

High food prices will harm the New Zealand economy

“...the rural economy tends to employ a fairly small proportion of New Zealand while everybody has to buy food at the supermarket”

Shamubeel Eaquab – Principal Economist, NZIER
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Food prices are high, and have increased significantly over the last year in response to adverse weather conditions as well as booming foreign demand, especially in developing countries. New Zealand food prices rose 4.6% in 2010 and will rise further on the back of global commodity price increases.¹ Global food prices are now higher than during the 2008 food crisis according to the Food and Agriculture Organisation of the United Nations (FAO).² More alarmingly, the FAO and the OECD are forecasting these elevated prices to stick around until at least 2019 as shown in Table 1 on the next page.

We model the impacts of these high food prices on New Zealand and find that any gains to our export sector are overshadowed by a reduction in household spending, resulting in a welfare loss of \$3.3 billion or 2.0% of GDP for New Zealand. Unfortunately, international experience suggests that there are no quick fixes to high food prices. We may just have to ride it out, which will place additional pressure on New Zealand’s already sluggish economic recovery.

All that glitters ain’t gold

There are winners and losers on the back of high food prices. One view is that high food prices are great news for New Zealand, as it is primarily a food exporter. Higher prices increase the revenue generated from our agricultural products, which flows through the rest of the economy. The flip-side of high prices is that we, as consumers, must also pay them. High prices mean households can buy less with their income, which is bad news for New Zealand. So what is the net effect on the New Zealand economy of high food prices?

¹ Further details available at: http://www.stats.govt.nz/browse_for_stats/economic_indicators/CPI_inflation/ConsumersPriceIndex_HOTPDc10qtr/Commentary.aspx

² Further details available at: <http://www.fao.org/giews>

Table 1 Global Food Price Index

2004 Base Year, based on US\$/tonne

	2004	2008	2012	2016	2019
Cereals	100	214	168	177	172
Oilseeds	100	151	152	158	161
Meats	100	157	144	151	153
Dairy	100	184	126	137	146
Sugar	100	152	130	126	160

Source: FAO-OECD Agricultural Outlook 2010-2019, NZIER calculations

Using the GTAP Computable General Equilibrium (CGE) model, we consider the possible effect these prices could have on the New Zealand and global economies.³ The beauty of using a model like GTAP is that it provides us with a framework to consider *all* the effects of high world prices, once the economy fully adjusts, and calculates a net effect on the economy. We then discuss international work in this area, and the implications for New Zealand policy.

High prices hurt New Zealand...

Our modelling suggests that these on-going high prices could reduce New Zealand's economic welfare by \$3.3 billion, or 2.0% of GDP. This welfare loss is being driven by two main effects.

First, higher prices reduce New Zealand consumers' purchasing power. The results show that New Zealand's household spending falls 2.9% following the price increases. The flow-on impacts from this reduced purchasing power is felt across all sectors, not just food products. This is because a larger share of people's income is needed to buy the same amount of food, leaving less discretionary income for everything else. In this case everything else includes manufactured products as well as textiles and clothing and services.

Secondly, high world prices impact on our exports. Agricultural products, including food, represent over half of New Zealand's exports. Receiving higher prices for these products should help to offset the consumption loss. The value of New Zealand exports *does* increase 2.9%, but it is not enough to offset the consumption loss, resulting in an aggregate welfare decline.

The increase in export values is not dramatic because the buyers of our products, i.e. foreign consumers and firms, are facing the same price increases as New Zealand consumers, and are reacting in the same way. That is, their income has effectively fallen forcing them to purchase less food, but at a higher price. This is best reflected by the changes in volume and value of New Zealand's meat and dairy exports. The fall in volumes are -29.3% and -25.8%, while the increase in values are 16.5% and 21.3%, respectively.

³ More information about GTAP can be found at: <https://www.gtap.agecon.purdue.edu/default.asp>.

...but not as much as other countries

If New Zealand, as a food exporter, is worse off from higher prices, then how does the rest of the world fare? GTAP, which can model up to 113 different regions, is well placed to address this question. Table 2, see below, presents the high-level welfare, GDP, and household spending results for the regions modelled. The results show that *no region* gains from high food prices. Countries like Australia and the United States are the least affected, while India and other countries in South Asia are the most affected. This is most likely due to the high share of food in household expenditure in these South Asian countries.

The global scale of the impacts are daunting. While the United States is modelled as one of the least affected, its losses are greater than the size of the entire New Zealand economy.

The uncertainty of how the world will react to these high prices creates risks to the global economic recovery, and to meeting the on-going food security challenge.

During the food crisis of 2008, countries including Argentina, China, India, the Ukraine, and Vietnam imposed export taxes or restrictions with the aim of protecting their consumers from surging prices. These policies had a number of effects. Yes, they did moderate consumer prices, but they also removed large amounts of supply from the global market. This removal increased the price further for the rest of the world. Additionally, in the face of higher taxes and lower returns, their producers may reduce their production for on-going seasons. This reduced supply threatens food security, and is likely to increase prices for the following seasons, making the policies self-defeating.⁴

So what can be done?

Our results highlight that food prices are a global issue, and are going to need a global solution. While higher prices might incentivise additional investment in food production, market solutions are unlikely to suffice. Organisations like the FAO and the World Bank are undertaking work programmes to provide advice to governments to improve the situation.⁵ The conclusions of the FAO's work-programme to-date have been recently summarised, and include focussing on:⁶

- productive agricultural investment – especially in developing countries
- trade policy – concluding the Doha round of the World Trade Organisation trade talks will remove trade distorting subsidies and generally lower barriers to food trade
- reform of grain-based biofuel policies – a number of biofuels are created from food products, such as corn. Policies that subsidise these bio-fuels encourage farmers to switch from supplying food markets to bio-fuel markets. These support policies should be reviewed to consider their impact on food security.

⁴ For more information, please see: Jones, D. and A. Kwiecinski (2010), "Policy Responses in Emerging Economies to International Agricultural Commodity Price Surges", OECD Food, Agriculture and Fisheries Working Papers, No. 34, OECD Publishing. doi: 10.1787/5km6c61fv40w-en

⁵ More information on these work programmes is available at: <http://www.fao.org/isfp/isfp-home/en/>; and <http://www.worldbank.org/foodcrisis/>

⁶ The full summary of the conclusions can be found at: <http://carnegieendowment.org/publications/index.cfm?fa=view&id=42292>

There is little space for domestic 'band-aid' solutions

New Zealand policies should, where practicable, work to support the agenda of the international organisations that specialise in this area.

Trade policy is where this makes the most sense. Actively working to conclude the WTO's Doha round will, amongst other things, remove the ability of the US and the EU to implement export subsidies. The conclusion of the round will also reduce trade barriers in the world's protected markets. These reductions will provide opportunities for New Zealand, but they will also benefit producers in developing countries through both increased trade, and increased access to productive investment.

One domestic policy that has been suggested is the removal of GST on food products. The intention of the policy is good, but its side-effects need to be considered carefully. It faces a number of problems:

- Included products – A clear, easy to implement definition of the included products will be needed. Any uncertainty will lead to confusion and poor take-up of the policy. The policy also needs to be clear on why fruit and vegetables are exempt and not other products like sports shoes or gym memberships.
- Replacement of tax revenue – GST on food provides tax revenue for the Government to spend. The lost revenue (around \$0.5 billion of GST on fresh food, and \$1.3 billion on all food)⁷ will either need to be recovered through other taxes, further borrowing, or a reduction in Government-sponsored programmes. These are tough choices in today's fiscal environment.
- Distortions – Changing the incentives for consumers and producers is a complicated area. It is very hard to predict how these policies will flow through the economy. It is important to make sure that any policy is not self-defeating, like some of the international responses to the 2008 crisis.
- Clear end-dates – Popular short-term policies can be politically hard to remove. Any policy that is implemented needs to have a clear, enforceable end date.

So knee jerk reactions are to be avoided.

Conclusion

High food prices should be seen as more than just a bonanza for New Zealand exporters. The effect on all New Zealanders needs to be considered. Our modelling shows that the negative impact on households outweighs the benefits to exporters causing a net welfare loss for New Zealand.

Our modelling also shows that no one in the world wins from higher food prices. While the prices may induce more investment in food production, a number of international organisations will also focus on the need to increase productive agricultural investment and remove barriers to food trade.

⁷ Based on Statistics New Zealand Household Economic Survey.

The experience of other countries during the 2008 food crisis suggests that short-term fixes can be self-defeating. This implies that New Zealand may have to ride out these higher prices, which places further pressure on our shallow and jagged economic recovery.

Table 2 Aggregate impacts of high food prices

Percentage change

	Welfare ⁽¹⁾	Real Private Consumption
New Zealand	-2.0%	-2.9%
Australia	-0.9%	-1.3%
China	-2.5%	-4.3%
Other East Asia	-1.4%	-2.1%
South-East Asia	-3.8%	-5.9%
India	-7.8%	-11.3%
Other South Asia	-10.0%	-12.2%
United States	-1.1%	-1.2%
Other North America	-3.3%	-3.6%
Brazil	-3.8%	-5.5%
Other Latin America	-4.1%	-5.5%
EU-25	-2.0%	-2.7%
Middle East and North Africa	-4.1%	-6.2%
Sub-Saharan Africa	-4.7%	-7.0%
Rest of World	-4.4%	-6.2%

Notes: Prices shocks were based on 2019 forecasts from OECD-FAO Agricultural Outlook

(1) Shows percentage of GDP

Source: GTAP model, NZIER calculation

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