

# Factors influencing the supply of rice in the world market



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The years 2007-2008 saw dramatic increases in world food prices, creating a global crisis and causing political and economical instability and social unrest in both poor and developed nations.

Systemic causes for the worldwide increases in food prices continue to be the subject of debate. Initial causes of the late 2006 price spikes included unseasonable droughts in grain-producing nations and rising oil prices. Oil prices further heightened the costs of fertilizers, food transport, and industrial agriculture.

Other causes may be the increasing use of biofuels in developed countries and an increasing demand for a more varied diet across the expanding middle-class populations of Asia. These factors, coupled with falling world-food stockpiles have all contributed to the dramatic worldwide rise in food prices. Long-term causes remain a topic of debate. These may include structural changes in trade and agricultural production, agricultural price supports and subsidies in developed nations, diversions of food commodities to high input foods and fuel, commodity market speculation, and climate change. As of 2009, food prices have fallen significantly from their earlier highs, although some observers believe this decrease may be temporary.

## **World population growth**

Growth in food production has been greater than population growth. Food per person increased during the 1961-2005 period. Although some commentators have argued that this food crisis stems from unprecedented global population growth, others point out that world population growth rates have dropped dramatically since the 1980s and grain availability has

continued to outpace population. However, despite the small gains made in the last decades, when regarded on a whole the population increases far more rapidly than what the food production increases can make up for.

The actual annual growth in the number of humans fell from its peak of 87 million per annum in the late 1980s, to a low of 75 million per annum in 2002, at which it stabilised and has started to slowly rise again to 77 million per annum in 2007. The world's population, on its current growth trajectory, is expected to reach nearly 9 billion by the year 2042.

### **Increased demand for more resource intensive food**

The head of the International Food Policy Research Institute stated in 2008 that the gradual change in diet among newly prosperous populations is the most important factor underpinning the rise in global food prices. Where food utilization has increased, it has largely been in processed ("value added") foods, sold in developing and developed nations. Total grain utilization growth since 2006 (up three percent, over the 2000-2006 per annum average of two percent) has been greatest in non-food usage, especially in feed and biofuels. One kilogram of beef requires seven kilograms of feed grain. These reports, therefore, conclude that usage in industrial, feed, and input intensive foods, not population growth among poor consumers of simple grains, has contributed to the price increases.

### **Determinants of Supply**

Price

The profitability of goods in joint supply

Nature or random shocks and other unpredictable events

The aims of producers whether they are aiming for high profit margins of market penetration

Expectations of producers

Technology

Weather

Producers' agreement

## **Factors**

Several factors contributed to the rising food price. Analysts attributed the price rises to a “ perfect storm” of poor harvests in various parts of the world, increasing biofuel usage, lower food reserves, growing consumer demand in Asia, oil price rises, and changes to the world economy.

Agricultural subsidies in developed nations are another long-term factor contributing to high global food prices.

Change in input price

Change in technology

Change in organisation

Change in government policies

Costs for fertilizer raw materials other than oil, such as potash, have themselves been increasing as increased production of staples increases

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demand. This is causing a boom (with associated volatility) in agriculture stocks.

## **Crop shortfalls from natural disasters**

Several distinct weather- and climate-related incidents have caused disruptions in crop production.

Rice is the main crop grown during the rainy season, and under usual conditions, rainfall is adequate for rice production. However, if rain ceases to fall for several weeks to a month at a critical time in the rice growing cycle, yields will be significantly affected. Upland rice varieties, although adapted to a lower moisture requirement, are also affected by intermittent rains because farmers have no means of storing water in their fields.

## **Soil and productivity losses**

Large areas of croplands are lost year after year, due mainly to soil erosion, water depletion and urbanization. “ 60, 000 km<sup>2</sup>/ year of land becomes so severely degraded that it loses its productive capacity and becomes wasteland”, and even more are affected to a lesser extent, adding to the crop supply problem.

Additionally, agricultural production is also lost due to water depletion. Northern China in particular has depleted much of its non-renewable aquifers, which now impacts negatively its crop production.

Urbanizations is another, smaller, difficult to estimate cause of annual cropland reduction.

## **Rising levels of ozone**

One possible environmental factor in the food price crisis is raising background levels of ozone in the atmosphere. Plants have been shown to have a high sensitivity to ozone levels, and lower yields of important food crops, such as wheat and soybeans, may have been a result of ozone levels. Ozone levels in the Yangtze Delta were studied for their effect on oilseed rape, a member of the cabbage family that produces one-third of the vegetable oil used in China. Plants grown in chambers that controlled ozone levels exhibited a 10%-20 % reduction in size and weight (biomass) when exposed to elevated ozone. Production of seeds and oil was also reduced.

## **Price Control (Price Floor and Price Ceiling)**

### **Price Floor**

In certain instances, the government may intervene in the market to control prices. In such cases, the market will not be in equilibrium. This is called a minimum price/ price floor.

On April 30, 2008 Thailand announced the creation of the Organization of Rice Exporting Countries (OREC) with the potential to develop a price-fixing cartel for rice.

The purpose would be to control production and set prices similar to the OPEC cartel that controls production of oil

Rational for setting a price floor

To protect producers' income

To create a surplus of the good

In case of minimum wage, to protect workers' income from falling below certain level

Impact of price floor

Excess supply that went into production will be wasted. This can be seen as a misallocation of resources which could otherwise be used to produce other goods

Firms with surplus output may try evading price control and cutting their prices.

High prices remove the incentive for firms to be more efficient in the use of the resources.

Methods government can use to deal with surplus

Buy surplus and store it, destroy it, or sell it

Restricting producers to production quotas

Raise demands by advertising

Find alternative use for the goods

Cut down on the consumption of substitute goods by imposing taxes.

## **Price Ceiling**

Rational for setting price ceiling

To protect the consumers and to ensure 'fair' price for essential goods.

In times of war and famine, the government set price ceiling for basic goods so that

everyone can afford including the poor.

## **Impact of a price ceiling**

Will result in shortage, and government will need to intervene to allocate basing on;

1st come 1st serve basis

Criteria for purchase

Deciding which customers should buy 1st.

Leads to emergence of black markets, where customers, unable to buy enough in the legal market may pay higher price for the products in the illegal / black market.

Methods government can use to deal with the shortage

Government may draw on stocks to reduce shortage

Government may produce the goods

May give tax relief or subsidies to firms to encourage them to produce more

May attempt to reduce demand and by encourage production of substitutes

Here are 2 examples of Supply and Demand curve.

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## **Demand Curve**

An outward or rightward shift in demand increases both equilibrium price and quantity.

## **Supply Curve**

The price  $P$  of a product is determined by a balance between productions at each price (supply  $S$ )

and the desires of those with purchasing power at each price (demand  $D$ ).

Along with a consequent increase in price ( $P$ ) and quantity sold ( $Q$ ) of the product.

**Qns 2. Prior to mid 2008, the price of oil shot up to US\$145 per barrel. Then it fell drastically to as low as US\$40 per barrel by the end of 2008. How do you explain these 2 phenomenons?**

### **Phase 1: Why US\$142?**

With oil prices approaching US\$100 a barrel, the world is headed towards its third energy shock in a generation. But today's surge is different from previous oil crises, with broad and longer-lasting global implications. Just as in the energy crises of the 1970s and 1980s, today's high prices are causing anxiety and pain for consumers, and igniting wider fears about the impact on the economy.

But unlike past oil shocks, which were caused by sudden interruptions in exports from the Middle East, this time prices have been raising steadily as demand for petrol grows in developed countries, as hundreds of millions of

Chinese and Indians climb out of poverty, and as other developing economies grow at a sizzling pace.

At the root of the stunning rise in the price of oil, up 56% this year and 365% in a decade, is a positive development: an unprecedented boom in the world economy. Demand from China and India alone is expected to double in the next two decades as their economies continue to expand, with people there buying more cars and moving to cities to seek a way of life long taken for granted in the West.

More than any other country, China represents the scope of that challenge. As it turned into a global economic behemoth over the last decade, China also became a major energy user. Its economy has grown at a furious pace of about 10% a year since the 1990s, lifting nearly 300 million people out of poverty. But rapid industrialization has come at a price: Oil demand has more than tripled since 1980, turning a country that was once self-sufficient into a net oil importer.

India and China are home to about a third of humanity. People there are demanding access to electricity, cars and consumer goods and can increasingly afford to compete with the West for access to resources. In doing so, the two Asian giants are profoundly transforming the world's energy balance.

Today, China consumes only a third as much oil as the United States, which burns a quarter of the world's oil each day. By 2030, India and China together will import as much oil as the United States and Japan do today.

During the first eight months of the year, China's net imports of crude oil <https://assignbuster.com/factors-influencing-the-supply-of-rice-in-the-world-market/>

rose 18.1% over the same period last year. Chinese demand has been identified as at least partly responsible for currently high oil prices. Demand for energy in China, the world's second-largest oil importer, has rocketed as a result of explosive economic growth that has been in double digits for 4 consecutive years. Imports last year accounted for 47% of the country's overall consumption, and industry observers have warned imports might make up more than 50 percent of its petroleum needs in a year or two.

In a market more concerned about the supply of crude oil in the coming years than any immediate shortage of refined fuels, news of another 500,000 bpd of refining capacity starting up in China from later this year may give the bears reason to pause.

More realistically, global demand is expected to rise to about 115 million barrels a day by 2030, a level that is likely to tax the world's ability to pump more oil out of the ground.

With government subsidies keeping fuel prices artificially low, gas stations are either running out of supplies or are shutting operations hoping for a state-approved rise.

## **Phase 2: Why US\$40?**

With major new refineries being started towards the end of this year, China crude oil import growth should accelerate but its massive products stockpiling will slow, cutting fuel imports.

With oil prices having fallen more than 20% from their mid-July peak above \$147, traders are searching for direction beyond the dollar gyrations,

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weakening US fuel demand, the Iran-West faceoff and this week Russia-Georgia conflict.

The government hiked fuel prices by about 11% but had kept them frozen at that level, seeking to avoid fuelling inflation.

People are travelling less, manufacturers are slashing production and there are job cuts across almost every sector of the economy, leading to a severe drop-off in energy use.

Gas now costs a dime more per gallon than it did just a month ago even as crude prices fall. Gasoline bottomed out at \$1.61 a gallon on Dec. 30 and prices have yet to catch up with the latest drop in crude.

Crude has closed lower every day with dire economic news overshadowing armed conflict in the oil-rich Middle East, a dispute that has shut off or disrupted natural gas supplies to more than a dozen European nations, and diminished crude exports from the Organization of Petroleum Exporting Countries, which accounts for about 40 per cent of global supply.

Oil analysts said oil price sentiment remained weak although the Organization of Oil Exporting Countries (OPEC) that commands 40% of global crude oil production has just announced a production cut of 2.2 million barrels per day

## **Inflation**

In February 2008, Reuters reported that global inflation was at historic levels, and that domestic inflation was at 10-20 year highs for many nations.

“ Excess money supply around the globe, monetary easing by the Fed to tame financial crisis, growth surge supported by easy monetary policy in Asia, speculation in commodities, agricultural failure, rising cost of imports from China and rising demand of food and commodities in the fast growing emerging markets,” have been named as possible reasons for the inflation.

Other Claimed cause.

1) Caused by excess monetary expansion;

(2) Prolonged by an inability to evaluate counter-party (risk due to opaque financial statements; and (3) worsened by the unpredictable nature of government’s response to the crisis.

It has also been debated that the root cause of the crisis is overproduction of goods caused by globalization (and especially vast investments in countries such as China and India by western multinational companies over the past 15-20 years, which greatly increased global industrial output at a reduced cost). Overproduction tends to cause deflation and signs of deflation were evident in October and November 2008, as commodity prices tumbled and the Federal Reserve was lowering its target rate to an all-time-low 0.25%. On the other hand, Professor Herman Daly suggests that it is not actually an economic crisis, but rather a crisis of overgrowth beyond sustainable ecological limits.

## **ANNEX**