Productivity Commission Submission to the Review of the Export Market Development Grant Scheme

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Foreword

The Export Market Development Grants Scheme (EMDGS) has provided support to Australian exporters for more than 25 years. During that period, the scheme has been reviewed and modified on a number of occasions — the last review was undertaken by Austrade in 1994.

Since the scheme's inception, there have been significant changes to the Australian economy. (For example, the export orientation of manufacturing industry has increased markedly.) The international trading environment has also changed. This review by the Austrade Board thus provides a good opportunity to reconsider the efficacy of the EMDGS in the light of these developments.

The Commission has not had the benefit of the public consultation that is available to help the Austrade Board assess the scheme's effectiveness. Consequently, this submission focusses on explaining the Commission's view that the most important tasks needed to underpin an evaluation of the EMDGS involve:

- establishing whether there is still a valid reason for government subsidisation of export marketing activity; and
- assessing whether the scheme yields net benefits to the community as a whole, and not just to grant recipients.

To assist the Board form judgements in these areas, the submission comments on possible rationales for export assistance and ways of evaluating empirically the economic effects of the EMDGS.

Gary Banks

Chairman
February 2000

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Key points

- Ideally, a comprehensive evaluation of the Export Market Development Grants Scheme (EMDGS) would involve:
  - exploring the various rationales commonly used to justify government assistance for firms' export marketing activities to ascertain whether there is a sound basis for continued government involvement; and
  - assessing whether assistance in the form provided by the EMDGS yields net benefits to the economy as a whole, rather than just to certain exporters. This requires that account be taken of relevant costs — such as those associated with raising the revenue to finance the scheme and compliance and administration costs — as well as the effects of the scheme in increasing marketing expenditure and exports.
- Of the many reasons advanced to justify government assistance, those relating to certain information deficiencies and 'spillovers' appear to be most relevant.
- In evaluating the scheme, it is important to assess the effects of grant payments in inducing *additional* marketing expenditure and exports. This requires the development of an improved methodology to overcome shortcomings in the form of analysis used in the most recent review.
- Key design features of the EMDGS — such as the eligibility criteria and the scale and duration of assistance — should be reviewed to see if it is possible to improve the targeting of the scheme (ie achieve greater increases in marketing expenditure and exports per dollar of assistance).

1 Introduction

This submission responds to a request by Austrade for written submissions to a review of the Export Market Development Grants Scheme (EMDGS) — an important source of financial assistance for Australian exporters. The review, which was requested by the Minister for Trade, is to be completed by June 2000 — some 12 months prior to the expiry date for the scheme. The review is being conducted by the Austrade Board with the assistance of a Steering Committee comprising representatives of industry and other government agencies.

The Commission and its predecessor organisations — particularly the Industries Assistance Commission and the Industry Commission — have had a long involvement in analysing and reporting on the level and form of government assistance provided to Australian industry, including the EMDGS and other forms of export assistance. This submission draws on that experience and analysis of the current EMDGS outlined in a recent Staff Research Paper (Lattimore et al. 1998).

The terms of reference for the review require the Austrade Board to make a series of complex assessments about the effectiveness of the scheme in achieving certain specified outcomes and, more importantly, the future of the scheme beyond June 2000 (in particular, whether it should be extended and, if so, in what form).

In this submission, the Commission has not sought to make the assessments required of the Austrade Board. Rather, drawing on its experience in the analysis of a wide range of industry assistance issues, it has concentrated on outlining an analytical framework which it considers appropriate for the assessments that the Board is required to make, and making some observations to help the Board assess the performance of the scheme.

The next section briefly outlines the main features of the scheme. Section 3 focuses on rationales for export assistance. Section 4 discusses methodologies for assessing the relationship between EMDGS grants and export performance. The final section outlines a broad framework for assessing the effectiveness of the EMDGS.

2 The Export Market Development Grants Scheme

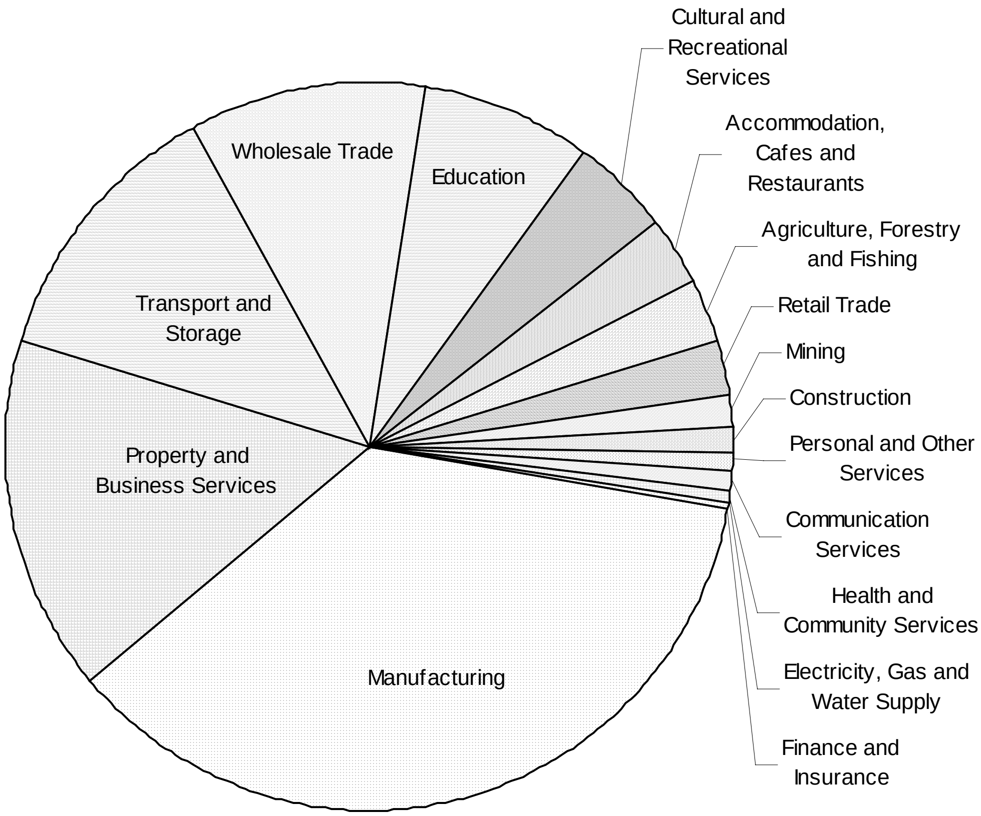
The EMDGS has been in operation since 1974, although its features have gradually been changed over time. In its early years, it was essentially aimed at counteracting the insular culture in Australian firms brought on by protection from imports. Since then, the focus has been modified to that of assisting small and medium business enterprises (SMEs), including those in the service sector, to seek new export markets for their products.

The current EMDGS provides direct financial assistance in the form of taxable grants to SMEs to encourage promotion of their products in export markets. This is paid as a 50 per cent subsidy for eligible marketing and promotion expenditures. Firms are eligible for grants of up to $200 000 a year.

The direct budgetary cost of the EMDGS has been decreasing over recent years — in 1998–99, $145 million was disbursed, compared with $188 million in 1996–97. This is mainly due to lower budget funding. Since the grants are taxable, currently up to 36 per cent of the grants could return to the government in the form of company tax (depending on the taxation position of claimant firms). In 1998–99, there were a total of 3062 recipients of EMDGS grants, with the average grant being about $47 000.

In 1998–99, firms involved in agriculture, forestry and fishing and mining activities together received only 4 per cent of grant moneys (table 2.1). This relatively small percentage, in part, reflects the dominance of large firms in exports from these sectors. Manufacturing firms received the largest proportion of grants (36 per cent), while 60 per cent benefited firms in what could be broadly defined as the services sector. This included 16 per cent to firms in property and business services, 12 per cent in transport and storage and 11 per cent in wholesale trade.

Figure 2.1 **EMDGS disbursements by industry, 1998–99**



Data source: Austrade data supplied to the Commission.

2.1 Overview of EMDGS

Who is eligible?

Grants are available to Australian-based firms (individuals, partnerships, companies, associations, co-operatives, statutory corporations or trusts) which are developing export markets for Australian goods, services, intellectual property rights and know-how. More specifically, eligible goods and services include:

- goods made in Australia that have at least 50 per cent Australian content;
- goods made outside Australia of which at least 75 per cent of their components have 50 per cent or more Australian content;
- services delivered overseas;
- services delivered within Australia to non-residents; and

- inbound tourism services.

Joint ventures, industry associations and trading houses may apply to Austrade to receive 'special approval status'. This status enables them to apply for grants under the scheme for three years. It is designed to allow smaller firms which may have less expertise with exporting to pool their resources in a joint venture or enlist the help of an industry association or trading house to promote their products.

For a firm to be eligible for a grant it must:

- be spending at least $20 000 a year on eligible export promotion (for the first year, applicants may combine two years' expenses to meet the threshold);
- have annual export earnings of less than $25 million;
- have total income of under $50 million a year; and
- not be under insolvency administration or subject to offences relating to fraud or dishonesty.

Firms and joint ventures that are related to each other may apply individually, but their joint export earnings must be less than $25 million.

How are grants calculated?

An intricate method of calculating the amount of grant reduces the degree of subsidy according to the number of years a firm has been a recipient of grants under the scheme. It also ensures that the total amount of grants does not exceed the budget for the year. The following factors determine a firm's provisional grant amount:

- the first $15 000 of eligible expenses are not subject to the grant, and subsequent expenditure receives a maximum 50 per cent subsidy;
- a maximum of eight annual grants per firm is available, with a $200 000 maximum ($250 000 for firms related in a group and $500 000 for trading houses) for each grant; and
- from the third grant year onwards, the grant cannot exceed a specified percentage of export earnings (which decreases over the length of the firm's involvement in the scheme).

Those qualifying for large grants under the EMDGS will only receive up to the 'initial payment ceiling', which is currently set at $60 000, in the first instance. The remainder is then multiplied by the 'payout factor' and paid at the end of the financial year. The 'payout factor' is calculated so that the total amount of EMDGS grants does not exceed the budget cap.

What kind of expenditure is eligible?

Eligible expenses under the scheme include:

- overseas representation (the cost of maintaining ongoing and long-term representation);
- marketing visits ($200 per day allowance for accommodation, entertainment, etc.; cost of travel, including airfares, taxis, departure taxes, etc.);
- communications;
- free samples;
- trade fair literature and advertising, including via the internet; and
- short-term marketing consultants.

Expenses that cannot be claimed include those that:

- relate to trade with New Zealand;
- are of a capital nature;
- are a commission or discount;
- relate to sales or product development;
- have or will be subject to reimbursement by a third party;
- are in payment of an Australian tax, levy or charge;
- were incurred when the recipient was a non-resident of Australia;
- were incurred for exports in breach of a trade sanction; and
- are fraudulent, unsubstantiated or related to an illegal activity.

3 Role of government

The Austrade Board has been asked to review the effectiveness of the EMDGS in achieving a range of objectives set out in the terms of reference. These objectives encompass the performance of the scheme in contributing to the growth of exports and an export culture, as well as administrative aspects of the scheme (eg its coverage and grant application processes). However, as outlined in the last paragraph of the terms of reference, the Board's primary task is to assess whether the scheme should be extended and, if so, whether any modifications to the present scheme are warranted.

To help make these assessments, it seems likely that the Board will need to address some threshold questions relating to the rationale underlying government support for export activity and the stated objectives of the EMGDS. Key questions include:

- are there in-principle grounds to suggest that continued government support for exports will lead to net benefits for the community as a whole? and
- if so, is the assistance provided by the EMDGS — the subsidisation of export marketing activities by small and medium size enterprises to help them seek and develop export markets — the most appropriate form of assistance bearing in mind the rationale for government involvement and the scheme's stated objectives?

3.1 Rationales for assistance

From an economic perspective, government assistance to export activity is warranted only if it gives rise to an increase in community welfare through higher consumption and improved living standards. Hence, an increase in export activity or income alone is not sufficient to justify export assistance. It is necessary to look at the net impact on the economy as a whole, including costs that may be associated with funding the scheme, possible adverse effects on resource allocation and compliance and administration costs.

Over the years, a wide variety of reasons have been advanced as to why export support is in the national interest, rather than being just in the interests of recipients of such assistance. Some involve quite sophisticated notions that have been subject to considerable debate in the economic literature. Others reflect more straightforward concepts, some of which encompass non-economic considerations.

In the following discussion, the Commission has not attempted to outline all of these arguments. Instead, it has focussed on briefly sketching out the main strands of some of the more common arguments advanced for export assistance. These include arguments that centre on: so-called ‘spillover’ benefits; information deficiencies; compensation for features of the Australian economy that militate against exports; and the benefits arising from a larger export sector.

‘Spillover’ benefits

Spillovers arise where the actions of one entity (or group of entities) lead to benefits (or costs) not reflected through price changes, some of which also accrue to other groups in the economy. In this event, the entity that produces (say) the benefits, realises only some of the gains from its actions, and is not compensated for those that spillover to other parts of the economy. In the presence of significant spillovers, from the community’s perspective, there can be under-provision of that activity (or over-provision in the case of an activity that imposes costs on others).

The inability of some firms that engage in research and development to prevent others from capitalising on some of their research (eg copying their inventory control methods or crop harvesting innovations) is commonly cited as an example of a spillover. Indeed, this ‘free-rider’ problem underpins the provision of tax concessions and other government assistance to promote research and development.

With regard to exports, it has been argued that spillovers could be associated with both product promotion and the development of new markets:

- a successful Australian food exporter, for example, could establish a reputation for quality or for a ‘style’ of production (eg for pursuing ‘clean and green’ agricultural practices) that not only increases demand for its own products, but also increases foreign demand for food products from other Australian suppliers;[1] and
- an Australian exporter that breaks into a new market may have to make significant investments to establish new ways of doing business that are more in keeping with local practices and customs. It has been argued (see Aitken et al. 1994) that this ‘new knowledge’ sometimes can be acquired by subsequent Australian exporters at a relatively low cost.

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[1] The reverse could also be true — that is, poor performance by an Australian exporter in a foreign market could jeopardise sales by other Australian producers in that market.

In principle, both of these factors could cause under-investment in export development activity.

Information deficiencies

Inadequate information could also lead to export development activity being, from a community point of view, less than 'optimal'. This could reflect:

- the high cost for a single firm of gathering information about new markets being large to the point where it outweighs the potential gains to the firm from breaking into such markets.[2] This cost could be defrayed if it were possible to sell the information or share the cost with other firms — but this might not be possible.
- some underestimation of the benefits that can accrue to firms which compete in export markets. For example, it is possible that, in assessing whether they should enter new export markets, some potential exporters do not account fully for indirect benefits they may receive through participation in international markets. For instance, several studies suggest that, in competing for market share against other international suppliers, many exporters benefit from better and more timely information about the latest production technologies, new products and market developments (see, for example, IC 1996).

Impediments to exporting

A number of previous reviews identified features of the Australian economy that hindered export activity and discussed the case for providing offsetting or 'compensatory' assistance (in the form of government support for exports). These features included tariffs on imported goods (which effectively act as a tax on exports), Australia's system of indirect taxation which taxes business inputs and rigidities in capital markets that could have constrained potential exporters from raising the capital needed to fund an expansion in their activities. Indeed, the Hughes Committee (1989) regarded a major objective of the EMDGS to be the creation of an 'export culture' to help overcome inward-looking business attitudes that had arisen because of the disincentive to export created by government policies, such as tariffs, and the encouragement they provided for producers to focus on supplying the needs of the domestic market. Similarly, the Ferris Committee (1985, p. 26) commented that '… an export-incentive scheme is needed to counter the legacy of the post-war import replacement strategy for industrial development'.

[2] This would be exacerbated if some of the information — or the commercial implications of it — could not be kept secret from potential rivals (ie there is also a spillover problem).

Increasing the size of the export sector

Advocates of export assistance have sometimes claimed that government support is warranted because a larger export sector would give rise to a more prosperous and stable economy. There are many strands to this argument, but it has most commonly been couched in terms of: balance of payments considerations; advantages from diversifying Australia's export base; perceptions that export income is inherently of greater worth to Australia than income from other sources; and perceived benefits from matching the levels of assistance provided by other countries.

- *Balance of payments considerations:* During the 1960s, fixed exchange rate regimes were still commonplace. At that time, export incentives were often seen as a way to help ensure that supplies of foreign currency were sufficient to maintain the exchange rate at the 'pegged' level, especially if a currency was 'over-valued'.
- *Diversifying exports:* For many years, Australia's export income was dominated by revenue from a relatively small number of agricultural and mining commodities. As international prices for these products are subject to significant cyclical variation, Australia's export income varied substantially from year to year. Given these circumstances, it was often suggested that the Government should act to reduce Australia's reliance on commodity exports and, hence, the volatility of the nation's export income. Frequently, export incentives to increase non-commodity exports were advocated to help achieve this objective.
- *High 'value' of export income:* It is sometimes stated, or implied, that income derived from exports is 'worth more' to Australia than income from other forms of economic activity. One implication of this argument is that government policy should encourage a larger exporter sector.
- *Matching assistance:* A common argument for export assistance (and other forms of industry assistance) is that Australia should provide it because other governments make it available to their exporters. This argument gained greater currency during the 1980s and early 1990s with the rapid growth of many Southeast Asian economies — the so-called 'Asian Tigers'. Their growth was commonly attributed to strong export growth which, in turn, was seen as being underpinned by substantial government support for exports.

Current validity

A key task for the Board will be to assess whether, in the face of significant growth in Australian productivity and exports, the progressive removal of restrictions on international movements of capital, goods and services, along with the trend toward the development of a global economy, there still exist valid reasons to support government assistance for exports.

The Commission considers that it is very doubtful that some of the rationales outlined above provide a sound basis for assisting export activity. For example:

- In the present environment where the exchange rates of most developed economies are relatively flexible, balance of payments considerations are not particularly relevant. With a flexible exchange rate, regular adjustments in the value of the currency will generally ensure that export revenue and other sources of foreign exchange are compatible with outgoing financial flows and that balance of payments equilibrium is maintained.[3]
- The structure of the Australian economy in the 1960s and 1970s, when arguments about diversification were prevalent, was very different to that which exists today. Australia's non-commodity exports — in particular its exports of services and certain manufacturing goods — have grown rapidly over the last decade or so. The development of substantial export markets for 'non-traditional' commodities — such as liquid natural gas, alumina and aluminium — has also helped dampen fluctuations in Australia's export earnings. Hence, arguments that Australia should assist export activity to diversify further its export base are not persuasive. The rapid growth in Australia's exports over the last decade (from 14 per cent of GDP in 1988–89 to 20 per cent in 1998–99) also brings into question the need for government financial support to help develop 'an export culture'.
- The significant reductions in tariff barriers (the average nominal rate of assistance[4] afforded to manufacturing industry fell from 9 per cent to 3 per cent between 1989–90 and 1999–2000) and the freeing up of capital markets over the last decade or so, together with the introduction of a goods and services tax that will significantly reduce taxes paid on business inputs, substantially weaken — if not remove — any case for 'compensatory' assistance to exporters. (See PC 1998 for an illustration of the beneficial effects of the new tax arrangements on exporters.)
- In past years, arguments based on the relatively high intrinsic value of export income may have reflected a presumption that increased exports would be in the

[3] Even in the era of fixed exchange rates, it is not clear that export incentives would help overcome balance of payments problems. For example, an increase in export activity could be at the expense of activity in import-competing industries. If this were the case, higher export returns could be offset by increased demand for foreign currency to pay for the additional imports that would be needed as a result of the movement of domestic resources out of import-competing activities and into the export sector.

[4] A measure of the assistance provided to outputs by tariffs and certain other non-tariff measures.

national interest because it would improve resource allocation. More specifically, it could have been assumed that the resources needed to expand export activity would be drawn mainly from more highly assisted (and thus less efficient) import-competing activities. However, with the progressive dismantling of assistance to most manufacturing industries, this rationale is not convincing. In essence, there is no clear rationale for government to offer incentives with the sole objective of increasing the size of the export sector and, hence, export earnings: a dollar of export earning is not worth any more than a dollar of income generated from domestic sources. The Hughes Committee (1989, p. 37) reflected this sentiment in the following terms:

> …it is thought that value added in exports brings greater benefits in terms of employment and balance of payments than other economic activities. This…is not so. Difficult though it is to accept, value added is value added.

The contention that assistance afforded Australian industries should reflect, at least in part, the assistance provided by other countries figured prominently in debates about assistance during the 1990s. In the context of export assistance, this notion has some superficial appeal — assistance provided by overseas governments to their exporters clearly undermines the competitiveness of Australian suppliers.

The Commission does not endorse the principle of matching assistance provided by other governments. The level (and form) of assistance available to Australian industry should be determined by reference to its *domestic* effects — not on the basis of policy settings applied by foreign governments.[5] More specifically, assistance for Australian industry should only be provided if it results in net benefits for Australia as a whole.

In the context of this review of the EMDGS, the concept of matching is in any case of little relevance. Grants made under the scheme are negligible relative to the massive agricultural subsidies provided by the European Union and the United States and favour only a minority of Australia's exports. Indeed, those Australian exporters most disadvantaged by overseas assistance — our large agricultural exporters — are not eligible for grants.

The Commission accepts that there may well be a case for government involvement in the provision of relevant information to exporters (although, as noted below, the extent and the most appropriate form of that involvement are not at all clear). Beyond that, the strongest rationale probably relates to spillover benefits. It needs to be recognised, however, that virtually all activities (including firms' *domestic* marketing activities) can give rise to spillover benefits. Hence, to justify export

[5] For a broadranging discussion of why it is generally not appropriate for Australia to base its assistance policy on the policies of other countries see IC (1997a, chapter 2).

assistance on the grounds of spillovers, there would be a need to identify clearly the nature of the spillover benefits and to determine that their level is large and causing significant under-investment in export promotion activity.

The level of spillovers is, in part, linked to market development, with more significant spillovers likely to be associated with initial market development. Given this, the greater involvement of Australian firms in international markets and the strength of that performance over recent years suggest that the level of spillovers and their effect on export activity may not be of sufficient significance to warrant continued government assistance. Information provided by claimants should help the Board assess the significance of spillovers, although some allowance will need to made if, as seems likely, much of the Board's information is sourced from existing or potential future beneficiaries of export grants.

3.2 Form of assistance

If the Board were to decide that there are grounds for continued government assistance for export activity, the obvious follow-up question is: what is the most appropriate form of such assistance?

Clearly, this issue is linked to the previous discussion about rationales for government support. For instance, if the major rationale is related to widespread information deficiencies on the part of domestic exporters (or potential exporters), government assistance for export marketing is unlikely to be the most appropriate policy response. In these circumstances, there may be a case for the government taking action to facilitate the dissemination of relevant information to exporters and potential exporters. Depending on its nature, the information could be made available free of charge (eg generic information applicable to many exporters) or on a user-pays basis (eg information specific to particular markets or products). In some instances, the most appropriate form of support could be legislative backing to finance an industry levy to collect information and promote Australian produce (as occurs with some agricultural products, such as meat exports).

If the Board were to judge that spillovers are significant, this *could* provide a basis for proposing further assistance of a type presently afforded by the EMDGS, especially as Australia's WTO commitments circumscribe the range of available alternatives. However, there would also be a need to assess whether the benefits to the economy as a whole outweigh the costs of the scheme. A central part of this latter assessment should be an evaluation of the effect that EMDGS grants have on increasing marketing expenditure and exports. Previous reviews have not made rigorous assessments in these areas. This issue is addressed in the following section.

4 Effects of the EMDGS on exports

Since its inception in 1974, the EMDGS has been reviewed on many occasions. In addition to administrative reviews by the Audit Office, the scheme has been evaluated by the Industries Assistance Commission (IAC 1977 and 1982), the Bureau of Industry Economics (BIE 1988), the National Export Marketing Strategy Panel (Ferris Committee 1985), the Committee for Review of Export Market Development Assistance (Hughes Committee 1989) and Austrade (1994 — hereafter referred to as the Austrade review). Although not a formal review, aspects of the scheme were also considered in a Productivity Commission Staff Research Paper which discussed design principles for small business programs (Lattimore et al. 1998).

In general, the reviews found that the EMDGS had been successful in encouraging small and medium sized enterprises to export. However, they typically paid only limited attention to other factors which have affected Australia's export performance. In this context, a major factor is the significant structural change the economy has undergone since the EMDGS commenced. For example, Australia has moved from a fixed to a floating exchange rate regime as part of a wider process aimed at better integrating Australia into the global trading environment. Border assistance, both here and overseas, has been reduced significantly. This has provided further impetus for domestic producers to adopt a more outward-oriented perspective.

Other microeconomic reforms which have enhanced Australia's productivity performance, such as improving the efficiency of key input industries (eg energy) and labour markets, have complemented this process. In its 1996–97 annual report, the Industry Commission (IC 1996, p. 34) analysed the export performance of product groups receiving export assistance and unassisted product groups over the ten years to 1996. It concluded that:

> The broad-based nature of Australia's export growth performance suggests that factors operating to improve economy-wide performance — including reductions in tariffs which act as a tax on all exports — are more important explanators [than export assistance] of improved export performance.

Another weakness of most reviews has been a reliance on qualitative assessments with little or no supporting empirical analysis. This is not surprising because quantification of the effects of the EMDGS is a difficult task. It requires the exploration of two distinct relationships to ascertain whether the scheme leads to higher exports than would otherwise be the case (ie the level of 'additionality'). First, it is necessary to determine the effect of EMDGS grants on inducing further eligible marketing expenditure. Second, the relationship between eligible marketing expenditure and exports also needs to be established.

Unlike most reviews, the 1994 Austrade review did use quantitative techniques to explore these relationships. It commissioned an econometrics study to examine the links between grant payments and exports. In this context, Austrade (1994, p. xv) stated that:

> Previous reviews of the EMDG scheme have not been able to quantify the level of additional exports attributable to the scheme … However, by using identical time series data from both claimants and non-claimants, the influence of grant payments has been isolated for the first time [in this review].

The remainder of this section comments briefly on methodologies for estimating the effects of the EMDGS on exports.

4.1 The Austrade methodology

The Austrade review examined the connection between the EMDGS and the impact on exports of any marketing it induces by comparing data for two groups of firms. The first group comprised exporters that were EMDGS claimants. The second group consisted of firms identified by the survey as being involved in exporting, but which had not used the scheme.

The study found that:

- firms benefiting from EMDGS grants in 1991–92 spent more on export market promotion than did other exporters. It estimated that grant payments of $156 million resulted in additional export marketing expenditure of $147 million.
- *additional* exports were estimated at $1.4 billion from grant payments of $156 million — a multiple of nine times the value of grants.

However, because EMDGS grants are taxable, grant payments of $156 million equate to a *net* after tax subsidy of $95.2 million (based on the 1991–92 corporate tax rate of 39 per cent). Thus, using Austrade's approach, the increase in export marketing spending per dollar of grant was $1.54.[1] This implies that each dollar of net subsidy generated additional exports of around $14.70 (rather than a multiple of nine). Indeed, Austrade reported that 'typically mature exporter firms in most industries will generate 15–25 times the grants paid to them in additional exports' (Austrade 1994, p. xv).[2]

The Austrade model employs a number of assumptions crucial to estimating the effects of the EMDGS on marketing expenditure and, in particular, the additional exports induced by marketing expenditures. But, even accepting the validity of these assumptions, it is likely that the analysis overstates the positive effects of the EMDGS on export marketing expenditure and exports because of a sample selection bias problem associated with the technique used — in particular, the comparison of outcomes for a group of EMDGS claimants with a control group of non-participating exporters that would have been eligible for the program had they elected to participate.

Lattimore et al. illustrated the problem by way of the following example.

Say firm A intends to expand its export activity and is seeking to undertake significant long-term export marketing. Firm B is also an exporter, but is less committed than A, and does not plan for sustained year-by-year export marketing. Firm A applies for, and receives, EMDGS grants, while firm B, realising that it is a long-term program and that there are up-front compliance costs, decides not to. In this case, a statistical analysis that tries to estimate the effect of the EMDGS on additional marketing expenditure by comparing the expenditure patterns of group A firms with group B firms will exaggerate the impact of the program. The problem arises because the control group is not made up of the same type of firms as those participating in the program. In essence, it is not a comparison of 'apples with apples' — firms in the non-claimant group have a lower commitment to export marketing than do firms that apply for grants. As a result, comparisons between the

[1] Thus, on average, each grant recipient not only spent all of the grant on export marketing expenditure, but also contributed additional funds equivalent to about 50 per cent of the value of the grant. This seems high, especially since it is likely that a significant proportion of claimants would consider that they already allocate appropriate funds to marketing and would, therefore, use a significant proportion of the grant monies for other expenditures and/or to contribute to profits (see box 4.1).

[2] In its latest annual report, Austrade cites an export to grant ratio of 34:1 for 1998–99 (Austrade 1999). This ratio is not a measure of the increase in exports attributable to grants, but simply the total amount of EMDGS grants relative to the export income of grant recipients. This is not very meaningful, in part because it may be interpreted in various ways. For example, some might wrongly interpret it as implying that the scheme's additionality is 34:1. Alternatively, if, say, EMDGS funding is simply substituting for private investment in export marketing, then cutting grants by 50 per cent could see the ratio double to 68:1, which could be incorrectly interpreted as implying a higher success rate.

two groups will overstate the effect of EMDGS grants on export activity. (Some proposals for improving analyses to mitigate sample selection bias problems are outlined in section 4.2.)

Box 4.1 How the EMDGS can induce more marketing expenditure

For illustrative purposes, take the case of a firm which, unaware of the EMDGS, spends $50 000 on export marketing. It is useful to trace through possible options (using 1991–92 tax rates) that the firm might select had it been an EMDGS claimant.

1. The firm might elect to increase its export marketing up to the level that costs it (net of the grant) $50 000. It could spend around $65 000 by paying the first $15 000 threshold, and receiving a grant of 50 per cent on the residual $50 000. This grant would have an after-tax value of about $15 300. Thus, the cost to the firm is $65 000 less $15 300.
2. The firm might elect to spend only $50 000 in total (including the grant). It would pay the first $15 000 and receive a grant of 50 per cent of the residual $35 000. The net value of the grant is $10 700. Thus, the cost to the firm of the marketing expenditure is $39 300.

If the firm adopted option 1, then the EMDGS has induced a further $15 000 in export marketing. Under option 2, the EMDG grant simply ‘crowds out’ the expenditure which the firm would have undertaken. The $10 700 grant induces no further marketing expenditure — it simply goes to the firm’s ‘bottom line’ or is expended elsewhere — and grant additionality is zero.

A firm’s decision to adopt a particular response will depend on factors such as:

- *The marginal return from marketing expenditure:* if this is declining, the firm may consider that promotional expenditure is not worth undertaking beyond $50 000, in which case it will adopt scenario 2. Austrade’s review, however, assumes that the marginal and average return from marketing expenditure is the same. This seems unlikely;
- *Export revenues versus returns:* the firm might choose option 2, even though it knows that the additional $15 000 investment will increase export revenues, because the return (or profit) on this higher level of exports is not sufficient to warrant doing so; and
- *Cost of marketing:* the firm may choose option 1 because it is subject to a cash flow constraint that has prevented it from making the ‘optimal’ marketing expenditure without a subsidy.

Given that additionality for some firms will be zero, Austrade’s average additionality estimate of 15-25 times the value of the grant implies considerably higher ratios for some firms.

Some other factors also suggest that Austrade’s estimates of additionality may be overstated. For example, according to the Austrade review, ‘graduate’ firms —

those no longer eligible for EMDGS grants — tend to preserve or even increase their export promotion expenditure after leaving the scheme (Austrade 1994a, p.27). This conclusion is somewhat surprising if the additionality of the scheme is as high as claimed.[3] Moreover, results from the survey used in the Austrade review (1994, p. 23) indicate that the EMDGS was an important, but secondary factor, affecting firms' marketing expenditure. Box 4.1 canvasses some firm-level factors which affect additionality.

4.2 Alternative methodologies

This section outlines two approaches that could be adopted to improve measurement of the effects of the EMDGS. These are:

- improving the methodology used in the Austrade review to reduce sample selection bias problems in order to derive more reliable estimates of the scheme's additionality; and
- employing regression analysis techniques using an alternative data set — specifically the ABS Business Growth and Performance Survey, which has become available since the Austrade review.

Improving the Austrade methodology

In principle, the sample selection bias problems which hamper the Austrade analysis could be overcome and the effect of the EMDGS assessed by first inviting firms to apply for the grant and then randomly refusing some so as to create a control group of non-recipients that is more like the recipient group. Although there is some precedent for this type of analysis (it is used in the United States, particularly to evaluate labour market programs), in practice, it is likely to be viewed as discriminatory and impossible to implement.[4]

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3 It could be argued that the EMDGS has acted as a catalyst that has made these firms successful exporters. However, 'additionality' means that the EMDGS induces marketing expenditure (and exports) which would not otherwise have occurred. This is unlikely for such mature exporters.

4 Lattimore *et al*. note that, if it is infeasible to match the control and client groups better, it may be possible to model separately the decision to apply for a program and the program's impact — known as a Heckman two stage procedure. For example, Jarmin (1997) examined the impact of manufacturing extension services on client productivity. By comparing a control group with clients, he estimated that extension services had increased productivity by 3.4 – 4.5 per cent between 1987 and 1992. However, this simple analysis underestimated the impact of the extension services. Using the Heckman procedure to take account of sample selection bias, extension services were found to have increased productivity by between 7.1 per cent and 16 per cent over the period.

However, the annual cap on EMDGS expenditures provides an opportunity to devise an evaluation program that more closely approximates an approach based on the ‘random refusal’ of some grant applicants.

In the first instance, Austrade could require that all applicants for EMDGS funding undertake to provide survey data for a specified duration, regardless of whether or not their application is successful. This would enable each applicant to be ‘tagged’ according to their (perceived) merit for EMDGS funding. Thus, each applicant’s ‘ranking’ would be recorded to enable identification of the full spectrum of firms — from those awarded grants, to those that would have received grants if the scheme was more generously funded, through to those deemed as not satisfying the EMDGS criteria. In addition, firms which drop out over time for failing to develop export markets could continue to be monitored. In principle, firms near the cut-off for EMDGS funding should be fairly similar to successful applicants, thereby providing a better control group for analytical purposes.

In addition to an indicator of firms’ rankings, data could be collected on firm characteristics (such as size and industry) and performance (such as exports and promotional expenditure). This would facilitate the establishment of a number of observations matching types of firms relative to their ranking.

Such an approach would help to redress the sample selection bias problem by allowing closer comparison of like firms. It also would provide information on Austrade’s selection processes. For example, if lowly ranked firms are performing strongly relative to successful claimants, this could suggest deficiencies with the screening process. Indeed, as many firms fail the export performance test (Austrade 1994), it would be useful to ascertain whether these ‘drop-outs’ display traits that could be detected during the initial screening.

The ABS Business Growth and Performance Survey data

The recent ABS Business Growth and Performance Survey (BGAPS) provides an opportunity for analysing the impact of the EMDGS by exploring firms’ export performance based on their participation in the EMDGS. The BGAPS is a ‘longitudinal’ study that tracked the same firms from 1994–95 to 1997–98. As there are records for over 13 000 firms on the BGAPS data base, it is possible to extract a data set, for the entire review period, of firms which participated in the EMDGS (from one to four years) and also non-claimant firms engaged in exporting. Regression analysis (supplemented by appropriate diagnostic tests) could then be used to assess the associations between the EMDGS and firms’ export performance.

The BGAPS data identify whether or not a firm participated in the EMDGS — the participation index — although the value of grants received is not specified. As participation indexes are firm size-independent variables, they would need to be regressed against performance ratios which are also independent of firm size. For example, exports per person could be used, based on information held by Austrade on persons employed by grant recipients.

The nature of an analysis based on participation indexes means that, in some instances, the results could detect an association between a firm's performance and its propensity to apply for the EMDGS, rather than a genuine *impact* of participation in the scheme. Nonetheless, statistical associations can shed light on such impacts. And, by reporting statistical associations, the exercise would not be assumption-laden. Moreover, as the 'control' group would be the average outcome for all firms, such an analysis would be less subject to sample selection bias.

In the time available, the Commission was unable to conduct this analysis in a comprehensive manner. However, some preliminary interrogation of the BGAPS data suggests that the extent of additionality that could be inferred from this exercise may be considerably lower than Austrade's estimates of 15–25 to one.

Concluding comments on methodology

The annual cost of the EMDGS is significant at around $150 million. It is therefore critical to gain a better understanding of the scheme's impacts and effectiveness and also to identify areas where improvements can be made. In particular, it is important that the scheme's additionality be clearly identified. In the absence of such information:

- the efficacy of the EMDGS will remain uncertain and the scope for increasing its additionality reduced (eg by improved screening processes, sharper targeting based on characteristics such as firm size and type of industry, modifications to grant thresholds and duration of assistance etc); and
- it will not be possible to ascertain whether the funding could be better employed in some other way to achieve the same objectives.

The shortcomings in methodology with both the Austrade review and the regression analysis of the BGAPS data reflect the reality that robust information needed to quantify the effects of the EMGDS is not readily available. While a precise measure of the impact of the scheme is not necessary, a proper evaluation clearly needs to establish whether the scheme is having a significant effect in increasing export marketing and exports. To this end, the Commission considers that the Board should explore the possibility of developing a methodology based on the BGAPS data and (as a longer term measure) to refine the approach adopted in the Austrade review to provide more reliable estimates of the scheme's additionality.

5 Framework for analysis

5.1 An economy-wide perspective

The EMDGS has been subject to a number of program design changes since its introduction in 1974. For example, the grant rate has been reduced from 70 per cent to 50 per cent, the minimum eligible expenditure threshold has been lifted by $10 000, the maximum number of grants has been reduced to eight, an overall budget cap has been applied to the scheme and so on.

Some of the earlier modifications are likely to have increased the scheme's additionality — that is, induced more marketing, and hence exports, per dollar of assistance. Nonetheless, it is important that an evaluation of the EMDGS extend beyond an assessment of additionality and an examination of the design features of the scheme.

The Commission considers that the Board should adopt an economy-wide perspective. Such an approach involves an assessment of the *net* community impact of the EMDGS. Thus, an evaluation of the scheme should not be constrained to simply seeking to measure the benefits for successful claimants. Even if assisted firms become more internationally competitive, this will potentially be at some cost elsewhere in economy. For instance, from a national perspective, as one firm expands its exports, it typically uses resources that would have been involved in productive activities elsewhere, including production for export. Moreover, the direct budgetary impact of the scheme cannot be ignored. It is therefore important to ascertain the *net* community impact of the EMDGS.

More generally, there is no particular reason why the total value of exports achieved through EMDGS funding is a good measure of the scheme's economic value. For instance, positive external spillovers do not necessarily increase indefinitely with exports. To the extent that the benefits from EMDGS derive from qualitative aspects of exporting (eg overcoming information barriers, learning by doing etc), then volume or value-based measures of exports may not be relevant.

If the Board judges that there are net benefits to the community arising from continuing government support for export marketing, the question arises as to whether the existing scheme can be further modified to increase its effectiveness. In a submission to the Mortimer Review of Business Programs (IC 1997b), the Industry Commission provided a checklist for reviewing business programs (box 5.1). Most (but not all) components of the list appear to be relevant to the Board's review of the EMDGS.

The remainder of this section comments on some specific design features of the scheme encompassed by the checklist — its targeting and the duration and scale of assistance.

Box 5.1 **Checklist for assessing business programs**

Threshold questions

- Are there externalities, information deficiencies or policy impediments that warrant government involvement?
- Are there significant costs if nothing is done, and do they exceed the costs of government intervention?
- Is a business program the only, or the best, way to address the problem?

Design and delivery questions

If the answer to all of the above questions is 'yes':

- Does the program target the problem explicitly?
- Is its emphasis on supporting *additional* activity?
- Is the program open to any firm, and if not, why not?
- Is there scope to reduce compliance costs without adversely affecting broad outcomes, or reducing the capacity of the managing agency to monitor the program?
- Does the program avoid duplication with other Commonwealth or State and Territory programs?
- Is the support provided to firms transparent?
- Does the program have clear eligibility criteria which avoid undue administrative discretion?
- Is there a requirement for public reporting of outcomes achieved and the beneficiaries of assistance?
- Does the program have a sunset clause and is there provision for independent, periodic review?
- Where the program involves a service to business, is delivery contestable and are users required to contribute to costs?

5.2 Targeting and duration of assistance

Effective targeting obviously depends on a scheme's rationales. As these have not been enunciated clearly in the case of the EMDGS, it is difficult to judge whether targeting can be improved. Similarly, it is difficult to assess the appropriate duration for the scheme in the absence of a clear rationale. For instance:

- If the EMDGS is based on a desire to engender an export culture (which was seen as a major objective by the Austrade review), then, as noted in section 3, the scheme may now be of limited relevance. Moreover, it seems reasonable to assume that, once a firm commences exporting, it would quite quickly become aware of the costs and benefits of doing so. In this light, provision of assistance for up to eight years for individual firms would appear overly generous if the economic benefits are derived from learning (rather than exports per se).
- If the EMDGS is based on market failure (such as spillovers), this could provide the basis for a more longstanding program. In this light, the focus of the EMDGS on small and medium sized businesses seems appropriate to reduce the scope for grants to crowd out private sector investment in export marketing — additionality from subsidising large firms is likely to be lower than it is for smaller firms.

It is possible that additionality might be increased by reducing the number of grants available to claimants. For instance, the export performance test means that only firms which have markedly increased their exports will be eligible for a significant grant in the seventh and eighth years of their participation. However, such successful firms are likely to be well informed about the returns to export marketing and unlikely to under-invest. Hence, if information deficiencies are considered to underpin the EMDGS, it may be more efficient to constrain assistance to a shorter period and to use the savings to fund more new exporters (or, alternatively, to reduce overall expenditure under the scheme).

Indeed, the Board could consider an approach whereby the cessation of funding, rather than being time-dependent, is related to performance. For example, once a firm's ratio of exports to marketing expenditure begins to 'take off', the firm could be considered as being in a position to make informed decisions about the costs and benefits of exporting into new markets. Alternatively, if a firm's ratio of exports to marketing expenditure begins to taper off or decline, this could indicate that little additional benefit is likely to arise from continued EMDGS funding — further grants might just displace the firm's own marketing expenditure without adding to exports.

If evaluation processes can be improved to measure individual firms' responses to the program (as outlined in section 4.2), it may be possible to develop 'sharper' criteria for maximising additionality.

5.3 Scale of assistance

The overall burden on taxpayers imposed by the EMDGS is constrained by the annual cap on total expenditure. Nonetheless, the cost of the scheme is still a significant call on the public purse.

Under the current arrangements, a firm which has $415 000 or more of eligible expenditures could receive the maximum annual grant of $200 000. After tax, the grant would have a value of $128 000. This means that, for some firms, the assistance per dollar of marketing expenditure could be as high as 31 cents (ignoring any additional benefits derived from tax deductibility for eligible expenditures). For assistance of this level to be warranted on efficiency grounds, the scheme would need to generate significant positive spillovers.

It should be borne in mind that if the grant rate exceeds the level of any spillovers there will be resource allocation costs. More specifically, firms will be encouraged to increase expenditure on export development at the expense of expenditures in other business inputs like R&D and training.

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