

## Impacts of a Free Trade Agreement with Australia on US Milk Prices and Production

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### Introduction

Australia has been an important supplier of cheese, butter, and casein to the US in recent years. The objective of this information sheet is to examine likely impacts of a free trade agreement with Australia that would include dairy products. Previous research by the Center for International Economics<sup>1</sup>, a private consulting firm based in Australia, predicted that:

- The value of Australian exports to the US would increase more than 350% under an Australia-US FTA, but from a small base. The predicted increase in the value of imports was \$260 million, or about 1% of the value of US farm milk.
- US milk prices would decrease by 0.1% (about \$0.02/cwt)
- US milk production would decrease by 0.2% (about 0.3 billion lbs)
- US dairy product prices would decrease by 0.1%
- Significant “trade diversion” (adjustments to existing trade patterns) would occur. In particular, New Zealand would benefit from additional export opportunities in Asia when Australia shifts additional exports to the US.
- Milk production in Australia would increase by 1%. (Australia currently produces somewhat more milk than Wisconsin, about 25 billion lbs)

These results suggest that the impacts of an FTA with Australia will not be positive for US dairy producers, but they will not imply a major disruption of the US dairy sector. However, the aggregated product framework and limited policy detail (for example, lack of product pricing formulas and classified pricing) in the GTAP structure may underestimate the price impacts of additional dairy imports from Australia.

### Assessment with a US Dairy Policy Model

Our assessment uses a model of the US dairy sector that includes all major US dairy pricing policies and specifies two regions: California and the rest of the US (largely areas regulated by Federal Milk Marketing Orders). The model is used to examine results for three scenarios:

- 1) a Base Case Scenario with current trade policy;
- 2) An Australia Only Scenario that immediately removes all trade restrictions for products imported from Australia;
- 3) An Australia and New Zealand Scenario that immediately removes all trade restrictions on imports from both Australia and New Zealand.

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<sup>1</sup> *Economic Impacts of an Australia-United States Free Trade Area*, Centre for International Economics, Canberra and Sydney, June 2001. The analysis employs the commonly-used GTAP modeling structure and database, which includes multiple countries, a variety of product sectors (not just dairy) and an aggregated dairy sector (not specific dairy products).

Although no free trade agreement with New Zealand is contemplated at this time, the third scenario reflects that fact that “trade arbitrage” may allow products that would have been produced and consumed in Australia or sold elsewhere to be sent to the US, and for Australia to import additional dairy products from New Zealand<sup>2</sup>. Complete and immediate elimination of trade barriers is assumed, although it is typical to have gradual reduction in trade barriers. The assessment uses 2001 as a base year, which was a time of relatively high US milk and product prices, and moderate world market prices for dairy products. The model allows expansion of imports supplied to the US with relatively small increases in the price at their market of origin<sup>3</sup>. As a result of the three foregoing assumptions, the results represent “worst case short-run” impacts on prices and production. The results do not indicate the long-run impacts of a more gradual phase in of free trade with Australia; this would require an alternative modeling approach.

## Results

Under a free trade agreement with Australia and no “trade arbitrage” effects, our US policy model predicts (Table 1):

- The US all-milk price decreases by about \$0.19/cwt (1.2%);
- US milk production declines by 0.8 billion lbs (about 0.5%);
- The impacts occur primarily because of an increase in butter imports and a \$0.13/lb decrease in the butter price. This effect arises because of the nearly \$1.00/lb difference in average US butter prices and world market prices in 2001.

If restrictions on New Zealand imports are removed (that is, extensive “trade arbitrage” effects are allowed) the predicted impacts are larger:

- The US all-milk price decreases nearly \$0.80/cwt (\$0.90/cwt in California);
- US milk production decreases more than 3 billion lbs (close to 2%);
- The impacts are due to increases in butter and cheese imports that result in lower market prices for those products, \$0.36/lb for butter and \$0.07/lb for cheddar cheese.

## Conclusions and Implications

In general, the results suggest that multi-lateral trade agreements including the EU are much preferred to bi-lateral trade agreements with major dairy exporting countries. Although the predicted price and production impacts are large enough to make a difference to dairy producers

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<sup>2</sup> Note that most trade agreements specify “rules of origin” that would prohibit shipment of products manufactured in New Zealand through Australia to the US. However, rules of origin do not prevent Australia from increasing shipments of products manufactured there to the US (rather than other countries, especially in Asia), and importing additional product from New Zealand to meet domestic needs or supply contracts with countries other than the US.

<sup>3</sup> The model uses import supply functions from the ROW and from Australia and New Zealand. These functions mean as the amount supplied as an import to the US increases, the price of the imported product increases. In the terminology of economists, the functions assumed are quite “elastic”, so that as the amount of imports supplied to the US increases, the price does not increase as rapidly as if the import supply functions were “inelastic.” These functions are simplifications of the type of structure used in GTAP, and do not explicitly account for “trade diversion” or other “general equilibrium” (income) effects.

and processors, trade liberalization with Australia is unlikely to unfold in the manner suggested by the scenarios. A more complete analysis would account for the broader impacts in world dairy product markets, the dynamics of the phase in period and a larger number of “base case” scenarios to examine the impact of world market conditions over the phase-in period.

**Table 1. Impacts of a Free Trade Agreement with Australia on Dairy Market Outcomes**

Price, Production, or Import Variable	Trade Policy Scenario		
	Base	Australia Only	Australia and New Zealand
<b><i>Milk Prices and Production</i></b>			
All-milk Price, \$/cwt	15.21	15.03	14.44
Change from Base		-0.19	-0.78
Milk Production, billion lbs	165.39	164.58	162.27
Change from Base		-0.81	-3.12
% change from base		-0.5%	-1.9%
<b><i>Class Prices</i></b>			
Class I Price, \$/cwt	16.24	16.16	15.71
Change from Base		-0.08	-0.53
Class II Price, \$/cwt	13.93	13.37	12.72
Change from Base		-0.55	-1.20
Class III Price, \$/cwt	13.55	13.47	13.02
Change from Base		-0.08	-0.53
Class IV Price, \$/cwt	13.23	12.67	12.02
Change from Base		-0.55	-1.20
<b><i>Product Prices</i></b>			
Butter Price, \$/lb	1.65	1.52	1.29
Change from Base		-0.13	-0.36
Cheddar Cheese Price, \$/lb	1.49	1.48	1.42
Change from Base		-0.01	-0.07
NDM Price, \$/lb	0.93	0.93	0.97
Change from Base		0.00	0.04
<b><i>US Imports</i></b>			
Butter imports, million lbs	42.5	120.5	282.0
Change from Base		78.0	239.5
Cheddar cheese imports, million lbs	42.8	44.6	202.1
Change from Base		1.8	159.3
Other cheese imports, million lbs	180.9	187.8	174.9
Change from Base		6.9	-6.0

### **Appendix: Brief Model Description**

The model used in the analysis is a modified spatial price equilibrium model of the US dairy sector with trade linkages. It includes fairly detailed final and intermediate (dairy industry use) product disaggregation and explicit representations of US dairy policy (price supports, minimum classified pricing regulation, and import restrictions). Other key model characteristics include:

- 15 final products
- 7 intermediate (inter-plant) products (NDM, cream, skim, ice cream mix, fluid whey, buttermilk, MPC 40%)
- Imports of 12 products (including separate casein, caseinates, and two milk protein concentrate products (as defined in Chapters 4 and 35 of the Harmonized Tariff Schedule)
- 2 US regions (California and rest of US; the latter is assumed under FMMO regulation)
- For this analysis, disaggregated "Australia only" and "Australia and New Zealand" trade regions were specified, and all restrictions on imports from these regions for each of the dairy products were eliminated
- Model base year is 2001
- FMMO and California product-based pricing formulae are explicitly included, as are the purchase prices under the Dairy Price Support Program
- Imports and import supply prices are endogenous, but are based on 2001 mean import value from Census Bureau import data
- Trade policies include unit and ad valorem tariffs, TRQ and US export subsidies
- The model is formulated and solved as a Mixed Complementarity Problem (MCP)