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Rice Situation and Outlook Yearbook

Nathan Childs

Summary

Global and U.S. trading prices have dropped sharply from last spring's record highs, but remain well above pre-surge levels. Despite the decline in prices, the 2008/09 U.S. season-average farm price is projected at a record $14.50-$15.50 per cwt. The bullish U.S. price forecast is partly driven by very high prices at the start of the market year. Total U.S. rice supplies in 2008/09 are projected to be smaller than a year earlier, a result of a much smaller carryin. In contrast, the crop is up 3 percent, as expanded plantings more than offset a weaker yield. Long-grain accounts for all of the U.S. production increase. Total rice use is projected at 233.0 million cwt, up almost 1 percent from a year earlier, with domestic disappearance accounting for all of the expansion. In contrast, exports are projected to decline in 2008/09. U.S. ending stocks are projected to contract 14 percent from a year ago and will be the lowest since 2003/04.

World rice production is projected at a record 434.3 million tons (milled basis) in 2008/09, up 1 percent from a year ago, a result of record plantings. The area expansion was largely driven by record prices last spring. China, India, Indonesia, and Bangladesh—the four largest rice producing countries—account for the bulk of the production increase. Global ending stocks in 2008/09 are projected to increase 3 percent to 80.6 million tons, the second consecutive year of a buildup in global stocks. Despite the increase, global stocks remain well below the 2000/01 record of 146.7 million tons. Global rice trade in 2009 is projected at 29.5 million tons, up slightly from a year earlier, but almost 8 percent below the 2007 record. Global trade declined more than 8 percent in 2008, primarily due to export bans and restrictions implemented by several suppliers and record high trading prices.

Keyworks: Rice, area, yield, production, imports, exports, stocks, prices, global trade

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Contents

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Rice Conversions
1 cwt = 100 pounds = 2.22 bushels = .0453 metric ton
1 metric ton = 2,204.6 pounds = 22.046 cwt = 48.992 bushels
1 cwt rough rice = .032 metric ton milled
1 metric ton milled = 31 cwt rough

Excel spreadsheet versions of the tables printed here can be downloaded from the ERS website at
http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1285

Approved by the World Agricultural Outlook Board. Summary released November 25, 2008. All estimates and forecast are from the November 2008 *World Agricultural Supply and Demand* report .The *Rice Outlook* and the text of the *Rice Yearbook* may be accessed electronically. For details, call ERS Customer Service (202) 694-5050.

Overview

Global and Domestic Rice Prices Have Dropped Sharply from Record Highs

After nearly tripling to record highs from November 2007 to May 2008, global trading prices have dropped sharply. Price quotes for Thailand's high-quality long-grain milled rice—a benchmark for global trading prices—have declined more than 40 percent since May. Prices for U.S. long-grain milled rice—which more than doubled from November 2007 to late April 2008—have declined more than 30 percent.

The record-high trading prices last spring were largely due to trade restrictions implemented by several major exporters, a declining dollar, and rising overall commodity prices. The sharp decline in prices has largely been due to the removal of export restrictions by some countries, expectations of record global production, a stronger dollar, and impacts from the global financial crisis and economic slowdown.

The movement in U.S. rough-rice prices has shown a similar pattern. U.S. rough-rice cash prices increased each month from September 2007 to August 2008, reaching a record $18.00 per cwt. By mid-October, prices had dropped about a dollar and are expected to fall later in the 2008/09 market year.

The 2008/09 (August-July) U.S. season-average farm price (SAFP) is projected at a record $14.50-$15.50 per cwt, up from $12.80 a year earlier and the fourth consecutive year of a higher U.S. SAFP. The record SAFP is primarily due to record high prices at the start of the market year. Prices for long-grain—the dominant class of rice grown in the United States—are expected to decline more than medium/short-grain prices. The global supply situation for medium-grain rice is much tighter than for long-grain, and U.S. medium/short-grain supplies are expected to contract in 2008/09.

Expanded Acreage in the South Boosts U.S. 2008/09 Rough-Rice Crop 3 Percent

The 2008/09 U.S. rough-rice crop is estimated at 203.5 million cwt, up 3 percent from a year ago, but still 12 percent below the 2004/05 record. Production is higher this year in all reported States except Arkansas and California. By class, long-grain accounts for all of the production increase. Medium/short-grain production is down 12 percent.

This year's larger U.S. crop is the result of expanded area. At 2.94 million acres, plantings are more than 6 percent larger than last year. Plantings were higher in all reported States except California, with Louisiana accounting for about half the total area expansion. The increase in U.S. rice acreage was primarily driven by extremely high prices at planting and expectations of strong prices in 2008/09.

In contrast, the average yield of 6,959 pounds per acre is 3 percent below last year's record. Much of the yield decline in the South was due to two severe Gulf Coast hurricanes that struck in late summer, bringing substantial wind and rain across the Delta that caused a large part of the crop to lodge. In addition, much of the Delta crop was planted late due to wet weather. Progress was further delayed by adverse weather.

Total U.S. rice supplies in 2008/09 are projected to be slightly below a year earlier, as a much smaller carryin more than offsets the larger crop and record imports. Beginning stocks in 2008/09 are 25 percent below a year earlier, with long-grain accounting for most of the decline. Imports are projected at a record 25.5 million cwt, up almost 7 percent from 2008/09, with long-grain accounting for all of the increase. Imports are growing as a share of the domestic market.

U.S. Exports Projected To Decline In 2008/09; U.S. Ending Stocks Expected To Drop 14 Percent

Total exports of U.S. rice in 2008/09 are projected at 107.0 million cwt, down 1 percent from last year. By type, rough-rice exports are projected at 38.0 million cwt, 5 percent below a year earlier, with the Middle East accounting for most of the decline. Milled rice shipments (including brown rice) are projected at 69.0 million cwt, with shipments to Oceania expected to increase. Long-grain exports to South America are expected to increase, while medium/short-grain exports to the Middle east are expected to decline.

Total *domestic and residual use* of rice is projected to increase 2 percent in 2008/09 to 126.0 million cwt, the second-highest on record. The residual component includes unreported losses in processing, handling, and transporting, as well as any statistical errors. The size of the residual can vary from year to year. Total rice use—*domestic and residual use* plus exports—in 2008/09 is projected at 233.0 million cwt, up almost 1 percent from a year earlier.

U.S. ending stocks of all rice for 2008/09 are projected at 25.4 million cwt, down 14 percent from a year ago. The stocks-to-use ratio is calculated at 10.9 percent, down almost 2 percentage points from last year. Both ending stocks and the stocks-to-use ratio are the lowest since 2003/04. By class, medium/short-grain stocks are projected to drop 26 percent to 6.3 million cwt, the smallest in more than 26 years. Long-grain ending stocks are projected to drop 7 percent to 17.8 million cwt.

Global Production in 2008/09 Projected Highest on Record, Ending Stocks Projected To Increase 3 Percent

World rice production is projected at a record 434.3 million tons (milled basis) in 2008/09, up 1 percent from a year ago. India, Bangladesh, and China—three of the four largest producing countries—account for the bulk of the production increase. In addition, Indonesia, Thailand, South Korea, the Philippines, Nigeria, Pakistan, Argentina, and the United States are projected to harvest larger crops. In contrast, Burma, Iran, Iraq, and Vietnam are projected to harvest smaller crops.

This year's larger global production is due to record plantings, primarily a response to record high prices this spring. In contrast, the average yield is unchanged from a year earlier. Yield growth has been very small this century.

With record global production and a larger carryin, global rice supplies are projected to increase 1 percent in 2008/09 to 512.7 million tons, the fourth consecutive year of expansion. Despite the increase, global supplies are still 6 percent below the 2001/02 record. Global rice disappearance is projected at a record 432.1 million tons, an increase of 1 percent from a year earlier. China, India, Indonesia, Brazil, and Bangladesh account for most of the projected increase in global rice disappearance.

With production exceeding consumption by more than 2 million tons, global ending stocks are projected to increase 3 percent to 80.6 million tons. China and India account for most of the increase in global stocks. The global stocks-to-use ratio of 18.6 percent is up slightly from last year. Despite the increase, both global stocks and the stocks-to-use ratio are well below the record 146.7 million tons and 37.1 percent achieved in 2000/01.

Global rice trade in calendar year 2009 is projected at 29.5 million tons, up 1 percent from a year earlier, but almost 8 percent below the 2007 record. The slight expansion in trade in 2009 is based on expectations that India and Egypt will remove their export restrictions in 2009 and that prices will decline. Indonesia, Brazil, Cuba, the European Union, Nigeria, and Saudi Arabia account for most of the expected increase in imports in 2009. Pakistan, Vietnam, Egypt, and China account for most of the projected increase in exports.

In 2008, global trade declined more than 8 percent to 29.2 million tons, primarily due to export bans and restrictions implemented by several traders and record high trading prices. India and Egypt—which implemented bans in early 2008—account for most of the reduction in global exports. China and Australia reduced rice exports in 2008. Among major importers, Indonesia and Bangladesh reported the largest decline in 2008.

U.S. Outlook for 2008/09

Expanded Plantings Boost U.S. 2008/09 Rough-Rice Crop 3 Percent

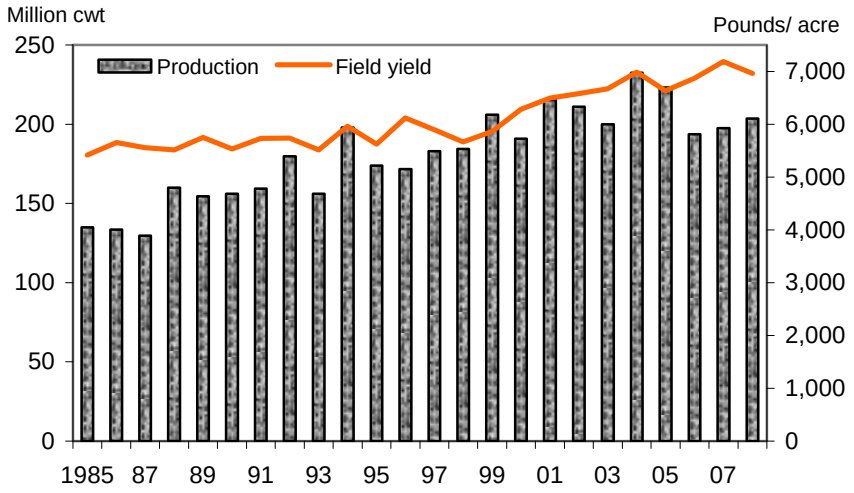
The 2008/09 (August-July) U.S. rough-rice crop is estimated at 203.5 million cwt, up 3 percent from a year ago, but still 12 percent below the 2004/05 record. This year's larger crop is the result of expanded plantings. At 2.94 million acres, plantings were more than 6 percent larger than last year. The area expansion was primarily driven by near-record high rough-rice prices at planting, and expectations of continued high prices in 2008/09. In contrast, the 2008/09 average field yield is down 3 percent from than last year.

Long-grain accounts for all of the 2008/09 production increase. At 154.7 million cwt, long-grain production is up 9 percent from a year ago. The larger long-grain crop is the result of a 12-percent expansion in area. Almost all U.S. long-grain rice is grown in the South. In contrast, combined medium/short-grain production is projected at 48.7 million cwt, down 12 percent from last year. The smaller medium/short-grain is primarily due to a 10-percent reduction area, with the South—mostly Arkansas—accounting for the bulk of the decline. California accounts for about 75 percent of the total U.S. medium/short grain crop.

At planting, U.S. long-grain rough-rice prices were higher than medium/short-grain prices, a likely factor behind the shift to more long-grain acreage in the South. Global price spiked to record highs in April of 2008, with long-grain accounting for about 75 percent of global trade and exhibiting most of the price increase.

Figure 1

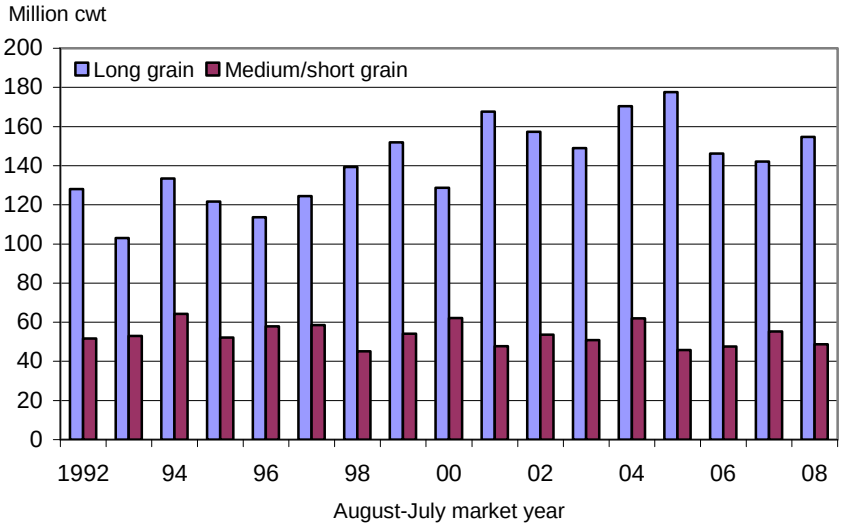
The U.S. 2008/09 rough-rice crop is estimated at 203.5 million



Note: 2008 are estimates.
Source: USDA, National Agricultural Statistics Service, *Quick Stats,* U.S. & All States Data--Crops. http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp.

Figure 2

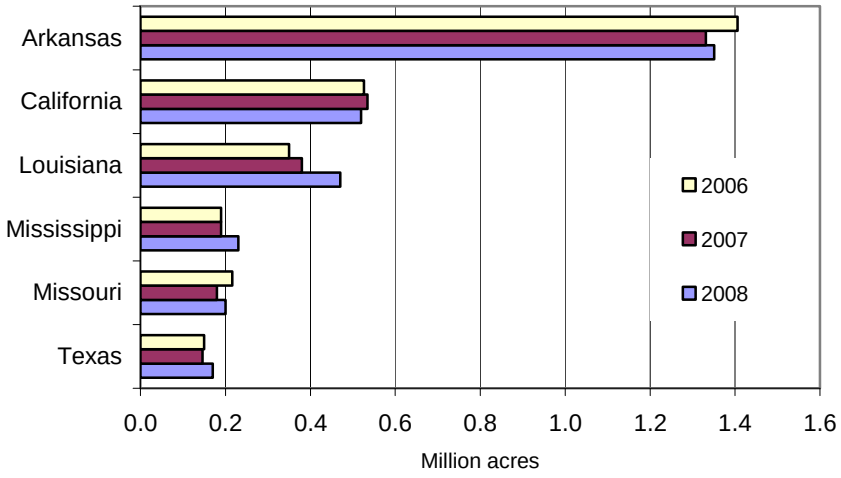
Long-grain grain accounts for all of the 2008 U.S. production increase



Note: 2008 are estimates.
Source: U.S. Department of Agriculture, National Agricultural Statistics Service, *Quick Stats.*

Figure 3

Plantings increased in 2008 in all reported States except California



Note: 2008 are estimates.
Source: U.S. Department of Agriculture, National Agricultural Statistics Service, *Quick Stats.*

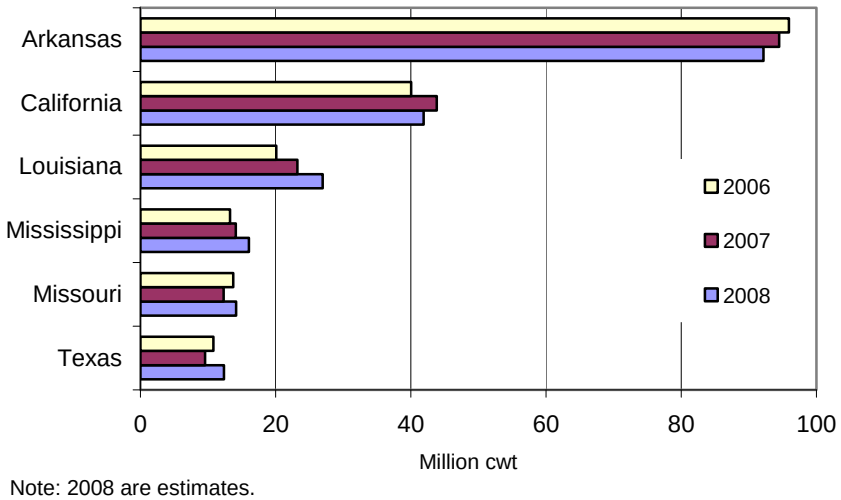
In 2008/09, total rice acreage increased in all reporting States except California—where plantings slightly declined. Louisiana accounts for about half the increase in U.S. rice plantings, with plantings in the State up 24 percent from last year. Rice plantings in Mississippi increased 21 percent. The area expansion in the other States was much smaller, with the increase in Arkansas—the largest rice producing State—less than 2 percent.

In early November, the National Agricultural Statistics Service (NASS) of the U.S. Department of Agriculture (USDA) forecast an average U.S. field yield for 2008/09 of 6,959 pounds per acre, 227 pounds below last year. Despite the decline, the yield is the second highest on record. Yields are estimated lower in every reporting State except Texas and Missouri.

Mississippi and Louisiana reported the largest declines in yields, with average yields down about 6 percent in both States. The Arkansas yield dropped 4 percent from last year. Two factors account for most of decline in yields in the South this year. First, an abnormally rainy spring delayed plantings in the Delta—the largest rice growing region in the United States. Early planting typically bodes well for high yields. And second, two severe Gulf Coast hurricanes struck the southern rice growing area in late summer, causing much of the crop in the Delta to lodge, with some of the lodged rice shattering. The Texas rice growing area—which reported little crop damage from the hurricane—estimated a record field yield, up nearly 11 percent from last year. Most of the Texas and Southwest Louisiana crop had been harvested before the hurricanes hit.

Figure 4

Production increased in 2008 in all reported States except California and Arkansas



Note: 2008 are estimates.
Source: U.S. Department of Agriculture, National Agricultural Statistics Service, *Quick Stats.*

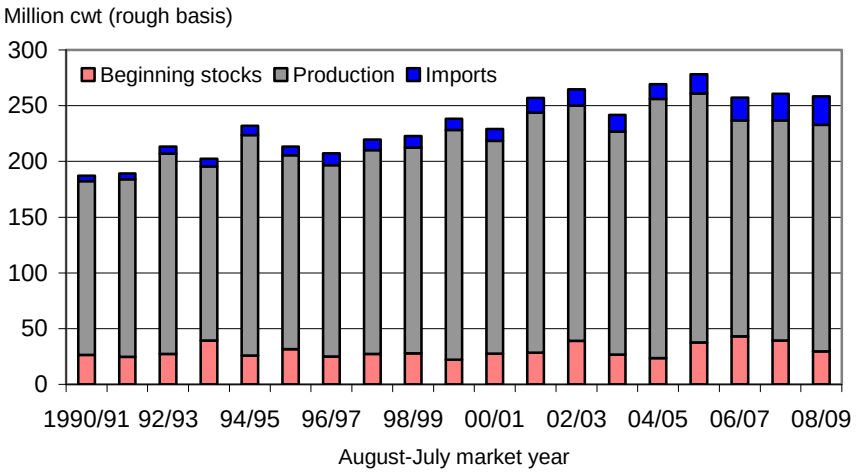
Production in 2008/09 is estimated larger in all reported States except Arkansas and California, with Louisiana accounting for more than half the 6.0 million-cwt increase in production. At 27.0 million cwt, rice production in Louisiana is 16 percent larger than last year, a result of expanded area. The Texas crop is estimated at 12.3 million cwt, up 29 percent from a year ago, a result of both expanded plantings and a record yield. Rice production in Mississippi is estimated at 16.0 million cwt, up 14 percent from a year ago due to increased plantings. The Missouri rice crop of 14.1 million cwt is up 15 percent from last year, mostly due to expanded area.

In contrast, rice production declined in 2008/09 in Arkansas and California. The California crop—estimated at 41.9 million—is down more than 4 percent from last year. In Arkansas, production is estimated at 92.1 million cwt, down more than 2 percent from last year, a result of a lower yield.

Despite a Larger Crop and Record Imports, Total Supplies Are Projected Smaller in 2008/09

Total U.S. rice supplies in 2008/09 are projected at 258.4 million cwt, down 1 percent from a year ago. This year, a much smaller carryin is expected to more than offset the larger crop and another year of record imports. The supply situation varies by class. Combined medium/short-grain supplies are projected to contract 9 percent, primarily due to the smaller crop. In contrast, long-grain supplies are projected to increase 2 percent to 192.8 million cwt, with the larger crop accounting for most of the increase.

Figure 5
Total U.S. rice supplies are projected to be smaller in 2008/09



Note: 2008/09 are forecasts.
Source: *World Agricultural Supply and Demand Estimates,* World Agricultural Outlook Board, USDA, http://www.usda.gov/oce/commodity/wasde/index.htm.

Based on data from NASS in the August 2008 *Rice Stocks,* beginning stocks of all rice for 2008/09 are calculated at 29.4 million cwt, are down 25 percent from a year earlier, with long-grain accounting for most of the decline. Long-grain beginning stocks of 19.0 million cwt, down one-third from a year earlier. Medium/short-grain beginning stocks of 9.1 million cwt are down 9 percent from a year earlier.

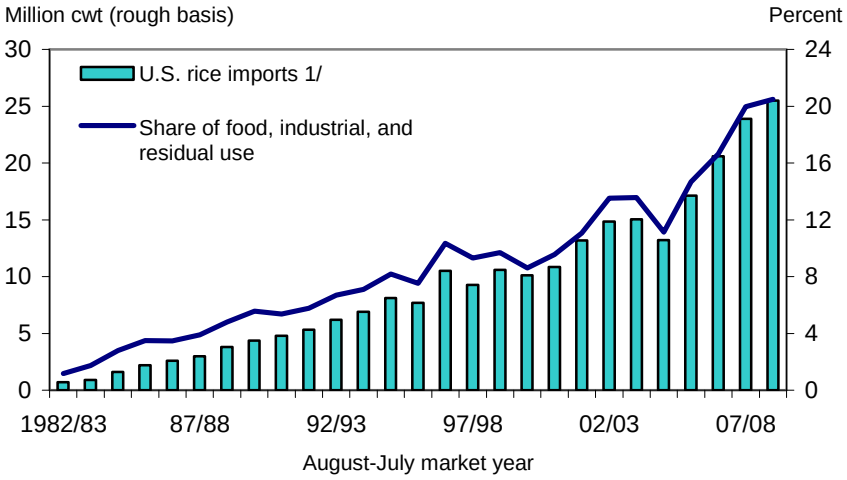
By State, Arkansas accounts for more than 60 percent of the total decline in beginning stocks. At 17.00 million cwt, rice stocks in Arkansas are down 27 percent from a year earlier. Rice stocks in California declined 30 percent to 5.7 million cwt. In contrast, rice stocks in Texas increased 7 percent to 2.9 million cwt. These 3 States accounted for 87 percent of all reported rice stocks on August 1, 2008.

U.S. rice imports for 2008/09 are projected at a record 25.5 million cwt, up almost 7 percent from a year earlier, with long-grain accounting for all of the increase. Imports have more than doubled since 2000/01, and account for a growing share of the domestic market.

Thailand is the largest supplier of rice to the United States, accounting for 75-80 percent of U.S. long-grain imports. Jasmine rice—Thailand's high-quality fragrant rice—accounts for nearly all of the long-grain rice imported by the United States from Thailand. These imports increase almost every year. India and Pakistan supply most of the remainder of U.S. long-grain rice imports, shipping mostly high-quality basmati rice. Like Thailand's jasmine rice, imports of basmati rice typically increase each year. The United States does not currently grow aromatic varieties of the same quality as those produced in Asia.

Figure 6

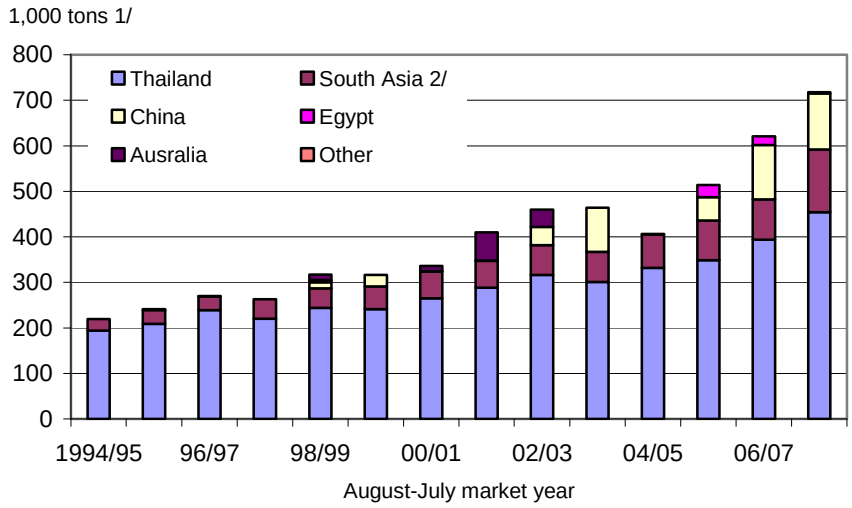
U.S. rice imports increased 16 percent in 2007/08



Note: 2008/09 are preliminary forecast.
1/ Includes imports by Puerto Rico and the U.S. Virgin Islands.
Sources: 1982/83-2007/08, Bureau of the Census import data; 2008/09 forecasts, *World Agricultural Supply and Demand Estimates,* World Agricultural Outlook Board, USDA.

Figure 7

Thailand is the largest supplier of rice imports to the United States



1/ Shipment-weight. 2/ India and Pakistan.
Source: FAS ONLINE, Foreign Agricultural Service, U.S. Deptartment of Agriculture, http://www.fas.usda.gov/ustrade.

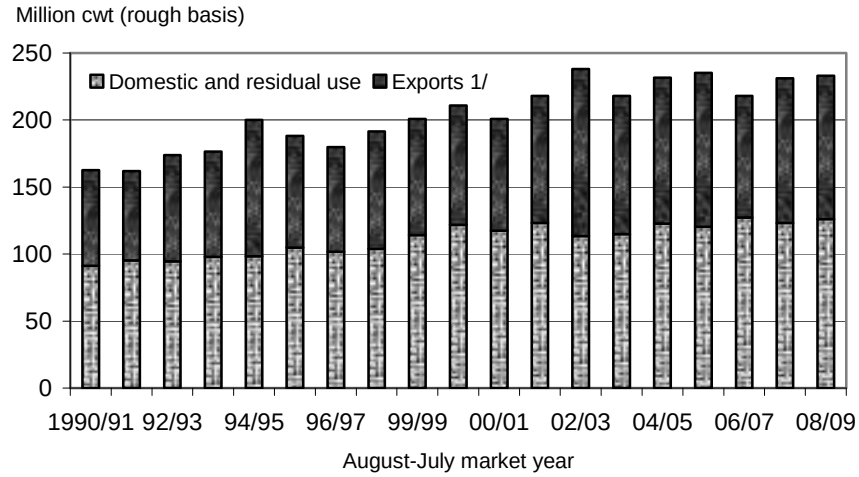
In recent year, the bulk of U.S. medium/short-grain imports have been purchases by Puerto Rico. China supplies most of the rice imported by Puerto Rico, with Egypt also supplying some. Prior to 2000/01, Puerto Rico was largely a California market. Lower prices from other sources and higher U.S. freight rates hinder U.S. suppliers in this market. The Jones Act requires all commercial vessels transporting merchandise between ports in the United States to be built, owned, operated, and staffed by U.S. citizens and to be registered under the U.S. flag. Freight rates are typically much higher on U.S. flagged vessels than for vessels operated by many other countries. In some years, the California rice industry supplies rice to Puerto Rico, depending on the global medium/short grain supply situation. In addition, Italy supplies a few-thousand tons of *Arborio* rice to the United States each year.

In addition, Thailand typically ships 65,000-75,000 tons (more than 2 million cwt on a rough-rice basis) of specialty rice to the United States that is classified by the U.S. Census Bureau as medium- or short-grain. Much like the long-grain imports from Thailand, these imports typically increase each year.

U.S. Rice Exports Are Projected To Decline in 2008/09

Total rice use in 2008/00—domestic and residual use, plus exports—is projected at 233.0 million cwt, nearly unchanged from a year earlier, but still 2 percent below the 2002/03 record. Domestic disappearance is projected to increase in 2008/09. At 126.0 million cwt, total domestic and residual use is up 2 percent from a year

Figure 8
U.S. exports are projected to decline in 2008/09



Note: 2008/09 are forecasts.
1/ Rough-equivalent of milled, brown, and rough rice exports.
Source: *World Agricultural Supply and Demand Estimates,* World Agricultural Outlook Board, USDA.

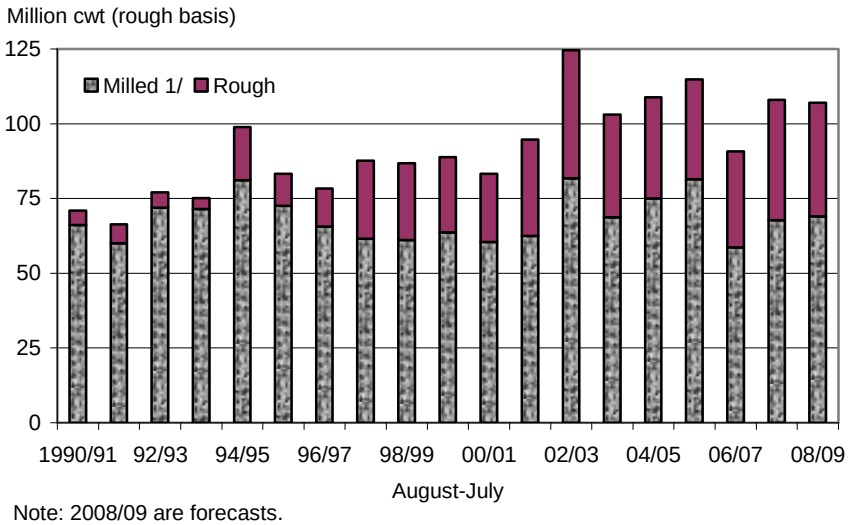
earlier and a near-record on record. The domestic disappearance term includes a substantial residual component that is impossible to estimate and can vary substantially from year to year. The residual term includes unreported losses in processing, marketing, and transportation, as well as any statistical errors in other components of U.S. supply and use tables.

In contrast to domestic disappearance, exports are projected to decline 1 percent to 107.0 million cwt. U.S. rice exports in 2008/09 are constrained by smaller supplies and a lack of price competitiveness in some markets, especially for long-grain milled rice. U.S. rice exports in 2007/08—which increased 19 percent from a year earlier—were partially boosted by export bans and restrictions implemented by several major and mid-level exporters, including Vietnam, India, and Egypt. Vietnam resumed commercial sales in July 2008. India and Egypt are expected to end their bans in 2009.

Rough-rice exports are projected at 38.0 million cwt, 5 percent below a year earlier, with the Middle East accounting for most of the decline. Milled-rice shipments (combined milled and brown rice shipments on a rough-rice basis) are projected at 69.0 million cwt, with shipments to Oceania expected to increase. In contrast, U.S. shipments of milled rice to the Middle East are projected to decline in 2008/09, mostly due to a lack of price competitiveness.

Figure 9

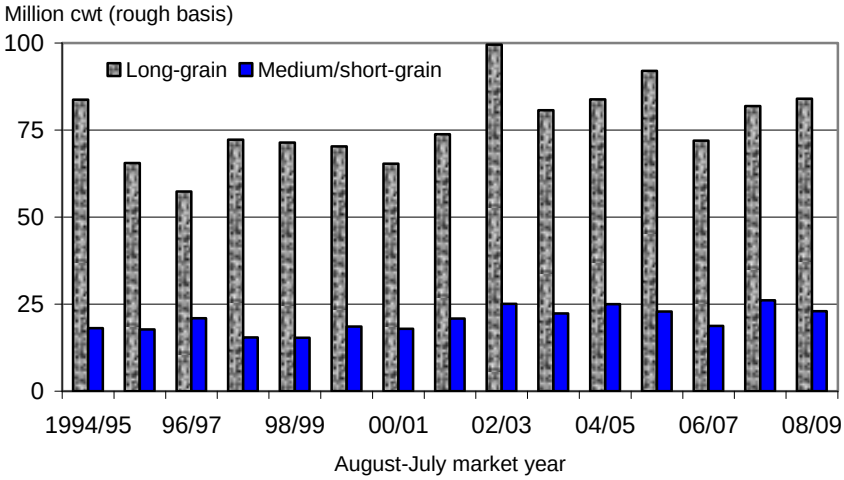
Rough-rice accounts for more than one-third of U.S. rice exports



Note: 2008/09 are forecasts.
1/ Rough basis.
Source: *World Agricultural Supply and Use Estimates,* World Agricultural Outlook Board, USDA.

Figure 10

U.S. medium/short-grain exports are projected to decline in 2008/09 1/



Note: 2008/09 are forecasts.
1/ Total of milled, brown, and rough rice exports on a rough basis.
Source: *World Agricultural Supply and Demand Estimates,* World Agricultural Outlook Board, USDA, http://www.usda.gov/oce/commodity/wasde/index.htm.

By class, long-grain exports to South America—not a typical market for U.S. rice—are expected to increase,offsetting a likely reduction in shipments to the Middle East. Any recovery in U.S. sales to the EU—once a major market for U.S. long-grain rice—is expected to be very minor.

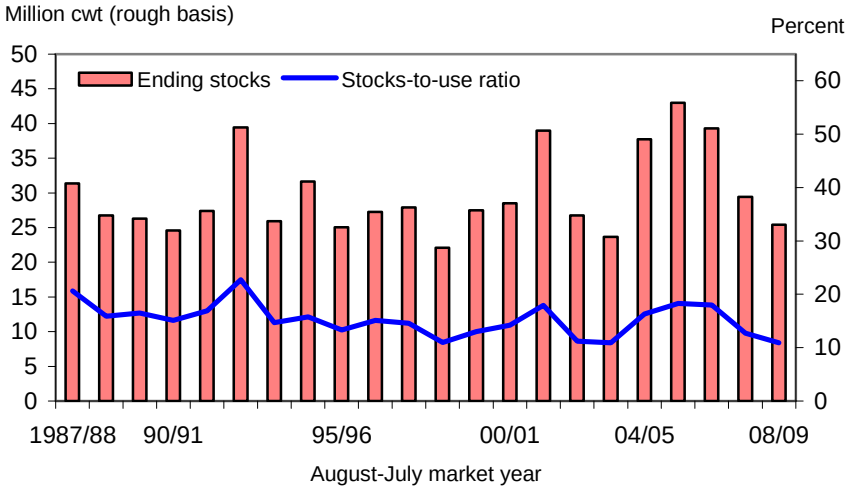
In contrast, U.S. medium/short-grain exports are projected at 23.0 million cwt, down 12 percent from a year earlier. Reduced shipments to the Middle East are expected to more than offset expanded sales to Oceania—historically an Australian market. Several years of drought this century have virtually taken Australia out of the international rice market. The U.S. likely picked up some additional sales to the Middle East in 2007/08 due to Egypt's ban on exports.

U.S. ending stocks of all rice for 2008/09 are projected at 25.4 million cwt, down 14 percent from a year ago. The resulting stocks-to-use ratio is calculated at 10.9 percent, down from 12.7 percent a year ago. Both ending stocks and the stocks-to-use ratio are the lowest since 2003/04.

Medium/short-grain accounts for more than two-thirds of the projected decline in U.S. ending stocks in 2008/09. Medium/short-grain ending stocks are projected to decline 30 percent to 6.3 million cwt, yielding a stocks-to-use ratio of 10.9 percent. Both the medium/short-grain ending stocks and the stocks-to-use ratio are the lowest in at least 26 years and will contribute to keeping medium/short-grain prices at record or near-record levels for the remainder of the market year. Long-grain ending stocks are projected to decline 7 percent to 17.8 million cwt, the lowest since 2003/04. The long-grain stocks-to-use ratio is calculated at 10.2 percent, also the lowest in 5 years.

Figure 11

U.S. ending stocks are projected to decline 14 percent in 2008/09



Note: 2008/09 are forecasts.
Source: *World Agricultural Supply and Demand Estimates,* World Agricultural Outlook Board, USDA.

U.S. 2008/09 Season-Average Farm Price Is Projected To Be the Highest on Record

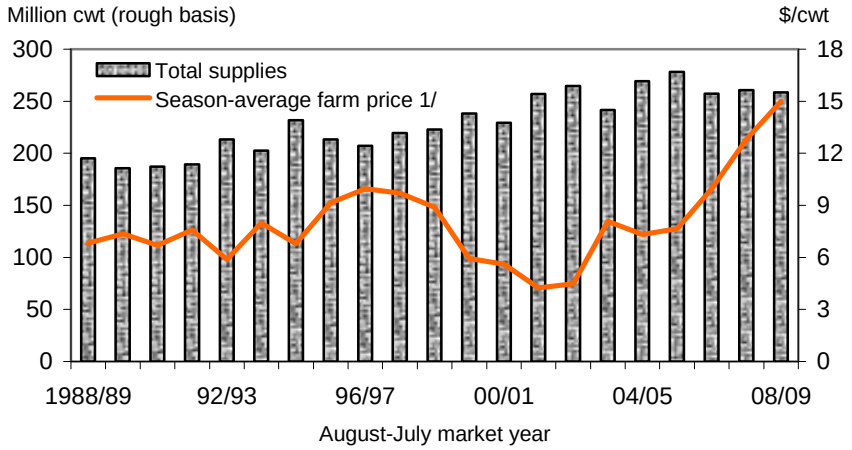
The 2008/09 U.S. season-average farm price (SAFP) is projected at $14.50-$15.50 per cwt, up from $12.80 a year earlier and the highest on record. This is the fourth consecutive year of a higher SAFP for rice. The record U.S. SAFP projected for 2008/09 is primarily due to record or near-record U.S. rough-rice prices for long- and medium/short-grain rice early in the 2008/09 market year. U.S. rough-rice prices sharply increased in 2007/08, largely due to export bans that drove global prices to record highs last spring, rapidly rising overall commodity prices, and a weaker dollar.

The mid-November 2008 reported cash price of $17.30 per cwt was up 40 cents from the October average and almost $6.00 higher than a year earlier. The August 2008 average price of $18.00 per cwt was the highest ever reported. U.S. rough-rice prices are expected to fall later in the market due to declining global prices, a stronger dollar, and weaker overall commodity prices. Global commodity prices sharply declined this fall, primarily due to impacts from the global financial crisis and economic slowdown.

By class, the long-grain SAFP rough-rice price is projected at a record $13.85-$14.85 per cwt, up from $12.50 a year earlier. In mid-November 2008, long-grain cash prices were reported at $16.50 per cwt, down $1.40 from the August record.

Figure 12

The 2008/09 U.S. season-average farm price is the highest on record



Note: 2008/09 are forecasts.
1/ 2008/09 midpoint of $14.50-$15.50 projection range.
Source: *World Agricultural Supply and Demand Estimates,* World Agricultural Outlook Board, USDA, http://www.usda.gov/oce/commodity/wasde/index.htm.

Long-grain prices are expected to continue dropping the remainder of the 2008/09 market year in the face of larger U.S. supplies and a continued decline in global trading prices for long-grain rice.

U.S. medium/short-grain rough-rice prices are projected to average $17.00-$18.00 in 2008/09, up from $13.80 last year and the highest on record. In contrast to declining long-grain prices, U.S. medium/short-grain rough-rice cash prices were reported at a record $19.00 per cwt in mid-November, up $1.00 from August. U.S. medium/short-grain prices are being supported by smaller U.S. supplies and a tight global medium/short-grain supply situation. A lack of exportable supplies in Australia and Egypt's export ban account for much of the tight global medium/short-grain supply situation. U.S. medium/short-grain prices are not expected to decline as much later in the market year as prices for long-grain rice.

International Outlook for 2008/09

Record Area Boosts Global Production to Record High; Average Yield Remains Flat

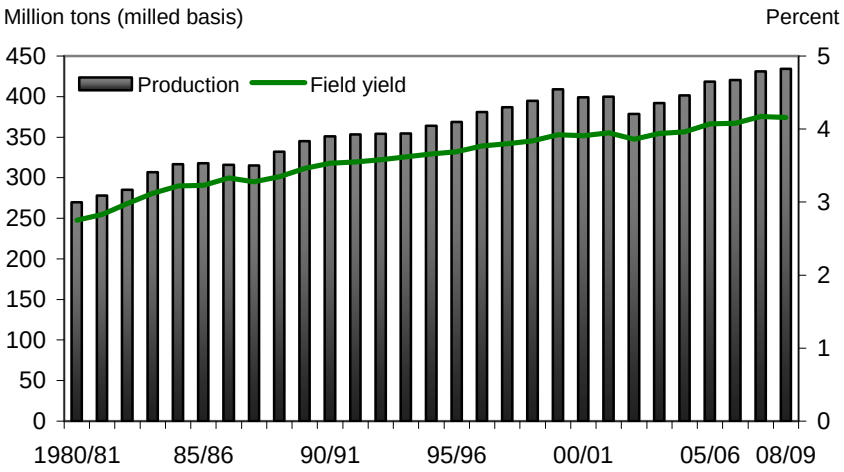
World rice production is projected at a record 434.3 million tons (milled basis) in 2008/09, up 1 percent from a year ago and the fourth consecutive year of a record crop. The larger global crop is entirely due to expanded area. At 156.6 million hectares, harvested area is 1 percent larger than last year and the highest on record.

Bangladesh, India, Pakistan, Sub-Saharan Africa, Thailand, and the United States account for the bulk of the area expansion. The global area expansion was largely driven by extremely high prices last spring and summer when the bulk of Northern Hemisphere crop was planted. Importers, especially in Sub-Saharan Africa and developing-Asia, wanted to reduce dependence on the global market due to very high trading prices and limited availability of exportable supplies caused by trade restrictions. In contrast, rice area is estimated to have declined in 2008/09 in Afghanistan, Iraq, and Iran, as result of reduced supplies of irrigation water due to severe drought in the region. Iran and Iraq are major importers, typically purchasing around a million tons or more of rice each year.

It will be very difficult to expand global rice area much beyond this year's record in the foreseeable future due to a lack of additional land suitable for rice production (abundant water, a level surface for easy irrigation and drainage, a hard-pan sub-surface that will slow percolation, and proper salinity), and competition for land from other crops and urban interests. In addition, there are ecological concerns associated with intensive rice production, such as water logging and substantial use of fresh water.

Figure 13

Global rice production in 2008/09 is projected to be the highest on record



Note: 2008/09 are forecasts.
Source: *Production, Supply, and Distribution* database, Foreign Agricultural Service, USDA, http://www.fas.usda.gov/psdonline.

In contrast to global area, the average rough-rice yield in 2008/09 is estimated at almost 4.2 tons per hectare, unchanged from last year's record. The average yield is up just 6 percent from 2000/01. Global yields have increased very slowly since the late 1990s, and growth rates achieved in the 1990s were lower than those in the 1970s and 1980s. Yield growth has stagnated largely due to the lack of new varietal development and the near-complete adoption of the modern high-yielding varieties on the most favorable ecosystems (primarily the irrigated low-lands).

With record global production and a larger carryin, global rice supplies are projected to increase 1 percent in 2008/09 to 512.7 million tons, the fourth consecutive year of increasing global rice supplies. Despite this year's increase, global supplies remain 6 percent below the 2001/02 record of 546.6 million tons. Global supplies declined 12 percent from 2001/02 to 2004/05, a result of a big reduction in carryin and nearly stagnant global production. China accounted for almost all of the global supply contraction, primarily due to a huge decline in stocks.

India, Bangladesh, China, and Indonesia Account For Bulk of 2008/09 Global Production Increase

The four largest rice producing countries—China, India, Indonesia, and Bangladesh—account for 90 percent of the projected increase in global production in 2008/09. India, Indonesia, and Bangladesh are projected to harvest record crops. These four countries typically account for two-thirds of global rice production. China and India are major exporters; Indonesia and Bangladesh are major importers.

India, the world's second largest rice-producing country, is projected to harvest a record 97.5 million tons of rice in 2008/09, up 1 percent from last year, a result of expanded area. The Government of India raised its minimum support price for rice to encourage producers to expand area. India has the largest amount of land devoted to rice production in the world. In 2007/08, India experienced substantial inflation, with food prices rising sharply. Ensuring adequate supplies of rice for lower-income consumers and dampening inflation are major objectives of the government of India.

Bangladesh is expected to increase production 3 percent in 2008/09 to a record 29.6 million tons, a result of record area. Bangladesh's 2007/08 crop was adversely affected by severe flooding in the summer of 2007 and then by damage from Cyclone Sidr in December 2007. To avoid a sharp boost in imports, Bangladesh must harvest a record crop each year. Indonesia is projected to harvest a record crop of 36.3 million tons in 2008/09, up 2 percent from last year. The larger crop is the result of a record yield, area is unchanged. Indonesia has little ability to expand area and future yield growth is expected to be quite slow.

China, the world's largest rice producing country, is projected to produce 130.9 million tons of rice in 2008/09, up about 1 percent from last year, but well below the 1997/98 record of 140.5 million tons. This year's larger crop is due to a higher

yield. Area is actually down slightly. Rice area in China remains well below the record 36.2 million hectares harvested in 1976/77. A substantial amount of China's rice area has shifted to other crops or has been converted for urban uses.

Among the top six exporters—Thailand, Vietnam, the United States, India, Pakistan, and China—all except Vietnam are projected to produce larger crops in 2008/09. Thailand—the world's largest rice-exporting country—is projected to increase production 1 percent to a record 19.5 million tons due to expanded plantings. Pakistan's 2008/09 crop is projected at a record 6.3 million tons, up almost 11 percent from last year, a result of a substantial area expansion. Pakistan exports more than half its crop each year, and is one of the few Asian countries where rice is not a staple. Rice area in 2008/09 was the highest on record in Pakistan.

Despite a lower yield, U.S. production in 2008/09 increased 3 percent to 6.5 million tons, a result of expanded area. Unlike Vietnam and India, Thailand and the United States did not restricted commercial sales in 2008, a likely factor behind the area expansion in each country.

In contrast, Vietnam's 2008/09 production is projected to decline almost 1 percent from last year's record to 23.7 million tons. The decline is primarily due to high input prices that are expected to discourage some growers from planting rice and others to reduce input use. Rice area in Vietnam is not expected to significantly increase over the next decade, and yields are already high in comparison to other Southeast Asian countries.

Among the smaller exporters, Argentina and Cambodia are projected to harvest larger crops in 2008/09, mostly due to expanded area. Little change in production is projected for Guyana, Egypt, and Uruguay. In contrast, Burma's production is projected to decline almost 9 percent due to adverse affects—primarily late planting, salt water intrusion, and damaged infrastructure—from Cyclone Nargis that struck in early May 2008. Production in the European Union is estimated to have declined 3 percent in 2008/09, a result of a smaller crop in Spain—the second largest rice grower in the EU.

Several major importers are projected to harvest larger crops in 2008/09. Bangladesh, Cote D'Ivoire, North and South Korea, Mexico, Nigeria, and Senegal are all estimated to increase production by at least 2 percent in 2008/09. Smaller percentage increases are projected for Brazil, Indonesia, Japan, and the Philippines. Except for Brazil and the 3 Northeast Asian countries, the larger crops are due to expanded area, primarily a response to the record high trading prices last spring.

In contrast to these importers, production is projected to sharply decline in both Iran and Iraq, a result of insufficient supplies of water for irrigation. Iran's 2008/09 crop is projected at just 1.5 million tons, a drop of 31 percent from last year's record. Iraq's crop is estimated at just 85,000 tons, 57 percent below last year. Both Iran

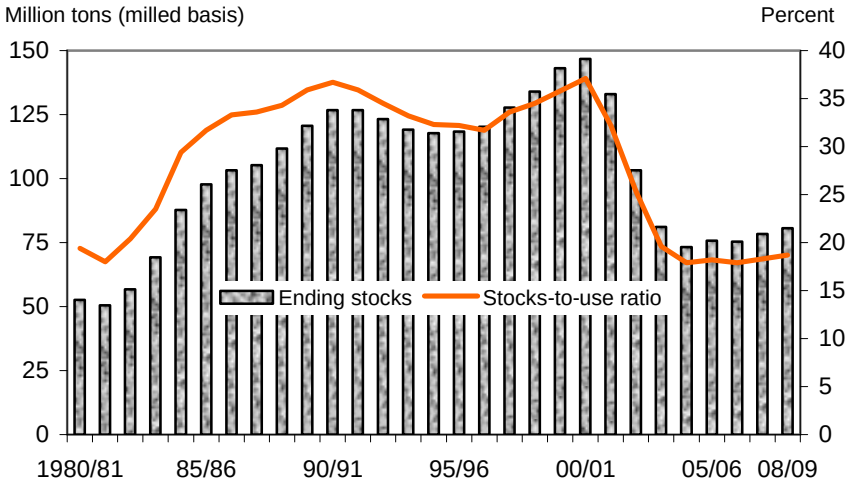
and Iraq are major importers of long-grain milled rice, typically high-quality. The supply situation in both countries is expected to tighten as the market year progresses. Cuba's production is expected to decline 10 percent in 2008/09, a result of hurricane damage last summer. Cuba is one of the largest rice importing countries in the Western Hemisphere.

Global Ending Stocks in 2008/09 Are Projected To Be Increase 3 Percent

World rice domestic disappearance—consumption plus a residual component that represents unaccounted losses and any statistical errors—is projected at a record 432.1 million tons in 2008/09, up more than 1 percent from a year ago. India accounts for the largest share of the projected increase in domestic disappearance in 2008/09. In addition, domestic disappearance is projected to increase in Indonesia, the Philippines, Bangladesh, Nigeria, and the United States. In contrast, domestic disappearance of rice is projected to decline in South Korea—a long-term trend caused by diet diversification, and in Iran and Iraq due to smaller supplies.

With domestic disappearance exceeding production in 2008/09 by 2.2 million tons, global rice-ending stocks are projected to increase 3 percent to 80.6 million tons, the largest stocks since 2003/04 and the second consecutive year of a buildup in stocks. China, India, Indonesia, Japan, and Thailand account for most of the projected increase in global ending stocks. In contrast, ending stocks are projected to decline in the Philippines, Vietnam, and the United States. The global stocks-to-use ratio for 2008/09 is calculated at 18.7 percent, up slightly from 18.3 percent a year earlier and the highest since 2003/04.

Figure 14
Global ending stocks are projected to increase in 2008/09



Note: 2008/09 are forecasts.
Source: *Production, Supply, and Distribution* database, Foreign Agricultural Service, USDA, http://www.fas.usda.gov/psdonline.

Despite this year's increase, global stocks are down 45 percent from the 2000/01 record of 146.7 million tons. In fact, from 2000/01 to 2004/05, global ending stocks declined 50 percent to 73.2 million tons, the lowest since 1983/84. China accounted for almost all of the decline in global ending stocks. China's ending stocks declined from a record 97.4 million tons in 1999/2000, to 35.9 million tons in 20006/07, the lowest in 25 years. The decline in China's stocks was primarily due to government policies designed to reduce stocks from what were viewed as excessive. China's stocks have increased 11 percent since 2006/07.

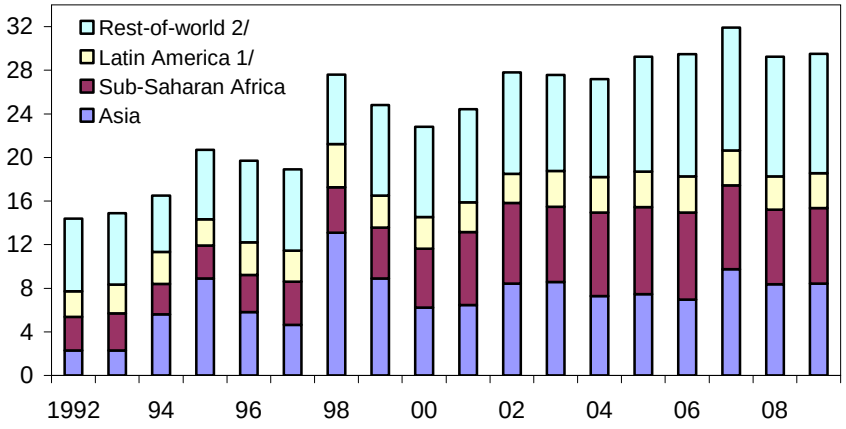
USDA's stock estimates for China include only that portion of total rice supplies likely to enter commercial channels. Components include rice held by the government, inventories in the commercial sector, and a portion of the grain that China's farmers store for their own use.

Global Import Demand in 2009 Is Projected to Increase Slightly After Dropping Sharply in 2008

Global rice trade is projected to increase 1 percent in calendar year 2009 to 29.5 million tons. Despite the increase, trade is still almost 8 percent below the 2007 record. In 2008, global rice trade dropped more than 8 percent, primarily due to export restrictions by several major suppliers and extremely high trading prices. In response, major importers—primarily in Sub-Saharan Africa and developing Asia—increased production to reduce dependence on imports, given uncertainty over supply availability and high trading prices during much of 2008.

Figure 15
Global trade declined 8 percent in 2008

Million tons (milled basis)



Note: 2008 and 2009 are forecasts.
1/ Mexico, Central America, the Caribbean, and South America. 2/ Includes imports not assigned a specific country.
Source: *Production, Supply, and Distribution* database, Foreign Agricultural Service, USDA, http://www.fas.usda.gov/psdonline.

Latin America, North America, and Southeast Asia account for almost all of the projected increase in global rice imports in 2009. In contrast, Sub-Saharan Africa is projected to import less rice in 2009, as the region is projected to harvest a record crop. Oceania's imports are projected lower in 2009 as well, after record purchases in 2008. The region grows very little rice. Imports by other regions are projected to be nearly unchanged from 2008. However, the full extent of reduced crops in parts of the Middle East and in Afghanistan may not be fully reflected in purchases and reported shipments (including any transshipments) to the region, especially for Iran and Iraq, two of the largest buyers and consumers in the region.

Indonesia is projected to post the largest increase in imports by a single country in 2009. Imports by Indonesia are projected to increase 300,000 tons to 800,000 tons, despite consecutive record crops since 2006/07. Indonesia was once the world's largest rice importing country, purchasing several million tons a year. Indonesia is unlikely to significantly expand production, indicating higher imports in the future.

Four countries are projected to increase imports by 100,000 tons in 2009. Nigeria is expected to import 1.7 million tons of rice, up 100,000 tons from 2008, but below the 2001 record of 1.9 million. Despite record harvests for a decade, Nigeria has been unable to achieve self-sufficiency or significantly reduce imports. The Government of Nigeria has promoted both area expansion and the use of higher yielding seeds developed specifically for Africa's soil and climate to boost production and reduce imports. Nigeria is one of the few Sub-Saharan countries expected to increase imports in 2009.

Brazil's imports are also projected to increase 100,000 tons to 600,000, a result of rising consumption and only fractional production growth. For many Brazilian producers, less input-intensive crops—primarily soybeans—are more profitable than rice. Cuba, whose crop was diminished by hurricanes last summer, is expected to increase imports 100,000 tons to 600,000. Cuba relies on imports for almost two-thirds of its consumption. Vietnam supplies most of Cuba's imports. The European Union is projected to import 1.2 million tons of rice in 2009, up 100,000 tons from this year, a result of a weaker crop. Saudi Arabia, which grows no rice, is expected to increase imports almost 0.1 million tons to 1.1 million tons.

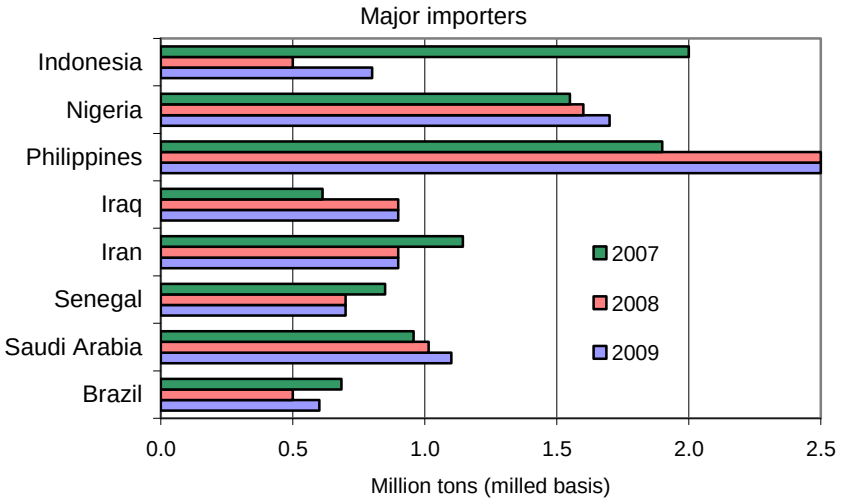
Several countries are expected to increase imports by about 50,000 tons in 2009; they include the United States, North Korea, Niger, and Haiti. The United States is one of the largest rice importing country in the Western Hemisphere. The bulk of U.S. rice imports are varieties not grown domestically, mostly Asian aromatics. Haiti—which suffered hurricane damage in 2008—is expected to boost imports 50,000 tons to 300,000 in 2009. Logistical difficulties slowed shipments to Haiti in the fall of 2008. North Korea is expected to increase imports by 50,000 tons to 400,000. All of North Korea's rice imports are donations. The country has severe food security problems. Niger's imports are projected to increase almost 50,000 tons to 170,000, a result of stagnant production. Niger relies heavily on imports to satisfy domestic needs.

In contrast, imports are projected to decline in several major importing countries in 2009. Bangladesh's imports are projected to drop 200,000 tons to 1.0 million due to a record crop. A record crop is also behind a 180,000-ton reduction in imports by Cote d'Ivoire to 650,000 tons. Like much of West Africa—the major rice growing region of Sub-Saharan Africa—Cote d'Ivoire expanded area in 2008 to reduce reliance on high-priced imports. Vietnam is expected to reduce imports 100,000 tons to 300,000 tons. Cambodia supplies nearly all of Vietnam's imports. Vietnam imports almost exclusively unmilled rice that is milled in Vietnam.

For most other countries, little change in imports is projected for 2009. The Philippines, the world's largest rice importing country, imported a record 2.5 million tons of rice in 2008. Rice imports by the Philippines have increased sharply in recent years, despite consecutive record crops. The Philippines experiences substantial post-harvest losses, a major factor behind rising imports. Malaysia is projected to import a near-record 880,000 tons in 2009; South Africa's imports to remain unchanged from last year's 850,000-ton record. Iran and Iraq are currently projected to import 900,000 tons in 2009, unchanged from 2008. Import needs by both Middle Eastern countries—which experienced crop shortfalls in 2008/09—will be re-evaluated as additional information on actual production and total supplies are known.

Figure 16

Imports by the Philippines in 2008 were the highest on record



Notes: 2008 estimates; 2009 projections. These eight countries account for about 35 percent of global imports.
Source: *Production, Supply, and Distribution* database, Foreign Agricultural Service, USDA, http://www.fas.usda.gov/psdonline.

Vietnam, China, Pakistan, and Egypt Are Projected To Export More Rice in 2009

Global exports dropped more than 8 percent in 2008, primarily due to restrictions and bans implemented by several major and mid-level suppliers. The restrictions were initially implemented by India and Vietnam in late summer and early fall 2007, primarily to dampen rising food prices, a major concern for developing countries worldwide. In addition to India and Vietnam, by the spring of 2008 Egypt, China, and Cambodia had also implemented export restrictions or bans. Together, these 5 countries typically account for 40 percent of global exports. Cambodia's ban lasted about 6 weeks, and Vietnam resumed commercial sales in late June 2008. Trade bans by India and Egypt remain in effect. China continues to apply a tax to rice exports.

Among the top six rice exporting countries, Vietnam, Pakistan and China are projected to boost shipments in 2009; while Thailand, India, and the United States are projected to export less.

Vietnam is the world's second-largest rice exporting country and is projected to export 5.2 million tons in 2008, up 450,000 tons from this year and largest on record. Vietnam almost exclusively exports long-grain milled rice, mostly in the medium- and low-quality categories, and is a big supplier to Southeast Asia and Cuba. With Vietnam unlikely to expand production much in the foreseeable future, exports are not expected to increase beyond the current record.

Pakistan is projected to export a record 4.0 million tons of rice in 2009, up 1.0 million tons from this year. Pakistan sharply increased production in 2008/09, primarily a response to record high trading prices at planting and trade restrictions by several competitors. Pakistan mostly exports low-quality long-grain milled rice (described as coarse rice due to its texture) to low-income markets, mostly in East Africa. Pakistan also exports its premium basmati rice, with the EU a major buyer.

China is projected to increase exports 300,000 tons 1.3 million in 2009, a result of adequate supplies and a tight global supply situation for medium-grain rice—at least until Egypt relaxes its ban. China exports both high-quality medium/short rice—mostly to Japan and South Korea—and low-quality long-grain rice to Sub-Saharan Africa and some low-income Asian markets. China also ships medium/short-grain rice to markets in Oceania previously supplied by Australia.

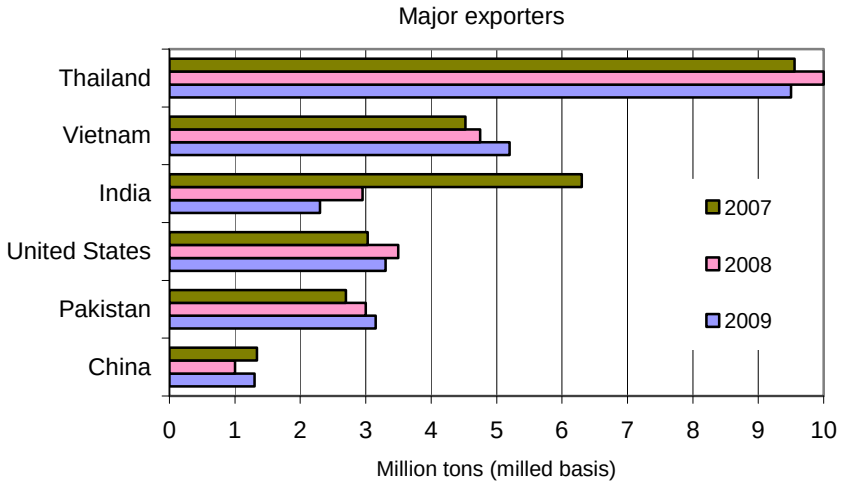
Thailand—the world's largest rice-exporting country—is projected to export 9.5 million tons of rice in 2009, down 500,000 from this year. Thailand's prices are well above competitors prices for similar grades of rice, partly due to government intervention purchases that temporarily keep rice off the market. Government purchase prices are typically above market prices. In addition, Thailand's rice is considered by many buyers to be a higher-quality product than rice shipped by most Asian competitors. Thailand exports regular milled white rice, high-quality parboiled rice, and its premium jasmine rice. Thailand also exports glutinous rice, a specialty rice popular in specific markets, mostly in Asia.

The *United States* is typically the third or fourth largest rice exporter. In 2009, the United States is projected to export about 3.3 million tons of rice, down 200,000 tons from a year earlier. Slightly smaller supplies and a wider price difference over competitors in certain markets account for projected decline in exports. The United States exports about half its crop each year.

The United States ships long-, medium-, and short-grain rice into global markets, with long-grain accounting for more than 75 percent of U.S. shipments. More than one-third of U.S. exports are shipped as rough (or unmilled) rice. The United States is the only major exporter that allows rough-rice exports. The U.S. also ships parboiled rice and brown rice (rice with the hull removed, but the bran layer remaining).

India is projected to export 2.3 million tons of rice in 2009, down 650,000 tons from this year and 4.0 million tons below the 2007 near-record. India's exports dropped sharply in 2008 due to the government's ban on non-basmati sales. The government wanted more rice available for the domestic market, primarily to reduce inflation. The ban continues to limit India's exports and is not expected to be removed until after elections in spring 2009 at the earliest. India exports more than a million tons of basmati rice each year. Despite the ban on non-basmati exports, has agreed to continue supplying non-basmati rice to Bangladesh—its largest buyer—and smaller amounts to certain African markets.

Figure 17
India's exports have declined sharply since 2007



Notes: 2008 and 2009 projections. These six countries account for more than 85 percent of global rice exports.
Source: *Production, Supply, and Distribution* database, Foreign Agricultural Service, USDA, http://www.fas.usda.gov/psdonline.

Among the smaller exporters, *Egypt* is projected to export 800,000 tons in 2009, up 350,000 from a year earlier, but still below the 2007 record of 1.2 million tons. Egypt's exports plummeted 63 percent in 2008 due to the ban. Egypt exports almost exclusively high-quality medium/short-grain rice. *Argentina's* exports are projected to increase 50,000 tons to 500,000 in 2009, mostly due to a larger crop.

In contrast, *Burma* and *Cambodia* are projected to export less rice in 2009. *Cambodia's* exports in 2008 were the highest since 1965. Little change is projected in exports in 2009 from Guyana, the EU, Japan (all donations), and Uruguay. Australia remains virtually out of the global market, as production has dropped sharply in recent years due to consecutive droughts.

Global Trading Prices Are Down More Than 40 Percent From Last Spring's Record Highs

After spiking to record highs in April-May 2008, global trading prices for regular milled long-grain white rice—the dominant class and type of rice traded globally—have dropped more than 40 percent. A stronger dollar, ample global supplies, declining overall commodity prices, repealing of some export bans, and weaker import demand are behind the substantial decline in rice prices since June. The global financial crisis and economic slowdown have contributed to declining rice prices as well.

Global trading prices tripled between November 2007 and May 2008, largely due to export restrictions implemented by several major and mid-sized exporters, a rapidly declining dollar, and "panic" buying by several major importers. By early summer, these bullish factors began to diminish or reverse themselves. First, in late June 2008, Vietnam announced it would resume making commercial sales. Also in June, Thailand and Vietnam announced they would supply the Philippines' import needs the remainder of the year. This sharply curtailed panic buying.

By late July 2008, the dollar began to strengthen and oil prices started dropping. In August and September, rice prices were partially supported by intervention purchases of rough-rice by the Government of Thailand. However, by October 2008, rice prices began dropping again due to a stronger dollar and the expansion and deepening of the global financial crisis.

For the week ending November 25, the average quote for Thailand's 100-percent grade B (FOB vessel, Bangkok) was $580 per ton, down 22 percent from early August and 42 percent below the April and May 2008 weekly record of nearly $1,000 per ton. (Some individual quotes last were reported at more than $1,050 per ton.) Despite the substantial decline, prices are still 72 percent above prices a year ago and well above 2000/01-20006/07 prices.

Thailand's prices are being partially supported by the government intervention program which purchases rough-rice from farmers at above-market prices and holds the rice off market. In addition to purchasing much of the 2007/08 dry season crop harvested last spring, the government has announced it will purchase up to 8.1 million tons of the 2008/09 main-season crop, with harvest beginning in December.

Vietnam's export prices have dropped sharply since the government allowed the resumption of commercial sales in late June. For the week ending November 25, prices for Vietnam's 5 percent long-grain milled rice for export were quoted at $450 per ton, down a $100 from early August. Despite the drop, prices are still $150 per ton above prices quoted just prior to the implementation of the ban on commercial sales in September 2007. Since resuming commercial sales, the Government of Vietnam has announced minimum export prices (MEP) for various grades of rice in an effort to limit the decline. However, actual trading prices have consistently been below the MEP, even as the MEP was repeatedly lowered. Vietnam's prices are currently $130 per ton below prices for comparable grades of Thailand's rice, making Vietnam a very competitive supplier.

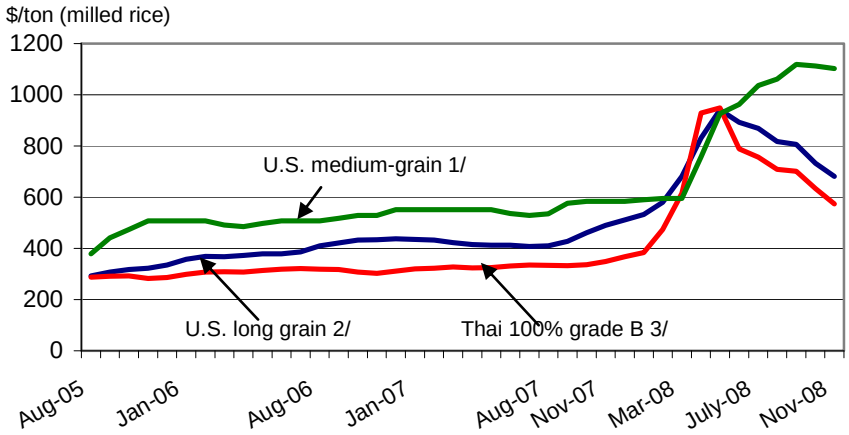
Price quotes for U.S. long-grain milled rice for export have dropped about 31 percent since spiking to record highs in late April 2008. For the week ending November 25, prices for U.S. long-grain milled rice for export were quoted at $650 per ton, down 20 percent from the start of the 2008/09 market year in August, and almost $300 below the late-April 2008 record. Weaker global rice prices, a stronger dollar, declining overall commodity prices, and larger U.S. long-grain supplies are the main factors driving U.S. long-grain prices lower. Despite the substantial drop in prices since late May, U.S. prices are still more than one-third higher than a year earlier, and are well above 2000/01-2006/07 reported prices.

Prices for California medium-grain milled rice have not shown the volatility exhibited by U.S. and global long-grain trading prices. U.S. medium-grain prices were already high at the start of the 2007/08 market, mostly due to tight global supplies. Prices remained rather stable until April 2008,when Egypt—a major competitor of the U.S. in the global medium/short-grain market—announced a ban on new sales. Prices steadily rose from April through September, before dropping slightly in October as the U.S. harvest intensified and the global financial crisis intensified.

For the week ending November 25, prices for California top-quality medium-grain rice were quoted at $1,102 per ton, down slightly from the record $1,135 in September, but up $500 from March 2008. Prices continue to be supported by Egypt's export ban, lack of exportable supplies in Australia—once a major exporter of medium-grain rice, and a smaller U.S. medium/short-grain crop in 2008/09. There is very little substitution in the global market between long- and medium/short-grain rice, even when the price difference is substantial. The largest import market for medium/short grain rice is Northeast Asia—Japan, Taiwan, and South Korea. All rice imports by these three countries are part of commitments under the World Trade Organization which specify the class of rice imported.

Figure 18

Thailand's prices are 40 percent below last springs's record high



Note: Monthly prices are simple average of weekly quotes.
1/ California No. 1, 4-percent brokens, sacked, fob mill. 2/ No. 2, 4-percent brokens, fob Gulf port. 3/ Fob vessel, local port.
Sources: Thai price quotes, *Thailand Grain and Feed Weekly Rice Price Update,* U.S. Ag Counselor, Bangkok; U.S. quotes, *Creed Rice Market Report.*

In the near-term, global trading prices for long-grain rice are expected to remain well below levels reported last spring. In contrast, medium-grain prices will continue to be supported by the tight global supply situation. Global trading prices for all classes of rice are not expected to decline to pre-2007 levels, as global demand is expected to continue increasing—primarily due to population growth. Increases in global rice production will be limited, as any area expansion will be quite small. In addition, little increase in the rate of yield growth—currently the lowest rate since before the Green Revolution began in the mid-1960s—is expected until new higher yielding varieties are developed, a process that will likely take several years.