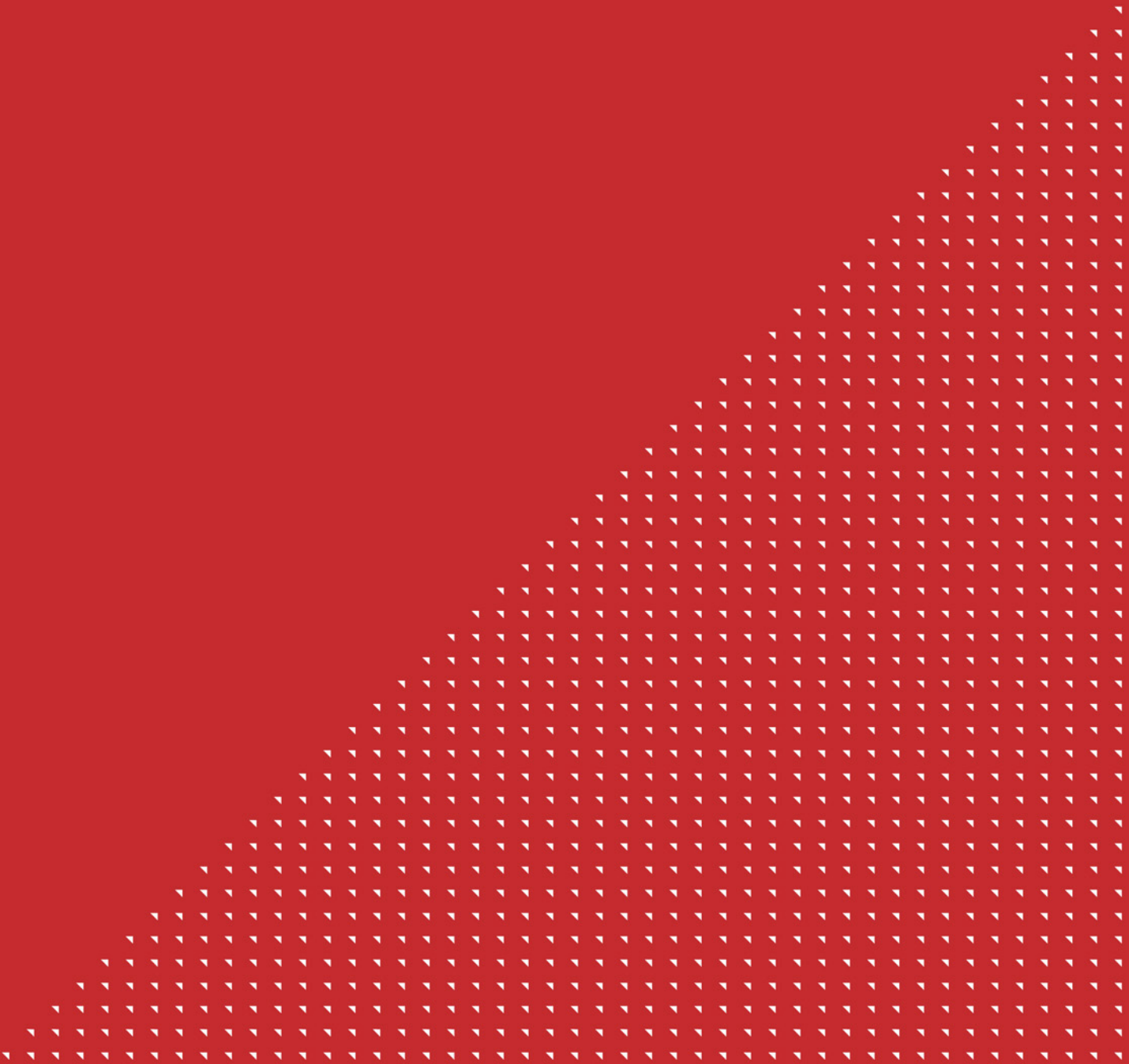


Red Paper – Rising food prices
Implications for global investors

September 2008



Snapshot

- Food prices have surged in 2008, led by staples including wheat, corn and rice.
- Strong demand due to growth in biofuel production, combined with supply disruptions, has resulted in tight market balances for major food crops.
- Rising food prices has boosted global inflation, particularly in emerging markets.
- Food protests and riots have erupted in a number of low-income food deficit countries, particularly in Africa and Asia.
- While improved weather conditions could see prices ease in coming months, prices are expected to remain relatively high over the medium-term. Given the low level of inventories and strong demand, markets are particularly sensitive to fluctuations in supply.
- Including commodities as an asset class can offer diversification benefits to investors. These benefits are most evident in the late expansion or early recession stage of the business cycle, which is how the current economic environment would be characterised.
- Gaining commodities exposure by simply replicating the structure of existing benchmarks can lead to the exposure being concentrated in one or two sectors

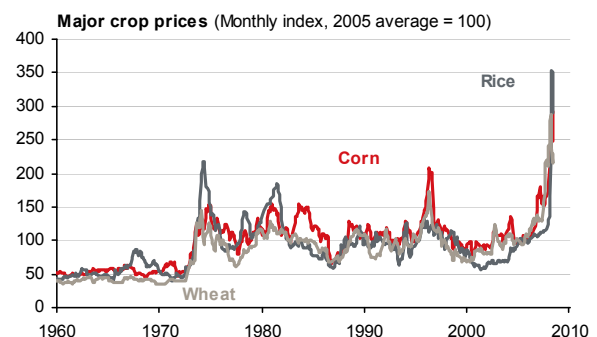
Developments in agricultural commodity markets

Background

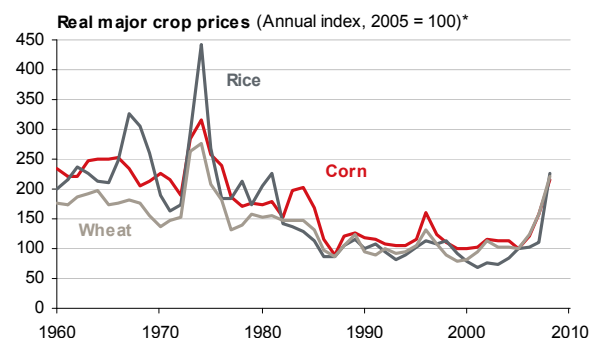
Commodity prices continue to boom, despite the recent financial market turmoil and slowdown in advanced economies. While much attention has focussed on energy, metal and bulk resource prices, other commodities have hit record highs in recent months. Food prices have risen more than 80% since 2005, led by a 130% rise in wheat prices and a 190% increase in corn and rice prices. This has largely reversed the downward trend in real prices over the past three decades, although real prices remain well below their mid-1970s peaks.

The sharp run-up in prices reflects both structural and temporary factors:

- Strong growth in per capita incomes has boosted demand for food, particularly from developing countries;
- Surging oil prices have contributed to higher food prices by raising the costs of inputs and increasing demand for biofuel production. Demand for corn and rapeseed for use in biofuel production has increased significantly in recent years, encouraging farmers to shift production to these commodities. This substitution effect has, in turn, lifted other commodity prices.



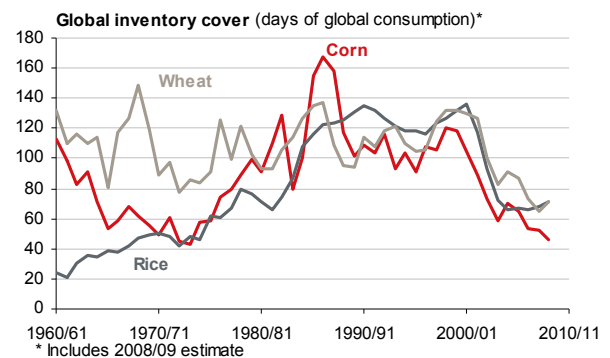
Source: FactSet; IMF; QIC



* Deflated by unit value index for G-5 exports of manufactures, Jan-June average for 2008.

Source: FactSet; IMF; World Bank; QIC

- Drought conditions and other adverse weather events have reduced harvests across the world. Strong demand, combined with supply disruptions, has resulted in tight market balances. Global stock levels, as a share of consumption, have fallen significantly and are around their lowest levels since the early 1970s and early 1980s for corn and rice respectively. The global inventory cover for wheat has fallen to its lowest level since at least 1960.

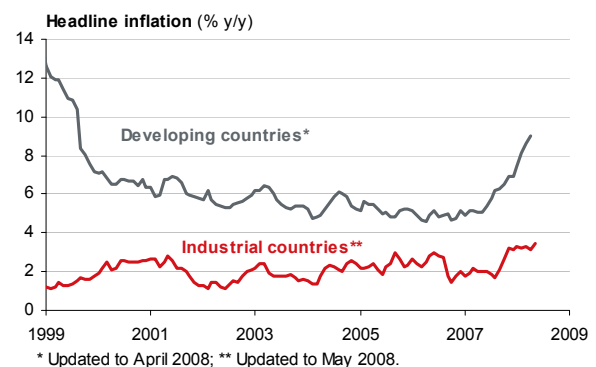


Source: USDA; QIC

- Policy responses to rising food price inflation have exacerbated the increase in prices. A number of developing countries have raised export taxes, banned exports or placed other quantitative restrictions on agricultural exports in an attempt to reduce domestic food price inflation.

Inflation implications

The sharp run-up in food and energy prices has lifted global inflation. The increase has been more pronounced in developing economies since food comprises a higher proportion of total consumption in these countries. For instance, in many low-income developing countries, food can comprise 50% or more of total consumption, while in most major industrial countries food represents only 10-15% of consumption. According to calculations by the IMF, higher food prices accounted for around 70% of the pick-up in inflation in emerging markets during 2007, compared to only 20% in advanced economies.



Source: FactSet; IMF

Consequently, monetary policy in developing countries, in particular, needs to be tighter than it otherwise would be. Indeed, a deteriorating inflation outlook has led many central banks, including those of India, Indonesia, Taiwan, Hungary, Poland, Russia, Turkey, Brazil, Mexico, Chile and South Africa to tighten policy in recent months.

Inflation concerns have also weighed on policy decisions in advanced economies. Concerns about inflation have led the European Central Bank (ECB) to lift the policy rate to 4.25%, while the worsening inflation outlook has led markets to pare back expectations of additional rate cuts in the UK. Nonetheless, the indirect impact of rapidly rising food prices has been to increase the interest rate differential between developed and emerging markets, supporting carry-trades and capital inflows into emerging markets.

Food security

The most significant impact of higher food prices is felt on low-income, food deficit countries, which rely on imported food supplies. Food protests have emerged in many of these countries, including:

- Africa – Guinea, Cameroon, Niger, Ethiopia, Ivory Coast, Mauritania, Burkina Faso, Morocco, Senegal and Mozambique;
- Middle East – Egypt and Yemen; and
- Asia – Philippines, Bangladesh, Indonesia and Uzbekistan.

According to the World Bank, rough estimates suggest that the impact of the recent increase in food prices over the past three years will result in 100 million people falling into absolute poverty, or under \$1 a day. Such an outcome may reverse the gains in poverty reduction experienced over the past decade in some countries.

Higher food prices will also weaken the trade balance of other net agricultural importing countries, such as Japan, China, Korea and Mexico. In contrast, farmers in net food exporting countries, including Australia, Canada, US, Argentina and France, will benefit from higher food prices. Nonetheless, country-wide analysis tends to mask the distributional impacts of higher food prices. The urban poor, in general, are particularly hurt by high food prices.

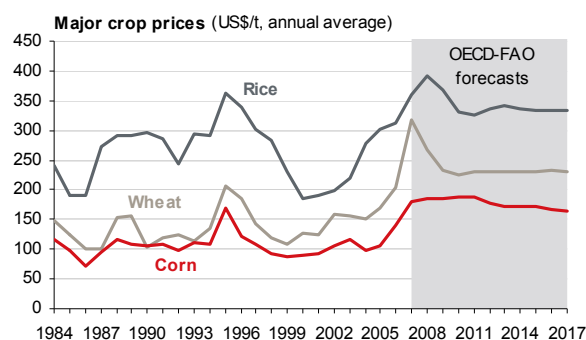
Outlook

High prices have encouraged increased plantings of several crops in 2008. If favourable weather conditions prevail, strong crop production over the next 6 months could place downward pressure on prices. Indeed, wheat and rice prices have eased from their peaks in March and April in anticipation of higher production in 2008 and some relaxation in export restrictions. However, food prices remain vulnerable to further supply-side shocks given the low level of global inventories.

Over the medium-term, prices are expected to remain above their longer-term average. Demand is expected to remain high, underpinned by government support of biofuel production. Of course, policy support can shift as governments balance the benefits of biofuel production against the costs of higher food prices. Over the longer-term, the viable development of second generation feed stocks (such as cellulosic ethanol derived from wood chips, crop wastes and fast growing grasses), which have higher ethanol yields, may ease pressures in the corn market.

Additional supply responses are likely to eventuate over the medium to long-term. While global arable land has remained relatively stable over the past decade, supply is expected to respond to the higher prices. First, policy measures in the US and Europe aimed at setting aside land for conservation and environmental reasons have come under pressure, with some land likely to return to agricultural production. Second, there is significant potential for additional farmland in South America, although this is likely to take some time to cultivate considering the substantial infrastructure investment required. Furthermore, additional productivity improvements could also boost supply over the medium-term. A number of countries have adopted genetically modified (GM) crops in recent years. More widespread acceptance and adoption of GM crops is likely to boost crop yields in coming years.

Combining these demand and supply factors, the Organisation for Economic Cooperation and Development (OECD) and the Food and Agriculture Organisation (FAO) of the United Nations expects market balances to remain relatively tight over the medium term. Prices for wheat, corn and rice are expected to remain high relative to their historic average over the next decade, albeit somewhat below their recent peak.



Source: OECD-FAO; QIC

Commodities as an asset class

The recent commodity bull market has coincided with a growing interest in commodities as a separate asset class. Exposure to commodities is attractive for a number of reasons:

- Commodities provide **diversification benefits**. Historically, commodities have a low correlation to other asset classes and a high correlation to inflation. Table I highlights the benefits of commodities across alternative business cycle phases. During the early stages of a recession, when the returns on both stocks and bonds have historically been negative, the return on commodity futures has been positive.
- Commodity futures can generate **returns above the risk-free rate**. Over the long run, the return on a diversified basket of commodity futures has been comparable with the return on other risky asset classes, such as equities.
- The returns **can not be replicated** by a simple combination of other assets. A significant difference between the returns from commodity futures versus listed commodity companies is apparent over the long-run. Furthermore, the correlation of these returns is low, with commodity stocks behaving more like other stocks than commodity futures.

Table I: Average returns in business cycles between 1959 and 2004

Cycle Type	Stocks	Bonds	Commodity Futures
Expansion	13.3%	6.7%	11.8%
Early	16.3%	10.0%	6.7%
Late	10.4%	3.6%	16.7%
Recession	0.5%	12.6%	1.1%
Early	-18.6%	-3.9%	3.7%
Late	19.7%	29.1%	-1.6%

Source: Gorton, G and KG Rouwenhorst (2006), 'Facts and Fantasies about Commodity Futures', *Financial Analysts Journal*, 62(2), p. 57

QIC gains exposure to commodities through commodity futures. Research has shown that a long term risk premium can be accessed in commodities via the futures market. Commodity futures allow the producers of commodities to obtain insurance for the future value of their outputs (or inputs). For example, a grain producer would sell grain futures to lock-in the future price of his crops and obtain insurance against the price risk of grain at harvest time. Investors in commodity futures provide this insurance and buy futures, but demand a futures price which is below the expected market price at harvest time. The difference in price represents the premium earned by the investor for accepting the risk of commodity price movements.

The performance of commodity futures can also be affected by a number of other factors including the seasonality of the commodity in question (such as energy price rises in the Northern Hemisphere winter) and changes in commodity inventories and liquidity. As is the case with other asset classes, it is important to ensure that your commodity futures portfolio employs a number of different strategies to ensure you get the full benefit from diversification.

To gain exposures to commodities, many funds simply replicate the structure of existing benchmarks. This approach can lead to the exposure being concentrated in one or two sectors. QIC has taken a different approach by intentionally structuring a portfolio of commodities which is more diversified, both in sector weights and implementation strategies. This provides greater diversification benefits and allows greater flexibility to ensure our clients' commodities exposure is consistent with their specific investment objectives.

For further information on how commodities can benefit your portfolio please contact Clayton Sills , Business Relationship Manager, Strategy & Capital Markets on p: 02 9347 3344 e: c.sills@qic.com.

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