VALUE, COST AND PROCESSING

Rob McLagan

New Zealand sometimes becomes victim to some rather simplistic approaches to economic and industrial development. A common example is the idea that maximum on shore processing of our primary produce is in the country's interest because it creates jobs and provides more valuable exports.

However, this rather simplistic assumption is often not true. It is more instructive to look at processing in terms of value adding chains. These actually start long before any primary produce leaves the farm, forest, orchard etc.

The fundamental requirement for any value adding chain is that the value added exceeds the costs incurred. If this is not so, the chain is not viable.

With forestry, many people including journalists and commentators seem to assume that value adding only starts after the logs leave the forest and enter the processing chain. Often, too, there seems to be an assumption that the logs leaving the forest are relatively uniform raw material and that the value is added in processing.

By implication, the suggestion is the more processing the more value added. With forestry this is a dangerous assumption.

The table below shows the export value of the different, major forest products, exports for the year to June 2000. The first column is simply the total f.o.b. export values divided by total cubic metres exported. Cubic metres (m3) is the normal measure for solid wood and fibre board products, but not pulp and paper products which are usually measured in tonnes. The second column shows the f.o.b. values per tonne for the various export products assuming a somewhat conservative, rounded 500kg/m3 for all solid wood products. The comparison of value per tonne gives a much better indication of the value of the wood fibre in these products. Figures are from the INFOS database, Statistics NZ and NZ Timber Industry Federation.

This table shows that the most valuable of these major export categories is the fairly small plywood category (about 8% of sawn timber). However, the statisticians say the plywood figures are rather suspect due to commercial and technical problems aggregating figures. The next most valuable product is the sawn, dried clearwood that dominates the export trade to the U.S.

The more highly processed wood fibre products such as pulp, paper, fibreboard etc. have less value than the better grades of solid wood, despite the much more capital and energy intensive processing.

The key value adding steps for the most valuable export products is pruning to provide knot free clearwood for sawing or rotary peeling. Thus these products depend on value added in the growing phase, in the forest. Post harvest processing cannot bring the lower value fibre of unpruned logs up to the value of simple, straightforward, sawn clearwood. Intensive processing is a less effective value adding chain.

However, there is still a vital role for these various processing pathways. No tree and indeed no log can yield entirely solid wood products and the fibre based industries could be described as the arboreal rendering plants for the lower value by-products of forest growing. They do add value to

this fibre and provide significant employment, but in common with most primary industries exported forest products also meet rising tariff barriers with increased levels of processing. This inevitably distorts investment decisions.

Thus it is worth questioning how New Zealand should be growing and processing its forest resource for best advantage and also, where priorities should be for research, science and technology.

For the pruning/clearwood regimes there is good news and bad news.

The good news is that it is a comparatively low capital, labour intensive (high employment) option that plays to New Zealand's natural advantages. The bad news is that some forest companies feel they cannot justify pruning with their discount rates/cost of capital and, in addition, there is a serious shortage of pruners throughout the country.

The undeniable message here is that processing cannot be simplistically equated with adding value. Like most primary industries, forestry is a little more complicated than common wisdom might suggest.

Export Products For Year to June 2000	**Volume Value NZ$/m3 fob**	**Weight Value NZ$/tonne fob**
Plywood	1157	2305
Sawn Timber (total)	496.9	994
Sawn Timber (USA)	699.7	1399
Sawn Timber (Australia)	586.4	1173
Particle Board	534.1	1068
Paper and Paperboard		1040*
Newsprint		1036*
Chemical Pulp		980*
Veneer	476.2	952
Fibreboard	422.8	845
Wood Chips	178.7	357 (probably overestimate)
Mechanical Pulp		356*
Logs and Poles	105.5	211

*pulp and paper export figures are already quoted in tonnes rather than volume.

Footnote:

A rough rule of thumb is that nett returns (stumpage) for the grower might average $30/m3 for unpruned stands and $60/m3 for good pruned stands but over perhaps 20% less total volume. This in turn represents returns of $30,000-$40,000/ha for pruned, clearwood regimes, $20,000-$25,000/ha for unpruned, framing grade regimes, while a plantation grown to maximum volumes and harvested entirely for pulp (a very unlikely prospect in NZ) might return $5,000-$10,000/ha on good sites, close to a mill and far less, even negative returns on higher cost, more remote sites.