

Factors affecting wool merchants' export decisions

Graeme Guthrie

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I have been asked to comment briefly on the effect of the proposed merger of Cavalier Wool Holdings Limited and New Zealand Wool Services International Limited on merchants' export decisions. This is in response to the following request from the Commerce Commission:

“The Commission seeks your view as to whether there is any additional data we could obtain, or analysis that we could undertake, that would either alter or support our preliminary view on the competitive constraint provided by threat of increased greasy exports that the merged entity would face if the transaction is authorised. ... Consequently, we invite you to direct us to any data we could obtain that would demonstrate a relationship between changes in the costs to merchants' of selling scoured wool and changes in greasy exports. Similarly, we invite you to direct us to any data that would demonstrate the volatility of merchant margins over time, particularly in comparison to returns to growers, as this could either refute or support our view on pass-through.”

In the course of preparing this document, I have participated in discussions with two New Zealand wool merchants. My comments below reflect the economic principles underlying the greasy-exports issue and the industry-specific information I acquired from the discussions with the two merchants.

The margin that is relevant to the issue the Commission is interested in can be decomposed into five components: three are related to cash flows that can (in principle) be measured; the other two are related to intangible factors.

The margin can be understood by considering the situation facing a merchant who currently scours wool in New Zealand and is contemplating switching to exporting the wool to China in greasy form. The following table summarizes the merchant's incremental cash flows from switching from current practice to exporting greasy wool.

	Scour wool in NZ	Export greasy	Incremental cash flow from scouring in NZ
Buy wool at the farm gate	Pay the price of 1kg of greasy wool at farm gate	Pay the price of 1kg of greasy wool at farm gate	0 (assuming farm gate prices are the same in both cases)
Pay scour	Pay the cost of scouring 1kg of greasy wool in NZ	0	Inflow: avoided expenditure on scouring in NZ

Transport to customer	Pay the cost of transporting 0.78kg of scoured wool to current customer's location	Pay the cost of transporting 1kg of greasy wool to China	Outflow: amount by which transportation costs are increased if wool is exported greasy. These additional costs include extra compliance costs and the potential delay (through MPI and Chinese border requirements).
Sell to customer	Receive the price of 0.78kg of clean wool in current customer's location	Receive the price of 1kg of greasy wool in China	Outflow: amount by which the price of 0.78kg of scoured wool in the current customer's location exceeds the price of 1kg of greasy wool in China, all converted back into NZD

There are also two intangible factors that economic theory implies merchants should consider.

First, if merchants switch to exporting greasy wool to China then they lose the intangible benefits of scouring wool in New Zealand. These include the value of having greater control if something goes wrong during the scouring process, allowing merchants to respond quickly. For example, if a scourment processed in New Zealand misses its specification then the merchant's options include re-processing and/or blending with other wool. I am told that this would not be possible if the wool was processed in Malaysia or China.

The importance of this factor became clear in discussion with the two merchants. Delivering clean wool to particular specifications involves a substantial qualitative input on the part of both the merchant and the scourer (and close cooperation between them). The merchants explained that this interaction would not be feasible with overseas-based scours. In fact, the perceived value of the intangible benefit of scouring in New Zealand is so great, and concerns about the quality of scours in Malaysia and China so significant, that neither merchant believed it would be feasible to substitute overseas-based scours for New Zealand-based ones. In short, they would not be able to use overseas scours and continue to sell clean wool to their existing network of customers, built up over many decades. The only feasible alternative to exporting clean wool that the merchants raised was selling it in greasy form. This would force them to effectively abandon their current business model, which is built upon their reputation for delivering clean wool to exacting specifications.

The second intangible factor that economic theory implies merchants should consider is the option value of abandoning that business model. Switching to exporting greasy wool to China would destroy the option to wait and make this switch in the future. The loss of this option is a cost that merchants should consider when they decide whether or not to abandon scouring wool in New Zealand. In a world in which switching is costless, this option has no value. However, if it is costly to reverse a decision to switch from selling clean wool to selling greasy wool, then the option can have very considerable value.

The discussions with the two merchants made it clear that they regard switching like this to be effectively irreversible. Their business model is based on a reputation for having the expertise to reliably deliver clean wool to specific and demanding standards. Exporting greasy wool requires a different skill set, including the ability to deal effectively with MPI's export requirements and China's demanding border controls. It would be costly to reassemble a team with the skill set needed for successfully exporting clean wool if a decision to switch to greasy exports was reversed. Furthermore, the highly competitive nature of international wool markets means that merchants would have to incur additional costs to rebuild a customer base if they switched to greasy wool exports and then subsequently wanted to return to exporting clean wool.

By delaying switching for the time being, a merchant retains the ability to switch in the future and avoids the possibility that it would have to reverse a premature decision to start exporting greasy wool to China. So-called real options such as these are typically most valuable when the underlying economic environment is very volatile. In the situation considered here, such volatility could arise from unpredictable fluctuations in exchange rates, transportation costs, and the demand for wool in China. I would expect the value of a merchant's delay option to be significant. The more valuable this delay option, the more inertia in merchant behavior and the greater a merchant's reluctance to switch from scouring wool in New Zealand to exporting greasy wool to China.

It was clear from the discussions with the two merchants that they regard switching from exporting clean wool to exporting greasy wool as irreversible. It is in situations like this that delay options can be extremely valuable and firms will tolerate substantial losses before destroying those delay options. Based on the discussions with the merchants, that is likely to be the case for wool merchants. Indeed, one merchant indicated that scouring costs would have to rise by 25-30% before he would have to consider abandoning NZ-based scours and exporting greasy wool instead.

In summary, the merchant's net payoff from switching from scouring 1kg of wool in New Zealand to exporting 1kg of wool in greasy form is equal to

The price of scouring 1kg of greasy wool in New Zealand

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The amount by which the price of 0.78kg of scoured wool in the current customer's location exceeds the price of 1kg of greasy wool in China, converted back into NZD

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The amount by which transportation costs are increased if wool is exported greasy (including the extra compliance costs and potential delays due to MPI and Chinese border requirements)

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The lost value of the intangible benefits of scouring 1kg of greasy wool in New Zealand rather than China

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The lost value of the option to delay switching to exporting 1kg of greasy wool until conditions are so favorable that a quick reversal is unlikely

This is the margin that the Commission refers to in its request. If the Commission is to understand merchant behavior, and to predict how merchants would respond to any change in scouring price that could not be passed onto growers, then it needs sufficient data to estimate the five components above. The first three components are conceptually simple, but probably difficult (if not impossible) to obtain in practice. The final two components will not be directly observable and so would have to be calculated using some combination of theoretical models and observable data on the determinants of option value.

Finally, the discussions with the two merchants related to the wool-merchant business in general, not just to the decision to switch from exporting clean wool to exporting greasy wool instead. This shed light on some of the other issues the Commission has to grapple with in reaching its decision regarding the proposed merger. In particular:

- Merchants are extremely unlikely to enter the scouring industry in response to price rises.
- Merchants are vulnerable to delays imposed by scouring capacity constraints, and these constraints are likely to be more severe if the merger proceeds. The combination of direct storage costs and the cost of having capital tied up in wool means that merchants find scouring delays costly. Shipping schedules mean that demand for scouring is “lumpy”, being clustered around the time of shipments. Whether or not current and post-merger capacity is sufficient to protect merchants from costly delays is therefore dependent on the level of demand during these “peak-load” periods, rather than total demand over the course of a year.
- Merchants fear monopolistic behaviour by a single scourer.