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ABARE Brief: Potential penetration of New Zealand apples in the event that the Australian ban on imports is lifted.

New Zealand is a large exporter of apples, shipping about 320 kilotonnes in 2002-03. Royal Gala and Braeburn varieties accounted for more than 70 per cent of total export value, while the balance was accounted for by other varieties — including Pink Lady and Pacific series varieties such as Pacific Rose and Pacific Beauty. Major destinations for New Zealand apple exports are the United Kingdom, the rest of the European Union, North America and Asia.

The aim in this analysis is to estimate the potential volume of imports from New Zealand under different assumptions about the likely change in the average annual price of apples in the Australian market following the entry of imports from New Zealand. Prices will fall if New Zealand apple producers currently have a landed cost advantage. Given considerable uncertainty over the extent of any cost advantage that New Zealand producers may have over their Australian counterparts, three hypothetical scenarios assuming price reductions of 5, 10 and 20 per cent have been considered.

The results of the analysis are summarised in table 1 and include an assessment of the economic impact in both the short term and over the longer term. In the short run, it is estimated that the average annual volume of imports is between 11 and 46 kilotonnes depending on the magnitude of the reduction in domestic prices. In the longer term, it is estimated that import volumes are in the range of 20 to 78 kilotonnes.

Table 1: Estimated NZ apple imports under different price assumptions, in the short and long term

Supply and demand elasticities (ϵ and η)	Short run			Long run		
	$\epsilon = 0.2, \eta = -0.5$			$\epsilon = 0.5, \eta = -0.7$		
Assumed reduction in domestic price following imports (%)	5	10	20	5	10	20
Pre-import equilibrium quantity (kt)	326	326	326	326	326	326
Pre-import equilibrium price (A\$/t)	2,250	2,250	2,250	2,250	2,250	2,250
Post-import equilibrium price in Australia (A\$/t)	2,138	2,025	1,800	2,138	2,025	1,800
Reduction in domestic price (A\$/t)	113	225	450	113	225	450
Volume of Imports (kt)	11	23	46	20	39	78
New domestic supply (kt)	323	319	313	318	310	293
Total post-import equilibrium quantity (kt)	334	342	359	337	349	372
Imports as a proportion of domestic sales (%)	3	7	13	6	11	21

Based on the size of the assumed reduction in the domestic price of apples, and for the reasons presented below, it appears unlikely that New Zealand imports would make up a significant proportion of current domestic sales in an average year.

Nevertheless, some displacement of locally produced apples at the margin appears likely as New Zealand exporters try to establish a market share in Australia. In addition, in years where domestic production may not be enough to push prices down to export parity, higher prices from the shortfall in domestic supply will attract imports up to the point where domestic and world prices are equalised.

However, the volume of imports in this instance will depend significantly on the magnitude of the reduction in domestic supply. ABS data over the 12 years to 2002-03 indicate that fluctuations in Australian apple production are generally small, with average production around 326 kilotonnes and the standard deviation in production around 20 kilotonnes.

Reasons for relatively low import penetration

- The landed price for imports from New Zealand is estimated at A\$1615/t in 2004. However, marketing costs and charges need to be added to the landed price to make it comparable with Australian wholesale prices.
 - An indicator of the size of the marketing margin necessary to bring landed import and domestic wholesale prices to a comparable level could be represented by the difference between the Australian export 'free on board' (fob) price and the domestic wholesale price (assuming similar transport costs to ports and to major markets for domestic sales). This is because in a competitive exporting industry domestic prices cannot be kept above export parity, as any potential excess in domestic prices is competed away before supplying the world market.
- Differences in transport costs between Australia, New Zealand and other markets are not expected to have a large impact on export volumes due to the relatively inelastic nature of demand.
- New Zealand exports are likely to incur additional costs in meeting market access conditions put in place by Biosecurity Australia to reduce the risk of fire blight.
- With the apple industry in both countries being domestically and internationally competitive, it is not possible to profitably restrict supply or flood the market to affect changes in prices.
 - If New Zealand exporters were to dump apples in Australia (that is, sell apples in Australia below the New Zealand domestic price), this could be subject to review under the Trade Practices Act.
- Australian producers have access to new and emerging varieties as well as technological improvements in horticultural practices.

Differentiated product mix

It was assumed in the above analysis that the varietal mix imported from New Zealand would be similar to that currently sold in the Australian market. A second possibility is that New Zealand could export a mix of products — highly differentiated on the basis of variety and quality — to Australia.

During the period 1992-93 to 1999-00, Australian export prices for fresh apples were lower than the New Zealand fob export price by an average of 8 per cent. These price differences mainly reflect the increasing proportion of higher priced varieties in the composition of New Zealand's exports. However, with Australia's production and exports of new varieties also increasing, the difference in

export prices between Australia and New Zealand have diminished and even reversed in recent years.

Given that differences in variety and quality of Australian and New Zealand apples have diminished and continue to diminish over time (according to new Australian planting statistics), it is considered highly unlikely that New Zealand could export large quantities of apples to Australia in the form of highly differentiated products.

Details of estimation methodology

A spreadsheet model was constructed to assess the potential volume of apple imports from New Zealand under a variety of price assumptions. In the analysis, three scenarios reflecting different changes in the domestic price were investigated. It is these changes in the price that determine the total quantity of apples demanded, as well as the potential share of imports in the domestic market, through the model parameters that define apple sales and the likely production response (price elasticities of supply and demand).

Based on empirical research in other countries, the responses to both supply and demand for apples in the event of a change in price are relatively low (inelastic). It is assumed that the elasticity of supply is 0.2 in the short term and 0.5 in the longer term. It is further assumed that the elasticity of demand is -0.5 in the short term and -0.7 in the long term.

An average wholesale price of A\$2250/tonne for Sydney, Melbourne and Brisbane markets in 2004, together with a domestic supply of 326 kilotonnes, were used as the baseline for this analysis. Potential import volumes are determined by the combined effect of the two factors: the difference between the current domestic price and the potential price of New Zealand apples, and the magnitudes of the elasticity of supply and demand in the domestic market. The volume of imports increases with greater differences between the prices and higher elasticities of supply and demand.



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