Economic Impact of Synlait Plant and Future Development

Memorandum prepared for Synlait Milk Ltd.

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Background

Synlait Milk Limited (Synlait) is a milk processing company that sources its supply primarily within the Canterbury region. It currently has three dryers, one of which is capable of nutritional product manufacture as well as food ingredient manufacturing. The Synlait site has been developed over the last five years from a bare land site to a modern dairy processing facility. It is likely that over the next decade further development will take place at this site.

To streamline this development Synlait is applying for a change to the District Plan. The Plan Change application proposes a Dairy Processing Management Area that would provide sufficient land for future expansion of the dairy plant. The Dairy Processing Management Area would contain rules specifically for dairy related activities and buildings. The proposed rules include: -

- Definition of the types of activities contemplated within the zone which are consistent with Dairy Processing;
- An overall landscape plan for the site;
- Operational rules relating to traffic, carparking, noise attenuation;
- Building setbacks and heights;

- Limits on vehicle access points;
- Provision for a rail siding from the Main Trunk Railway line into the plant;
- Requirements for management plans to cover noise, construction (including earthworks) and the storage and use of hazardous substances.

As part of the application Synlait seeks to provide some information on the likely economic impacts associated with dairy processing at the site, and from its potential future development. This paper outlines the economic impact associated with dairy processing in the district and region.

Economic context

Canterbury is the largest region economically in the South Island. Employment is currently 345,000 (Dec, 2013) from the household labour force survey, and approximately 260,000 from the Business Activity survey. Employment change across industries has been varied. Most farming activities have declined, with only dairy farming increasing significantly from 2300 jobs in 2003 to 4600 in 2013, a doubling of the sector over a decade. In other sectors, manufacturing had declined by 14% over the same period, with a decline of 4% in food product manufacturing and 2% in equipment manufacturing.

The construction sector doubled in that period, with professional services, administration and public administration all experiencing significant (20% -50%) increases. We see therefore a picture of overall increase in the employment and economy in the region, but with declines in manufacturing, agriculture (apart from dairy), and the information media and telecommunications sector.

The data suggests that dairy is a major driver of growth in rural areas. The Canterbury Region (including Mid and South Canterbury) now produces 18% of New Zealand's milk production. Over the period of Synlait's development dairying production in Canterbury has risen from 14.5% of the total to 18% (5 year period). The fastest growing region for dairy production by herd size and milksolids production is occurring in the districts of Selwyn and Ashburton, which have increased in the area in dairy farming over the last decade by 70% and 128% respectively, and milksolids production by 100% and 195%. Dairy farms are typically more intense in the Canterbury region, with average of 3.5 cows/ha compared with the national average of 2.85, and milksolids production of 1350kgMS/ha compared with a national average of 988.

Because Canterbury was not traditionally a dairying area, most of the agricultural support and processing industry was based around arable, meat and wool sectors, which is a contrast to traditional dairying areas such as Taranaki and Waikato where there has traditionally been a strong dairy infrastructure. Thus the increase in dairying requires significant growth in the dairy infrastructure in order to service the rapid increase in production. The single dairy processing plant at Clandeboye supplemented by 5 new processing facilities within the region, three of which are located in the Selwyn District. The district has become a key location for dairying infrastructure because of its central location regionally, easy access to the West Coast, and its proximity to the city and Lyttelton port.

This growth in the dairy sector is likely to continue for the foreseeable future. Key indicators of this growth include the ongoing higher returns received by the dairy sector, the availability of suitable land, and the development of a number of irrigation projects in the region. The irrigation projects in particular are likely to be influential for the future expansion of the dairy industry in the region. Whilst irrigation infrastructure projects tend to be long term in nature, the development on-farm tends to be rapid once water has been supplied. Because dairying offers high returns and a more stable cashflow than alternative options of arable and sheep and beef sectors, it will feature

significantly as a land use in these new developments. Typically dairying land use within high reliability irrigation schemes ranges between 46% (Opuha) and 70% (Valetta), and it is likely that for newer schemes, which will be higher cost, the proportion of dairy will be in the order of 70% plus. In the Canterbury context projects include both development of new irrigation schemes, improvements of efficiency in existing schemes (eg Rangitata Diversion Race schemes), and development of storage facilities to enhance the reliability of existing schemes. The following projects are in the throes of being either completed, or consented:

- Waimakariri Irrigation (storage)
- Central Plains Water (new irrigation)
- Rangitata Diversion Race (efficiency improvements)
- Rangitata South Irrigation Scheme (storage and new irrigation)
- Hurunui Water Limited (new irrigation and storage)
- Hunter Downs Irrigation (new irrigation)

These represent sizeable potential increases in dairy production within the Canterbury region, which in turn will necessitate further development of the processing infrastructure required to support it.

Synlait and the milk processing market in New Zealand

The milk processing market in New Zealand is governed by the Dairy Industry Restructuring Act (2001), which allowed the formation of the Fonterra Co-operative from a constituent co-operatives. The aim of the legislation was to support the creation of a large processor with sufficient scale to compete internationally, but also to ensure that there was a pathway for entry for new operators in order to provide a competitive market for the purchase of milk supply. Over the period since the implementation of the Act in 2001, the milk processing market has altered significantly in Canterbury as new processors entered into the marketplace, with Synlait the first of these in 2008.

The existence of Synlait has added significantly to the competitive market for milk processing in the region. Synlait competes with Fonterra and Westland Milk Products for supply in the district and region, which has important implications for milk suppliers in the following ways.

- A competitive market increases business pressure on the other processors to maximise returns from milk. A monopsony (in the case of a single purchaser) maximises the market power of the purchaser and minimises the market power for suppliers. This in turn leads to a tendency for suppliers to be paid less, with the gain taken by the monopsonistic purchaser. However without competition there is reduced discipline in companies and a risk of wasteful misallocation of resources. This misallocation of resources lowers the net welfare of society overall, because the gains by the monopsonistic purchaser do not outweigh the losses from the suppliers.
- The presence of competition increases the pressure for maximising payout, returning more to suppliers and less to processor shareholders. A graphic example of this is the Fonterra reduction in dividends in order to maintain milk payout this season.
- Suppliers to Synlait do not need to hold shares in the company in order to supply. This is in contrast to traditional co-operative structures, where significant share capital has been required to supply the company. The presence of alternate suppliers has driven a change in the industry which now allows milk suppliers to produce with lower capital costs because they do not have to own milk supply shares.

- Increases pressure for local processing because of the cost advantages. This is likely to have been the reason for Fonterra locating a new processing plant within the Selwyn District, since it allows it to compete directly with the other processors on the same cost basis.
- Competition offers choice to farmers who for various reasons may not wish to supply the other companies.

Thus the competitive pressure generated by the presence of Synlait has provided both direct and indirect benefits to the farming sector and the community.

Synlait impacts

In a regional context Synlait has been a significant success story in the manufacturing sector. Synlait has undertaken a range of construction and operation activities, which generate direct output, employment and value, added through the people it employs and by the activities it undertakes. However the plant also purchases a range of inputs from other regional businesses which thus increase their income and employment, and these businesses in turn purchase inputs from still more businesses. These "business support" effects are generally termed "indirect" effects

As businesses expand, they also employ more labour and increase payments to households. The resultant increase in household expenditure generates further increases in output, value added and employment in the regional economy. These additional effects generated by household spending are termed "induced" effects, and their extent depends on the proportion of household spending which occurs in the regional economy. The sum of direct, indirect and induced effects is the total effect, and the ratio of total effects: direct effects are commonly called the “multiplier” effects.

Direct effects

Synlait’s revenue was $420 million in the 2013 financial year, which has increased substantially since commencing operation in 2008/2009. The change in revenue over the last five years is shown in Table 1 below, which indicates that the revenue has increased by nearly 4 times, and payments to suppliers by 3.4 times. Over the same period profitability has increased significantly in both gross and after tax terms from a loss of $14.2 million in 2009 to a profit of $11.5 million in 2013.

Table 1: Revenue, Expenses and profitability for Synlait Milk Ltd

	2009	2010	2011	2012	2013
Revenue	$111.3	$233.4	$298.9	$376.8	$420.0
Supplier expenses	$104.5	$209.7	$277.8	$330.8	$354.9
Gross Profit	$6.8	$23.7	$21.1	$46.0	$65.1
(EBIT)	-$4.1	$5.3	-	$13.4	$28.3
Net profit after tax	-$14.2	-$11.7	-$3.1	$4.4	$11.5

It should be noted that a large part of the increase in expenditure associated with the growth in Synlait has been located within the district – payments for milk equalled $290 million in 2013, which is a substantial expenditure in the community because 50% of the milk supply base is within the district, and >95% within the region. In addition the administration budget has increased to $15 million in 2013, again the majority of which takes place at the Dunsandel site.

Synlait has a number of large capital expansion projects currently underway. The annual plan in 2013 indicated expenditure in the next two years is forecast at $216 million. This will include a third dryer, increased administration facility, and various packaging and drystore facilities. Planned construction expenditure is shown in Table 2 below.

Table 2: Planned construction schedule for 2013 - 2015

Item	Cost $ million	Completion	Status
Blending and packaging plant	$28	June 2014	Underway
Dry Store	$17	March 2014	Underway
Lactoferrin plant	$15	March	Underway
Laboratory and Admin building	$21	February 2015	Consenting
Dryer 3	$135	September 2015	Contracting
Ammix Butter plant	$15	May 2015	Planning

Employment effects

Synlait currently employs 202 people directly in its operations and management, which amounts to 200 Full Time Equivalent (FTE) jobs. Further expansion in direct employment is projected over the next two years as capital projects come on stream. When at full utilisation of the site (8 dryers) the employment on the site would be in the order of 600 people. These jobs are generally skilled, and include manufacturing plant operators, to management and administration, technical support, research and development, and sales and marketing.

Synlait does not maintain overseas offices, so all these employees are based in the local region, with a significant proportion residing in the Selwyn and Christchurch districts. These people contribute both financially and socially to the communities they inhabit. In addition there is a significant level of employment associated with the companies involved in transport and other activities such as rural support services etc utilised by Synlait that has not been counted here.

Farm suppliers

Synlait has suppliers supplying approximately 50 million tonnes of milk solids. As noted above slightly over 50% of the supply comes from within the district (77 suppliers), and >95% within the region (141 suppliers). These dairy operations tend to be intensive in terms of expenditure, capital and labor, and this increased activity results in higher flow on impacts for the surrounding community.

Inductively a comparison can be made between the economic output from dairy farms relative to sheep and beef farms, which is one alternate use for the land. The typical dairy operation in the Canterbury region producing a revenue of $10,900/ha in the 2011/2012 year with an operating profit of $2,900/ha (based on the MPI dairy farm model). For comparison the MPI Canterbury Marlborough breeding finishing operation produced $1400/ha in revenue and $450/ha in operating profit. The dairy operation clearly requires greater capital input and would be fully irrigated, but it indicates that dairying as an operation generates significantly more economic output than the immediate alternative because of its greater intensity. Similarly a dairy farm generates substantially more employment per ha, with wages of $1200/ha[1] compared with $70/ha for the sheep and beef farm.

[1] MPI monitoring farm data for the 2011/12 year.

Other suppliers

The company receives supplies and services from over 1500 businesses. These include:

- Suppliers of raw materials for manufacture of consumer products (e.g. infant formula)
- Suppliers of machinery and construction
- Transport contractors
- Miscellaneous contracting (e.g. cleaning, etc.)
- Sundry supplies e.g. catering, office supplies, chemicals, landscaping, and maintenance.
- Suppliers of professional services.

These can provide important support for the local community. 80 of the non-farm suppliers are within the district, and 700 within the region indicating that a number of enterprises are supported directly by the Synlait plant.

Synlait is also a significant ratepayer in the district - rates and fees paid to Selwyn District in 2013 were $56,000 for the existing 49ha site.

Estimate of flow on regional impacts (multiplier analysis)

A regional Input – Output (I-O) economic model shows the links between industries, and can be used to show the total impact on the regional economy of an increase in output of any particular sector. The estimates of impact are based on a regional economic model generated by Mr Geoff Butcher for the hearing on the Westland processing factory at Rolleston. This in turn was based on a national inter-industry model for 2006/07, the regional distribution of industry within New Zealand, and an assessed level of regional self-sufficiency for each industry in each region in 2007.

The basic regional model was expanded by creating a synthetic industry which represents the proposed plant and shows its links with the rest of the regional economy. The industry structure and links are based on the plant's operating budgets as provided by Westland, and on the company's expectations as to where inputs will be supplied from.

Employment, output, value added and household income multipliers can be estimated using matrix algebra. Type II multipliers (which include induced effects) were calculated for this analysis.

Multipliers estimated from the Butcher regional economic model were applied to estimate flow-on regional employment, output, value added and household income arising from the plant. These were combined with the direct impacts of the plant to get total gross economic impacts in the region. The analysis assumes that the operation and expenditure patterns for the Westland plant will be similar to those for the Synlait plant. In fact the likely impacts for the Synlait plant will be larger because its entire operation is located on site, whereas the Westland plant is part of a larger operation with economic activity outside the region. Nevertheless without a specific estimate of the Synlait plant, these provide a reasonable proxy estimate of the likely flow on regional impacts.

The flow on estimates are impacts rather than benefits. Resources of labour and capital are required to achieve these impacts, and because these resources, particularly labour, may have otherwise been used on another project or business. However the analysis assumes that there is spare capacity and the resources would not otherwise be required. Given the current high employment in the greater Christchurch area associated with the earthquake rebuild, it is possible that the employment assumption regarding spare capacity may not hold. As such the estimates should be considered as an upper bound on the total impacts associated with the Synlait operation.

Furthermore they should not be confused with a change in societal welfare because of the exclusion of capital and labor costs

Impacts of milk plant operation

The estimated impact of the milk plant operation are shown in Table 2 below. The figures show that the $420 million per annum in revenue provides for approximately $60 million in direct value added, and $10 million in household income. The total regional impact is approximately 340 FTEs, $80 million in value added and $20 million in household income. These impacts however exclude the farm supplier effects, which are shown in Table 4. These show that the $290 million received by farm suppliers equates to 1620 FTEs, $90 million in value added, and $60 million in household income. Although the farm impacts are not necessarily solely related to Synlait, because they may occur without Synlait through supply to other processors, they indicate the scale of the industry involved.

As the business expands to a full 8 driers we would expect these impacts to increase by 2 – 4 times. This increase in regional impacts will be driven by the increased proportion of the processing being nutritional products which have higher regional impacts, and the increased scale as the number of dryers increases from 3 to 8.

Impacts of construction

In addition to the annual impacts the construction on the site over the next two years results in flow on regional impacts. These are estimated in Table 3 below and show that the $216 million in construction expenditure results in 1200 FTE years of work, a total value added of $90 million, and $60 million in household expenditure. These will be spread out over the period of construction, but amount to a significant impact on the regional community.

Table 3: Estimated direct and regional impact of Synlait Milk Ltd operation

Item	Regional impact
Direct	
Value of Sales / Direct Output ($ million/annum)	$420
Direct Employment (FTE)	200
Direct Value Added ($ million/annum)	$60
Direct Household Income ($ million/annum)	$10
Total	
Value of Sales / Direct Output ($ million/annum)	$1040
Total Employment (FTE)	340
Total Value Added ($ million/annum)	$80
Total Household Income ($ million/annum)	$20

Table 4: Estimated regional impact of Synlait Milk Ltd Construction expenditure

Item	Regional Impact
Total	
Value of Sales / Direct Output ($ million	$350
Total Employment (FTE years)	1200
Total Value Added ($ million)	$90
Total Household Income ($ million)	$60

Table 5: Estimated regional impact of Synalit farm suppliers

Item	Regional Impact
Direct	
Value of Sales / Direct Output ($ million/annum)	$290
Direct Employment (FTE)	1,620
Direct Value Added ($ million/annum)	$120
Direct Household Income ($ million/annum)	$120
Total	
Value of Sales / Direct Output ($ million/annum)	$660
Total Employment (FTE)	3,660
Total Value Added ($ million/annum)	$290
Total Household Income ($ million/annum)	$210

Summary

- The Synlait plant and associated operation is significant in terms of the economic impacts in the surrounding and regional community. The operation employs significant numbers of people, both directly and through its suppliers. There is also substantial estimated flow on economic benefits to the regional community, with a gain of 340 FTEs associated with the plant operation, another 3660 FTEs associated with the farm supplier economic impacts, and 1200 FTE years of work associated with construction.
- When translated into household income this amounts to $20 million/annum increase in HHI from the plant operation, $210 million/annum from supplier operation, and $60 million for construction impacts spread over the 2014 – 2015 period.
- As the business expands to full site capacity of eight dryers, it is expected that the impacts will increase by approximately two to four times, with the potential for greater nutritional product component to increase the relative economic impact.
- There are significant numbers of operations connected to the plant, with 780 non-farm suppliers and a further 141 farm suppliers within the region.
- There are also a range of unquantified benefits associated with Synlait offering an alternative to Fonterra for milk processing. This includes pressure for all parties to maximise returns to milk producers at the expense of shareholder profit, reduction of monopsonistic losses, local processing savings, and lower capital costs for farmers.