



## Quarterly Commodity Update

Julie Wroblewski

*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*

February 23, 2010

---

### Executive Summary

This report presents data on selected agricultural commodities for the fourth quarter of 2009 (October through December 2009) and the months of January and February, where available. More specifically, this report provides a summary of recent changes and trends in prices, demand, supply, and market conditions for key agricultural commodities. Highlights include:

- Cocoa prices increased by 3.7 percent over the fourth quarter of 2009. Prices increased 0.8 percent from December to January to reach \$3,525.12 per ton. The most recent monthly cocoa market review from the International Cocoa Association notes that concerns over a supply deficit in recent months continue to put pressure on world cocoa prices.<sup>1</sup>
- Coffee prices continued to rise slightly over the fourth quarter of 2009, however, prices remained below 2007/2008 average prices. Coffee prices as measured by the ICO Composite Price Index increased by 3.2 percent over the fourth quarter of 2009. According to the ICO index, coffee prices remained relatively stable between December and January, averaging \$124.96 and \$126.85 per ton respectively. Low levels of world stocks, smaller than anticipated production recovery in countries including Colombia and those in Central America, and adverse weather conditions in Brazil have supported the firmness of coffee prices in recent months.<sup>2</sup>
- World rice prices increased by 18.24 percent in the fourth quarter of 2009 to reach \$13.03 per ctw (equivalent to 100 pounds). Rice prices increased 2.2 percent from December to January to reach \$13.32 per ctw. Concerns over a production shortfall have contributed to increased pressures on rice prices in recent months.<sup>3</sup>

---

<sup>1</sup> International Cocoa Organization. (2009, December). *Cocoa Market Review*. Retrieved from <http://www.icco.org/statistics/monthlyreview.aspx>

<sup>2</sup> International Coffee Organization. (2009, January). *Letter from the Executive Director*. Retrieved from <http://dev.ico.org/documents/cmr-0110-e.pdf>

<sup>3</sup> AFP. (2010, February 11). *Global rice prices to hold steady: economist*. Retrieved from <http://www.google.com/hostednews/afp/article/ALeqM5gF0hMPWXbgDTDN1MJEGVDC8ceLYQ>

- Soft-red winter wheat prices increased by 21.2 percent in the fourth quarter of 2009 before declining by 9.4 percent between December and February. Estimates for 2009/2010 wheat production have continued to increase in recent months with current estimates for world production of 677.4 million, which is just 5.3 million tons less than the record levels observed in 2008/2009.<sup>4</sup>
- Maize prices remained relatively stable over the fourth quarter of 2009 with a one percent increase over the period. Prices of maize declined 8 percent between December and February based on the data available from the FAO's Commodity Outlook. World maize production is expected to remain relatively stable from 2008/2009 to 2009/2010.<sup>5</sup>
- Soybean prices increased by 2.6 percent over the fourth quarter of 2009. Prices declined by 10.4 percent from December to February to reach \$352.92 per ton in February as forecasts showed expectations for increases in bumper crops in South America at 30 million tons higher than last year's drought reduced levels.<sup>6</sup> The USDA estimates that soybean prices will decline slightly in 2010 with a current forecast at \$8.70 to \$10.20 per bushel compared to an average price of \$9.97 per bushel in 2008/2009.
- Crude oil prices have continued to fluctuate in recent months. The most recent outlook report from the Energy Information Administration (EIA) states that the oil market should continue to gradually tighten in 2010 and 2011 as the global economic recovery continues and the demand for oil grows.<sup>7</sup>
- The most data available for fertilizer prices in January 2010 show that the trend of rising prices observed at the end of 2009 is continuing. Fertilizer prices have been under pressure due to strong demand in the southern hemisphere, particularly for phosphate fertilizers in Latin America.<sup>8</sup>
- World cotton prices for the "A" Index, considered the proxy for world cotton prices, increased 19.8 percent over the fourth quarter of 2009. Prices for the A Index increased 0.8 percent from December to January to reach 77.39 cents per pound, according to the most

---

<sup>4</sup> U.S. Department of Agriculture. (2010, February 12). *Wheat Outlook*. Retrieved from <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1293>

<sup>5</sup> International Grains Council. (2010, January 21). *Grain Market Report* (GMR No. 396). Retrieved from <http://www.igc.org.uk/downloads/gmrsummary/gmrsumme.pdf>

<sup>6</sup> World Bank Development Prospects Group. (2010, February 16). *Commodity Markets Review*. Retrieved from [http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview\\_February2010.pdf](http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview_February2010.pdf)

<sup>7</sup> Energy Information Administration. (2010, February 10). *Short-Term Energy and Winter Fuels Outlook*. Retrieved from <http://www.eia.doe.gov/emeu/steo/pub/feb10.pdf>

<sup>8</sup> World Bank Development Prospects Group. (2010, February 6). *Commodity Markets Review*. Retrieved from [http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview\\_February2010.pdf](http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview_February2010.pdf)

recent data available.<sup>9</sup> The USDA forecasts that continued economic recovery, particularly in developing countries, will boost world consumption growth above the long-term average of 2 percent.<sup>10</sup>

- The FAO's dairy price index increased dramatically throughout 2009, rising approximately 88.6 percent from February 2009 to December 2009. Dairy prices increased by 36.9 percent in the fourth quarter of 2009 before declining 6.7 percent between December 2009 and January 2010. Rising world demand for dairy products and lower than expected milk production in the U.S. and internationally are leading to tightening stocks and expectations for rising dairy prices in 2010. The FAO notes that the reasons for the rapid price increases are not entirely understood.<sup>11</sup>

### Overview of Agricultural Commodity Markets

Food prices have been increasing in recent months as shown in the FAO's food price index. The food price index is a composite price index consisting of six commodity group prices (meat, dairy, cereals, oils, fats, and sugar) weighted by average world export shares in each of the groups. The FAO food price index increased by 10 percent between October and January. The FAO sugar price index increased by more than 16 percent between October 2009 and January 2010 as markets reacted to concerns over negative production prospects in Brazil and expectations of surging imports by India and Indonesia.<sup>12,13</sup> The recent increase in food prices has triggered concerns over a possible return to high prices in basic food commodities, which are included in the FAO price index. In November, the index averaged 168, which was its highest point since September 2008. Despite the rise, the index in November was still 21 percent below its peak in June 2008 and indicators in agricultural commodities markets, such as stock levels and production estimates, seem to suggest that the market is prepared for expected increases in demand in the coming months.<sup>14</sup>

Several factors have been identified as contributing to the food price spikes of 2007/2008 including: low levels of world cereal stocks, crop failures in major exporting countries, rapidly growing demand for agricultural commodities for biofuels and rising oil prices. As price increases accelerated, several additional factors contributed to price spikes were identified including: government export

---

<sup>9</sup> National Cotton Council. (2009, November). *Monthly Prices* [Data set]. Available from the National Cotton Council Web site: <http://www.cotton.org/econ/prices/monthly.cfm>

<sup>10</sup> Hirtzer, M. & Rampton, R. (2010, February 19). UPDATE 4-USDA sees smaller wheat, sugar crops, more cotton. Reuters.com. Retrieved from: <http://www.reuters.com/article/idUSN1910270520100219?type=marketsNews>

<sup>11</sup> Food and Agriculture Organization. (2009, December). *Milk and Milk Productions*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e10.htm>

<sup>12</sup> Food and Agriculture Organization. (2009). *Sugar* [Food Outlook]. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e08.htm>

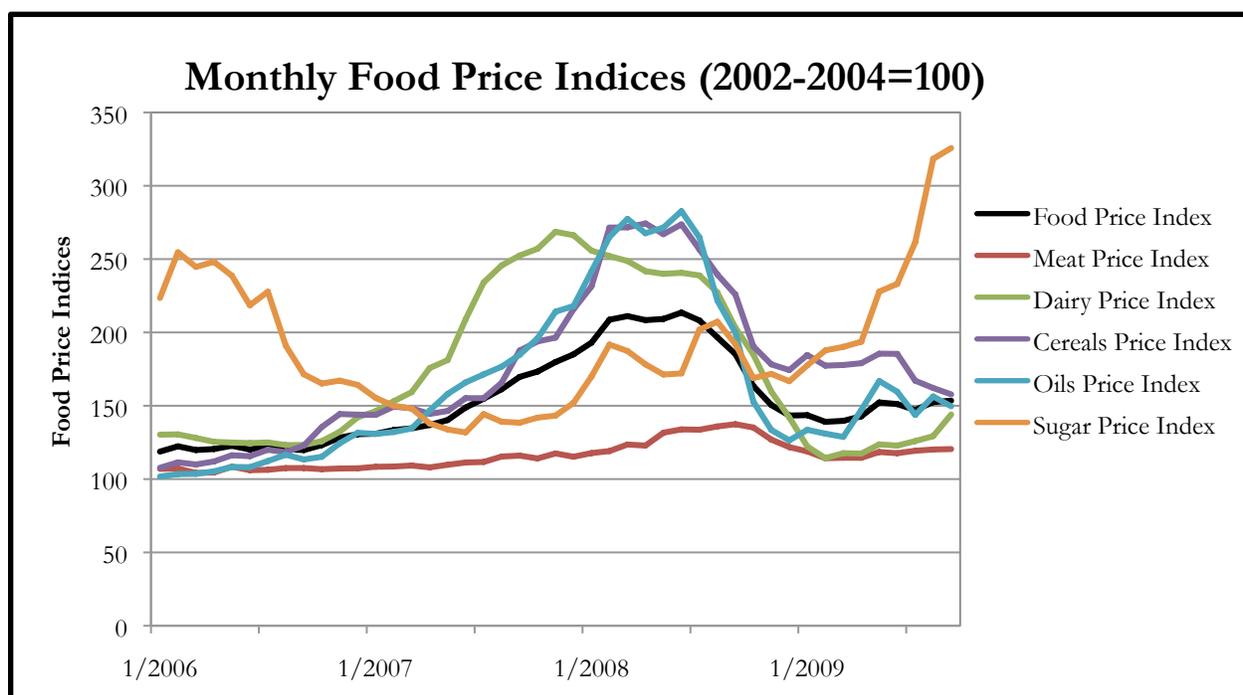
<sup>13</sup> World Bank Development Prospects Group. (2010, February 6). *Commodity Markets Review*. Retrieved from [http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview\\_February2010.pdf](http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview_February2010.pdf)

<sup>14</sup> Food and Agriculture Organization. (2009). *Food Outlook*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e00.htm>

restrictions, a weakening US Dollar, and a growing demand by speculators and index funds for wider commodity portfolio investments due to a global excess of liquidity.<sup>15</sup>

The situation in agricultural commodity markets has fluctuated considerably over the last year and the factors contributing to price volatility have changed in some respects. More specifically, world food stocks have stabilized and supply and demand has generally become more balanced for most commodities. For example, the stock-to-use ratio for cereal, a key indicator of global food security, and recent estimates of production flows indicate that exporters are more adequately supplied to respond to rising demand for agricultural commodities.<sup>16</sup> Despite some signs of stabilization in global food prices, significant uncertainties remain in agricultural commodities markets.

Macroeconomic factors including fluctuating exchange rates, volatile oil prices, and rising liquidity from low interest rates continue to contribute to uncertainty and volatility in agricultural commodities markets. The FAO notes 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>17</sup>



Source: FAO Food Price Index

<sup>15</sup> Food and Agriculture Organization. (2009). *Food Outlook*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e00.htm>

<sup>16</sup> Food and Agriculture Organization. (2009, December). *Cereals* [Food Outlook]. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e02.htm>

<sup>17</sup> Food and Agriculture Organization. (2009). *Food Outlook*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e00.htm>

## Cocoa

Cocoa prices increased by 3.7 percent over the fourth quarter of 2009. Prices increased 0.8 percent from December to January to reach \$3,525.12 per ton. The International Cocoa Association's February market review notes that concerns over a supply deficit have continued to put pressure on world prices in recent months.<sup>18</sup> Cocoa prices have increased by more than 30 percent between January 2009 and January 2010; last month cocoa futures reached the highest levels in over 30 years.<sup>19</sup> The increase in prices has been attributed to concerns over a world shortfall in production because of poor weather, labor strikes, and export disruptions due to political instability in Côte d'Ivoire, which accounts for approximately 40 percent of global cocoa output.<sup>20,21,22</sup> In recent weeks, cocoa futures prices have been rising on speculation that exports may be disrupted now that the president of Côte d'Ivoire has dissolved the government.<sup>23</sup> Worries that political instability could force workers to quit cocoa farms and erode mid-crop output are contributing to concerns over cocoa production.<sup>24</sup>

A complete review of cocoa supply, demand, and price movements is provided in the subscription-only Quarterly Bulletin of Cocoa Statistics report. This report includes the ICCO's estimates of supply and demand for recent and current seasons. Some analysis and data are available in newspaper articles and the free monthly review from the ICCO. In addition to the political instability in Côte d'Ivoire, these information sources mention that the following production-related factors are currently influencing cocoa markets:

- The ICCO Secretariat's revised estimates for the 2008/2009 cocoa year (published in the latest issue of the Quarterly Bulletin of Cocoa Statistics) forecasts a third year of production deficit totaling 28,000 tons. World cocoa bean production is estimated to have declined by 5.8 percent (a decline of 216,000 tons) over the previous season to 3.515 million tons.<sup>25</sup>

---

<sup>18</sup> International Cocoa Organization. (2009, December). *Cocoa Market Review*. Retrieved from <http://www.icco.org/statistics/monthlyreview.aspx>

<sup>19</sup> France-Presse, A. (2010, February 12). *Commodity prices rebound on improved demand forecasts*. Retrieved from <http://news.malaysia.msn.com/business/article.aspx?cp-documentid=3859369>

<sup>20</sup> Henschen, H. (2009, October 21). *Cocoa Rallies to 30-Year High on Dollar, Demand*. Retrieved from [http://online.wsj.com/article/SB125614460993099343.html?mod=googlenews\\_wsj](http://online.wsj.com/article/SB125614460993099343.html?mod=googlenews_wsj)

<sup>21</sup> Reuters. (2009, October 29). *Ivory Coast Targets 4 percent growth in 2010*. Retrieved from <http://af.reuters.com/article/investingNews/idAFJJOE59S0TZ20091029>

<sup>22</sup> International Cocoa Organization. (2009, September). *Cocoa Market Review*. Retrieved from <http://www.icco.org/statistics/monthlyreview.aspx>

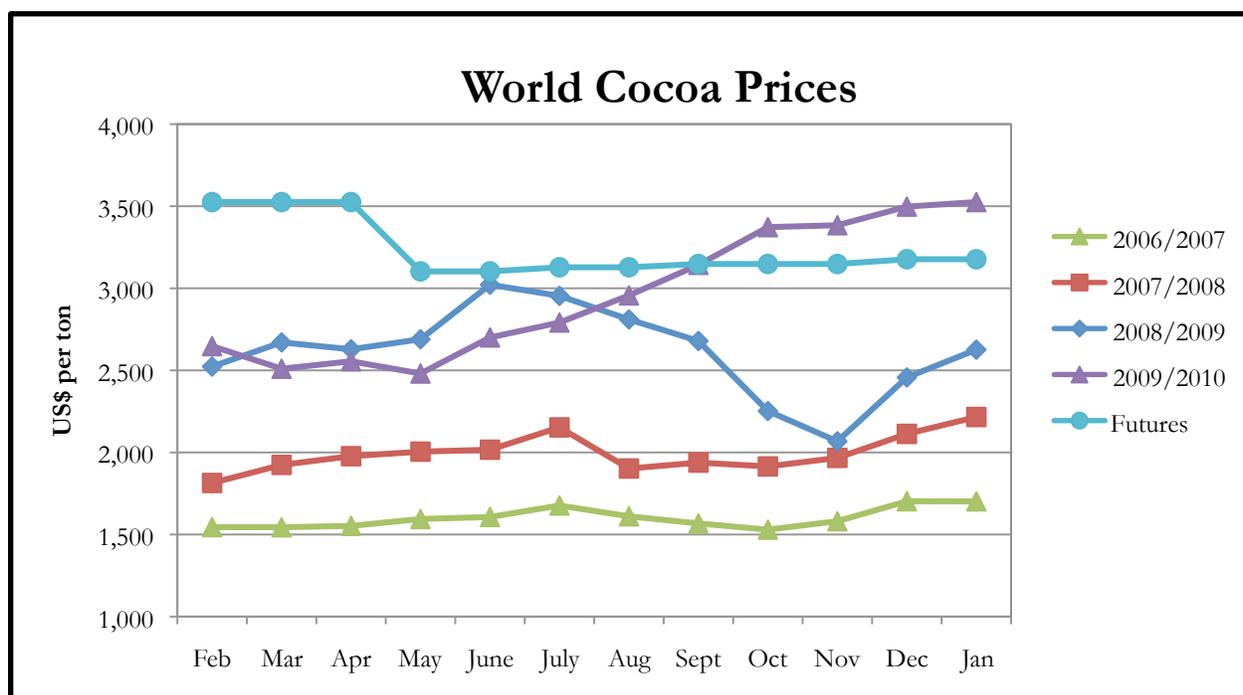
<sup>23</sup> Carpenter, C. (2010, February 15). *Cocoa Rises in London as Ivory Coast's Government is Dissolved*. Retrieved from <http://www.businessweek.com/news/2010-02-15/cocoa-climbs-after-ivory-coast-s-president-dissolves-government.html>

<sup>24</sup> Brough, D. & Hunt, N. (2010, February 15). *London cocoa rises on instability in Ivory Coast*. Retrieved from <http://af.reuters.com/article/investingNews/idAFJJOE61E0P220100215>

<sup>25</sup> International Cocoa Organization. (2009, November). *Cocoa Market Review*. Retrieved from <http://www.icco.org/statistics/monthlyreview.aspx>

- Grindings are estimated to have decreased by 6.6 percent to 3.508 million tons in the 2008/2009 season.
- Global statistical stocks of cocoa beans at the end of the 2008/2009 cocoa year are estimated at 1.556 million tons, equal to 44.4 percent of annual grindings in 2008/2009.<sup>26</sup>

The ICE Futures U.S. Cocoa contract is the benchmark for world cocoa prices. Amid concern over export disruptions in Côte d'Ivoire, cocoa futures remained flat on February 12, 2010 with delivery for February, March, and April 2010 closing that day at \$3,525.12 per ton.<sup>27,28</sup> Some analysts note that concerns over political instability in Côte d'Ivoire helped to offset the impacts of a stronger US Dollar.<sup>29</sup>



Sources: International Cocoa Association, New York Mercantile Exchange (NYMEX)

Notes: Cocoa futures represent NYMEX settlement prices as of Friday, February 12<sup>th</sup>, 2010.

<sup>26</sup> International Cocoa Organization. (2009, December). *Cocoa Market Review*. Retrieved from <http://www.icco.org/statistics/monthlyreview.aspx>

<sup>27</sup> Brough, D. & Hunt, N. (2010, February 15). *London cocoa rises on instability in Ivory Coast*. Retrieved from <http://af.reuters.com/article/investingNews/idAFJJOE61E0P220100215>

<sup>28</sup> Hunt, N. (2010, February 21). *SOFTS-Cocoa flat as Ivorian tensions offsets firm dollar*. Retrieved from <http://www.forexyard.com/en/news/SOFTS-Cocoa-flat-as-Ivorian-tension-offsets-firm-dollar-2010-02-19T162359Z>

<sup>29</sup> Hunt, N. (2010, February 21). *SOFTS-Cocoa flat as Ivorian tensions offsets firm dollar*. Retrieved from <http://www.forexyard.com/en/news/SOFTS-Cocoa-flat-as-Ivorian-tension-offsets-firm-dollar-2010-02-19T162359Z>

## Coffee

Coffee prices continued to rise slightly over the fourth quarter of 2009, however, remaining below 2007/2008 average prices. The ICO Composite Price provides an overall benchmark of green coffee of all major origins and types. The ICO Composite Price Index measured an increase in coffee prices of 3.2 percent over the fourth quarter of 2009. According to the ICO index, coffee prices remained relatively stable between December and January, averaging \$124.96 and \$126.85 per ton respectively.

The most recent coffee market report from the Executive Director of the International Coffee Organization notes that low levels of world stocks, smaller than anticipated production recovery in Colombia and Central America, and adverse weather conditions in Brazil have supported the firmness of coffee prices in recent months.<sup>30</sup> The ICO's most recent forecast of coffee consumption this year projects that continued growth and potential supply shortages will support prices in the coming months.<sup>31,32</sup> The ICO projects coffee consumption of 134 million bags in 2010, which represents an increase of 2 million bags from consumption levels estimated in 2009. World coffee consumption has been growing an average of 2.4 percent per year since 2000 and current demand has remained relatively strong, despite the weak global economy. The ICO forecasts that total coffee output for the current crop year to September 2009/2010 will fall to 123.7 million bags, which would be a decline from the estimated 128 million bags produced in the 2008/2009 season.<sup>33</sup> The current forecasts indicate a global coffee deficit in 2010 and analysts note that prices will likely continue to rise as concerns regarding the availability of coffee continue and shortages are realized in coming months.<sup>34</sup>

---

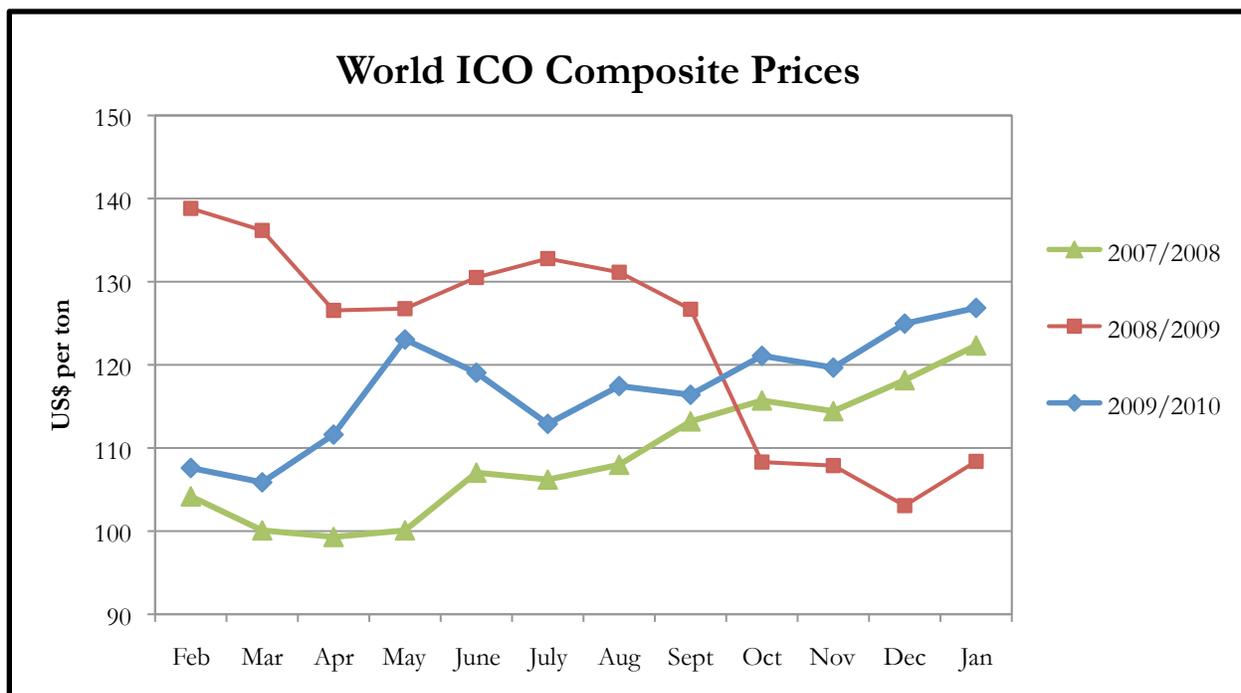
<sup>30</sup> International Coffee Organization. (2009, January). *Letter from the Executive Director*. Retrieved from <http://dev.ico.org/documents/cmr-0110-e.pdf>

<sup>31</sup> Tian, Y. (2010, February 22). *Coffee to Rise on Shortage of Premium Beans, CPM Says (Update1)*. Retrieved from <http://www.businessweek.com/news/2010-02-22/coffee-may-rise-on-shortage-of-premium-colombia-beans-cpm-says.html>

<sup>32</sup> Wallengren, M. (2010, February 8). *Interview: ICO Says 2010 World Coffee Demand to Rise to 134 M Bags*. Retrieved from [http://online.wsj.com/article/BT-CO-20100208-705472.html?mod=WSJ\\_latestheadlines](http://online.wsj.com/article/BT-CO-20100208-705472.html?mod=WSJ_latestheadlines)

<sup>33</sup> Wallengren, M. (2010, February 8). *Interview: ICO Says 2010 World Coffee Demand to Rise to 134 M Bags*. Retrieved from [http://online.wsj.com/article/BT-CO-20100208-705472.html?mod=WSJ\\_latestheadlines](http://online.wsj.com/article/BT-CO-20100208-705472.html?mod=WSJ_latestheadlines)

<sup>34</sup> Campbell, E. (2010, February 11). *Cocoa Gains on Signs Use May Outpace Production; Coffee Drops*. Bloomberg.com. Retrieved from <http://www.businessweek.com/news/2010-02-11/cocoa-gains-on-signs-use-may-outpace-production-coffee-drops.html>



Sources: International Coffee Association

Note: The ICO Composite Price is an index price calculated by the International Coffee Association and not a traded commodity. The ICO Composite Price provides an overall benchmark of green coffee for all major origins and type.<sup>35</sup> There are no futures prices represented on this chart because the ICO Composite price is a calculated statistic.

Arabica accounts for approximately 70 percent of the world's coffee crop.<sup>36</sup> Prices for Arabica coffee increased by 6.6 percent during the fourth quarter of 2009 with the average price in major world markets then declining approximately one percent from December 2009 to January 2010 to reach \$131.67 per ton. Adverse weather conditions have slowed output in Colombia and Brazil, the world's largest coffee producers, continuing the trend of rising coffee prices over the past year.<sup>37</sup> Recent data from the National Coffee Association of Guatemala indicates that coffee output in nine Latin American countries fell 28 percent in the first four months of the 2008/2009 growing season.<sup>38</sup> Arabica coffee futures have been rising in recent weeks possibly reflecting concerns over production shortfall.<sup>39</sup>

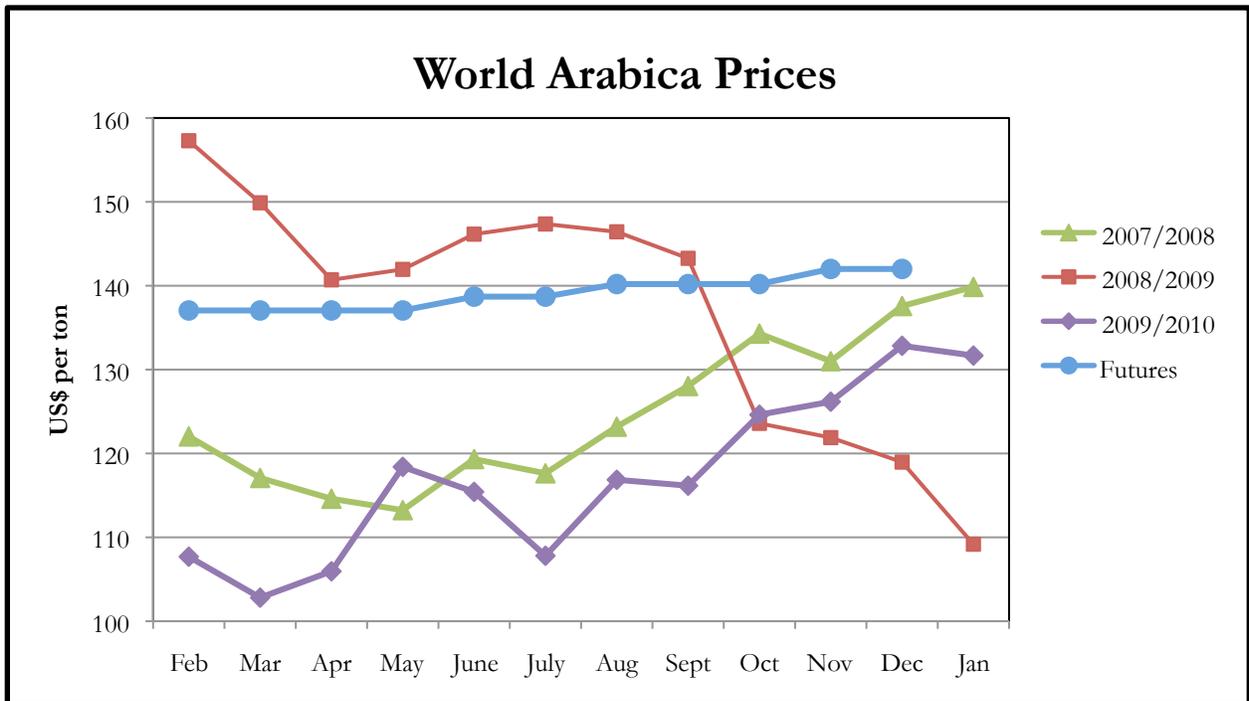
<sup>35</sup> More information on the ICO Composite Price available from the ICO Web site: [http://www.ico.org/about\\_statistics.asp](http://www.ico.org/about_statistics.asp)

<sup>36</sup> Christian, J. (2006). *Commodities rising*. Hoboken: John Wiley and Sons.

<sup>37</sup> Cortes, K. (2010, February 8). *Brazil Coffee Output May Miss Government Forecast (Update 1)*. Retrieved from <http://www.businessweek.com/news/2010-02-08/brazil-coffee-output-may-miss-government-forecast-on-rainfall.html>

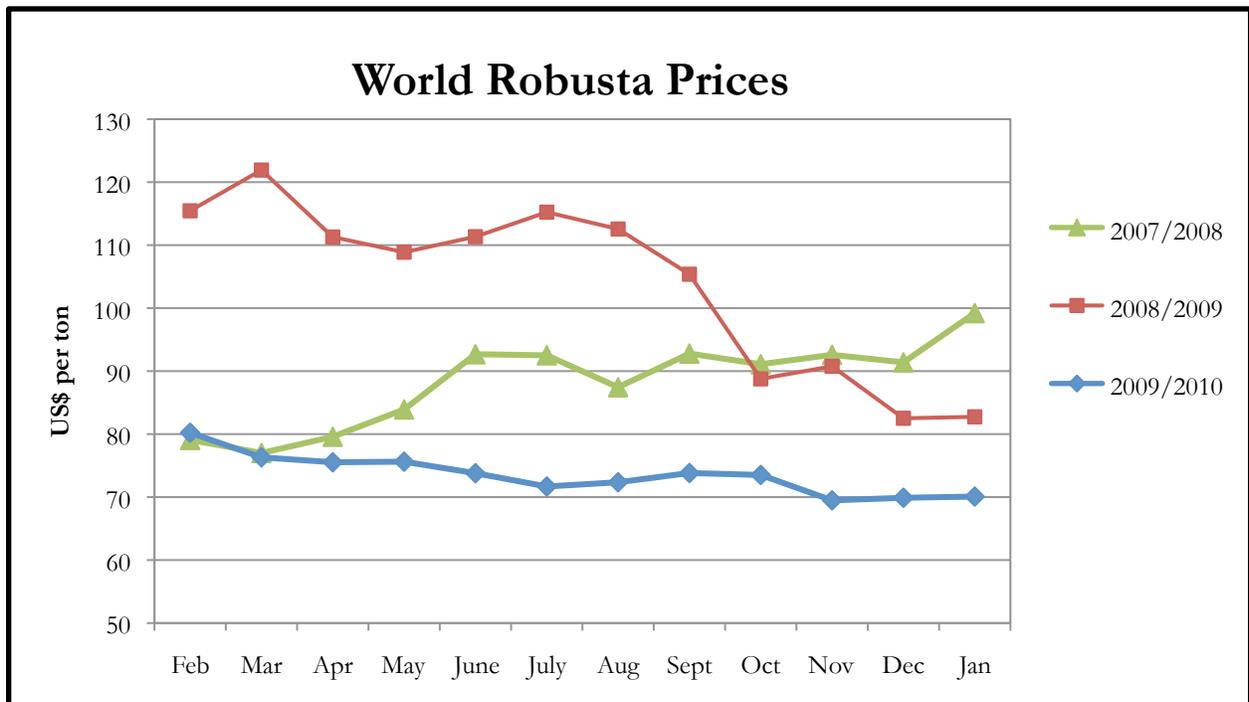
<sup>38</sup> AFP. (2010, February 19). *Latin American coffee output falls 28 percent*. Retrieved from <http://uk.news.yahoo.com/18/20100219/tbs-latin-american-coffee-output-falls-2-5268574.html>

<sup>39</sup> Campbell, E. (2010, February 11). *Cocoa Gains on Signs Use May Outpace Production; Coffee Drops*. Bloomberg.com. Retrieved from <http://www.businessweek.com/news/2010-02-11/cocoa-gains-on-signs-use-may-outpace-production-coffee-drops.html>



Sources: International Coffee Association, New York Mercantile Exchange (NYMEX)

Notes: Arabica coffee futures represent NYMEX settlement prices as of Friday, February 19<sup>th</sup>, 2010. There are no futures prices shown for November because Arabica coffee does not trade in that month. Typically, the previous month's settlement price is graphed in off months.

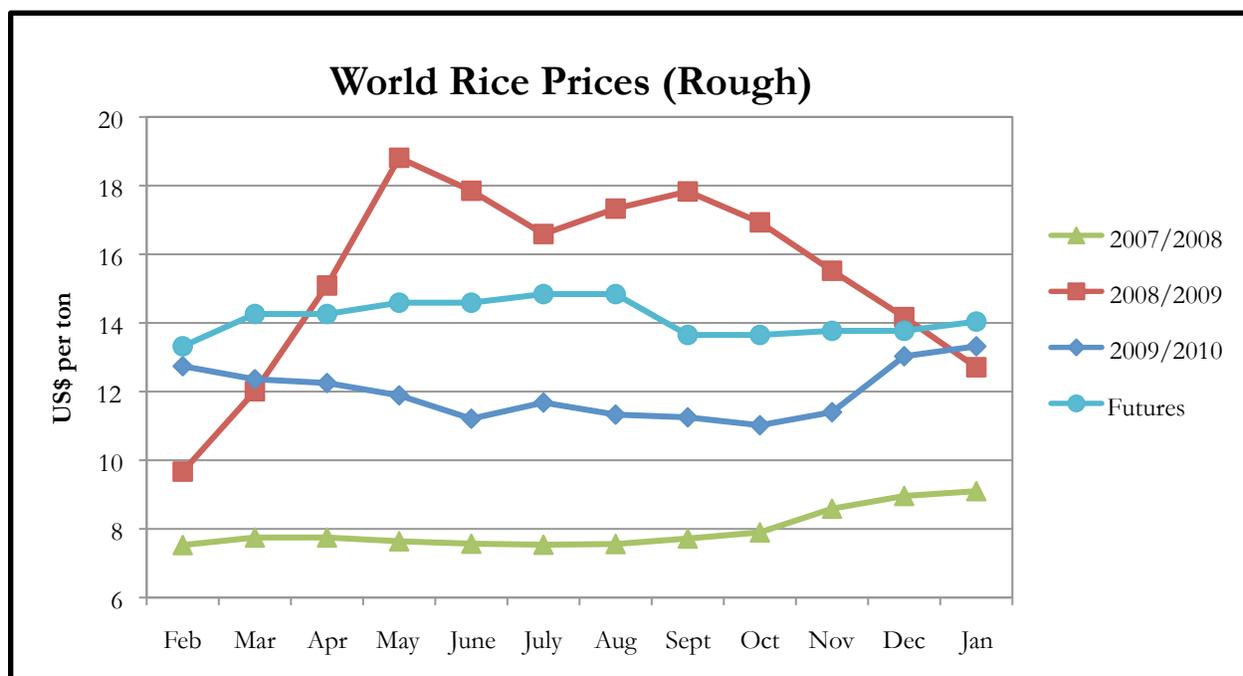


Sources: International Coffee Association

## Rice

World rice prices increased by 18.24 percent in the fourth quarter of 2010 to reach \$13.03 per ctw (equivalent to 100 pounds). Rice prices increased 2.2 percent from December to January to reach \$13.32 per ctw. Global rice production for 2009/2010 is expected to reach 434.7 million tons, which represents a 3 percent decline from 2008/2009 record production levels. According to the USDA, the year-to-year production decline is largely due to adverse weather conditions in Brazil, India, Indonesia, and the Philippines. Brazil's production alone is expected to decline 9 percent in 2009/2010 compared to the previous year as excessive rainfall affected yields. Global stocks of rice are expected to be 2 percent higher in the 2009/2010 season compared to 2008/2009.

Rice futures prices have been increasing in recent weeks with unfavorable weather in major rice producing countries, including India, causing speculation of poor harvests. Additional price pressures have come from an anticipated increase in world demand for rice with the global economic recovery.<sup>40</sup> An October 9<sup>th</sup> forecast from the USDA estimates a 2.7 percent decline in global output for rice in the current season compared to last year. The same forecast shows that that global demand for rice through 2010 is expected to exceed output by 2.4 million metric tons.<sup>41, 42</sup>



Sources: United States Department of Agriculture, Economic Research Service, Chicago Board of Trade

Notes: Rice futures represent NYMEX settlement prices as of Friday, February 12<sup>th</sup>, 2010.

<sup>40</sup> Javier, L. (2009, October 28). *Rice Market 'On Thin Ice' as Record Prices May Return*. Retrieved from <http://www.bloomberg.com/apps/news?pid=20601091&sid=ajtGhSQNMg6A>

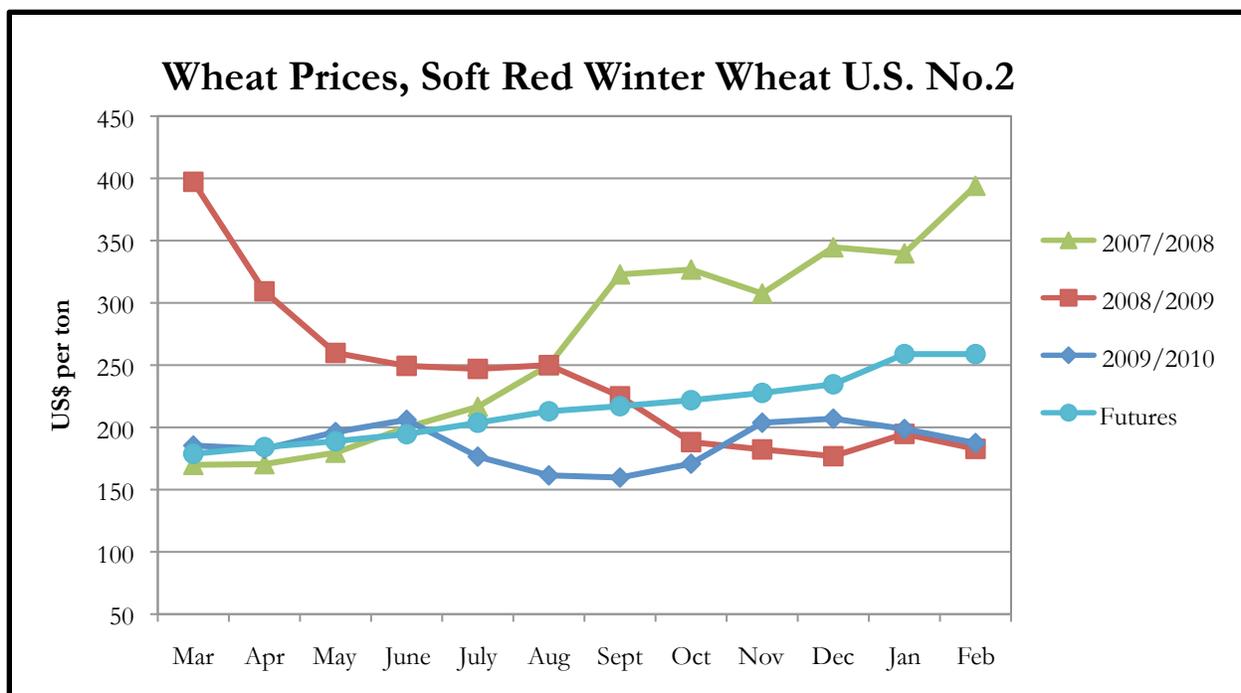
<sup>41</sup> Javier, L. (2009, October 28). *Rice Market 'On Thin Ice' as Record Prices May Return*. Retrieved from <http://www.bloomberg.com/apps/news?pid=20601091&sid=ajtGhSQNMg6A>

<sup>42</sup> Data available from the USDA Web site:

<http://www.fas.usda.gov/psdonline/psdreport.aspx?hidReportRetrievalName=BVS&hidReportRetrievalID=681&hidReportRetrievalTemplateID=7>

## Wheat

Soft-red winter wheat prices increased by 21.2 percent in the fourth quarter of 2009 before declining by 9.4 percent between December and February. Estimates for 2009/2010 world wheat production have continued to increase in recent months with current estimates from the USDA at 677.4 million tons, which is just 5.3 million tons less than the record levels observed in 2008/2009.<sup>43</sup> More specifically, wheat production is expected to drop 12 percent in 2009/2010 compared to the previous year as farmers sow more corn and soybeans and large world wheat stocks from the previous year continue to influence prices.<sup>44</sup> World wheat consumption is forecasted to reach 645.6 million and ending stocks are projected to be 195.9 million in 2009/2010.<sup>45</sup> The current projections for ending world wheat stocks represent an increase of approximately 20 percent from 2008/2009 ending stock levels.



Sources: United States Department of Agriculture Economic Research Service, Chicago Board of Trade

Notes: Wheat futures represent NYMEX settlement prices as of Friday, February 12<sup>th</sup>, 2010.

India is the world's second largest wheat producing nation. According to the most recent production forecast from the USDA, India is expected to produce 12.4 percent of total world wheat output in 2009. Despite being a significant producer of wheat, India accounts for less than one percent of

<sup>43</sup> U.S. Department of Agriculture. (2010, February 12). *Wheat Outlook*. Retrieved from <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1293>

<sup>44</sup> Hirtzer, M. & Rampton, R. (2010, February 19). *UPDATE 4-USDA sees smaller wheat, sugar crops, more cotton*. Retrieved from <http://www.reuters.com/article/idUSN1910270520100219?type=marketsNews>

<sup>45</sup> U.S. Department of Agriculture. (2010, February 12). *Wheat Outlook*. Retrieved from <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1293>

world wheat exports.<sup>46</sup> Given its low share of world exports, wheat prices in India are not likely to have a significant impact on commonly reported world wheat prices, which are typically based on world export shares. For example, the International Grain Council provides an index of world wheat prices weighed for world export shares that is commonly cited by the FAO and others. This briefing provides data on wheat prices in India because of its importance to the Foundation.

Wheat prices in India have been rising this year, as shown in the graph below displaying wholesale wheat prices provided by the Government of India. Based on data from February 10<sup>th</sup>, 2010, wholesale wheat prices in India have increased an average of 5.9 percent over the past three months across the north, south, east, and west zones of the country. While wheat prices have been rising, wheat futures have been falling recently as the Indian Government has increased estimates for wheat production to a record 82 million tons for the current season, which is even higher than the record 80.7 million tons produced in 2008/2009.<sup>47</sup> Indian farmers planted 27.81 hectares as of February 18<sup>th</sup>, 2010 compared to 27.59 million hectares as of the same time one year ago.<sup>48,49</sup> Analysts speculate that the expected increase in production will put pressure on local and international wheat prices in coming months as the prospects for Indian wheat imports wane. As mentioned previously, world wheat prices are also expected to be driven down by production increases in other major wheat producing countries, in particular Argentina.<sup>50</sup>

---

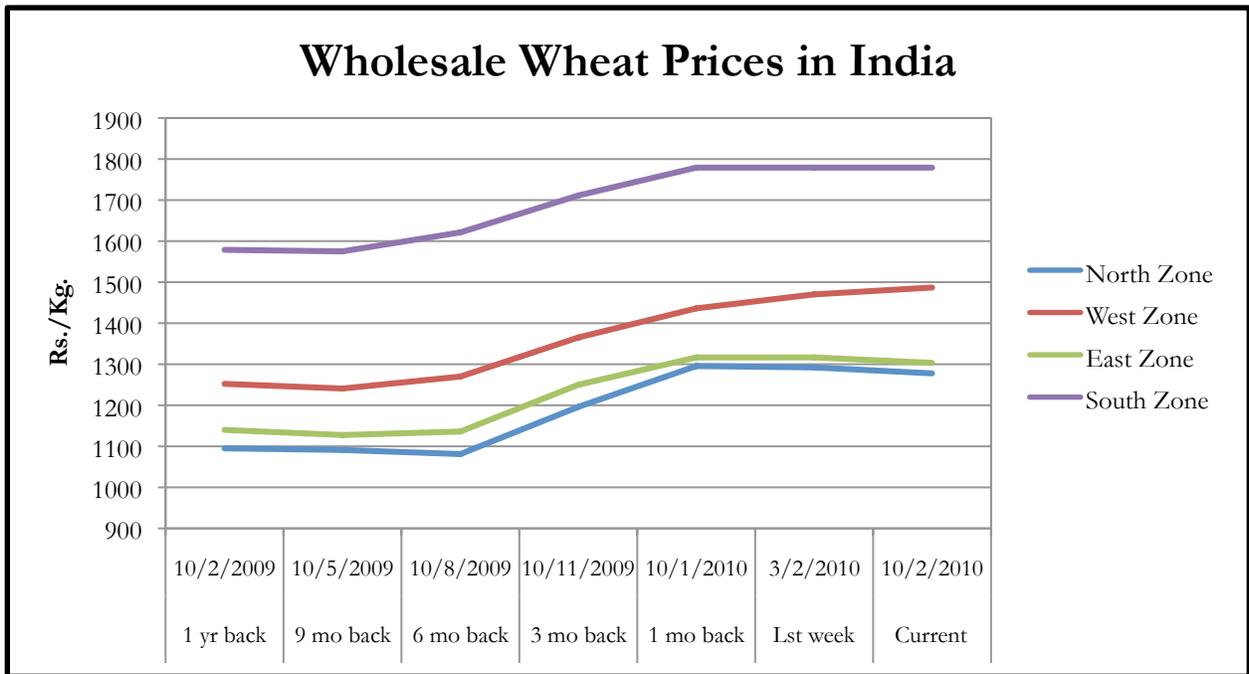
<sup>46</sup> U.S. Department of Agriculture. (2010, February 9). *World Agricultural Supply and Demand Estimates* [WASDE-476-18]. Retrieved from <http://www.usda.gov/oce/commodity/wasde/>

<sup>47</sup> Jagannathan, P. (2010, February 22). *Wheat output may hit record 82 mt, impact global prices*. Retrieved from <http://economictimes.indiatimes.com/markets/commodities/Wheat-output-may-hit-record-82-mt-impact-global-prices/articleshow/5601361.cms>

<sup>48</sup> Reuters. (2010, February 23). *RPT-India wheat futures fall on output, open market sale*. Retrieved from <http://in.reuters.com/article/domesticNews/idINSGE61M04520100223?pageNumber=2&virtualBrandChannel=0>

<sup>49</sup> Data on the estimated amount of wheat and other crops sown in India is available from the Government of India's Press Information Bureau Web site: <http://www.pib.nic.in/release/release.asp?relid=58005>

<sup>50</sup> Jagannathan, P. (2010, February 22). *Wheat output may hit record 82 mt, impact global prices*. Retrieved from <http://economictimes.indiatimes.com/markets/commodities/Wheat-output-may-hit-record-82-mt-impact-global-prices/articleshow/5601361.cms>

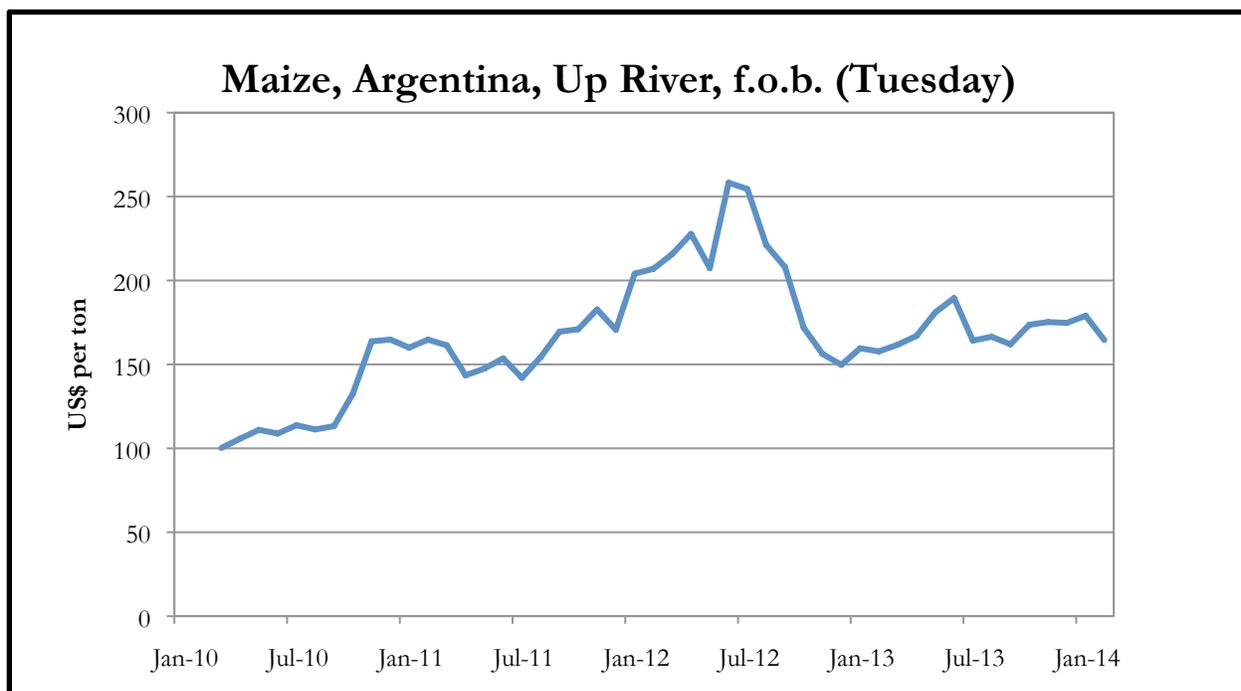


Sources: Government of India, Ministry of Consumer Affairs, Food, and Public Distribution, Department of Consumer Affairs, Price Monitoring Cell, Prices of Essential Commodities

Notes: Data is available only in the time increments displayed in the chart above.

## Maize

Maize prices remained relatively stable over the fourth quarter of 2009 with a one percent increase over the period. Available data from the FAO's Commodity Outlook show an 8 percent decline in maize prices between December and February. World maize production is expected to remain relatively stable from 2008/2009 to 2009/2010. The most recent estimates available project world maize production of 791 million tons in 2009/2010. Forecasts for global maize consumption for 2009/2010 are 803 million tons, which represents an increase of 3 million tons from 2008/2009 levels. World maize stocks are projected to total 137 million tons at the end of 2009/2010.<sup>51</sup>



Source: FAO Commodity Outlook

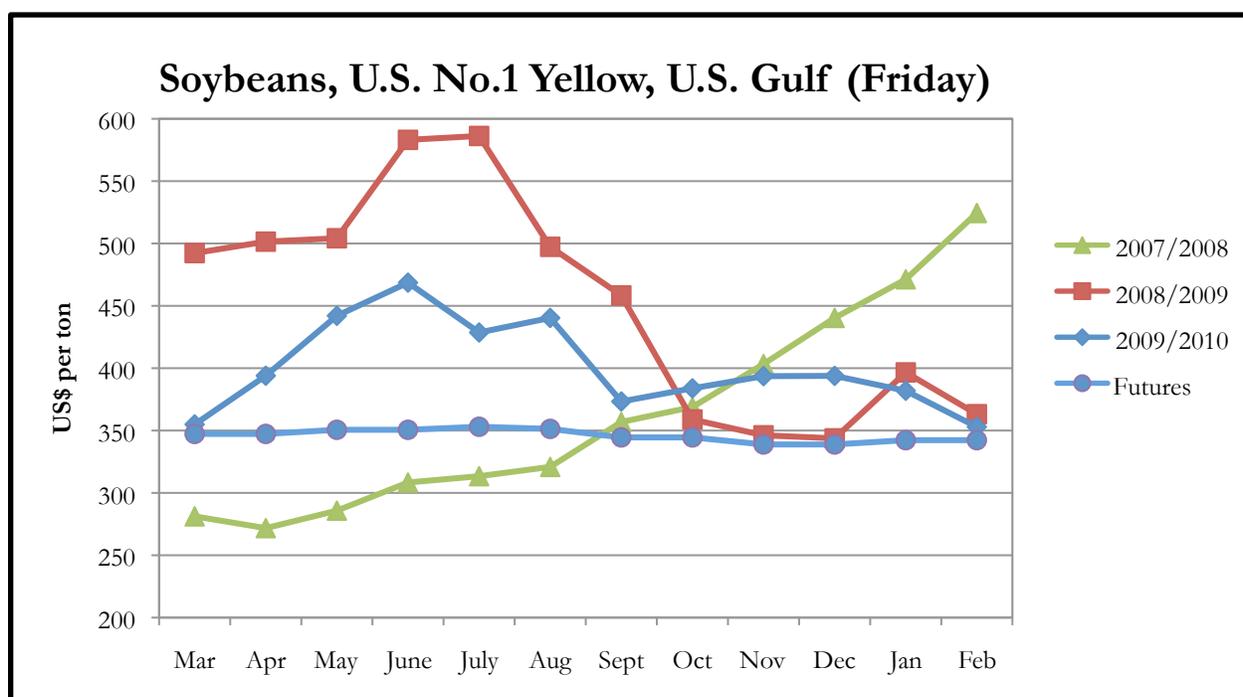
## Soybeans

The average for U.S. soybean prices increased by 2.6 percent over the fourth quarter of 2009, but then declined by 10.4 percent from December to February to reach \$352.92 per ton, according to data from the FAO. Current estimates from the USDA show that soybean prices will decline slightly in 2010 with a current forecast at \$8.70 to \$10.20 per bushel compared to an average price of \$9.97 per bushel in 2008/2009. The USDA forecasts that soybean production will continue to increase in 2010 as record harvests in Brazil and Argentina (the two largest exporters after the U.S.) contribute to rising exports and soybean crush. Forecasts estimate a 34 percent increase over 2009 levels of Brazilian and Argentinean soybean production in 2010. World soybean production for 2008/2009 is estimated to be 2,967 million bushels. Estimates for January and February 2010 are 3,361 million

<sup>51</sup> International Grains Council. (2010, January 21). *Grain Market Report* [GMR No. 396]. Retrieved from <http://www.igc.org.uk/downloads/gmrsummary/gmrsumme.pdf>

metric tons in both months. Ending stocks of soybeans are estimated to be 9.97 million bushels in 2008/2009, 8.90-10.40 million bushels in January, and 8.70-10.20 million bushels in February.<sup>52</sup>

The USDA and the FAO do not provide estimates of world soybean prices but additional insights into soybean markets can be observed in the FAO's price index for oilseeds and oilmeals. A recent report from the FAO explains that the recent decline in the oilseed and oilmeals price index declined was lead by soybeans and soybean products. The index for oils/fats, however, remained unchanged from December to January. The recent decline in the index for oilseed and oilmeals price index was caused mainly by an upward correction of the U.S. 2009 soybean crop and improved prospects for the upcoming soybean harvest in South America. In addition, a slowdown in import demand from China, strong speculative selling in equities markets, price decreases for energy products, and a stronger U.S. Dollar also contributed to price weakening, according to the FAO.<sup>53</sup>



Sources: FAO Commodity Outlook, Chicago Board of Trade (CBOT)

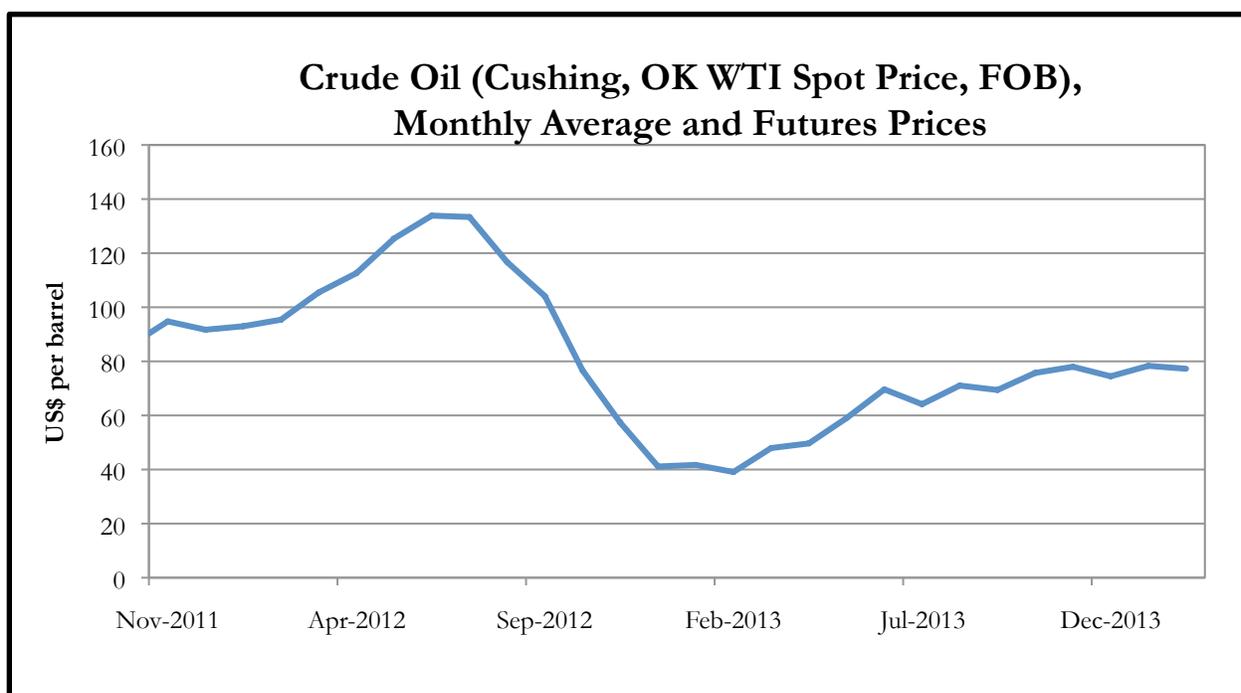
Notes: Soybean futures represent NYMEX settlement prices as of Friday, February 12<sup>th</sup>, 2010.

<sup>52</sup> U.S. Department of Agriculture. (2010, February 9). *World Agricultural Supply and Demand Estimates* [WASDE-476-18]. Retrieved from [www.usda.gov/oc/commodity/wasde/latest.pdf](http://www.usda.gov/oc/commodity/wasde/latest.pdf)

<sup>53</sup> U.S. Department of Agriculture. (2010, February 10). *Monthly Price and Policy Update* [No. 12]. Retrieved from [http://www.fao.org/es/ESC/common/ecg/573/en/MPPU\\_Feb10.pdf](http://www.fao.org/es/ESC/common/ecg/573/en/MPPU_Feb10.pdf)

## Crude oil

Crude oil prices declined by 1.7 percent in the fourth quarter of 2009 before rising 3.4 percent between December and January 2010. West Texas Intermediary (WTI) oil prices averaged \$78 per barrel in January 2010 and were \$77.27 per barrel on February 17, 2010. Crude oil prices have continued to fluctuate in recent months but the most recent outlook from the Energy Information Administration (EIA) states that the oil market should continue to gradually tighten in 2010 and 2011 as the global economic recovery continues and the demand for oil grows.<sup>54</sup>



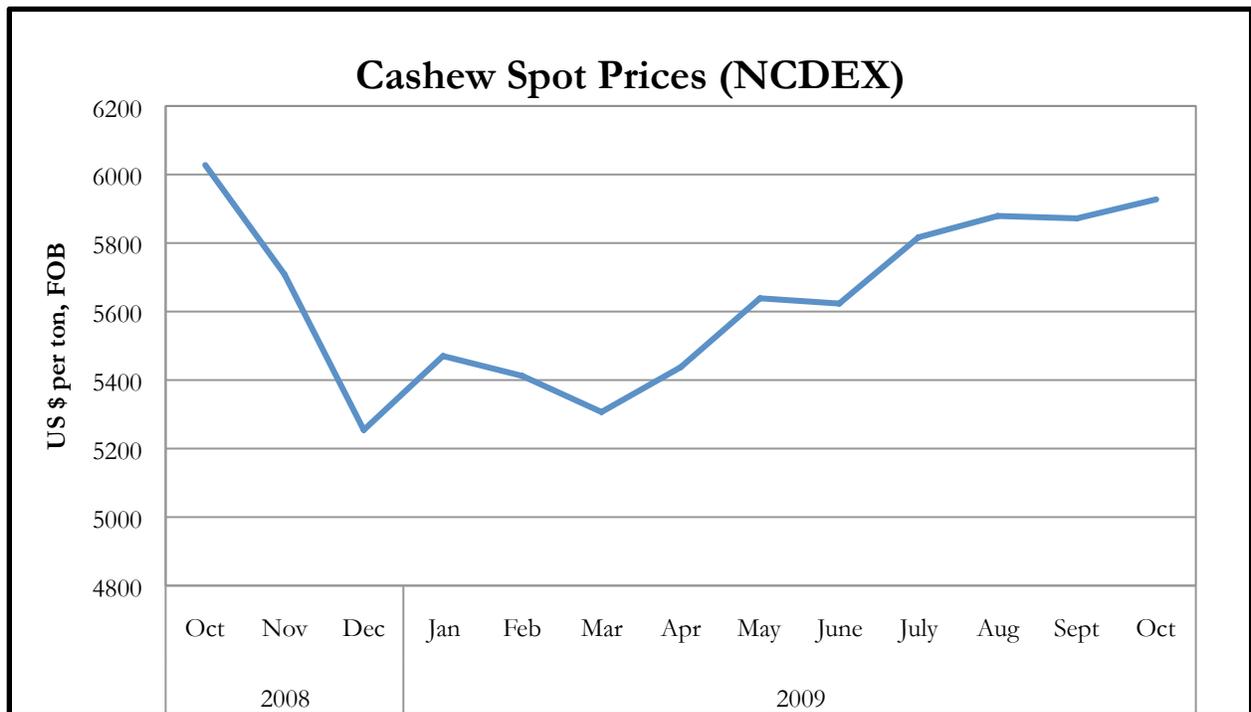
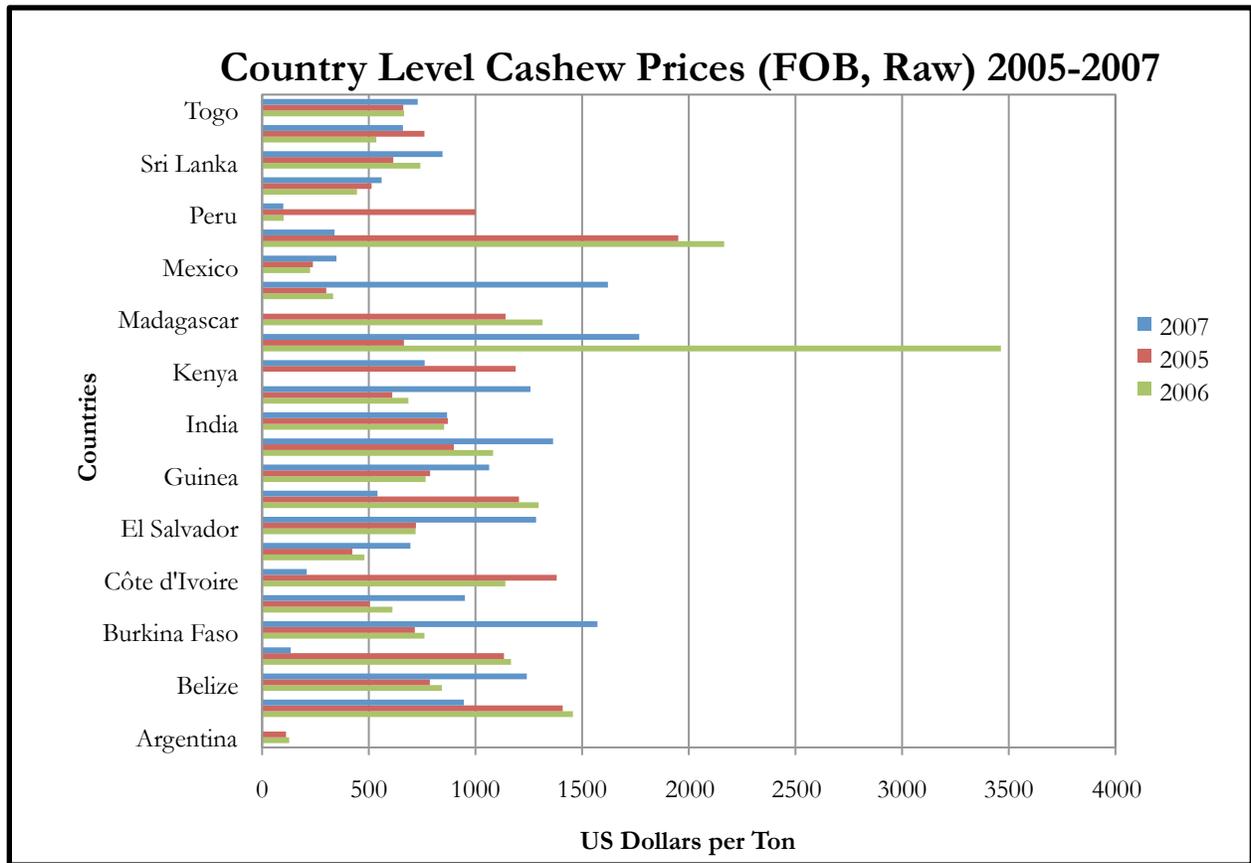
Source: Energy Information Administration (EIA)

Notes: This chart presents the most recent data available on WTI spot prices from the Energy Information Administration as of February 16<sup>th</sup>, 2010.

## Cashews

The NCDEX (India) market currently lists cashews as a publicly traded commodity. Monthly cashew averages show spot prices decreasing by 1.66 percent between October 2008 and 2009. World cashew prices have been increasing slightly in recent months due to poor harvests in primary producing countries including Vietnam, the world's leading cashew producer since 2006. In addition, heavy rains and high temperatures have affected the cashew crop this season.

<sup>54</sup> Energy Information Administration. (2010, February 10). *Short-Term Energy and Winter Fuels Outlook*. Retrieved from <http://www.eia.doe.gov/emeu/steo/pub/feb10.pdf>

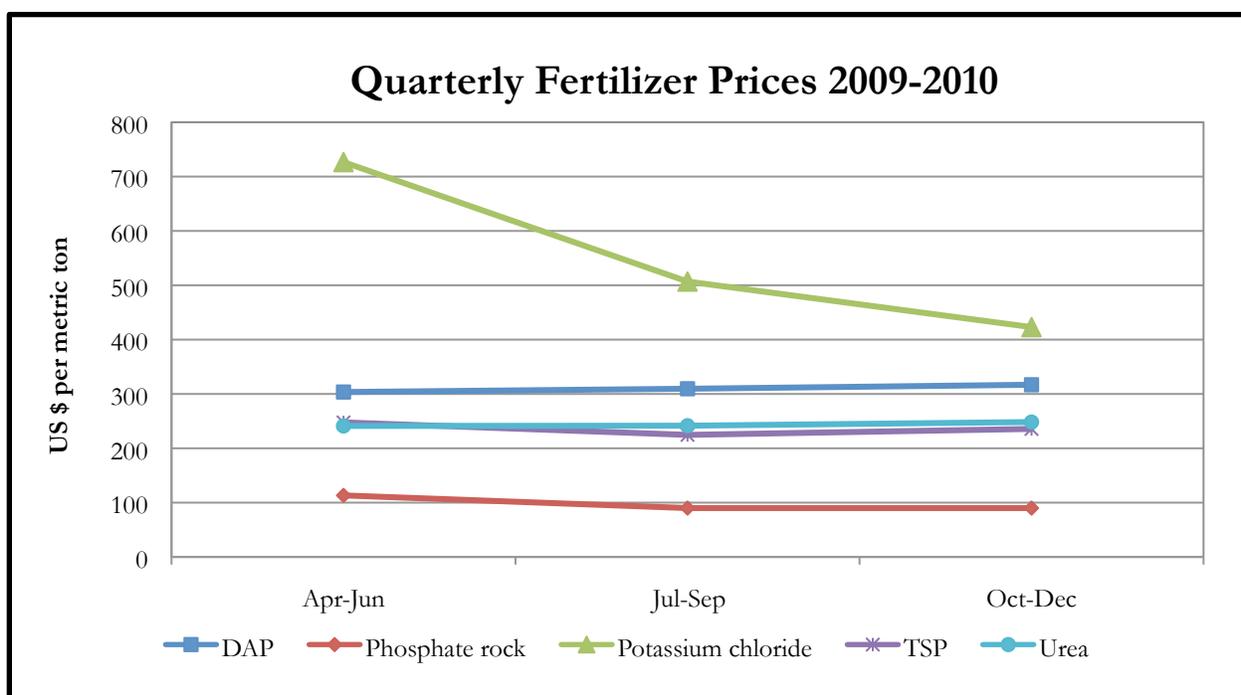


Source: National Commodity and Derivatives Exchange (NCDEX)

## Fertilizer

Prices of three of the five major fertilizers (DAP, TSP, and Urea) increased over the fourth quarter of 2009. Potassium chloride prices showed the biggest change, decreasing by more than 16.54 percent over the fourth quarter.<sup>55</sup> Potassium chloride prices fell dramatically during 2009 amid weakening demand and ample supplies.<sup>56</sup>

The most recent data available from January 2010 show the continuing trend of rising fertilizer prices. January prices for TSP, DAP, Phosphate rock and Urea fertilizer prices increased 27.7, 18.6, 8.3, and 5.6 percent, respectively, due to strong demand in the southern hemisphere, particularly for phosphate fertilizers in Latin America.<sup>57</sup>

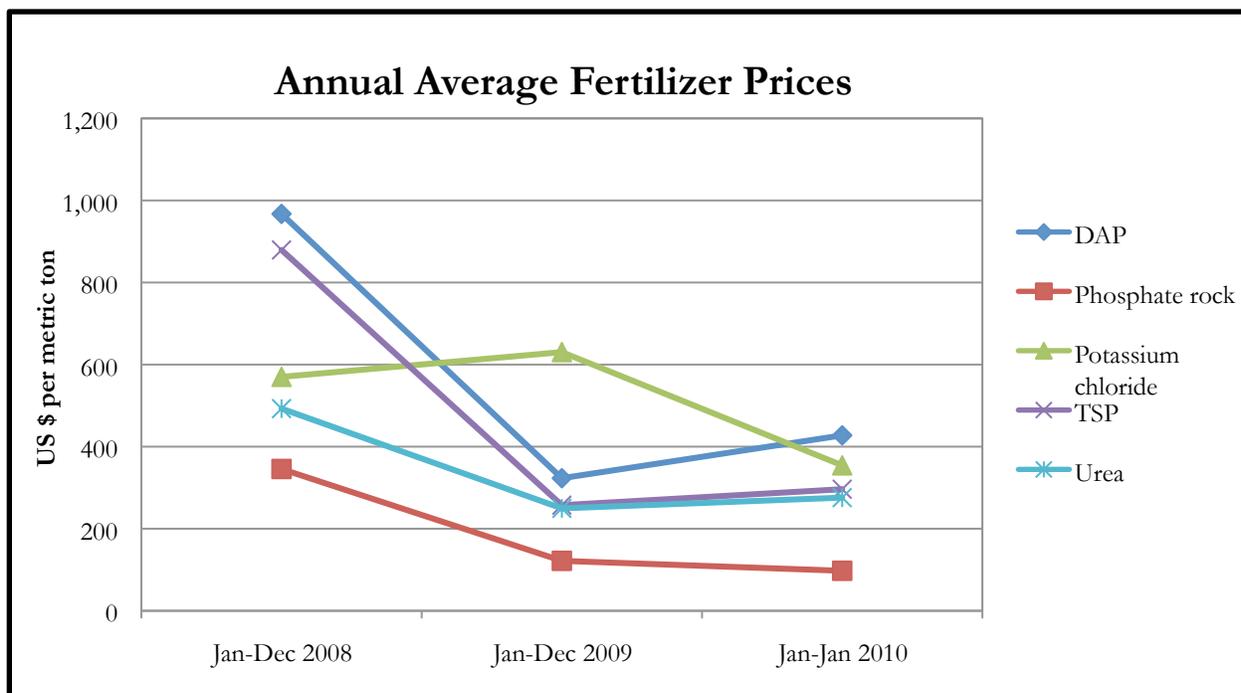


Source: World Bank Pink Sheet

<sup>55</sup> World Bank Development Prospects Group. (2010, February 6). *Commodity Markets Review*. Retrieved from [http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview\\_February2010.pdf](http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview_February2010.pdf)

<sup>56</sup> World Bank Development Prospects Group. (2009, September 10). *Commodity Markets Review*. Retrieved from <http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReviewSeptember2009.pdf>

<sup>57</sup> World Bank Development Prospects Group. (2010, February 6). *Commodity Markets Review*. Retrieved from [http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview\\_February2010.pdf](http://siteresources.worldbank.org/INTDAILYPROSPECTS/Resources/1324037-1124814752790/CommodityMarketsReview_February2010.pdf)



Source: World Bank Pink Sheet

## Cotton

World cotton prices increased significantly at the end of 2009 as concerns over low levels of world cotton production and expectations for increased demand influenced prices.<sup>58</sup> World cotton prices for the “A” Index, considered the proxy for world cotton prices, increased 19.8 percent over the fourth quarter of 2009.<sup>59</sup> Prices for the A Index increased 0.8 percent from December to January to reach 77.39 cents per pound, according to the most recent data available.<sup>60</sup> The USDA forecasts that continued economic recovery, particularly in developing countries, will boost world consumption growth above the long-term average of 2 percent. More specifically, the most recent forecast from the USDA estimates that world cotton consumption in 2010 will increase by 2.6 percent to reach 118.5 million bales.<sup>61</sup>

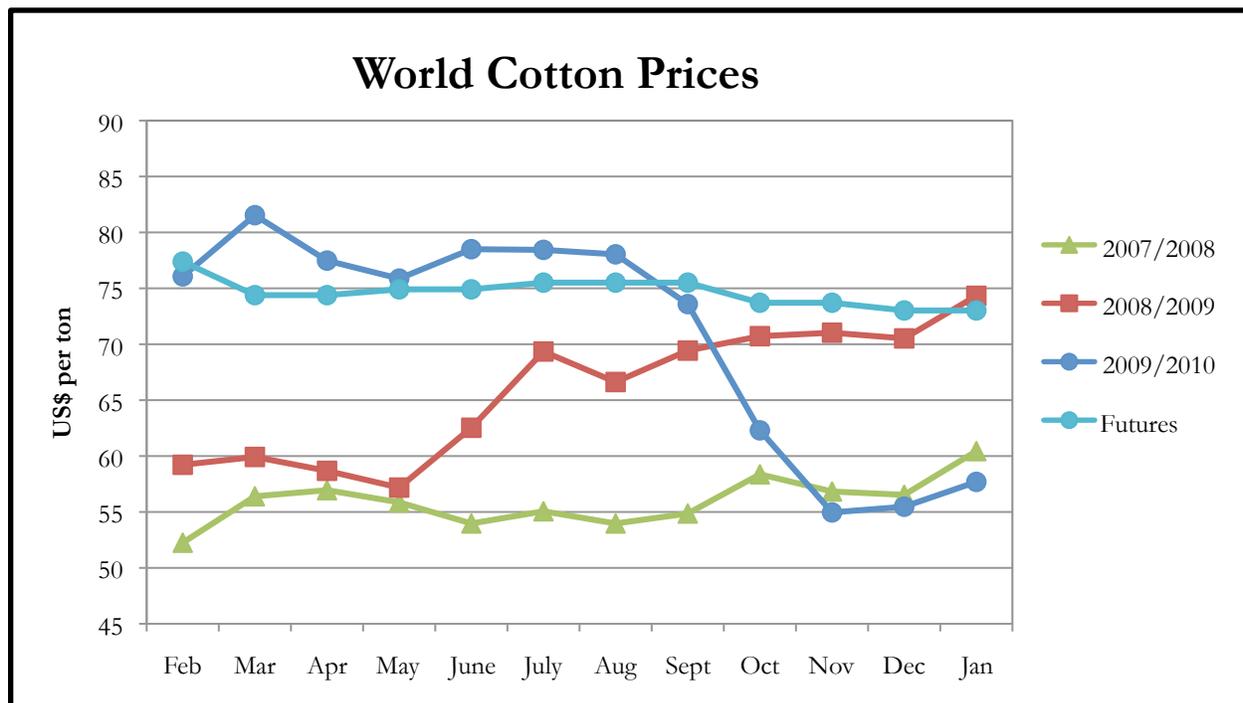
<sup>58</sup> Hirtzer, M. & Rampton, R. (2010, February 19). *UPDATE 4-USA sees smaller wheat, sugar crops, more cotton*. Retrieved from <http://www.reuters.com/article/idUSN1910270520100219?type=marketsNews>

<sup>59</sup> The “A” Index is an average of five quotations from a selection of upland cottons traded internationally. A more detailed description available from the National Cotton Council Web site: <http://www.cotton.org/econ/prices/monthly.cfm>

<sup>60</sup> National Cotton Council. (2009, November). *Monthly Prices*. Available from the National Cotton Council Web site: <http://www.cotton.org/econ/prices/monthly.cfm>

<sup>61</sup> Hirtzer, M. & Rampton, R. (2010, February 19). *UPDATE 4-USA sees smaller wheat, sugar crops, more cotton*. Retrieved from <http://www.reuters.com/article/idUSN1910270520100219?type=marketsNews>

Despite these increases, cotton futures prices declined throughout January as a rally in the value of the U.S. Dollar influenced a general downward direction in commodity futures markets.<sup>62</sup> In recent weeks, cotton futures have been increasing again as export sales show an increased demand for cotton.<sup>63</sup>



Sources: FAO Commodity Outlook, New York Mercantile Exchange (NYMEX)

Notes: Historical cotton prices from the FAO represent prices for the cotton index "A." Cotton futures represent index "A" NYMEX settlement prices as of Friday, February 12, 2010.

## Dairy

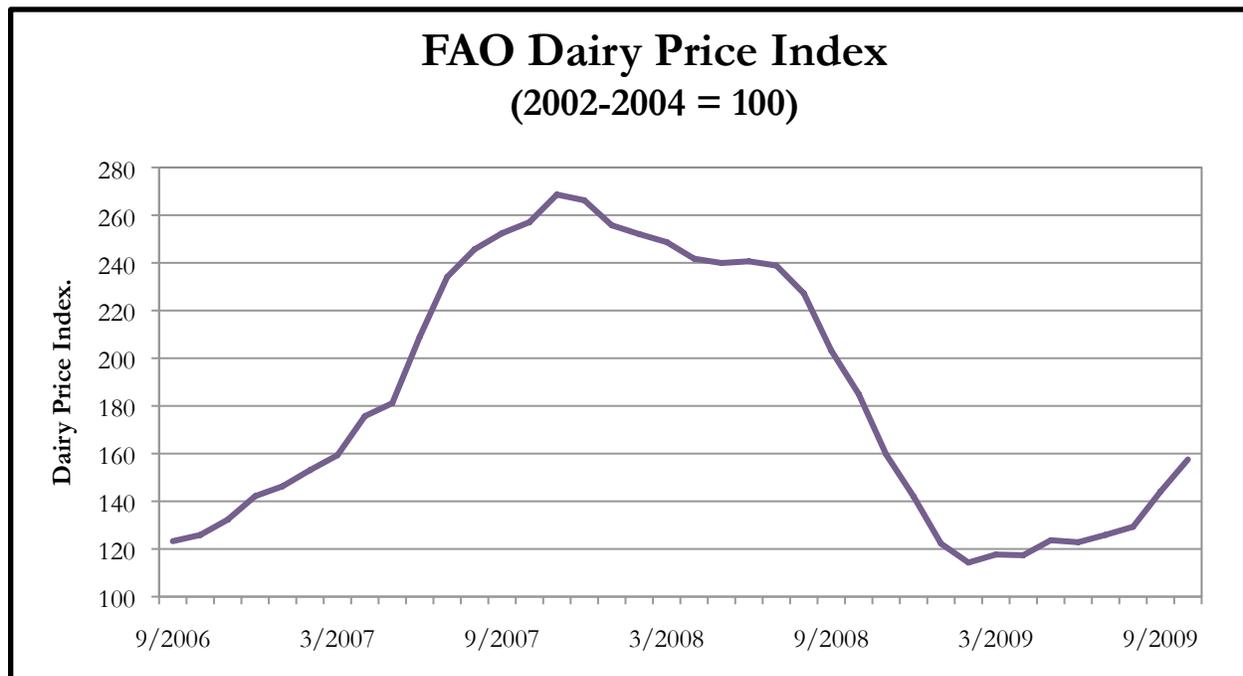
The FAO Dairy Price Index is an index of price quotations for butter, skim milk powder (SMP), whole milk powder (WMP), cheese, and casein (protein found in milk, which is used as a binding agent in food products). The index is weighted for average exporting shares between 2002 and 2004. The index shows that after peaking in November 2007, dairy prices declined dramatically in 2008 before bottoming out in February 2009. Dairy prices increased dramatically throughout 2009, according to the index, rising approximately 88.6 percent from February 2009 to December 2009. The fourth quarter of 2009 showed an increase of 36.9 percent in dairy prices, before declining 6.7

<sup>62</sup> Cotlook. (2010, January). *Cotlook Monthly* (Vol. 3, 1). Retrieved from <http://www.cotlook.com/userfiles/cmfeb10.pdf>

<sup>63</sup> Elmquist, S. (2010, February 12). *Cotton Heads to Biggest Gain Since 2008; Orange Juice Advances*. Retrieved from <http://www.businessweek.com/news/2010-02-12/cotton-heads-to-biggest-gain-since-2008-orange-juice-advances.html>

percent between December 2009 and January 2010. Of all the dairy products included in the index, butter prices increased the most. The price of butter doubled between February 2009 and January 2010. Prices for both skim and whole milk powder increased over 90 percent during the period.<sup>64</sup>

According to the USDA, rising world demand for dairy products and lower than expected world milk production are leading to tightening stocks and expectations for rising dairy prices in 2010. However, the FAO notes that the reasons for the rapid price increases are not entirely understood, particularly because there are currently large stocks for both butter and skim milk powder available in the European Union.<sup>65</sup> Despite some uncertainty, the FAO and USDA concur that rebounding world demand for dairy products and slow growth in production are likely contributing to increasing prices.<sup>66,67</sup>



Source: FAO Dairy Price Index

<sup>64</sup> Food and Agriculture Organization.. (2009, December). *Milk and Milk Productions*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e10.htm>

<sup>65</sup> Food and Agriculture Organization.. (2009, December). *Milk and Milk Productions*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e10.htm>

<sup>66</sup> U.S. Department of Agriculture. (2009, November). *Livestock, Dairy, and Poultry Outlook* [Document LDP-M-185]. United States Department of Agriculture. Retrieved from <http://www.ers.usda.gov/Publications/LDP/>

<sup>67</sup> Food and Agriculture Organization. (2009, December). *Milk and Milk Productions*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e10.htm>

## Conclusion

In conclusion, agricultural commodity prices declined significantly in 2009 from peak 2008 levels. At the end of 2009, however, commodity prices began to rebound, which contributed to concerns over a possible return to high prices. In January and February, gains in the value of the U.S. Dollar have helped keep agricultural commodity prices subdued. Recent reports from the FAO and the IMF suggest that agricultural commodity prices will continue to rise in 2010 as the global economic recovery continues and demand increases; however, factors including currency movements, monetary policy, and other macroeconomic factors are expected to influence the pace and degree of price changes in the coming months.<sup>68,69</sup>

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

---

<sup>68</sup> Food and Agriculture Organization. (2009). *Food Outlook*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e00.htm>

<sup>69</sup> Helbling, T. (2009, December 30). *Commodity Prices Buoyant in Year of Crisis, Recovery*. Retrieved from <http://www.imf.org/external/pubs/ft/survey/so/2009/RES123009A.htm>

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

Agricultural commodity prices are influenced by a variety of complex factors including macroeconomic forces, input costs, and changes in the fundamentals of demand and supply; such as fluctuations in income, supply shocks resulting from bad weather or crop disease, 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 increasingly apparent 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>70</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>71,72,73</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

---

<sup>70</sup> Food and Agriculture Organization. (2009). *Food Outlook*. Retrieved from <http://www.fao.org/docrep/012/ak341e/ak341e00.htm>.

<sup>71</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>72</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>73</sup> Food and Agriculture Organization (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>74</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:

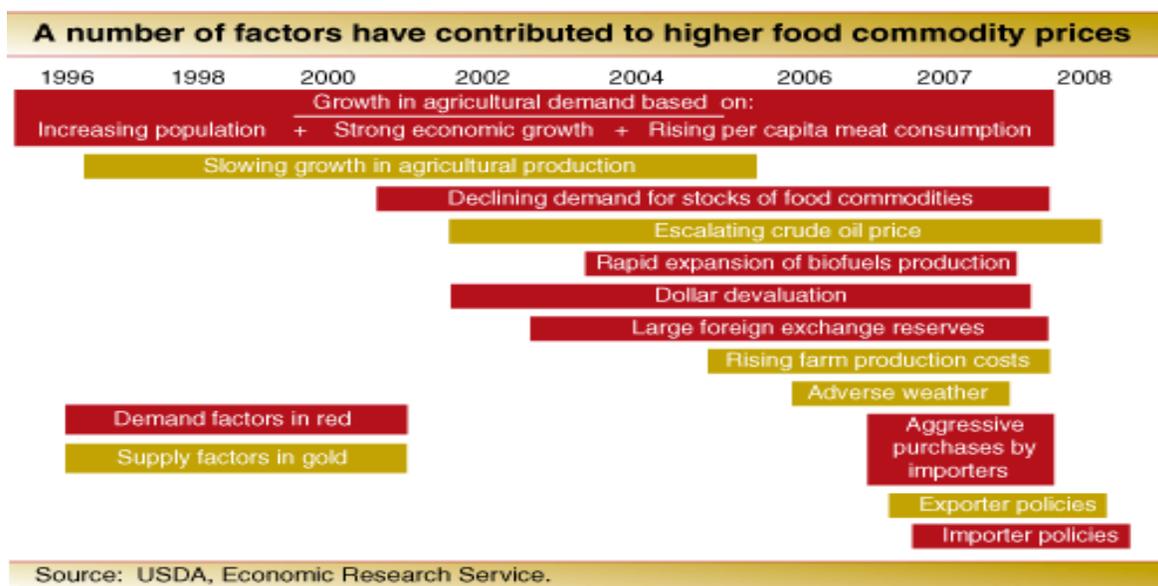
**Changes in demand:** Trends of more rapid expansion in demand and slower growth in production of agricultural commodities began in the 1990s. These changing dynamics contributed to declining global demand for stocks of grains and oilseeds since 2000.

**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>74</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/>