



Initial Economic Analysis of the Cavalier Wool Holdings Application for Merger Authorisation

4 March 2011

Executive Summary

We have been asked by Godfrey Hirst Ltd to evaluate the economic effects of a proposed acquisition by Cavalier Wool Holdings Ltd (CWH) of New Zealand Wool Services International Ltd (NZWSI). This report provides our initial analysis. We develop a comprehensive conceptual framework for identifying all relevant competitive effects and review the quantitative analysis prepared by NERA against that framework.

In our opinion, it is very unlikely that the benefits of the proposed merger would outweigh the detriments arising from the complete horizontal aggregation of wool scouring services in New Zealand. To put it bluntly, one has to make some very unrealistic quantitative assumptions and to ignore important market effects in order to arrive at the opposite conclusion.

Our principal conclusions are:

- **The NERA report substantially under-estimates the likely allocative efficiency detriments that would result from the merger.** The market for the supply of scouring services exhibits different characteristics across different types of wools and therefore allows limited substitution possibilities. In contending that Chinese wool scouring will place competitive restraints on the post-merger monopoly in New Zealand, the application ignores the limited substitutability between different types of wools and particular product characteristics, such as quality certification. The impact of transport costs is also not properly addressed. The NERA report, in essence, defines the competitive constraint as deriving from the choice between scouring in New Zealand before exporting to China vs. exporting to China and scouring there. In reality, a significant proportion of New Zealand coarse wool is used for carpet manufacturing here. For this product, the pricing limit for a monopoly would derive from the cost of shipping greasy wool to China, scouring it there (assuming services for the particular types of wool would be available) and then shipping it back
- **The applicant ignores the detriments that would arise from a vertically integrated carpet manufacturer and scour (CWH) becoming a monopolist in the scouring stage of the wool value chain.** As a result, the application ignores the detriments that an upstream monopolist can cause to competition in the downstream market, especially the market for the manufacture of woollen carpets in New Zealand. Increasing the concentration of supply risk in one scouring operation will likely create a

supply bottleneck for downstream purchasers of clean wool. The post-merger monopoly will also have the incentive and opportunity to engage in non-price discrimination and other forms of anti-competitive conduct in the downstream market

- **By withdrawing from an important type of scouring contract (merchant scouring), the post-merger monopoly will have fewer incentives to innovate and invest, reducing dynamic efficiency.** The removal of merchant scouring from the New Zealand business environment is likely to significantly change industry interactions, meaning that the dynamic efficiency losses will be much higher than estimated in the NERA report.

The table below summarises our initial estimates of the likely detriments of the merger. In this initial review, our estimates are based on identifying the factors missed by NERA, and plugging the additional effects into the NERA model. Within the confines of the NERA model, we estimate the likely detriments of the merger to be around []¹. **We note, however, that this does not yet include the likely productive and dynamic effects of non-price discrimination on wool carpet manufacturing in New Zealand.**

The NERA report acknowledges that possible benefits could fall within a wide range. Given a plausible demand elasticity of -1, the NERA report estimates benefits of between [] and []. There are three factors that suggest that the actual benefits of the proposed merger would be towards the bottom end of this range:

- **The quality of the wool is not likely to improve.** The NERA report claims that the quality of the wool will improve following the capital investments made as a result of the merger. From our initial inquiries, this appears to be based on a misreading of what constitutes quality in this market, as well as ignoring the underlying incentives on the monopolist. One of the key determinants of quality—i.e. giving customers what they need—is the ability to deliver the right blends of wool. By withdrawing from the merchant scouring market, the post-merger entity will have very little incentive to invest to improve quality, and sellers at wool auctions will not be able to exert pressure on the monopoly wool scour to respond to buyer demands.
- **Labour cost reductions assume that staff are re-employed at the same rate elsewhere (after a brief transition period).** The NERA report estimates that by combining scouring activities at two sites (rather than the current five sites) there would be a substantial (although unspecified) reduction in labour costs. NERA assumes that these labour cost savings are benefits for the purposes of analysing the merger. In most cases it would be reasonable to expect that many of the staff laid off as a result of the merger would be employed by other companies. However, the specific labour market conditions in Whakatu and Clive (rural Hawkes Bay) and Kaputone (rural Canterbury) make these assumptions unrealistic. In these labour markets, it is unlikely that the staff laid off from the closed scouring plants will find other jobs that pay the same wages after an insignificant transition

¹ Please note that confidential numbers are in square brackets for ease of reduction.

period. We estimate the additional lost productive time (from both transitional unemployment and lower wages post-merger) to be in the range of []. To avoid double-counting, we treat this explicitly as a detriment of the merger

- **Sale of capital assets assumes unrealistic sale terms.** The NERA report assumes that the land and buildings at Whakatu and Kaputone are sold at “market rates”, providing a benefit of around []. This calculation appears to assume an immediate sale of the properties at the current government valuation. In fact, the current property market in New Zealand makes this assumption unrealistic. It is more likely that the properties remain unsold for a period of time, and are sold for a price that is lower than the current government valuation. Furthermore, the properties are likely to be sold with caveats that prevent the land from being used for wool scouring. Depending on the demand in rural New Zealand for large industrial sites for uses other than wool scouring, these caveats will reduce the value of the property. This further reduces the estimated benefits of the merger over and above any concerns about current property market conditions.

Accounting for these factors, we consider that the actual benefits of the merger would be towards the lower end of the range estimated by NERA ([]).

Under some very favourable assumptions to the merger, it is possible that the benefits could just outweigh the detriments. However, even a modest departure from these assumptions suggests that, on balance, detriments may outweigh the benefits. Our initial review based on adjustments to the NERA model (i.e. we have not tried to quantify the vertical effects completely ignored by NERA) shows that on plausible expectations of market outcomes, the proposed merger would provide net detriments of at least [].

Table 1: Comparison of NERA and Castalia Estimates of Detriments of Proposed Merger

| Efficiency Loss | Description | NERA | | Castalia | |
|-------------------------|--|---|------------------|--|------------------|
| | | Treatment | Estimated Impact | Treatment | Estimated Impact |
| Allocative inefficiency | Price rises lead quantity to fall | Consider efficiency losses across a range of elasticity estimates given price increases of between 1 – 10% Disregard costs if elasticity is higher than critical level determined through critical loss analysis | [] | Price increase set against additional costs of transport to and from scours in China (of around 15%) Elasticities used should be consistent with critical loss at this level of price increase (i.e. elasticity of around -1) Consistent with view that substitute production from China provides weak competitive pressure due to the impact of transport costs, the type of scouring conducted, and product certification requirements | [] |
| Productive inefficiency | Costs are higher due to lack of competitive pressure | Variable costs increase by an inefficiency factor of between 1 - 10% | [] | As per NERA report (subject to fact witness statements). We suggest use of the mid-point estimate, as no suggestion that distribution of outcomes is skewed | [] |

| | | NERA | | Castalia | |
|--|---|--|--|---|------------------|
| Efficiency Loss | Description | Treatment | Estimated Impact | Treatment | Estimated Impact |
| | One-off rationalisation costs | Treated as offsetting benefits (rather than as a discrete detriment) | [] (not counted as a detriment by NERA) | Treated as a detriment of the merger. Likely to be substantially higher given labour market conditions, and includes both transitional unemployment costs and lower wages post-merger | [] |
| Productive inefficiency (vertical effects) | Increased risks of supply interruptions | Not accounted for | - | Estimated using the expected value of lost production (increasing outages by 1% of actual production) We have not yet been able to estimate the effects of non-price discrimination on productive efficiency of carpet manufacturing | [] |
| | Increased labour costs due to likelihood of union hold-up | Not accounted for | - | Assumed that labour costs represent 50 % of total variable costs Assumed that labour costs rise by an additional 3% per annum | [] |

| Efficiency Loss | Description | NERA | | Castalia | |
|-------------------------|---|--|------------------|---|------------------|
| | | Treatment | Estimated Impact | Treatment | Estimated Impact |
| Dynamic inefficiency | Demand does not expand to full potential due to limited incentives to innovate and invest | Assume that prices change when demand curve shifts | [] | Elimination of merchant scouring leads to relatively large dynamic losses (use 1.5% inefficiency factor) Should assume that prices remain constant when demand curve shifts, as post-merger monopoly has no reason to reduce prices | [] |
| | Opportunities to reduce costs through innovation or investment are not taken | Add to estimated demand effects (without factoring in any price effects) | [] | Elimination of merchant scouring leads to relatively large dynamic losses (use 1.5% inefficiency factor) Should assume that in pre-merger counterfactual prices are reduced as suppliers pass cost savings through to consumers We note again that we have not yet estimated dynamic efficiency losses in wool carpet manufacturing | [] |
| Total Detriments | | | [] | | [] |

1 Introduction

We have been asked by Godfrey Hirst Ltd to evaluate the proposed acquisition by Cavalier Wool Holdings Ltd (CWH) of New Zealand Wool Services International Ltd (NZWSI).

The proposed acquisition would give rise to the complete horizontal aggregation of wool scouring services in New Zealand—CWH will become the monopoly supplier in New Zealand of the wool scouring services for the production of clean, coarse wool. CWH will also be one of the two major manufacturers using clean, coarse wool in carpet production, which means that the merger will also have impacts in other markets.

This report is structured as follows. In Section 2 we consider the market in which New Zealand wool scours compete. We then consider the competitive effects of the merger in Section 3. In Section 4 we evaluate the detriments of the merger in the wool scouring market, and we consider the detriments of the proposed merger in other markets in Section 5. We estimate the overall benefits and detriments of the merger in Section 6, and respond directly to the costs benefit analysis prepared by NERA.

2 Market Definition and the Counterfactual

Defining the relevant market involves a forward-looking analysis to assess whether a lessening of competition is likely. The Commerce Act defines a market in section 3(1A) as: "... a market in New Zealand for goods or services as well as other goods or services that, as a matter of fact and commercial common sense, are substitutable for them."

2.1 How the New Zealand Wool Scour Market Functions

Wool produced in New Zealand is either:

- Scoured and processed in New Zealand (for example through carpet or apparel manufacturing)
- Scoured and exported as clean wool, or
- Dumped and exported as greasy wool.

Wool scouring involves washing greasy wool in hot water and cleansing agent and then drying it. The grease is extracted and sold separately by Lanolin Trading, a company jointly owned by CWH and NZWSI. Greasy wool that is not scoured is sent to a wool dump prior to export overseas for off-shore scouring and further processing.

An important distinction exists between two types of business models, both of which exist in the current New Zealand market for wool scouring:

1. **Commission scouring**, where services are contracted to process a client's wool and deliver clean wool. The scour does not take possession of the wool, and does not act as a trader
2. **Merchant scouring**, where the wool scour buys greasy wool, cleans, blends, and sells or exports clean wool to downstream end-users.

The application for authorisation of the proposed merger follows the market definition applied in the Commission's 2009 consideration of a previous wool scouring merger (Decision 666). The scope of analysis was the national market for the supply of wool

scouring and dumping services, and the national market for the purchase and supply of wool grease.

This definition encompasses the national scoured wool production, including wool available for the downstream market for further wool-processing, and including both clean coarse wool, and finer high-micron wool. These different types of wool are not substitutable due to the downstream processing requirements and the finished products that end-users demand. For instance, strong coarse wool and fine merino wool are quite different products and used to manufacture different goods for different customers. In our view, these products should not be compared or considered substitutable.

While clean wool is effectively a commodity product, geography can have a significant impact on substitutability. In addition to the additional time taken to transport clean wool to domestic manufacturers, wool used in carpets carries many production qualities relating to environmental stewardship which are valued by customers. Standards and certification procedures have been developed to enable a premium to be charged and to assure end-users of quality. Given New Zealand's global strength in strong wools, competition from other nations (being New Zealand wool scoured overseas or overseas-grown and scoured wool) would need to overcome this barrier.

2.2 The Appropriate Counterfactual

The counterfactual is the market structure and resulting behaviours that are likely to prevail without the proposed merger. Benefits and detriments must be assessed against the benchmark provided by the counterfactual.

The application adopts a "generous" counterfactual of assuming continued existence of two market participants. It argues that NZWSI is failing and that even if it remains a separate entity, it will only continue to provide weak competitive pressure on CWH. The application contends that the main competitive pressure on CWH in the counterfactual comes from off-shore wool scouring, mainly in China.

The application also states that there will be a risk that off-shore based wool-scours will purchase the assets and relocate plant and machinery to China. Hence, the application partly discounts domestic competitive tension in the counterfactual due to the prospect of closure.

2.2.1 The Failing Firm Argument Does Not Hold

There is no reason for NZWSI to exit the market. Wool-growers, merchants, exporters, and other downstream wool industry players have expressed a strong interest in the continuing viability of a competitive scouring market in New Zealand, particularly in the context of an increasingly robust wool market.

[

] There are also indications of Chinese interest in NZWSI.

It is implausible that Chinese buyers would be interested in NZWSI just to acquire second-hand wool scour equipment. In fact, given the track record of Chinese investors in natural resources, it is much more likely that they would be seeking to operate NZWSI as a going concern. Chinese importers of natural commodities (such as scoured wool) frequently invest in an operation in the exporting country in order to

provide discipline on other exporters and to learn from best-quality operators—NZWSI would provide such a base. In particular, Chinese investors are likely to be interested in NZWSI’s advances in extracting lanolin, and creating value out of this by-product.

2.2.2 How the Scour Operates Influences the Counterfactual

In defining the counterfactual, it is not enough to describe how many competitors will remain. How these competitors define their business also matters. A merchant scour is better able to blend different wools, and has discretion to offer a wider range of products not restricted to the services requested by the clients of a commission operation. A merchant scour has a greater interest in the quality of the overall product, rather than just the quality of the scour operation. The merchant business model is, therefore, more closely associated with innovation and an important component of the overall market.

There is room in the New Zealand market for both commission and merchant scouring. In fact, competition between scours with different business models is an important driver of change in the industry that benefits consumers. In a likely counterfactual, both business models will remain in the New Zealand market.

2.2.3 Scouring Quality Improvements

The application identifies possible investments in plant to increase volumes that would also result in increased quality. However, the application is not clear on whether this increase in quality results directly from increased volumes or from the investments themselves. It is therefore not possible to assess whether these improvements in quality are possible under a counterfactual where a merchant scour has an immediate incentive to increase quality.

Competition among wool merchants is likely to be the driver for better quality wool blends, but the analysis in the application assumes that quality will automatically result from the rationalisation of plant.

3 Competition Analysis

The application overstates the likely competitive outcomes in the factual scenario and understates the benefits provided by current market arrangements. This section considers and compares the hypothetical future scenarios with (the factual) and without (the counterfactual) the merger being approved. This competition analysis considers:

- Existing competition
- Potential competition, and
- The countervailing market power of buyers.

The application focuses its analysis on the national market for the supply of wool scouring and dumping services, and the market for the purchase and supply of wool grease. This encompasses the national scoured wool production, including the wool available for the national market for carpet manufacturing.

3.1 Competition in the Factual

The proposed acquisition would result in CWH (a carpet manufacturer and a commission wool scour) gaining control of NZWSI wool scour business. CWH does not intend to remain owner of the wool export and merchant operations of NZWSI.

By purchasing all the assets of NZWSI, a substantial lessening of competition will clearly result, with CWH holding unilateral power in the national market for wool scouring and dumping services, and the national market for the purchase and supply of wool grease. This would extend to power over the price, quantities of greasy wool accepted for scouring, the terms of scour contracts (such as timing and queuing), and the quality of the clean wool produced.

3.1.1 Productive Efficiency

The stated rationale for the acquisition as an opportunity to rationalise productive capacity in a declining industry and deliver economies of scale in the face of the falling New Zealand wool clip and growing scour business in China. The application states that a merger would enable CWH to share costs of scouring over more greasy wool volumes and avoid the duplication of operational and maintenance costs at multiple plants.

Rationalisation has been occurring in the wool scour industry for many years. In 1994, there were 20 wool-scouring sites in New Zealand, while only five remain today. The merger proposes to further reduce the industry to two wool scouring sites.

The previous increases in efficiency have resulted from a reduction in the total wool clip and technological enhancements that have yielded economies of scale. Prices have more recently been increasing, and are more likely to encourage wool growers to increase stock numbers in the medium to long term.

3.2 Potential Competition

The effects of the proposed acquisition should be assessed not just in terms of the horizontal aggregation of control, but also in terms of the business model that will remain in New Zealand. CWH has stated that it has no intention of remaining in the business of being a wool merchant. In other words, post-acquisition, only the commission scour model will be available in New Zealand.

The application states that potential for new entry into the scour market would limit any future anti-competitive detriment. It states that the existence of alternative scouring options will be utilised, and that merchants will sponsor entry or enter themselves. In fact, the proposed transaction would create almost insurmountable barriers to entry.

The application notes CWH's intention to relinquish the merchant side of NZWSI's operations and sell two scour plants, as well as mothball one with a view to potentially selling. For this to be interpreted pro-competitively in the factual scenario, the divested business and assets need to be capable of constraining the combined entity. If the divested business fails or is an ineffective competitor, then a substantial lessening of competition may occur, and consumers may be harmed.

3.2.1 Regulatory Requirements for Accessing Land are Significant

A major barrier to entry into the wool scouring market is access to new sites with resource consent to carry out wool-scouring activities (and in particular, to discharge effluent and to use water). In this case, there is a significant 'composition' risk that

the scope of the divestiture is too constrained and therefore may not allow a potential purchaser to operate effectively and viably in the market. This risk results from the barrier to entry posed by having to obtain resource consent and the likelihood that caveats will apply to divested assets to preclude use for wool scouring.

The existing sites owned by CWH and NZWSI have resource consents which enable operation with moderate environmental compliance costs. Resource consent for new site is likely to be difficult to obtain and would likely involve considerably more onerous environmental standards than an existing operation. Even if successful, obtaining Resource Management Act consent would involve a costly and potentially lengthy process.

CWH proposes to sell the surplus sites once the production is centralised under the proposal. As in past industry practice, it is likely that the sale would include caveats which would prevent future owners from using the sites for wool scouring. As a result, once the proposal is implemented, there will be no existing sites with the existing resource consents available for market entrants.

3.2.2 There is Potential for Anti-Competitive Conduct to Prevent Entry

In the counterfactual, future entry into the wool scour market is likely to be undertaken by one of the existing market participants. For example, seeing a gap in the market, a wool merchant may be interested in integrating into scouring in order to provide merchant scouring services. In the factual scenario, however, even if these investors were able to overcome the barrier posed by the environmental standards and the lack of viable sites, they would face a further barrier of possible retaliation from the monopolist.

Until a new facility is built, a wool merchant or a downstream manufacturer who has announced its intention to enter the scouring business will remain dependent on the commission scouring provided by the monopolist. Given the long lead times (particularly with respect to resource consents) and the public nature of the consents process, the monopolist will have ample warning of the investment intention, and ample opportunity to discriminate against the market entrant. The additional “penalty” which can be imposed by the monopolist during the period between the announcement of the investment and its completion constitutes a further barrier to entry.

Another barrier to entry exists in the form of the intention stated in the application to retain the Clive scouring plant but mothballing it until required, e.g. to cover wool supply continuity. This ability to stave off competition through swift commissioning of plant would give CWH a significant cost advantage with which to temporarily undercut and restrict successful and sustained entry into the market by a potential competitor.

3.2.3 Countervailing Buyer Power and Constraint by Overseas Scours is Weak

The application presents a cost comparison of clean wool from China as a basis for the claim that the merged entity would suffer volume losses within one year if it tried to increase prices by five percent.

Products are substitutes when they are available and can compete on price, taking into account conditions of sale. In other words, while wool scoured in China may be technically substitutable for wool scoured in New Zealand, its price may be so high

that it is not economically substitutable. For wool that is scoured outside New Zealand to be a reasonable substitute, the price must therefore be calculated on the basis of a fair comparison with wool produced and scoured in New Zealand. It must be the same type of wool with the same characteristics (including production process and quality certification).

If the countervailing power relies on New Zealand-grown wool, the costs of dumping and exporting greasy wool, scouring overseas (including production-process certification and environmental stewardship standards), condition and colour certification, and re-importing all need to be calculated to demonstrate the capacity and ability of overseas scours to constrain the merged entity. This is because the merged entity will own all the current productive capacity in New Zealand. For overseas-grown and scoured wool to provide competition constraint, the type of wool and capability of overseas scours, the availability, cost, and therefore substitutability needs to be fairly compared.

The application lists several Chinese wool scours that could constrain CWH from increasing prices. However, the scours listed are fine wool scours operating in the apparel supply chain, not the coarse strong wool types for which New Zealand is renowned. The other significant difference with domestic scours is the lack of Enviro-Choice certification, a production process standard that would require significant cost and investment in plant to achieve. The ability of these scours to actually scour all of New Zealand's wool types and service the current downstream wool market is therefore not established.

Whilst the ability and capacity of Chinese scours to deliver substitutable wool to New Zealand is unclear from the application, the cost comparison is also deficient. Different wool types and qualities, return freight, dumping, Customs clearance costs are ignored. Also neglected is the cost of ensuring Environmental Choice compliance is retained so that end-products maintain their market value.

4 Detriments of the Proposed Merger

Due to an overly generous specification of the counterfactual, the application understates the detriments of the proposed merger to the national market for the supply of wool scouring services.

4.1 Allocative Efficiency: Price Up-lift

The application claims that in the event of a merger, CWH will not be able to act as a monopoly supplier of wool scouring services because merchants will retain the ability to acquire the same services from off-shore firms. Because most wool scouring occurs in China, and because most wool exports go to China, CWH argues that the merger will make little difference to the current situation (or the counterfactual). The main constraint on the industry today, and the constraint which will remain for the merged entity in New Zealand, is the price of scouring in China, plus the difference in the transportation costs of scoured and greasy wool.

4.1.1 Carpet Wool Scouring Discounted

However, this analysis ignores domestic demand for scoured wool for carpet manufacturing. In fact, New Zealand remains one of the most important woollen carpet manufacturers.

[

]. The analysis does not estimate the countervailing power of Godfrey Hirst to challenge price rises after that time.

4.1.2 Constraint from Non-New Zealand Scoured Wool Overstated

If the market was constrained primarily by the possibility of off-shore processing, then current wool scouring prices would be set by reference to the cost of shipping greasy wool to China, scouring it in China, then shipping processed wool back to New Zealand. This is clearly not the case and will not be the case with continued competition. By contrast, this is precisely how a monopolist would set its price.

In this context, the remaining wool scouring in Australia will not provide a competitive constraint on pricing in New Zealand. Australia mainly produces fine wools used for apparel, and its scouring processes are set up for that kind of wool. It would be impractical to process New Zealand cross-bred wool in Australia and then ship it back.

Despite changes in the location of the global wool processing industry, New Zealand (which predominantly scours carpet wool types) has maintained its share of world scoured wool production over the last 15 years, currently the second largest producer after China. Given that most wool produced in New Zealand is coarse wool ideally suited for hard-wearing applications (such as carpets), the analysis of competitive constraint from off-shore scouring in the application is very weak.

In reality, the proposed acquisition will lead to a significant sustained price increase, and hence to much greater detriment than claimed in the application.

The availability of wool scour services in China serving as a constraint on pricing ability relies on transporting the greasy wool to China and then transporting the clean wool for further processing back to New Zealand. The allocative detriment as calculated in the application is not based on a fair comparison of like goods at the factory gate, making Chinese competition appear unjustifiably reasonable.

The comparison also underestimates the detriment by ignoring the grades of wool scoured in New Zealand vis-à-vis China. The Chinese market is predominantly geared toward fine wool for apparel manufacturing, so to actually be capable of competing with CWH in the factual scenario would require higher costs.

4.2 Dynamic Efficiency: Reduced Incentive to Innovate

The application states that CWH will not lose an incentive to innovate and invest in its productive capacity if it merges with NZWSI. However, since CWH proposes to focus on commission wool-scouring rather than merchant-based operations, the drive to innovate will be much reduced.

The absence of vertical integration between the merchant and scouring functions will reduce both the incentive and the ability to innovate. Since wool merchants will have no control over the scouring process, they are less likely to understand the possibilities which arise during scouring.

There is scope for innovation and efficiency in wool scouring, relating to minimising the fixed and variables costs and to maximising the value of wool available for downstream processing—for instance through blending techniques. In the factual scenario, a single national scour enterprise (operating on a commission rather than merchant basis) relies on strong potential price competition—i.e. horizontal

pressure—or the countervailing power of wool owners to encourage cost savings and suggest production specifications.

A commission scour therefore has an incentive to increase volumes, but no incentive (a contractual prohibition, in fact) to experiment with its client’s wools. For instance, as a merchant-based wool-scour, NZWSI has introduced wool blends for which it was able to create demand. Such innovation is unlikely under the proposal.

A reduced incentive to innovate is a significant detriment because a market-focused innovation approach has been identified by the broader wool industry as the key to raising demand for New Zealand strong wool². This approach relies on the sector looking to the retail end of the supply chain in order to deliver final products demanded by consumers.

In the counterfactual scenario, where merchant scouring continues to exist, signals from end-consumers and wool processors are more likely to drive investment in more efficient production techniques and blending configurations.

5 Vertical Impact on Wool Manufacturing Market

In this section, we argue that the detriments in the downstream wool manufacturing market are likely to be substantial and against the interests of the broader New Zealand wool industry. Given the position that scouring occupies in the wool value chain, the non-price factors have a significant capacity to result in detriments in the downstream wool products market.

The application states at paragraph 13.1 that because CWH’s proposal is to divest the merchant scouring operations, the acquisition will have no vertical effects. However, the application ignores the much more important vertical integration between wool scouring and woollen carpet manufacturing in New Zealand.

5.1 Potential for Downstream Anti-Competitive Conduct

Under the proposal, CWH will become the monopoly supplier in New Zealand of the wool scouring services for the production of clean, coarse wool, as well as one of the two major manufacturers using this clean, coarse wool in carpet production.

Economic theory (and commercial practice) makes it clear that an upstream monopolist will have an incentive and an ability to use non-price discrimination to increase its revenues in the downstream markets. The upstream monopolist can increase its competitors’ costs and reduce their operating efficiencies.

The proposed new wool-scouring entity will have the ability to force up the costs of its downstream manufacturing competitors by:

- a) Adopting discretionary queuing processes that force CWH’s competitors to hold more stocks, for instance by prioritising the processing of wool that is destined for CWH manufacture
- b) Setting scour line specifications to make it more difficult to produce wool blend qualities required by the downstream competitors, and

² Wool Taskforce (2010) Restoring Profitability to the Wool Sector, page 18

- c) Processing CWH’s wool at preferred times in return for lower wool prices for its own downstream operation.

These detriments have not been addressed in the application. For this initial review, we have not yet been able to quantify these detriments.

5.2 Greater Concentration of Supply Risks

Given the downstream manufacturers with forward orders that rely on domestic wool scouring in the short to medium term, the concentration of operations in one commercial entity creates supply risks—i.e. that these orders cannot be fulfilled within promised timeframes.

As well as potentially losing the confidence of end-users that wool manufacturers can meet orders, this is likely to affect investors’ and lenders’ assessments of risk. Enterprises that rely on wool scouring services may therefore suffer a loss of competitive advantage and a reduced availability of capital for future operations.

Scouring monopoly may have a chilling effect on investment and innovation both upstream and downstream of scouring, as the scouring monopoly will reduce opportunities for innovation and increase risks.

5.3 Higher Labour Market Risk

A concentrated wool-scouring entity, as proposed, will be a potential target for increased union demands due to the loss in wage bargaining power. Workers in a monopoly entity are likely to be more militant, since industrial action would be less likely to result in loss of employment. This will reinforce the incentives of the merged entity to raise prices to accommodate employee demands over time as wage contracts are negotiated.

6 Overall Benefits and Detriments of the Merger

CWH commissioned an economic report in support of its authorisation application (“the NERA Report”). The NERA Report conducts a cost benefit analysis of the merger, and concludes that the merger will produce net benefits in the range of [] to [] (in present value terms). This range suggests that the applicant has a high degree of uncertainty about the expected impacts of the merger.

This section considers how the economic arguments presented above translate into an assessment of the net impacts of the merger. We start by evaluating the detriments of the merger—this is because in this case, we can be more certain about the costs of the merger than the benefits. We then evaluate the magnitude of benefits estimated in the NERA report, and ask whether the likely benefits arising from the merger would be sufficient to outweigh the detriments. We conclude that benefits will not be sufficient to outweigh the detriments of the merger.

6.1 Estimated Detriments of the Merger

By providing a wide margin of the estimated detriments of the proposed merger, the NERA report allows for this significant margin of error to be outweighed by estimated benefits. In our view, a better approach is to estimate detriments based on the extent of the competitive restraint that exists in the market, and the price rises and demand

response that result. This creates more confidence in the comparison of detriments and benefits by using available information on market conditions.

By considering the impact that market conditions have on likely price increases and demand responses, we find that the allocative efficiency losses resulting from the merger would be much higher than estimated in the NERA report. The estimate of the productive detriment is similarly underestimated by not allowing for significant supply and labour risk factors that arise from the vertical integration between scouring and manufacturing activities. We also find that dynamic efficiency detriments have been underestimated in the NERA Report given that the post-merger entity proposes to withdraw from the market that provides the most incentive for innovation—merchant scouring.

Allocative Efficiency Losses

The NERA report estimates that allocative efficiency losses would result from price increases of between 1 to 10 percent. These losses are calculated across a range of demand elasticities, reflecting the impact of competitive restraints provided by alternative suppliers of scouring services. The resulting range of detriments is too wide to allow an accurate picture of the detriments to be observed.

Rather than use a matrix of assumptions on possible elasticities, we can calculate a reasonable elasticity estimate by considering the actual competitive restraints at work in this market. Godfrey Hirst estimates that the cost of Chinese scoured wool is about [] (including relevant transport costs) than current New Zealand prices—an increase of approximately []. The post-merger monopoly is expected to price up to this level (in the absence of domestic or Australia competition), suggesting that the impact of higher price increases should also be considered. Assuming a [] price increase, it is also possible to extend the critical loss analysis in the NERA Report to derive a critical elasticity of []. This means that if demand responsiveness exceeds this level then such a price rise would not be profitable.

This estimate of demand elasticity is consistent with our view that the demand for wool scouring in New Zealand is relatively inelastic, due to the weak pressure from Chinese scouring competition and the entry barriers to scouring in New Zealand. Applying these assumptions to the model of allocative detriments presented in the NERA Report increases the present value of lost allocative efficiency from [] to [].

Productive Efficiency Losses

Off-setting a one-off rationalisation of production costs (productive efficiency), the NERA Report applies a negative factor to CWH's pre-merger variable costs to recognise that there will be less competition and less pressure to be efficient. While this is an arbitrary method of recognising this inefficiency, three alternative factors have been applied—one percent, five percent, and 10 percent.

This calculation ignores other likely sources of productive inefficiency, such as the increased supply risk of relying on one entity employing one scouring plant in each of the North and South Islands. The lack of redundancy resulting from such a concentrated production process in the wool value-chain means that the cost of outages is likely to be significantly higher than historically because more wool volumes are affected. A higher risk of industrial action post-merger would also increase plant downtime. A high level estimate of lost production from supply outages can be obtained by assuming that a level of demand is unmet. For this report, we

assume additional plant outages of 1 percent, which at market prices would lead to an efficiency loss of [].

The NERA report also ignores the effect on the labour market of the merged entity becoming a monopsony purchaser of scouring labour. This is likely to have a cost through increased bargaining power in wage negotiations and through the increased possibility of industrial action. Without access to detailed information, we estimate this detriment by assuming that labour costs make up 50 percent of variable costs, and that these costs increase by 3 percent more each year following the merger (reflecting higher expected wage increases over the next five years). This leads to an estimate detriment in the wool scouring market of [].

Dynamic Efficiency Losses

The NERA Report uses a dynamic inefficiency factor of 0.5 percent to 1.5 percent of total revenue (including revenues earned from Cavalier Carpets and Godfrey Hirst) to estimate the impact of lower process innovation (cost reduction) in the wool scour process after the merger. The lack of product innovation, or initiatives to increase market demand, is estimated by reducing demand by between 0.5 percent and 1.5 percent, and then considering the impact of lower prices given different demand elasticities.

We agree that reduced competition will mean a loss in dynamic efficiency from lower incentives to reduce costs and from lower incentives to expand the market. In our view, the removal of merchant scouring from the New Zealand business environment is likely to significantly change the industry dynamic, and mean that the dynamic efficiency losses will be much higher than estimated in the NERA Report. Subject to a more detailed analysis of past dynamic efficiency gains in New Zealand’s wool scour industry, we would expect lost dynamic efficiencies to be at the upper end of the estimates provided in the NERA Report.

We also disagree with the analysis in the NERA Report of the effect of lost product incentives and the resulting detrimental inefficiencies. By accounting for a price change in the case where the merged entity fails to expand the market, NERA ignores the fact that the merged entity would face no domestic competition and therefore have no incentives to lower its price. Therefore, price does not change with demand-based improvements by a monopolist that increases the size of the market. Rather than improving the Commission’s model in the *Air NZ/Qantas* case (as claimed by NERA), the NERA Report misapplies this calculation and incorrectly estimates the resulting detriments.

Using the upper-end of the range of dynamic efficiency estimates provided by NERA and correcting for demand response, we estimate dynamic efficiency losses of around [] (including both lost opportunities to expand demand and lost opportunities to reduce costs).

6.2 Estimated Benefits of the Merger

Like the detriment calculations, the NERA report contains a very wide range for the estimates of potential benefits of a merger. Benefits range from []—if demand is highly inelastic and quality benefits are small—to []—if demand is elastic and quality benefits are substantial.

In this section we evaluate the estimated benefits in the NERA report. We highlight three areas where we consider that the benefits have been overstated.

Labour cost reductions assume that staff are re-employed at the same wage rate elsewhere

The NERA report estimates that by combining scouring activities at two sites (rather than the current five sites) there would be a substantial (although unspecified) reduction in labour costs. NERA assumes that these labour cost savings are benefits for the purposes of analysing the merger in reducing the non-capital costs of scouring wool.

In many cases it would be reasonable to expect that staff laid-off as a result of the merger would be employed by other companies. However, it is important to look at the specific labour markets being considered, and the opportunities in those markets for re-employment or relocation of labour. In this case the plants that will be closed are in Whakatu (rural Hawkes Bay) and Kaputone (rural Canterbury). In these labour markets it is highly unlikely that the staff laid off from the closed scouring plants will immediately find other jobs that pay the same wages.

The example of the closure of the Clifton wool scour in Southland in 2009 helps to illustrate this point. In that case, 40 staff were made redundant when the scouring plant closed. A month after the plant closure, the following facts were reported:³

“most of the 40 employees made redundant last month were still out of a job... Seven employees had found short-term work at the Alliance Group meat works in Lorneville but that would end in two to three weeks and they were unsure about what to do next... The average Clifton employee had been earning \$40,000-\$80,000 but after testing the local job market, salaries closer to \$35,000 were the standard”

Any lost productive time (either in transitioning between jobs or in accepting lower wages) would be an additional detriment of the merger. We do not have information on the employee numbers that would be made redundant as a result of the merger, or their current salaries. However, to provide an approximate estimate of this effect, we use the wage information reported from the Clifton scour. We assume that 100 staff are made redundant that currently earn an average salary of \$60,000. If these employees take six months on average to find jobs that pay \$35,000 (for a one year period), then the lost productivity in transitioning between jobs and accepting lower paid employment would amount to [].

Sale of capital assets assumes unrealistic market conditions

The NERA report assumes that the land and buildings at Whakatu and Kaputone are sold at “market rates”, providing a benefit of around []. This calculation appears to assume an immediate sale at the government valuation (based on the approach adopted in the Commission’s *Ruapehu* decision). In fact, the current property market in New Zealand makes this assumption implausible, and it is more likely that the properties may remain unsold for a period and may need to be sold at a discount to the current government valuation.

Furthermore, the properties are likely to be sold with caveats that prevent the land from being used for wool scouring. These caveats will have an impact on valuation depending on the demand in rural New Zealand for large industrial sites for uses other

³ <http://www.stuff.co.nz/southland-times/news/2390392/New-jobs-come-with-lower-pay>

than wool scouring. This would further reduce the estimated benefits of the merger over and above any concerns about current property market conditions.

The quality of the wool is not likely to improve

The NERA report claims that the quality of the wool will improve following the capital investments made as a result of the merger. The estimated impact of the quality improvements is substantial—ranging from [] (for a low quality improvement with low demand responsiveness) to [] (for a high quality improvement and high demand responsiveness).

We consider that the supposed quality improvements are inconsistent with the fact that after the merger there will be fewer incentives to improve quality. We highlighted above that by withdrawing from the merchant scouring market, the post-merger entity will have very little incentive to invest to improve quality.

In estimating the impact of quality improvements, the NERA report draws upon regression analysis of historical prices earned at New Zealand auctions. However, in all cases there was competition for wool scouring in New Zealand, including a direct channel to market through merchant scouring. This means that the scours had incentives to improve the brightness of wool if the prices earned at auction would reflect this quality improvement. In contrast, after the merger there would be no such incentive to improve wool quality—parties selling scoured wool at auction could not credibly threaten to have their wool scoured elsewhere.

Given the lack of incentives on the post-merger monopoly to improve quality, we consider that any benefits of the merger in quality improvements would be towards the lower end of the range estimated in the NERA report. At a demand elasticity of -1, the NERA report estimates these benefits to be [].

We consider that accounting for the three factors above, the actual benefits of the merger would be towards the lower end of the range estimated by NERA [].

7 Net Effects of the Merger

The net outcome of the detriments calculations provided in this report, and our assessment that the benefits of the proposed merger would be at the bottom end of NERA's estimated range, means that even within the scope of the NERA model the proposed merger would likely provide net detriments of [].

As we have emphasised, this analysis does not yet try to quantify the productive and dynamic efficiency losses in the wool manufacturing market, resulting from the likelihood of non-price discrimination by a vertically integrated monopolist.