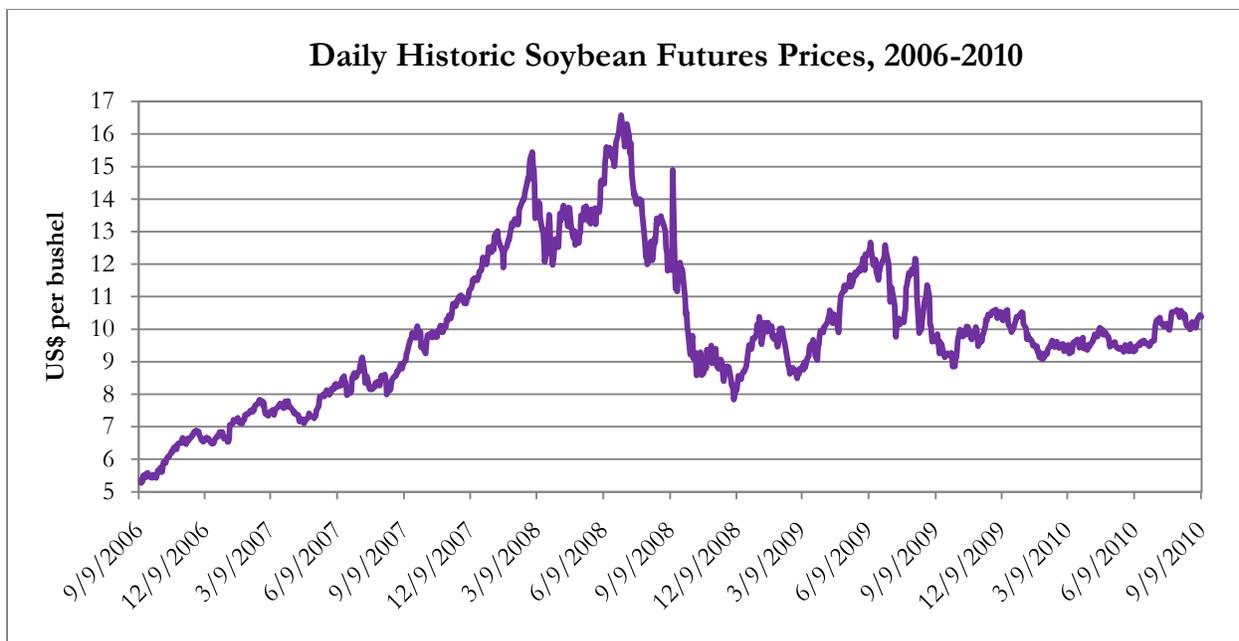
Source: World Bank, *Commodity Market Review*

Note: Soybean prices referenced by the World Bank represent Soybeans, U.S. c.i.f. Rotterdam.

The recent uptick in soybean prices can also be observed in soybean futures prices. The generic soybean futures contract increased from an average daily price of \$9.69 per pound in June to \$10.33 per pound in August. Soybean futures, according to the generic contract price, were down slightly to \$10.27 in trading on September 9<sup>th</sup> as grain futures prices experienced some correction and the USDA raised soybean crop estimates for the U.S., the world's largest soybean producer and exporter.<sup>28</sup>

<sup>27</sup> World Bank. (2010, September 10). *Commodity Markets Review*. World Bank, DECPG. Retrieved from [http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview\\_September2010.pdf](http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview_September2010.pdf)

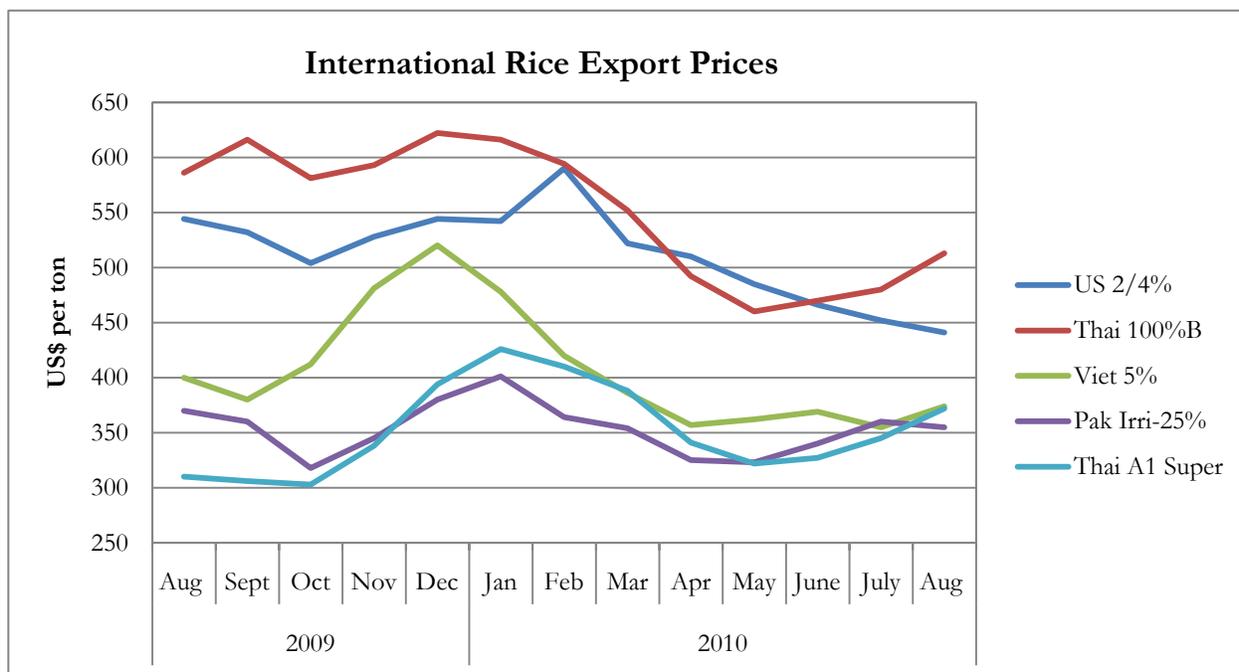
<sup>28</sup> Wilson, J. (2010, September). *Soybean Futures Fall After USDA Raises U.S. Production Estimate by 1.5%*. Bloomberg.com. Retrieved from <http://www.bloomberg.com/news/2010-09-10/soybean-futures-fall-after-usda-raises-u-s-production-estimate-by-1-5-.html>



Source: Bloomberg, Chicago Board of Trade generic soybean futures contract S 1

### Rice

International rice prices mostly fell throughout the first two quarters (from January to June), as shown in the chart below of major rice export prices referenced by the FAO. Reduced demand from key rice purchasing countries and ample supplies from exporting countries depressed rice prices earlier this year.<sup>29</sup>

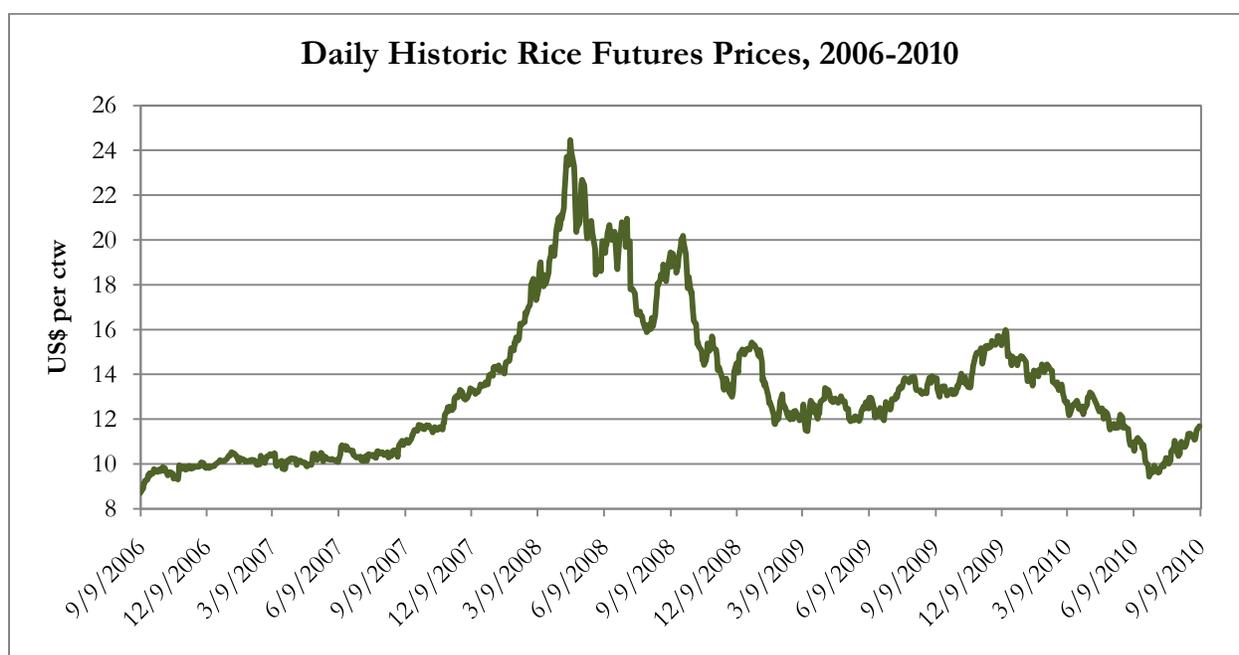


Source: FAO, Rice Price Update

<sup>29</sup> USDA Economic Research Service. (2010, April 12). *Rice Outlook*. Available from <http://www.ers.usda.gov/Briefing/Rice/>

In recent weeks, rice prices have edged up slightly due to signs of supply tightening because of crop losses in major exporting countries, especially Pakistan, and price pressures from the increase in world grain prices. On September 1st, the FAO revised its global rice production forecast for 2010 downward to 467 million tons, from a 474 million ton estimate in April and a 472 million ton estimate in June. Most of the revision was due to the floods in Pakistan though lower crop expectations in China, Egypt, India, Laos and the Philippines also contributed to the lower forecast.

Despite the recent downward revision, global rice production for 2010 is still forecast to be 3 percent higher than 2009 and a historical record.<sup>30</sup> According to recent updates from the FAO, the outlook for rice prices remains uncertain due to the recent increase in overall food prices.<sup>31</sup> Increases in world grain and cereal prices prompted a special one-day session of FAO's Intergovernmental Group on Grains and Intergovernmental Group on Rice in September at FAO headquarters in Rome.<sup>32</sup>



Source: Bloomberg, Chicago Board of Trade generic rice futures contract RR1

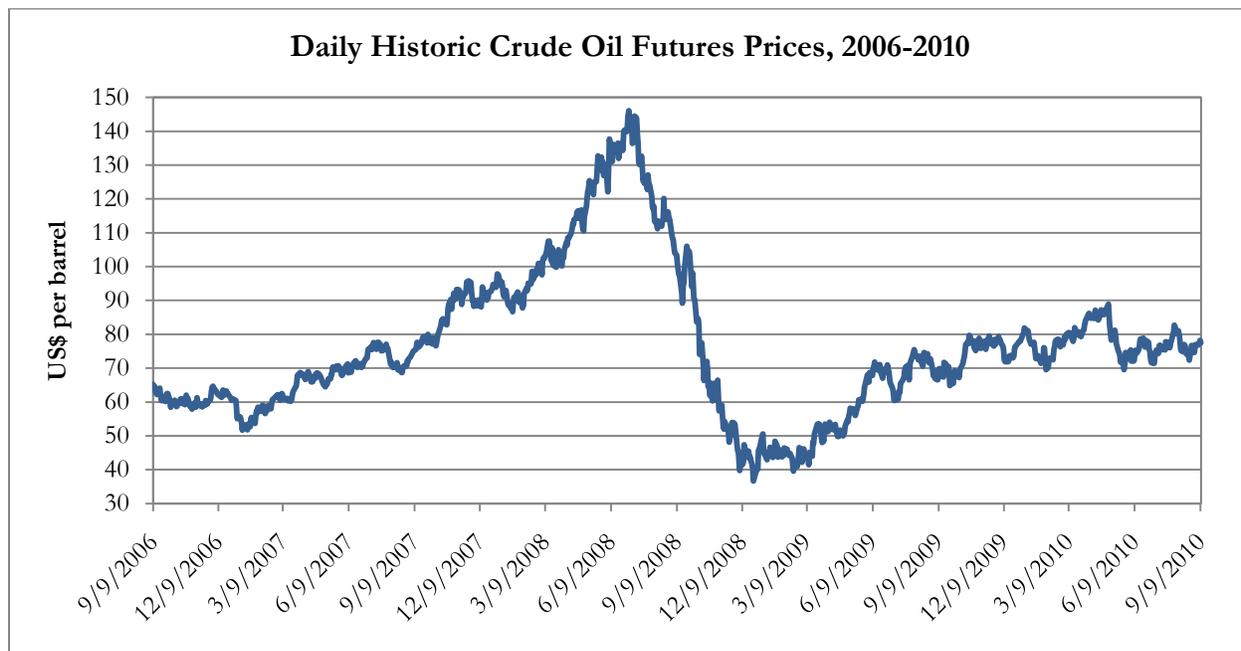
<sup>30</sup> FAO. (2010, September 1). *Global Cereal Supply and Demand Update*. Retrieved from [http://www.fao.org/giews/english/shortnews/GlobalSD\\_update\\_01092010.pdf](http://www.fao.org/giews/english/shortnews/GlobalSD_update_01092010.pdf)

<sup>31</sup> FAO. (2010, September 1). *Global Cereal Supply and Demand Update*. Retrieved from [http://www.fao.org/giews/english/shortnews/GlobalSD\\_update\\_01092010.pdf](http://www.fao.org/giews/english/shortnews/GlobalSD_update_01092010.pdf)

<sup>32</sup> FAO. (2010, September 1). *Wheat Sends Food Prices Up*. Retrieved from <http://www.fao.org/news/story/en/item/45006/icode/>

### Crude oil

Average daily crude oil futures increased by 2.6 percent from the first to the second quarter of 2010 but remain well below the peak levels observed during the 2008 food price crisis.. Since the beginning of June, crude oil prices have fluctuated between a low of \$71.45 per barrel (June 6) to a high of \$82.6 per barrel (August 3<sup>rd</sup>). In a recent petroleum market report, the Energy Information Administration (EIA) noted that ongoing concerns over the debt crisis in Europe and slower than expected economic recovery in the United States suggested macroeconomic factors continued to play an important role in observed crude oil prices.<sup>33</sup>

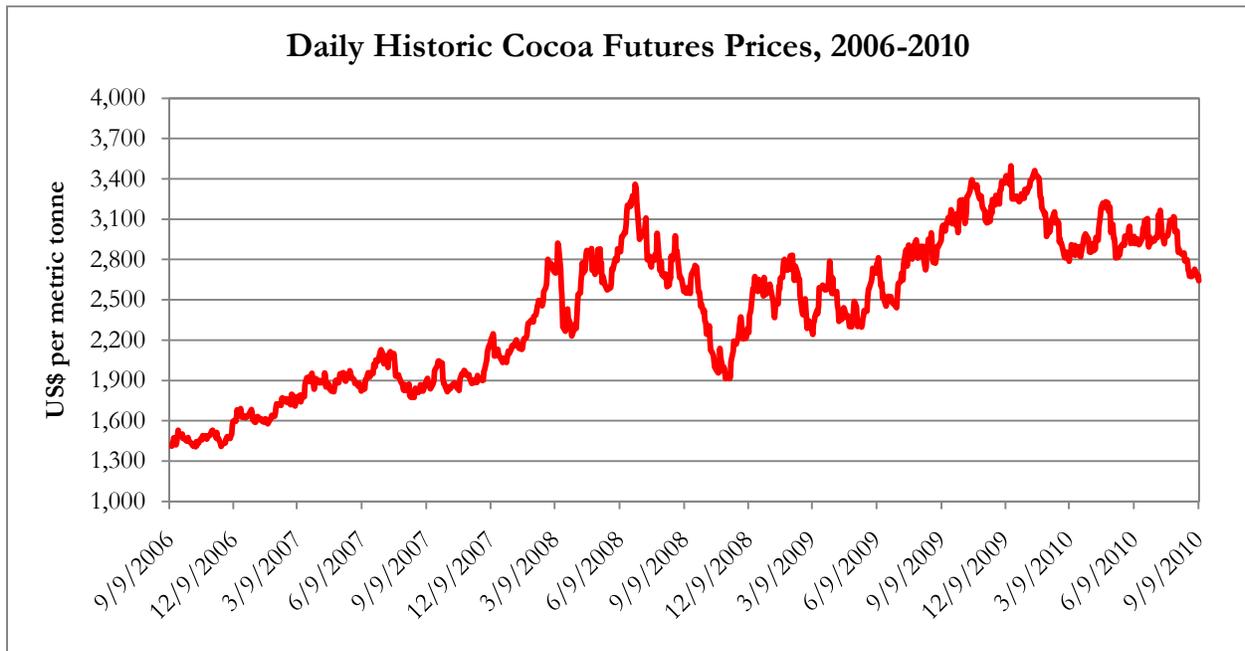


Source: Bloomberg, New York Mercantile Exchange (NYMEX) Brent Crude Oil generic futures contract CO1

<sup>33</sup> Energy Information Administration. (2010, June). *Petroleum Marketing Monthly*. Energy Information Administration.

## Cocoa prices

Average daily cocoa prices declined by 4.3 percent from the first to the second quarter of 2010. Prices fluctuated modestly in late July and early August before beginning a gradual downward trajectory. A recent report from the International Cocoa Organization (ICCO) notes that the depreciation of the U.S. dollar and the overall rise in commodity prices in late July somewhat influenced cocoa prices, but that other factors played a greater role. In particular, processing activity in North America and Europe during 2010 has surpassed most analysts' expectations, helping to keep international cocoa prices down amid rising world commodity prices.<sup>34</sup> In recent weeks, cocoa prices have declined on larger than expected supply increases from Côte d'Ivoire, which accounts for approximately 40 percent of global cocoa output.<sup>35</sup> On September 9, cocoa futures dropped to a 15-month low to reach a price of \$26.42 per metric ton at the end of trading.



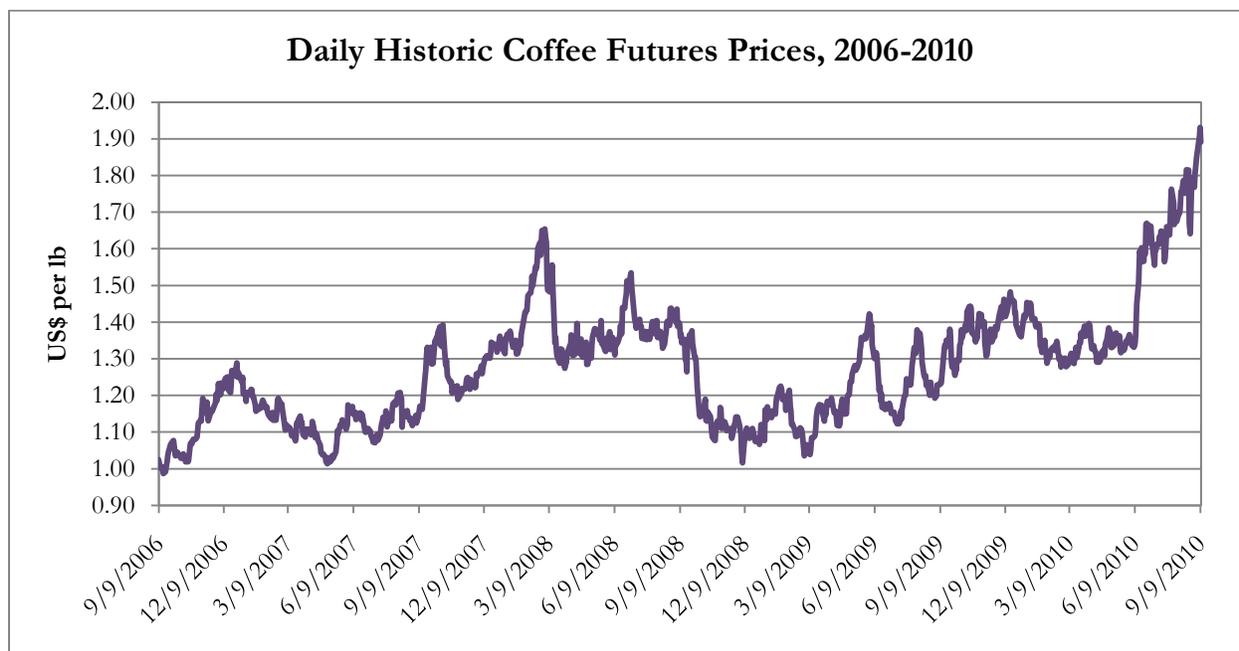
Source: Bloomberg, New York Board of Trade ICE generic cocoa futures contract CC1

<sup>34</sup> International Cocoa Organization. (2010, July). *Cocoa Market Review*. Available from <http://www.icco.org/>

<sup>35</sup> Campbell, E. & Kay, C. (2010, September 10). *Cocoa Drops to 14-Month Low in N.Y.; Sugar Gains to Highest Since March*. Retrieved from <http://www.bloomberg.com/news/2010-09-10/sugar-gains-in-london-on-brazil-port-delays-inventories-coffee-advances.html>

## Coffee

Coffee futures prices are at a 13-year high due to lower production in a number of exporting countries, as well as reduced stocks in both importing and exporting countries. Average daily coffee futures prices increased by four percent from the first to the second quarter of 2010. Since May, coffee prices have increased rapidly, rising from \$1.32 per pound on May 20 to \$1.89 per pound on September 9, as shown below. The most recent report available from the International Coffee Organization (ICO) notes that the current increase in prices reflects uncertainties concerning short-term coffee supplies. This is despite the large crop anticipated in Brazil and the return to normal production levels in a number of countries that had recorded significantly below average production in recent years.<sup>36</sup> In early September, coffee futures prices rose further over prospects that dry weather conditions could affect production prospects in Vietnam and in some Central American countries in crop year 2010/2011. Total production for the crop year 2009/2010, which is just ending, is expected at 120 million bags, which represents a 6 percent decrease over the previous season. The ICO estimates global coffee production at 133 to 135 million bags next year.

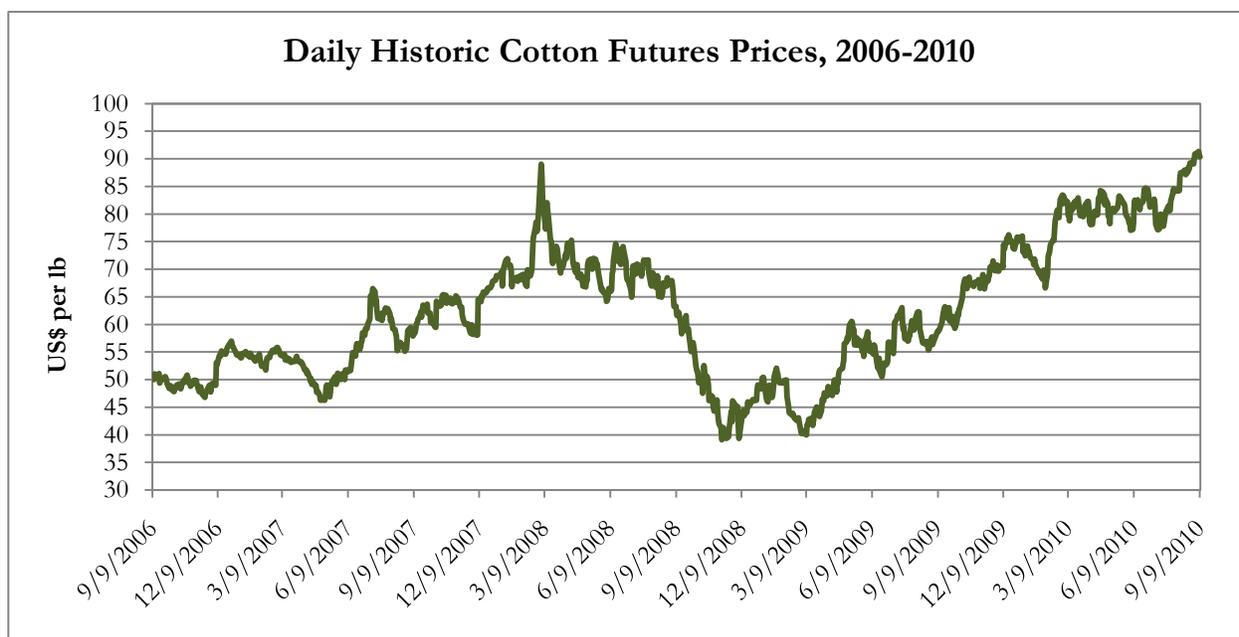


Source: Bloomberg, New York Board of Trade ICE generic coffee futures contract KC1

<sup>36</sup> International Coffee Organization. (2010, August). *Coffee Market Report*. Retrieved from <http://www.ico.org/>

## Cotton

Cotton prices have increased by more than 50 percent in the last year as the USDA forecast that global cotton demand would outstrip supply in 2010/2011. The most recent estimates from the USDA forecast that global cotton stocks will decline for the fourth consecutive season to the lowest levels in 14 years due to increasing demand and excessive rain damaged crops in China, the world's largest cotton producer.<sup>37</sup> World ending stocks are currently forecast at 45.4 million bales for 2010/2011, the lowest level since the 1996/1997 season. World cotton consumption has outpaced demand since 2005/2006, which has led to a tightening of global stocks of cotton over recent years. The consumption-production gap is forecast at 3.5 million bales in 2010/2011, which is down from the gap of 16 million bales in 2005/2006. Despite the modest improvement in the consumption-production gap, cotton prices have continued to increase as concerns over declining world cotton stocks and an overall rally in commodities markets have boosted prices.<sup>38</sup> On September 9<sup>th</sup>, cotton futures prices reached \$90.37 per pound. Cotton prices rose further this week to a 15-year high with closing prices above \$95 per pound.



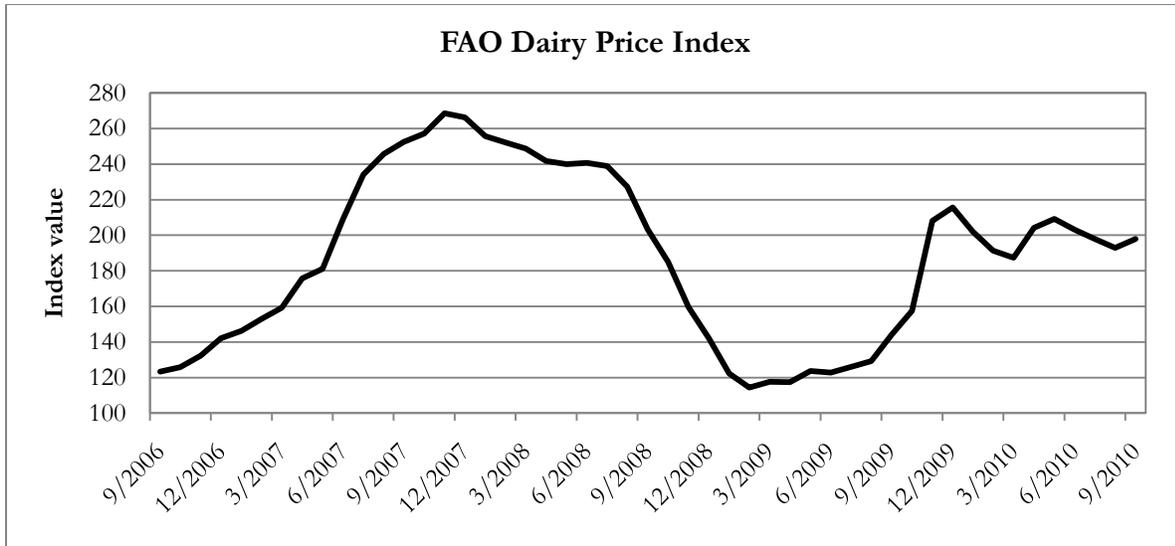
Source: Bloomberg, New York Board of Trade – ICE Futures Softs generic cotton futures contract CT1

<sup>37</sup> U.S. Department of Agriculture. (2010, September 10). *World Agricultural Supply and Demand Estimates* [WASDE-481-18]. Available from

<sup>38</sup> USDA Economic Research Service. (2010, September 13). *Cotton and Wool Outlook*. Available from <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1281>

## Dairy

According to the FAO, dairy prices remained firm through the first two quarters of 2010 due to poor milk production prospects and a backdrop of strong import demand. According to analysts, higher grain prices have played a major role in pushing up dairy prices because the cost of feeding livestock has increased.<sup>39</sup> The average monthly FAO Dairy Price Index increased 6.2 percent from the first to the second quarter. The price index fell slightly in July and August before increasing again. In September, the FAO Dairy Price Index increased 2.6 percent to reach a level of 198.

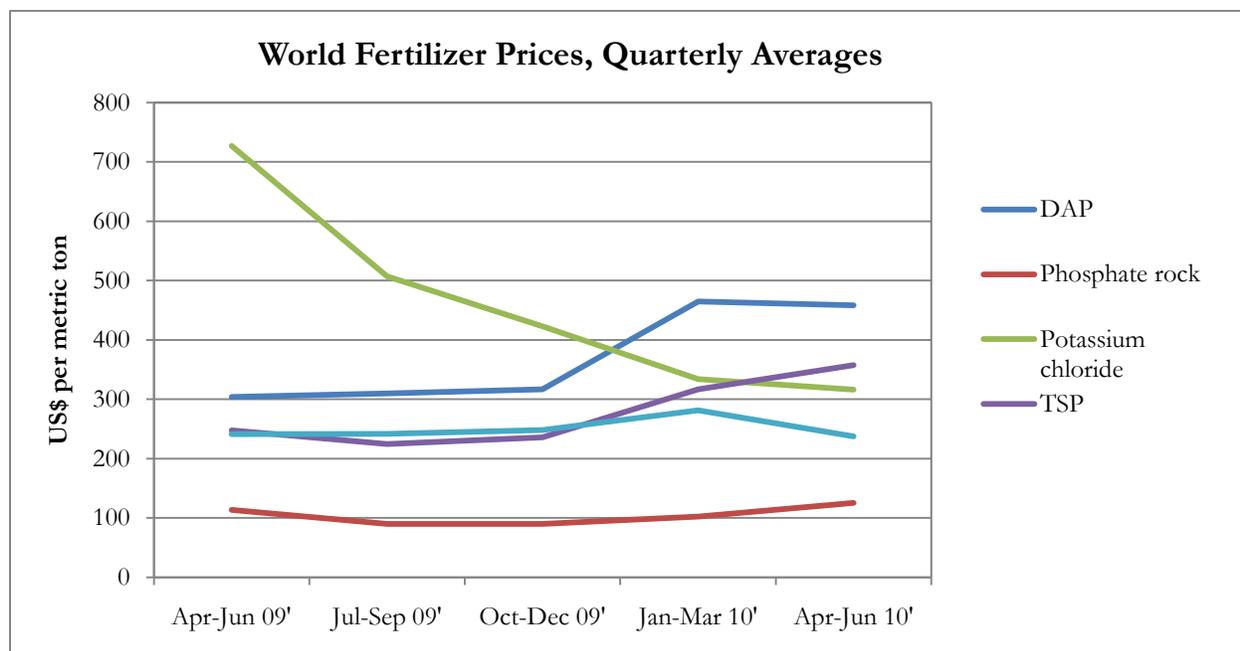


Source: FAO

<sup>39</sup> BBC News. (2010, September 14). *Global hunger 'unacceptably high', UN report says*. Retrieved from <http://www.bbc.co.uk/news/business-11288744>

## Fertilizer

Prices of two of the five main fertilizers tracked by the World Bank increased from the first to the second quarter of 2010. Over this period, the prices of phosphate rock and TSP increased by 22.4 percent and 12.8 percent respectively. Prices fell for the other three main fertilizers including DAP (1.4 percent), potassium chloride (5.3 percent), and Urea (15.6 percent). Despite fluctuation in recent months, prices for all five fertilizers increased from July to August including Urea (9.4 percent), potassium chloride (7.8 percent), DAP (7.6 percent), and TSP (5.8 percent). According to the World Bank, fertilizer prices are on the rise as demand strengthens in the U.S., East Asia, and India.<sup>40</sup>



Source: World Bank, *Pink Sheet*.

## Conclusion

Agricultural commodity prices have increased sharply in recent months due to an increase in grain prices triggered by supply disruptions in Russia and Eastern Europe. The rise in grain prices led to a rally in commodity prices in August that caused some analysts to question whether markets might return to food price spikes, similar to those observed during the 2008 food price crisis. Despite some signs of panic in the market, however, wheat supplies appear ample and commodity prices seem to have stabilized in recent weeks. For now, world food prices remain in a state of flux and the coming months will undoubtedly prove crucial in determining the path for commodity prices in the remainder of 2010. From a food security perspective, the current situation remains tenuous and meetings by the FAO and other world food security watch organizations may provide helpful insights into the current situation and the international response.

Please direct all comments or questions to Leigh Anderson at [eparx@u.washington.edu](mailto:eparx@u.washington.edu)

<sup>40</sup> World Bank. (2010, April 10). *Commodity Price Data (Pink Sheet)*. Retrieved from <http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,,contentMDK:21148472~menuPK:476941~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html>

## Appendix 1: Factors that Contribute to Agricultural Commodity Price Volatility

Agricultural commodity prices are influenced by a variety of complex factors including macroeconomic forces and changes in the fundamentals of demand and supply; such as fluctuations in income, supply shocks resulting from bad weather or crop disease, input costs, government interventions and changes in the prices of related goods.

In general, a weakening U.S. dollar is associated with rising agricultural commodity prices and vice versa. Recently, commodity market analysts have attributed the moderating in agricultural commodity prices in part to gains in the value of the U.S. dollar relative to other currencies. Despite the apparent relationship, it is unclear how much of recent fluctuations in agricultural commodity prices can be attributed to changes in the value of the U.S. dollar.

Recently, the FAO and others have noted that macroeconomic factors including fluctuating exchange rates, volatile oil prices, and rising liquidity from low interest rates have played an increasing role in the fluctuations observed in agricultural commodities markets. They note that although supply and demand will continue to be the primary factors that shape commodities markets in 2010, the global food system has arguably become more susceptible to volatility driven by external, non-food economy events.<sup>41</sup>

### Short-Term Factors

A brief survey of literature from the FAO, USDA and IFAP reveals the main factors that contribute to short-term volatility in agricultural commodity prices.<sup>42,43,44</sup> These factors include:

- Changes in demand due to shifts in incomes (purchasing power) and consumption
- Productivity improvements and new technologies
- Shocks to production (weather, disease, war, etc.)
- Changes in global stocks and reserves
- Short term government policies
- Energy and input prices and availability (labor, credit, water, fertilizer, seed, etc.)
- Biofuel policies and technology prospects
- Changes in the value of the U.S. dollar
- Developments in financial markets and speculative fund positions
- New investments in agricultural production
- Spillover effects between commodity prices including crude oil

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<sup>41</sup> FAO. (2009). *Food Outlook*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e00.htm>.

<sup>42</sup> Sarris, A. (2009, July). *International Farm Policy Challenges to 2050* [Presentation, IFAP Commodity Conference]. Retrieved from <http://www.ifap.org/en/newsroom/documents/InternationalFarmPolicyChanges2050.pdf>

<sup>43</sup> Schnepf, R. (2008). *High Agricultural Commodity Prices: What Are the Issues?* [Congressional Research Service (CRS) Report for Congress]. Retrieved from <http://fpc.state.gov/documents/organization/104685.pdf>

<sup>44</sup> FAO (2009). *The State of Agricultural Commodity Markets, High food prices and the food crisis – experiences and lessons learned*. Retrieved from <ftp://ftp.fao.org/docrep/fao/012/i0854e/i0854e.pdf>

### High Agricultural Commodity Prices in 2008<sup>45</sup>

Numerous studies and research briefings consider the factors contributing to the observed spikes in agricultural commodity prices in 2008. According to the USDA, the sharp increase in agricultural commodity prices observed in 2008 was due to several contributing factors including:

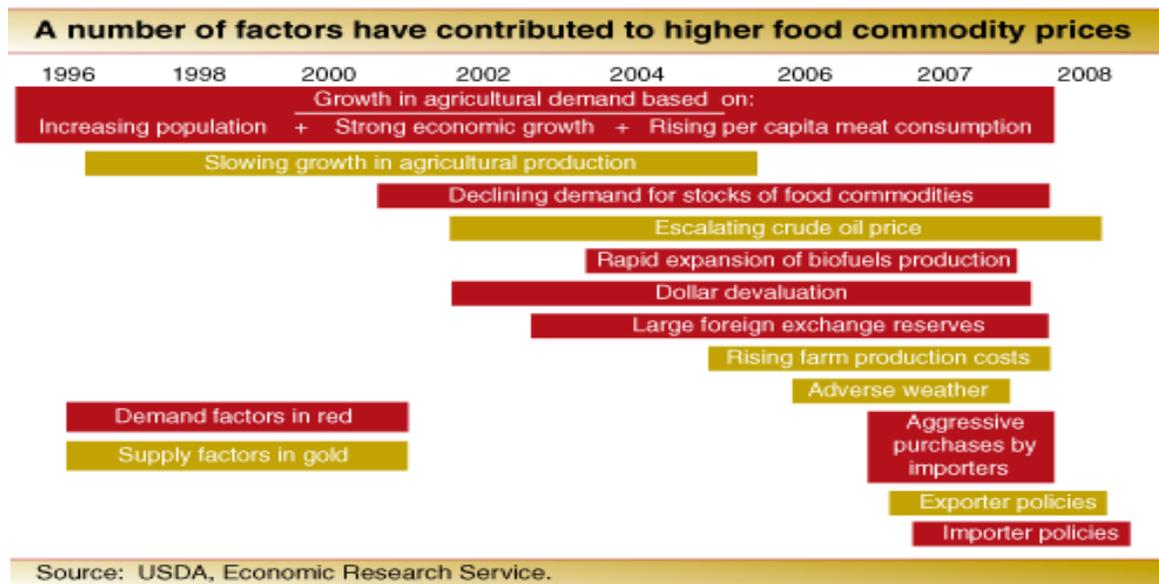
**Changes in demand:** Trends of more rapid expansion in demand and slower growth in production of agricultural commodities began in the 1990s. These changing dynamics contributed to declining global demand for stocks of grains and oilseeds since 2000.

**Rising energy prices:** The price of crude oil increased between 2000 and 2008, contributing to more expensive inputs. In addition, changing biofuel policies provided incentives to expand biofuel production in some countries.

**Value of the dollar:** Commodity prices were influenced by the declining value of the U.S. dollar, which allowed some countries to increase food commodity imports.

**Rising production costs:** In 2006 and 2007, rising energy prices and adverse weather in a number of countries reduced global production of grains and oilseeds, which contributed to short-term price volatility.

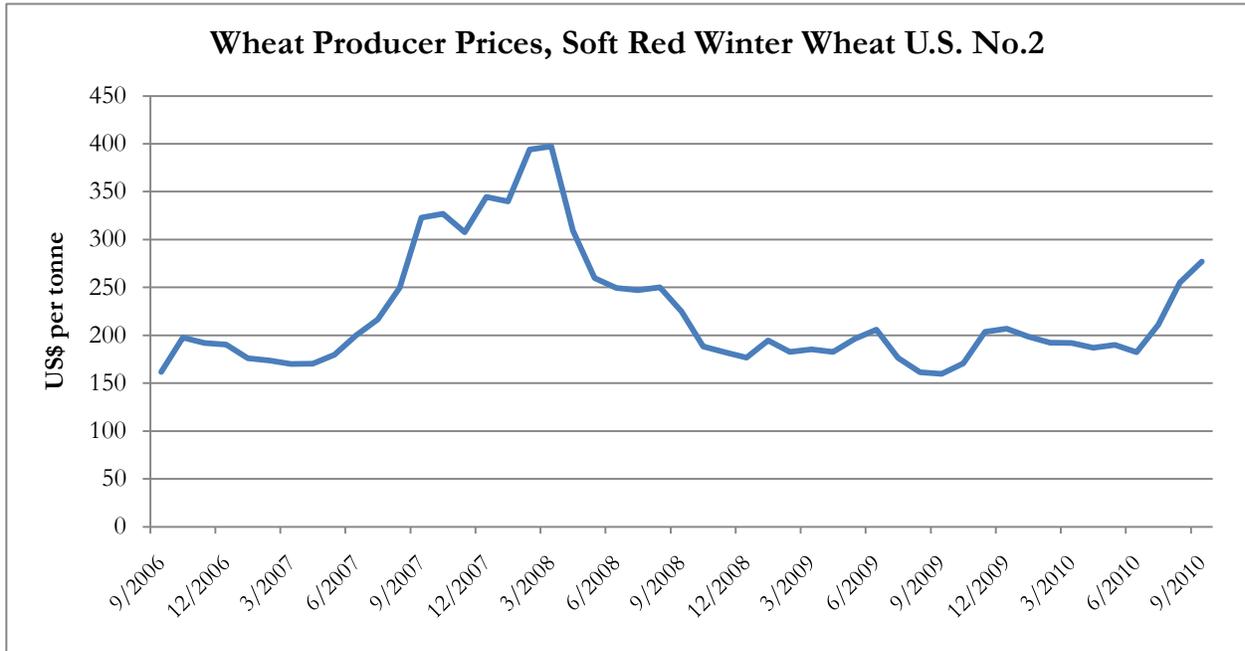
The figure below from the USDA shows the factors that contributed to higher agricultural commodity prices between 1996 and 2008.



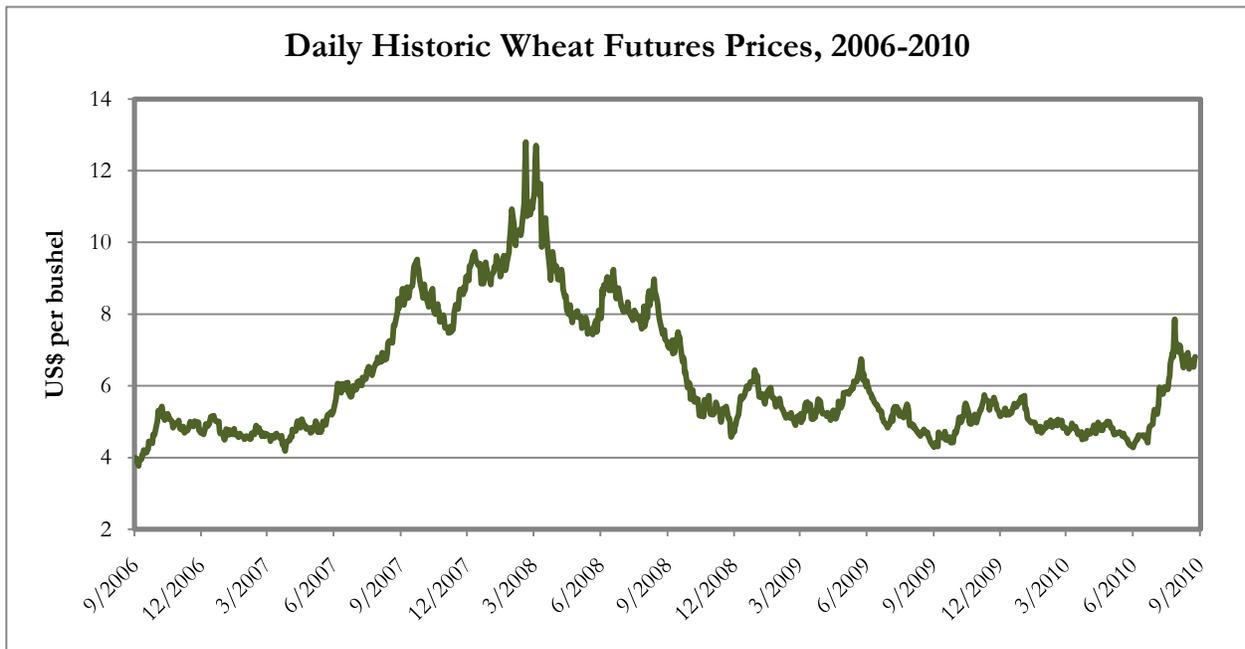
<sup>45</sup> Trostle, R. (2008, May). *Global Agricultural Supply and Demand: Factors Contributing to the Recent Increase in Food Commodity Prices*. Retrieved from <http://www.ers.usda.gov/Publications/WRS0801/>

## Appendix 2: Methodology Comparison

The graphs below illustrate the difference in price reporting between the current update and previous commodity price updates. The first graph uses FAO historical producer price data. The second graph reports historic futures prices for the leading global wheat contract on the Chicago Board of Trade. Although the price units differ between the two data sources, the price trends are similar.



Source: FAO Commodity Outlook, retrieved September 27, 2010



Source: Bloomberg, Chicago Board of Trade (CBOT) generic wheat futures contract W 1