

Factors underlying the success of value-adding activity

- 5.1 The changing world economy has been creating a number of new challenges for Australia in its efforts to maximise its economic and social welfare. In particular, developments such as the reducing trade barriers around the world, the globalisation of business enterprises and the shift towards the increasing use of knowledge and technology across industry have all affected the environment facing Australian businesses.
- 5.2 If Australia is to take up this challenge and realise the opportunities presented, it will need to adopt policies that allow it to maximise the benefits from all its available options, including potentially highly prospective activities such as intensified processing of its raw materials.

Prospects for successful value-adding

- 5.3 There is little doubt that Australia's significant raw materials base provides it with a strong prospect of enhancing its national welfare through the processing of its resources. As indicated by the Department of Industry, Science and Resources:

Australia has a long history as a major producer and exporter of raw materials, largely reflecting the fact that it is well endowed with an abundance of naturally occurring mineral producing ores and with other important factors of production such as land.¹

- 5.4 Whether or not Australia adds sufficient value to its primary products before exporting them, however, has been the subject of much conjecture. As suggested by the Department of Agriculture, Fisheries and Forestry –

1 ISR, submission no. 28, p. 4.

Australia, there are many who argue Australia could raise its national welfare by adding more value to these products:

Critics have argued that exporting Australian commodities for value-adding overseas, while importing large quantities of value-added food, fibre, timber and paper products, some of which was produced using Australian raw products, amounted to exporting jobs. The heart of this argument was that by increasing value-adding in Australia new and diverse employment opportunities would be created, especially in rural areas and a greater share of the wealth to be derived from value-adding would be retained in Australia. Additionally, value-adding in Australia was also seen as having an import replacement effect.²

- 5.5 On the surface, there certainly appears to be substance to the argument that further wealth would be generated from further raw materials processing in Australia. Australia's strong raw materials base provides it with a number of the necessary underlying factors for it to be successful in this area and, if it can successfully harness this opportunity, it is likely that increased employment and national income would be generated.
- 5.6 The country's potential success in enhancing its raw materials processing base, however, is dependent on a much broader range of factors than its access to raw materials. The underlying question is whether Australia can translate its world-efficient processes in producing raw materials further up the production chain and produce value-added goods that are competitive on world markets. This ability to produce goods or services more cheaply (at the prevailing exchange rate) than is possible in other countries is commonly known as comparative advantage. It is the primary factor that enables trade to be successfully undertaken between nations.³
- 5.7 It is important to recognise that just because a country could efficiently produce a good it does not necessarily follow that it should. For example, it may not be wise to divert resources from other industries in which the country has an even greater absolute advantage in production.
- 5.8 The concept of comparative advantage establishes that countries can be better off concentrating on producing and exporting those goods in which they have the greatest production advantage, and importing the other goods they need. These gains from trade depend, of course, upon the existence of open and efficiently operating world markets.
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2 AFFA, submission no. 34, p. 8.

3 For a more comprehensive discussion of the notion of comparative advantage, see CIE, exhibit 23, Ch. 2.

5.9 The Economic Planning Advisory Council (EPAC) has argued that the likelihood of Australia retaining its comparative advantage further up the production chain, depends essentially on two considerations:

The first is the balance of advantage in locating processing facilities close to the source of supply of the raw materials rather than close to the market for the processed product; the second is the relative abundance, accessibility and quality of the additional resources (such as energy) which need to be employed in order to conduct the processing activity.⁴

5.10 After applying this hypothesis to the Australian situation, EPAC claimed that Australia appears to have a number of advantages as a location for early-stage processing of its raw materials. It suggested, for example:

Almost all basic processing activity involves a reduction in volume and/or weight of the raw material and, therefore, provides the opportunity for a saving in international transport costs when product is exported. For example, in the conversion of bauxite to aluminium, the weight reduction is between 3 and 4 tonnes per tonne of metal produced....In some instances, the advantage of this concentration of raw material is so overwhelming that it is carried out as a matter of course immediately after mining or harvesting (as in the cases of iron ore concentration and the initial processing of sugar cane).⁵

5.11 EPAC went on to suggest that Australia also has access to a number of the other factors of production that can contribute to successful value-adding activity. In particular, it suggested that the viability of resource processing in Australia can benefit from the country's relatively low energy costs, the generally capital-intensive nature of these industries and lower environmental costs (because of the size of Australia's land mass relative to its population). EPAC also claimed that other advantages enjoyed by Australia relative to developing countries include a mature infrastructure, a stable social and political environment, and consequent lower capital risks.

5.12 These advantages are already reflected in the export performance of a range of Australian industries. The Centre for International Economics (CIE), for example, has estimated that a number of Australian products

4 Economic Planning Advisory Council, *Raw Materials Processing: Its Contribution to Structural Adjustment*, April 1988, p 5.

5 *ibid*, p 5.

have relatively high 'revealed comparative advantages'⁶ based on 1998 trade data. While these advantages can be expected to change over time, the CIE list includes processed products such as uranium and thorium ores and concentrates, aluminium ores (including alumina), lead, non-monetary gold, nickel, butter, margarine and cheese.

- 5.13 The Committee also received significant evidence indicating that Australia has a number of underlying advantages that make it a competitive location for raw materials processing. Esso Australia, for example, suggested:

There are a number of positive conditions that already exist that contribute to such activities. Australia is a democratic country with strong free-market and judicial institutions, which foster investment. The education system has proven capable of producing high quality professionals that are the key to innovation, critical to successful value adding activities.⁷

- 5.14 The Electricity Supply Association of Australia added:

Australian businesses have access to one of the cheapest sources of electric power in the developed world.

With electricity making up on average 20 per cent of business input costs in important industrial sectors, the provision of reliable, low-cost electricity is a major element in driving greater business competitiveness.⁸

- 5.15 As discussed in Chapter 4, advantages such as these have been reflected in a substantial level of investment in new processing capacity in Australia over the past few years. ABARE, for example, provided lists of non-energy minerals processing facilities commissioned from 1993-99 and of projects that are expected to come to fruition over the next few years⁹ (these lists are reproduced in Appendices F and G of this report), all of which would have required access to competitive inputs for the investment to be undertaken.

- 5.16 The Committee agrees that Australian industry has access to a number of factors of production that provide it with a comparative advantage in a broad range of raw materials processing areas. The main issues centred on whether these underlying advantages warrant the active pursuit of

6 'Revealed comparative advantage' essentially measures Australia's export performance in a particular product compared to that of the rest of the world. For further discussion of this concept and the above findings see CIE, exhibit 23, pp. 38-39 and Appendix A.

7 Esso Australia Ltd, submission no. 7, p. 1.

8 ESAA, submission no. 30, p. 3.

9 See ABARE, submission no. 42, pp. 18-24.

further value-adding in Australia and whether the Australian economy as a whole could be expected to gain from such activity.

The benefits of encouraging increased value-adding in Australia

5.17 A broad range of arguments are typically used to support the proposition that Australia should pursue the further processing of its raw materials. The Centre for International Economics' paper submitted by the Minerals Council provides a useful summary of these arguments:

The idea of adding more value to our minerals and agricultural products by further processing is often advanced. Value adding is seen as a way of:

- increasing employment – through jobs in processing;
- improving our net export performance – through exporting higher value products;
- reducing Australia's exposure to price fluctuations for raw materials; and
- improving regional or national income.¹⁰

5.18 The Industry Commission has also elaborated on some of these issues, suggesting:

In recent years there has been a growing recognition that Australia's reliance on export income from primary production leaves it exposed to the vagaries of, at times, quite volatile commodity markets. As a result, there have been increasing calls to further process raw materials into manufactures which trade at less variable prices, at the same time adding value within Australia. Advocates of this strategy note that proportionally more value is added in subsequent processing operations, holding out the prospect of greatly increasing the value to Australia of its natural resources.¹¹

5.19 The Committee broadly accepts that the Australian economy can realise substantial advantages from additional raw materials processing, although value-adding should not be pursued at any cost. While not

10 Paper prepared by the Centre for International Economics for the Minerals Council, exhibit no. 7, p. 3.

11 Industry Commission, *Mining and Minerals Processing in Australia*, February 1991, Volume 1, p. 135.

questioning the advantages available from further processing, several witnesses drew attention to the potential costs that could be associated with the vigorous pursuit of these ventures.

5.20 The Department of Industry, Science and Resources, for example, suggested:

While recognising there is prima facie evidence that Australia should be competitive in many areas of raw materials processing and that there is little doubt increased value added can lead to higher living standards, arguments supporting the outright pursuit of this objective need to be examined carefully.

Australia does have a competitive advantage in a number of areas of resource processing and, as noted above, it is already undertaking such activity in a broad range of areas. Any attempt to induce local producers into providing further value adding in this area, however, may simply be counter productive and needs to recognise the wider implications of such action.¹²

5.21 The Department added that Australia's comparative advantage in the mining and agricultural sectors is not sufficient reason to expect the country to have healthy and competitive processing industries covering the full spectrum of its raw materials production:

The processing of raw materials involves a range of additional factors (such as an efficient local transport system - coastal shipping etc - and access to know-how and technology) with Australia's ability to efficiently produce primary products not necessarily reflecting a comparative advantage further down the value chain.

As such, any attempt to artificially move away from this market mechanism by encouraging value adding activity in areas that can be served more cheaply by imports is unlikely to produce a positive outcome for Australia and may ultimately translate into falling living standards.¹³

5.22 The Minerals Council argued that raising the value of a product through further processing is not synonymous with increased value-adding¹⁴ and submitted a report contending:

Adding value to commodities by further processing them is an appealing concept. But policies to encourage value adding should

12 ISR, submission no. 28, p. 12.

13 *ibid*, p. 12.

14 Minerals Council of Australia, submission no. 13, p.1

be approached with caution. Any country can have a comparative advantage in transforming only some of the commodities it produces, and only to a limited extent along the processing chain....

For further processing to maximise national income it must be encouraged in a way which does not detract from the performance of other sectors of the economy. This rules out those government policies that provide assistance – through tariffs, subsidies and other forms of special treatment – to particular industries. These policies cannot increase total value added. This is because the assistance they provide is ‘paid for’ by reduced competitiveness and ability to generate value added in other industries. Policies to *add* value to particular activities can *subtract* value from the total economy if resources are diverted to activities in which Australia does not have a comparative advantage.¹⁵

- 5.23 Others such as the Department of Agriculture, Fisheries and Forestry – Australia (AFFA) and the Australian Aluminium Council emphasised the need to rely on market mechanisms. AFFA, for example, suggested that market forces should determine whether or not a particular value-adding activity should take place, provided there are no policy or institutional impediments hindering its development.¹⁶
- 5.24 The Australian Aluminium Council noted:
- The (aluminium) industry has succeeded where many others have failed because it has built on Australia’s competitive advantages, especially in raw materials and competitive supplies of energy.¹⁷
- 5.25 The Committee broadly supports these suggestions. While Australia has well demonstrated that it can successfully develop world competitive raw materials processing plants in Australia, market forces should primarily drive the development of such projects.
- 5.26 Further processing in Australia must be encouraged in a way that does not negatively impact on other sectors of the economy but rather works to maximise overall national income. This means that any action by governments to encourage further raw materials processing should be directed at industries that have a comparative advantage and should primarily focus on ensuring there is no policy or institutional impediments hindering their development.

15 Centre for International Economics, exhibit no. 7, p. 8.

16 AFFA, submission no. 34, pp. 9-10.

17 Australian Aluminium Council, submission no. 31.

- 5.27 No country can expect to have a comparative advantage across the full spectrum of raw materials processing areas. Australia will maximise the benefits it receives from raw materials processing if it concentrates on those areas in which it can compete on world markets.
- 5.28 Any action by governments aimed at encouraging further raw materials processing in Australia should focus on encouraging industries that have a comparative advantage in their field.
- 5.29 While this approach appears to limit the range of options available to government in encouraging value-adding activity, there is evidence that Australia can still benefit from increased raw materials processing and that much can still be done to encourage this development.
- 5.30 The Australian Academy of Technological Sciences and Engineering, for example, provided evidence of the potential that is available in this area. In its report on the competitiveness of the Australian minerals industry¹⁸, the Academy lists a number of areas where it believes Australia has potential to successfully add further value.
- 5.31 The Tasmanian¹⁹ and Queensland²⁰ Governments also provided lists of opportunities that they have identified in their States. (For Tasmania these opportunities include magnesium, steel, agriculture, food and beverage, timber and furniture, and tourism and for Queensland they cover light, base and precious metals, energy and industrial minerals.)
- 5.32 In addition, evidence is available from the Industry Commission's last review of the minerals processing industry in Australia. In that report the Commission indicated that the full potential of this industry had not been realised:

After receiving a great deal of material addressing key inquiry issues and as a result of its own research, the Commission is convinced that the potential for mineral resource based industries – in terms of the contribution they could make to the Australian economy – has yet to be realised. This is despite the fact that activities under reference already account for almost a tenth of gross domestic product, half of merchandise exports and commonly upwards of a fifth of annual investment spending.²¹

18 AATSE, exhibit no. 5, pp. 49-51.

19 Tasmanian Government, submission no. 36, p. 3.

20 Queensland Government, submission no. 43, pp. 7-8.

21 Industry Commission, *Mining and Minerals Processing in Australia*, February 1991, Volume 1, p. 169.

- 5.33 The Commission suggested that the main reason for this under-performance was that mining and early stage mineral processing activities were hindered by numerous impediments.
- 5.34 Witnesses at this inquiry also identified a range of impediments that were said to be holding back the development of raw materials processing and these are discussed in the next chapter of this report.
- 5.35 While the Committee intends to further investigate these issues during the next phase of its inquiry, there is a strong likelihood that concerted Government action in this area could work to attract further value-adding activity.
- 5.36 By focussing on removing impediments and on ensuring the Australian economy operates in an efficient and effective manner, the Government can do much to reduce business costs. This in turn can work to ensure that enterprises are encouraged to draw on the economy's underlying advantages and to undertake further investment in resource processing, potentially adding to the community's overall value added.
- 5.37 It also needs to be recognised that comparative advantage is not a static state. With the ever-changing worldwide demand and supply conditions, a nation's relative advantages are changing constantly. As indicated by AFFA:
- It is important to recognise that the comparative advantage of nations shift over time and that whole industries relocate from one country to another as these factors change. The second-half of the twentieth century has seen some industries, particularly those involved in manufacturing, regularly relocating their processing plants to countries with cheaper labour and other input costs.²²
- 5.38 As countries around the world become more trade-focussed and work to enhance the efficiency of their industries, Australia may need to be more vigilant in providing the right economic environment and in removing impediments just to retain its current position. Without such action its current hard won gains may be lost, with investment increasingly attracted elsewhere.
- 5.39 The changing nature of the world environment, however, can also work to Australia's advantage. As indicated by the example of the growth of the local aluminium industry discussed in Chapter 2, Australia can benefit from relative changes in input costs (such as access to cheap energy) and whole new local industries can come to fruition on the back of such changes.

22 AFFA, submission no 34, p.10.

- 5.40 The changes that are constantly taking place in processing techniques and technology can also lead to the development of new industries and new opportunities for Australia. For example, the processing of magnesium appears to offer strong future prospects for Australia.²³
- 5.41 The realisation of these opportunities requires essentially the same action. Australia will only reach its full potential in these areas, and maximise its national welfare, if it has an efficient economy free from impediments and if it has the industry and economic policies in place that provide an environment conducive to investment.

23 For a discussion of the potential of this industry see CSIRO, submission no. 22, p. 4.