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# The impact of COVID-19 on agriculture

Michael Blakeney and Patrick Hayden

**M**any economists, much better positioned than we are, have provided forecasts on the future prospects of the global economy. Our simplified analysis leads us to believe that it is very possible that the economy will set new records over the coming months and the longer it takes to reach the new normal, the higher the potential for deep structural implications that may have an outsized influence on economic prospects.

Certainly we have already seen markets set new records. The Australian Securities Exchange's All Ordinaries Index has recorded the greatest daily loss since 1987, combined with the most substantial daily gain on record.

In March 2020, Australian markets also recorded three of the 10 largest daily losses and gains. This is combined with the biggest monthly drawdown since Black Monday in 1987, exceeding the interim drawdowns of the global financial crisis (GFC) (RCP analysis, April 2020).

As long-term investors in real assets producing essential goods, we are less concerned about the short-term movements in equity markets and are focused on the functional components and long-term prospects of the food and agriculture sector.

This paper shares insights on the impact of the coronavirus

pandemic (COVID-19) on this sector. In doing so, we purposely avoid formulating specific predictions for economic growth into the future and are acutely aware that observations made today may well be redundant tomorrow, given the depth and speed of the disruption.

## The historical and present demand for durable and non-durable goods

The historical divergence in consumption of durable goods (generally defined as goods that have utility over a long period, and range from toasters to cars) and non-durable goods (single-use products such as food and beverages) during periods of economic contraction provide a foundation for the potential, but not guaranteed, resilience of the agriculture sector across business cycles.

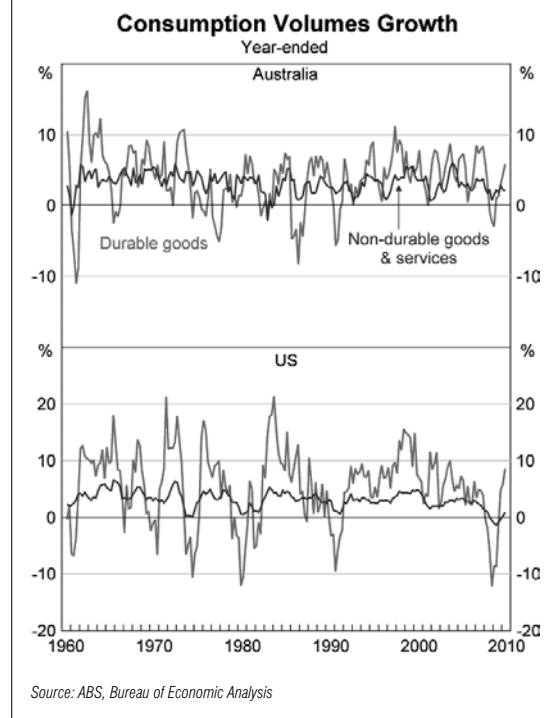
The Reserve Bank of Australia (RBA) 2010 report titled *Durable Goods and the Business Cycle*, noted that:

"Spending on consumer durable goods and machinery & equipment investments has been highly correlated with GDP growth in both Australia and the United States over the past 50 years."

Further, the RBA identified that:

"During deep recessions, spending on consumer durables and capital goods in Australia has fallen sharply ... In contrast, growth in household spending on non-durables and services slowed on average but remained positive. The experience in the United States has been similar (see Figure 1)."

Figure 1. Australia and US durable and non-durable goods: long-term consumption



The International Monetary Fund (IMF) in its *World Economic Outlook, October 2010: Recovery, Risk and Re-balancing* report, referencing the GFC noted that:

“The contraction in final demand during the recent crisis was asymmetric across sectors, with demand for durables falling by considerably more than demand for nondurables or services. For example, demand for durables in the United States ... fell by more than 30 percent ... whereas demand for non-durables and services fell by only 1 to 3 percent.”

These historical spending patterns are broadly consistent with expected spending patterns of consumers globally following COVID-19. Spending on non-durable goods of fresh and organic foods, healthcare and vitamins/supplements is expected to increase over the coming six months while spending on durable goods including cars, toys and games and athletic equipment is expected to decrease (Boston Consulting Group (BCG), ‘COVID-19 Consumer Sentiment Snapshot #3’, 2020)

In terms of consumption trends during the early stages of COVID-19, anecdotal evidence and reports suggest a short-term boost in retail demand for non-durable goods. This short-term demand spike has been witnessed globally (BCG, 2020). Export demand for non-durables and the operational capacity of supply chains is less clear. Longer-term, historical precedence, assuming a period of economic contraction, suggests demand for food and beverages (non-durable goods) in aggregate will remain robust relative to durable demand.

## The variable impact across the food and agriculture sector

Consistent with historical precedence, we should not expect aggregate food demand to decrease significantly, but rather we should be aware that inter-industry shifts in demand may occur as a result of changes in the economic prospects and lack of consumer mobility resulting from COVID-19. Research from the United States Department of Agriculture (USDA) and U.S. Bureau of Labour Statistics (summarised in the following paragraphs) suggests this expectation is consistent with changes through the 2007–2009 recession.

In the USDA’s *Food Spending Adjustments During Recessionary Times* report of 2011, analysis shows during the 2007–2009 recession, Americans of all income levels tightened their belts, primarily by eating out less. Food-at-home sales also declined during the recession.

By contrast, restaurant and food service sales fell significantly during March 2020, outstripping changes seen in 2007–2009.

Further, the USDA report found that food expenditure fell 1.3% between 2006 to 2009. Importantly, it was also found that the fall in at-home spending consisted of initiatives that emphasised a decrease in costs including substituting comparable but lower-cost foods; taking advantage of sales, promotions and coupons, and seeking lower-cost stores.

Analysis of data from the U.S. Bureau of Labour Statistics Consumer Expenditure Survey over the same period (2007–2009) highlighted the variable impact of recessions across agricultural commodities. Unsurprisingly, expenditure on discretionary items (for instance, alcohol) fell more than essential food products.

Early indications, as reported by the Australia Trade and Investment Commission in March 2020, suggest similar trends, have been evident in China recently, as “some dairy suppliers saw strong demand”, “demand for wine remains very soft, especially at the premium end” and “around 56,000 tons of beef were exported in the first three months of 2020 ... a 7.7% increase by volume [from the prior year]”.

Commodity price volatility is generally ever-present in agriculture. In theory, agricultural commodity prices are driven primarily by supply and demand which makes the attribution of GDP growth alone to price movements in commodity markets challenging.

That said, they provide another data point. Rudimentary analysis of agricultural commodity futures markets between 1990 and 2009 suggests that the impact of economic contractions varies across commodities and that prices of inputs used in the production of durable items (in this case, cotton) and discretionary items (in this case, sugar) typically decreased more than non-durable, non-discretionary commodities of corn and soybeans.

Commodity market movements since late February 2020 illustrate commodity price trends consistent



### The quote

*Initial indications are that farmland vendors in Australia are yet to be significantly influenced by COVID-19 impacts, however, the lag associated with farmland values limits the veracity of this position.*

with recessionary periods between 1990 and 2009 (see Table 1, noting that sugar in the 2007–2009 period reflected short supply, and corn currently influenced by ethanol prices).

**Table 1. Agricultural commodity prices, recessionary periods 1990–2009 and COVID-19**

Recessionary period					
Period from	Period to	Corn	Soybean	Cotton	Sugar
Jul-90	Mar-91	–9.7%	–7.1%	–10.5%	–29.3%
Mar-01	Nov-01	–3.4%	–2.5%	–30.3%	–15.7%
Dec-07	Jun-09	–3.8%	7.3%	–18.6%	64.2%
21 Feb-20	24 Jul-20	–13%	–2%	–14%	–23%

Source: RCP

Longer term it is possible, and [multinational Dutch rural lender] Rabobank makes the argument in its *Coronavirus and the Impact on F&A* report of April 2020 that the sustained trend we have seen in recent times toward healthy eating may be accentuated as a result of COVID-19, benefiting organic producers, fresh fruit and vegetables producers and generally companies and countries with reputations for ‘clean and green’/safe food production.

### COVID-19’s unique potential to impact the food and agriculture sector

COVID-19 will have a significant impact on the global economy, and the next quarter will confirm that some economies are in recession. Historical analysis of prior periods of economic contraction can provide a reasonable guide to what we could expect in the future. However, the abrupt and widespread impact of COVID-19 on everyday life for billions of people will potentially have a unique impact, not seen in prior recessionary periods, on the food and agriculture sector.

Restrictions adopted globally in an effort to contain COVID-19 will hit some segments of the food and agriculture sector harder than others. Restaurants and, by implication, supply chains and commodities reliant on restaurant trade (and, by extension, food service generally) have seen a sharp and dramatic fall in sales.

Restaurant expenditure was estimated to account for 34% of food expenditure in Australia in 2015–16 (Department of Agriculture, Water and the Environment, *Food demand in Australia: trends and issues 2018*).

The fall in restaurant sales and hence demand for French fries has resulted in a drop in demand for Canadian potatoes that is not expected to be filled by an increase in sales via grocery stores. Australian watermelon and fresh salad producers have seen a similar fall in demand from food service. Australian flour millers have seen an increase in demand. The closure of labour-intensive meat processing plants will impact producers and consumers. The reduced use of vehicles has resulted in lower consumption of gasoline and, for certain countries, will result in lower demand for ethanol, impacting corn and sugar-cane farmers. Likewise, fresh seafood, which is typically transported globally by air, has seen imports fall by up to 80–90% (RCP analysis; Australian Trade and Investment Commission, *COVID-19: Support for Australian Businesses*, 2020).

Arguably, the potential of disruption to supply chains is greater in the current pandemic environment than what we would expect

from analysing recessionary periods of the past. Planting decisions, the supply of inputs, access to labour (particularly for crops reliant on manual labour for harvesting or processing) and the ability to get goods to market may have implications for what consumers find on store shelves for some time yet.

### Agricultural sector asset prices

Rabobank’s Australian Rural Commodity Index of March 2020 saw the impact of current and future business and economic conditions on agricultural sector asset prices as being of particular importance. Given the current strong agricultural commodity prices, the recent improvement in climatic conditions for vast areas of Australia and the historical consumption of non-durable goods during recessionary periods, it is plausible, although not guaranteed, that tangible (farmland and water) agriculture sector asset prices will be more resilient to COVID-19 than many sectors.

The actual impact of COVID-19 on asset prices will likely be delayed and vary by commodity and supply-chain segment. Initial indications are that farmland vendors in Australia are yet to be significantly influenced by COVID-19 impacts, however, the lag associated with farmland values limits the veracity of this position.

Since February 2020, Aither’s southern Murray Darling Water Index has softened –6.34%. The drivers and reasons for these movements are not directly attributable to COVID-19. Rather, they reflect supply and seasonal timing. Given the valuation cycle and liquidity of Australia’s water markets, it is possible that the values of Australian water entitlements will provide an early indication of the resilience of the agriculture sector to COVID-19.

### Looking ahead with guarded optimism

Consistent with past commentary, we anticipate that the agriculture sector will be less sensitive to a future period of economic contraction than many other sectors. We also expect participants who hold diversified portfolios of agricultural or water assets, that provide exposure to multiple commodities (particularly if the majority of these commodities are produced using mechanised farming systems and are inputs into non-durable goods), servicing both domestic and export markets will be well placed in the medium term. That said, it is possible that certain factors unique to COVID-19 will create headwinds for the sector which may also present distinctive opportunities for further investment.

Australian agriculture is an export-dominated capital-intensive sector. We are well aware that factors not discussed in detail in this paper are likely of greater risk to the outcomes of diversified agriculture sector investment strategies. Examples of such factors include, sustained disruption to international trade, reduced access to bank credit, or a sustained elevated Australian dollar (which occurred post-GFC).

What remains to be seen is whether the medium-term impacts of COVID-19 elevate any, or a combination, of these factors and in turn adversely affect the sector more than others.

### Conclusion

The agriculture sector produces essential goods. The IMF’s *World Economic Outlook, October 2010: Recovery, Risk and Rebalancing* report found that in past periods of economic contraction, demand for non-durable goods has been more resilient than demand for durable

goods, and select agricultural sector assets—which have shown to be uncorrelated to traditional markets—have been defensive in nature.

We expect that the agriculture sector will be less sensitive than other sectors to periods of economic contraction resulting from COVID-19. **FS**