Editorial — UNEMPLOYMENT AND TECHNOLOGY

There is a strengthening trend towards the use of capital-intensive labour-saving innovations. This is not due only to the continued existence of the "wage overhang" which encourages managements to cut labour-costs by introducing machines at every possible opportunity. There is a widely held belief that the rate of change in technological breakthroughs is in itself accelerating.

The current economic recession is tending to hide some basic realities, and the possibility of a high rate of permanent unemployment looms as a great evil of the future. Even for an economy in a strong labour-demand situation of vigorous growth, the rate of technological advance is such that available work on the 'old' pattern may possibly not be sufficient to maintain full employment on a 40 hour week.

As the recent Telecom dispute has made painfully clear, improvements in productivity resulting from technological advances are viewed with suspicion by those who see in new labour-saving equipment a threat to existing employment.

Admittedly, reliance on the more traditional methods of reducing unemployment — in practical application severely handicapped by the need to reduce inflation — appears to have had little impact on the employment effects of labour-saving technology. For this reason, if for no other, the warnings of those who claim we are rapidly creating a society composed of two classes, the employed and the unemployed, are falling on receptive ears.

Ways must be found to avoid the realisation of these dire predictions, and
we must explore and debate them now, not wait until the problem is upon us in a really big way.

The problem is a complex one which admits of no single or easy solution. Various forms of job-sharing which have been tried overseas offer a limited solution, and the least that can be said of some European practices is that they have demonstrated that a few jobs have been preserved. The South Australian Government now employs permanent part-time public servants, and here again there is evidence that the queue for unemployment benefits is not as long as it might otherwise have been.

One complicating aspect of the situation is that advancing technology creates bottlenecks for a few skills which are temporarily in high demand, whilst at the same time threatening the security of many other jobs, particularly in process, manual and clerical areas.

Nevertheless, technological progress should not be viewed as some kind of "economic monster" which will inevitably cause widespread and intractable unemployment. The fundamental truth that technology is the major factor increasing industrial and rural productivity and efficiency must never be overlooked. We are dependent on the continuation of this process for our economic well-being, for our competitive strength against other nations, and particularly for improvements in our material standards of life.

Nor should we forget the lessons of economic history. This generation, like all previous generations since the industrial revolution, faces a period in which more changes will take place than in the corresponding period through which we have just passed. The steam engine, electricity, radio and other technical advances have always been associated with periods of great disturbance in the nature of employment and the new skills required. In each case a vast new range of jobs has been created, jobs the nature of which it was impossible to foresee. Unquestionably this pattern will be repeated. Our basic problem is that we have less time than ever before to adjust to changes.

One vital step in the adjustment process is the need to establish lines of communication which promote the use of innovative technology without being inhibited by industrial disputation. Never before was there a greater need for all sections of industry to work together towards improving productivity and adjusting to changes in the nature of employment. A growing atmosphere of mutual trust and understanding which could now emerge through the embryonic concepts of worker participation would aid this development.

If we are to keep pace with the rapid changes in our life styles associated with technological advances, then we urgently need to uproot outdated thinking by debating new ideas in order to extract such germs of truth and practicality as they may hold.
THE BUDGET — 1978/79

There has never been a popular budget. Certainly the first Howard Budget has proved no exception. "Revolting", "Mean-spirited", "Horror budget" were among the colourful head-line descriptions applied to it by three morning dailies. But governments, after all, do not bring down unpopular budgets just for the sheer sadistic hell of it. More than most people, politicians want to be loved, for popularity eventually means votes, and votes are what politics is all about.

Though there may be few who will like the Budget, it is, for that very reason, notably courageous. Its authors have done what they conscientiously believe should be done, even though they must have known that the great majority would not like the medicine prescribed. The Budget is responsible, in some respects ingenious, and, as in the simplification of Medibank and the changes to Health Insurance, far-sighted and adventurous.

The governing consideration in this year's Budget has necessarily been the reduction of the deficit. The estimated deficit for the current year is $2,813 million as against the 1977/8 deficit of $3,333 million. The more significant domestic deficit will decline from $2,451 million to $1,669 million.

The reduction of the deficit would have been a categorical imperative for any Government which claimed to be responsible. If the Government had not attacked the deficit, business interests, both in Australia and overseas, would have assumed that it had weakened in its determination to cut back inflation; this would have precipitated a collapse of confidence with disastrous consequences for economic recovery and employment. Moreover, in putting the reduction of inflation as its
primary aim, the Government has had broad-based support among the Australian people, affirmed in the overwhelming victories of the Fraser Coalition in the elections of 1975 and 1977.

The size of the deficit is significant in two respects—both of cardinal importance. The larger the deficit the more difficult it is for the Government to implement a counter-inflationary monetary policy and to lower interest rates; the latter because in order to finance the shortfall of receipts over expenditures the Government has to sell bonds to the public at rates competitive with securities offered by the private financial institutions. Alternatively it can borrow from the Reserve Bank, the process known as “printing notes”, which is inflationary. It hardly needs to be said that the more rapidly interest rates can be brought down, the better will be the prospects of a recovery in investment and consumer spending.

The second reason for minimising the deficit is to be found in Australia’s shaky overseas payments position. In spite of heavy overseas borrowings, our external reserves are now no more than sufficient to finance about three months’ imports. Clearly they cannot be permitted to decline much further. Australia runs a large deficiency in its current payments and this must be covered by capital inflow if the reserves are not to continue to run down. In these circumstances, it was above all essential for the Government to introduce a budget which would demonstrate to overseas financial interests that Australia was pursuing a responsible economic policy directed at the containment of inflation. A large deficit would have added to the demand for imports, placed additional strains on the balance of payments and would have seriously weakened the confidence of investors abroad in the Australian economy.

There could be no more salutary boost to economic recovery than a sustained inflow of overseas money. Indeed it could be said that such an inflow is a precondition of renewed growth and employment. The buoyant reaction of the share markets to the Budget, supported by substantial overseas buying was good news for the Government and bad news for the critics of the Budget.
The clear-cut need for reducing the size of the Budget deficit should thus not even be an issue for debate. The methods used to achieve this objective provide, however, legitimate ground for argument. A deficit can be pared back, either by increasing taxes or by cutting spending or by a combination of both. The Government has chosen to rely almost wholly on tax increases. While expenditures have been shaved in some areas, total spending, in real terms, will be somewhat greater — 1 to 2 per cent — than in 1977/8. For many years now, it seemed to have been taken for granted that expenditures by governments must automatically increase every year. This may be a justifiable assumption when the economy is growing strongly under conditions of reasonable cost and price stability. It becomes much less tenable in times of inflation when the economy is nearly stagnant. In the Budget Speech, the Treasurer rather disingenuously made a virtue of the fact that the Government had slashed the forward estimates of the Departments by some $1,500 million. But since when have government bureaucrats (and often their Ministers) not been "flat out" to extract all that they can in their efforts to expand their departmental empires? As a basis for overall policy calculations, the estimates of departments are surely not to be taken too seriously. Notwithstanding the budgetary imperative of cutting the deficit, the significant fact is that total government outlays have not been reduced at all. The disquieting feeling thus persists that governments and their advisers are much more disposed, even under adverse conditions, to raise taxes than to reduce spending.

That having been said, it is, admittedly, not so easy to point to areas where substantial spending cuts could have been effected (thus rendering some of the tax increases unnecessary). Perhaps education, particularly at the tertiary level, is the most obvious one. Of total Federal expenditure on education — $2,498 million in 1978/9 — nearly 60 per cent will go to the tertiary area. For many years, the universities and colleges of advanced education have had unbelievably generous treatment from governments and have expanded spectacularly. The provision of free education is costing the taxpayer a packet and, according to many observers, gross extravagances in the
tertiary institutions are rife. In extenuation of the Government, perhaps it could be said that having made significant changes in Health and Oil Pricing policies, it had not the stomach to undertake an additional major structural initiative. Perhaps education will come under scrutiny, hopefully next year. However, had the Government grasped the nettle, it might have been possible to avoid the highly unpopular 1½ per cent addition to the standard rate of income tax. The disturbing thing is that this measure may well make it much more difficult to restrain wage and salary increases which are largely, after all, at the core of the whole economic problem.

Perhaps the most important, certainly the most intriguing aspect of the Budget strategy is concerned with monetary policy. The Budget Speech proclaims the Government’s determination to restrain the growth in the volume of money over 1978/9 to a range of 6 to 8 per cent (Friedman might have suggested 5 per cent). In itself this may seem rather unexceptional, since Government policy from 1976 has been to endeavour to maintain more or less firm control over the monetary aggregates. But it is what follows in the Budget Speech that is highly significant and novel.

The Treasurer rightly emphasises that the level of wages is the critical factor in the employment equation: that the greater the measure of wage restraint, the more rapid will be the recovery in employment. The Budget Speech then asserts that monetary policy will not be adjusted to accommodate wage increases “inconsistent with the Government’s objective of continuing to bear down on inflation and encourage economic recovery and sustained growth in employment”.

This amounts to a stern warning to the Conciliation and Arbitration Commission that wage increases must be kept strictly within the parameters of Government policy. The implication is that if they are not, the responsibility for what follows will be the Commission’s not the Government’s.

The Government is entirely justified in the stand that it is taking. The level of wages is, at present, one of the most crucial elements in economic management. The Conciliation and Arbitration Commission is not responsible for economic management. The Government is responsible, and it is entitled
to expect that in crisis conditions, with unemployment growing, the determinations of the Commission will comply with the Government's conception of the requirements of the economy.

Almost from the time it took office the Government has had every reason to feel aggrieved with the Commission. We said so in our commentary last year on the 1977/8 Budget when we suggested that the Government could not continue to stand idly by and watch its economic objectives frustrated by the wage fixing body. We say so again this year. If wage and salary increases during 1978/9 are kept to a minimum well below the rate of inflation there are strong reasons for believing that the economy will look a great deal healthier by June next year than it does at present.

The I.P.A. has been among those who sought a restrained Budget. We were not disappointed. However, one can be tough like Churchill, but it is necessary, at the same time, to express confidence and hope, or else apathy is generated. In that respect the Budget failed. The present Government is notably inept at communicating to the electorate its concern for people, and this cannot be blamed entirely on an antagonistic press. Following the Budget Speech, we had extraordinary spontaneous demonstrations against the restructuring of Medibank despite the reaction of Dr. Scotton, one of Medibank's original architects, who pointed out that the provision of health care is now closer to the original concept of Medibank than any version so far put forward. It should not be left to the Dr. Scottons of this country to promote the Government's public relations.

In sum, this first Howard Budget — though coldly expressed and promoted — is a good one. If the Commission sees the light, it may prove to be more than that. It may be exceptionally good.
### AUSTRALIAN GOVERNMENT BUDGET ESTIMATES 1978-79

#### RECEIPTS

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<tr>
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<td>Individuals — PAYE</td>
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<tr>
<td>— other</td>
<td>$2,490</td>
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<td>$109</td>
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<td></td>
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<td>Companies</td>
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<tr>
<td><strong>Total</strong></td>
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<td>$16,282</td>
<td>$940</td>
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Other Taxes and Duties

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<tr>
<td>Income Tax</td>
<td>$15,342</td>
<td>$16,282</td>
<td>$940</td>
</tr>
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<td>6.1%</td>
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|                      | $1,223          | $1,287            | $64                                  |
|                      |                 |                   | 5.1%                                  |

**TOTAL INCOME**

|                      | $23,469         | $26,057           | $2,588                                |
|                      |                 |                   | 11.0%                                 |

**Deficit** (borrowing requirements)

|                      | $3,333          | $2,813            | $520                                  |
|                      |                 |                   | -15.6%                                |

**TOTAL RECEIPTS**

|                      | $26,802         | $28,870           | $2,068                                |
|                      |                 |                   | 7.7%                                  |

### OUTLAYS BY FUNCTION

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<tr>
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<tr>
<td>Social Security and Welfare</td>
<td>$7,490</td>
<td>$8,015</td>
<td>$525</td>
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<td>7.0%</td>
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<tr>
<td>Health</td>
<td>$2,698</td>
<td>$2,913</td>
<td>$215</td>
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<td></td>
<td></td>
<td></td>
<td>8.0%</td>
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<tr>
<td>Education</td>
<td>$2,355</td>
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<td></td>
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<td>6.1%</td>
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<tr>
<td>Housing</td>
<td>$507</td>
<td>$363</td>
<td>$-144</td>
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<td></td>
<td></td>
<td></td>
<td>-28.4%</td>
</tr>
<tr>
<td>Culture and Recreation</td>
<td>$261</td>
<td>$284</td>
<td>$23</td>
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<td></td>
<td></td>
<td></td>
<td>8.8%</td>
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<tr>
<td>Urban and Regional Development</td>
<td>$153</td>
<td>$108</td>
<td>$-45</td>
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<td></td>
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<tr>
<td>Economic Services</td>
<td>$13,464</td>
<td>$14,181</td>
<td>$717</td>
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<tr>
<td>(Transport and Communication, Water Supply and Electricity, Industry Assistance, Labour and Employment and other items)</td>
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<td></td>
<td></td>
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<tr>
<td>General Public Services (Administration, Law and Order, Overseas Aid, Research and other items)</td>
<td>$1,793</td>
<td>$1,927</td>
<td>$134</td>
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<tr>
<td>Payments to/for States and Local Govt. Authorities</td>
<td>$5,915</td>
<td>$6,557</td>
<td>$642</td>
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<tr>
<td>Defence</td>
<td>$2,376</td>
<td>$2,501</td>
<td>$125</td>
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<tr>
<td>Other Expenditure</td>
<td>$1,649</td>
<td>$1,951</td>
<td>$302</td>
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<tr>
<td>(Public Debt Interest)</td>
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<td>18.3%</td>
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<td></td>
<td>$14,049</td>
<td>$15,352</td>
<td>$303</td>
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<tr>
<td></td>
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<td>2.1%</td>
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<tr>
<td>TOTAL OUTLAYS</td>
<td>$26,802</td>
<td>$28,870</td>
<td>$2,068</td>
</tr>
<tr>
<td></td>
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<td>7.7%</td>
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PAPUA NEW GUINEA:
PROBLEMS AND PROSPECTS

In the period from 1963 to 1976 the World Bank sponsored a number of economic missions to Papua New Guinea (PNG). The primary objective of the most recent mission in 1976 was to "assess the prospects for a progressive reduction and an eventual ending of this historical dependence on Australia, that is, for Papua New Guinea's prospects for self-reliance." The findings of the mission were published this year in a World Bank Country Economic Report entitled Papua New Guinea: Its Economic Situation and Prospects for Development. Because Australians grant massive aid annually to PNG it seems appropriate that we should review some of the major current economic problems and the future prospects of PNG which are highlighted in the report.

Prior to 1975, in the era of dependency, more than half of the funds required to finance the annual budget of PNG's central government were provided by the Australian Government. Following independence, in March, 1976, the Governments of Australia and PNG agreed to a new aid arrangement which provided PNG with a minimum of $180 million for each of the five years beginning July 1, 1976. The objectives of this new financial arrangement were stated by the Australian Government in 1977, namely, "... to facilitate and promote economic and social development for the people of Papua New Guinea, to facilitate the achievement by the Papua New Guinea Government of its objective of increasing self-reliance and to enable Papua New Guinea to plan its development on the basis of an assured Australian aid commitment."

Presently Australia's annual grant in aid to PNG is more than $A200 million or the equivalent of $US80 per capita, (half as much as India's national income per head) making PNG the recipient of one of the highest per capita aid grants of any country. Although

1. All quotations are taken from the World Bank Country Economic Report unless otherwise stated.
development assistance expenditure to PNG is equivalent to less than one per cent of the Australian Government's total budget outlays, it is essential to the maintenance of PNG's public finance and external transactions requirements. "Australian aid provides 40 to 45 per cent of the Government's budgetary resources and 45 to 50 per cent of its foreign exchange requirements." Such a lifeline is a vital support to the economy of a newly developing country.

PNG's dependence on foreign support extends beyond Australia's financial assistance. For instance, approximately half of every Kina (the unit of national currency) spent in PNG goes towards the purchase of imported goods or services. In such an early stage of development, which is marked by the absence of manufacturing for domestic consumption, the nation relies on imports for practically all of its capital goods and most of its fuel, raw materials, consumer goods and other sources of national income such as transport and communications. The problem of financing a high level of imports (equivalent in value to more than a third of the value of the nation's current output) so that some economic development may take place, compounds the nation's overall debt predicament confronting the Government. The knots of dependency are presently very difficult to untie, particularly when the PNG Government has allowed the Kina to rise in value by about 20 per cent against the Australian dollar over the last two years. This action has exacerbated the nation's balance of payments problem.

The economy

PNG's economy is in its infancy. An overwhelmingly rural society, still primitive in some parts, forms the economic backbone of the country. "In spite of Bougainville mines' great impact, rural activities remain Papua New Guinea's most important productive source." Analysis of the latest available statistics on the break-up of national product according to industry, shows that a third of domestic production is derived from agriculture, forestry and fishing. "Two-thirds of that sector's output comes from households that are either wholly or primarily subsistence based. Another 20 to 25 per cent of domestic output comes from one copper mine, an opencast mine at Panguna on Bougainville Island; an additional 20 to 25 per cent comes from a miscellany of sectors that are still small: manufacturing, wholesale and retail trade, hotels and tourism, finance and insurance, non-government construction, and personal services."

The structure of the workforce, like that of national product, indicates the low level of income and the low standard of living that are associated with PNG's backward underdeveloped markets. The figures in the table derived from the World Bank Report show that over half the population working within the monetized sectors are employed in rural-based industries.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Proportion of workforce in monetized activities: 1976 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>53</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>2</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>5</td>
</tr>
<tr>
<td>Building and construction</td>
<td>6</td>
</tr>
<tr>
<td>Transport, storage</td>
<td>4</td>
</tr>
<tr>
<td>and communication</td>
<td></td>
</tr>
<tr>
<td>Commerce, finance</td>
<td>4</td>
</tr>
<tr>
<td>and property</td>
<td></td>
</tr>
<tr>
<td>Hotels and amusements</td>
<td>5</td>
</tr>
<tr>
<td>Public authority and other</td>
<td>21</td>
</tr>
<tr>
<td>industries</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
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</table>

IPA Review — July-September, 1978
The monetized activities (economic functions which add to the circulation of money in the economy, as distinct from barter or subsistence activities) contribute over 70 per cent of output and incomes, yet they employ less than half the population. The primary sector is by far the most important employer of Papua New Guineans and includes activities such as plantation-cropping, forestry, fishing and cash cropping carried out primarily by agricultural small holders.

The figures somewhat understate the degree of backwardness of PNG's economy by including only expatriates and those workers in the monetized sectors, while excluding people involved wholly in subsistence activities. The predominance of agriculture as an economic activity, much of it carried out in a small-scale, inefficient manner, results in a very low level of income for the great majority of the population. PNG's current national average income per head is $US460. "The distribution of income is such that probably half the population has an average income of only about $US150. This wide difference occurs because such a large proportion of Papua New Guinea's people are only partially, if at all, involved in cash-earning pursuits."

The amount of national income per head of $US150 places PNG amongst the poorest nations in the world. Gross National Product per capita for some of the least developed countries are as follows:— India — $US150, Zaire — $US140, Somalia and Bangladesh — $US110, and Ethiopia — $US100.

A recent PNG Government policy document entitled "A Framework for Industrial Development in Papua New Guinea" summarizes the current economic problems of the country in the following words: "Our present industrial sector is very small by international standards and thus limits the immediate opportunities to increase the value of domestic primary production through further processing. It also limits our ability to develop a more self-reliant economy and increase the productivity of our workforce."

The dual nature of the PNG economy—primitive economic sectors coexisting with a relatively well developed government sector—means that market activities are unable to significantly increase national production and so substantially raise the level of national income. The public sector consequently is an engine of growth in PNG. It is the second largest employer after rural-based industries. It is entirely responsible for providing infrastructure for development purposes (for example, harbours, electricity supply, telecommunications and air services), constructing all public services and providing relatively advanced social services, such as education and health care. The central government is "the largest mobilizer and provider of capital, and the largest source of funds spent at local government levels. In the long run no sector of the economy will have nearly as great an effect on the pace, direction and quality of development as the central government."

Whether or not one agrees entirely with the importance that the World Bank report attaches to the PNG Government is a matter of opinion. Nevertheless, there can be little doubt (and this is stressed by the World Bank) that the economic outlook of PNG in the long run will depend upon responsible government direction of the economy. Central Government control over public expenditures and, in particular, control over the growth in wages of government employees (wage and salary payments..."
make up nearly 50 per cent of the total cost of government), will be an important determinant of the extent to which PNG becomes financially independent over the next few decades. Also, if the Government is successful in increasing the percentage of its revenue derived from local funds by encouraging growth in private enterprise and market activities, then the reliance on the Australian Government to finance economic development will diminish accordingly.

Prospects for self-reliance

Despite the backwardness of most of PNG's economy and the present dependence on overseas assistance (mainly from Australia) to finance economic development, the World Bank is optimistic about the country's prospects for increasing its economic self-reliance and its financial credit-worthiness. The optimistic signs are already there, "... the underlying picture remains one of a natural resource base sufficiently rich and well proven so that eventually Papua New Guinea should become fully self-reliant in its external accounts."

The Somare Government is encouraging foreign investment in natural resource industries, and it is likely that new projects such as mining copper at OkTedi, (which is a BHP-led consortium project) the Vanimo forestry scheme and oil and gas exploration will give a stimulus to industrial development. Having learnt from examples of industrial development in South-East Asia, Prime Minister Somare is determined to attract appropriate levels of technology and investment into resource industries and into manufacturing operations, such as simple textile production, which could provide a high level of employment. "The government has defined its policies and organized its promotional activities with considerably more energy and effectiveness than is characteristic of many newly independent countries. The generally excellent relations between expatriates and nationals in the country, the lack of any perceptible xenophobia, and a tradition of integrity in handling negotiations and administrative decisions all contribute to the generally favourable investment climate."
DEVELOPING NEW INDUSTRIES

It is not uncommon to hear people in responsible positions advocating the "restructuring" of Australian industries. It is often naively assumed that employment opportunities in the service sector will absorb the unemployment resulting from the death of "old" manufacturing industries. Whilst there can be little doubt that many more Australian manufacturers must become attuned to the world economy, particularly if they are to reap the benefits of industrialization in the developing world in the last quarter of this century, we must take care to develop our existing economic strengths and not destroy them in the vain hope of substituting new ones.

* * * *

Rarely does the public hear the good news about Australian companies that are "making it" overseas. Australia does have multinationals. A recent study carried out by the Department of Decentralisation and Development in N.S.W. highlighted the successful operations of 20 Australian multinationals in foreign countries. In the last few years significant capital investments in the order of hundreds of millions of dollars have been made throughout the world — in New Zealand, Papua New Guinea, the Pacific region, Central and South America, the Far East, North America, South-East Asia — in areas where funds invested have reaped high returns.

The economic attraction of larger (than Australia) consumer markets, plus the abundance of low-wage labour in developing countries, have, in recent times, encouraged Australian companies to extend their operations offshore — market operations that range from food and household products, plastics and fibreglass building materials to engineering and transportation services, security and fire protection.

Some Australian companies are responding to the needs of overseas markets and the demands from international clients. They are to be commended for their initiative. However, Australian companies must have the incentive to expand their operations at home as well as to export them abroad. Provid-
ing new employment opportunities in Australia is a most important aspect of developing new home-based industries.

Export Ability

It might surprise many people that Australia currently exports television sets and leisure suits to Hong Kong, handbags and accessories to Japan and wine (notably white) to many countries in the world, including France. Although the amount of export revenue earned by companies involved in this trade is relatively small, the activities suggest that some Australian businesses are competing successfully on world markets in spite of their comparative disadvantages of isolation from markets and the high cost structure that Australian industries must bear.

Our export ability is not entirely restricted to mineral and rural primary produce. Although the ratio of the value of exports of manufactures to the value of total exports has fallen from a high point of 25.9 per cent in 1974-75, today 23 cents in every dollar of export returns are derived from manufacturing. In certain industries within the manufacturing sector, there is a high degree of human excellence and technical expertise which is devoted to developing products for export markets. In 1977 twenty-four Australian businesses won export awards. The success of these companies in capturing a share of international markets is an optimistic sign for other companies which are presently contemplating the development of export operations.

Ramset Fasteners (Aust.) Pty. Ltd., winner of export awards in 1965, 1971 and 1977, sells a third of its products (mainly building construction tools and fasteners) overseas. Exports to countries in South-East Asia increased by 45 per cent in 1977. Very special attention in research and development to improving the quality and durability of both tools and fasteners, has ensured Ramset of foreign markets in 20 countries.

Thomas Hardy and Sons Pty. Ltd. (S.A.), export award winner 1977, has significantly increased its exports of wines over the last 10 years despite a general over-supply of the product in most wine-producing countries. The company exports wine and fortified wines to more than 30 countries including
some in South-East Asia, where recently there has been spectacular growth in demand for table wines. Thomas Hardy’s export success (in the last financial year export earnings increased by 20 per cent) may be attributed to its fine quality products and to resourceful management which has concentrated the company’s operations on expanding existing markets and capturing new ones.

Park Lane Handbags Pty. Ltd. (N.S.W.), also an export winner in 1977, exports 53 per cent of its total production of brass alloy handbags, purses and accessories to 14 countries. Despite facing, in its overseas markets, competitive pressures resulting from a high wage structure and high freight costs, the company has penetrated markets in Japan, Singapore and Hong Kong. Since 1969 exports to the Pacific and Asian regions have accounted for 50 per cent of export sales. Competitive disadvantages have been offset by the development of a sophisticated product range based upon new and original ideas in styling.

These three examples of manufacturers are only a sample of the export-conscious Australian companies that have captured overseas markets in the last few years. They represent segments of Australian industries which have overcome the major disability of Australian manufacturing, that is, its failure to achieve high output per man (valued at international prices) by operating at larger scale. Competitive disadvantages have been overcome by companies using technical and managerial excellence to produce high quality products of an international standard.

Technology

"Fortunately, Australia has vast resources for manufacturing. It also has the human resources for technological advancement. What has been lacking has been the enterprise to create a truly formidable economic machine."

Recent developments in Australian technology lend support to this optimistic appraisal of the potential of manufacturing made recently by Professor Salisbury. In May of this

1. Professor of Economic History at Sydney University
The National Times, June 2, 1978
year the Federal Government approved a joint government-industry program to develop commercially the Australian-designed Interscan Microwave Landing system.

The landing system, originally conceived and developed by the CSIRO division of Radiophysics, represents a technological breakthrough for Australia, and for the world. It has been endorsed by the International Civil Aviation Organisation and consequently is likely to be used during the next few decades as the basis for all future airport landing guidance systems throughout the world.

Interscan is not by any means just a lucky invention, nor is it a rare occurrence of Australian technology being adapted for industrial use at home and abroad. It is one example of an expanding industry, microwave technology, that is capitalising on advanced technology and skills that do exist in this country. We can be proficient when it comes to developing and marketing industrial technology. For instance, CSIRO in an arrangement with various companies has developed solar heating systems that are capable of generating industrial power for many purposes, including cooking, can warming, bottlewashing, sterilisation, pasteurisation etc. Gra-Mall Management Pty. Ltd., one of the most active smaller solar energy companies, manufactures solar units which pre-heat gas-fired boiler systems used for industrial hot water and air conditioning.

Solar energy equipment is a growth industry. Already the market is worth well over $10 million annually in sales, and is growing at a rate of between 50 and 100 per cent per annum. Presently, there is strong consumer demand for solar energy in the home for hot water services and heated swimming pools. It is likely that the demand for solar power will increase at a rapid rate in the future as energy users — producers and consumers alike — seek alternatives to sources of power that have become too exorbitant a cost.

Solar energy is in its infancy as an industry. However, it has the right ingredients of a skilled workforce using advanced technology to grow into a large manufacturing and servicing industry. This type of technology-based industry in which companies already export a major part of their final product, should be capable of employing thousands of skilled (and semi-
skilled) Australians including some of those displaced from sections of manufacturing in decline.

Manufacturing industries will have an important role to play in the future development of growth areas such as the Kimberleys and North West Shelf. It has already been suggested to us by Japan and U.S.A. that processing of minerals should occur where minerals and raw materials coexist with energy sources (including solar power) so that a major impetus is given to regional development. Servicing mine sites, providing infrastructure and reprocessing raw materials could become large industries if Australian manufacturers are willing to exploit opportunities as they emerge. In this way the decline in employment in many sections of manufacturing might be checked and new employment provided.

In Professor Salisbury's opinion, Australia must make use of its existing strengths — its natural resources, its technology, its management expertise and its skilled workforce — if manufacturing is to capitalise on emerging opportunities in markets at home and abroad. The importance of manufacturers continually developing and refining technology, and marketing Australian inventions overseas cannot be emphasised too much, especially if our industries are to win for themselves a favourable trading position in a world in which the wages and production costs of many nations are running substantially below Australia's.

The problem: export orientation

The few examples of progressive Australian companies and innovative technology that have been given show that this country does have the goods. However, we need many more export-oriented companies if we are to overcome the problem of an inward-looking approach apparent in large sections of manufacturing.

The Industries Assistance Commission (IAC) partly summed up the current problems of the manufacturing sector as a whole in the following words: "The involvement of Australian manufacturing industries in export trade is low. Australian manufacturing industries do not seem to have been
able to develop export markets to the same extent as have such industries overseas.”

The following figures prepared by the IAC show the extent to which manufacturing sectors are export-oriented in a number of industrialized countries:—

<table>
<thead>
<tr>
<th>Country</th>
<th>Value of exports as a percentage of the value of domestic production in manufacturing: 1973 (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>37.2</td>
</tr>
<tr>
<td>West Germany</td>
<td>26.6</td>
</tr>
<tr>
<td>France</td>
<td>19.4</td>
</tr>
<tr>
<td>U.K.</td>
<td>17.8</td>
</tr>
<tr>
<td>Japan</td>
<td>13.7</td>
</tr>
<tr>
<td>Australia</td>
<td>13.0</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>6.2</td>
</tr>
</tbody>
</table>

It should not necessarily be concluded from the figures that the low percentages for Japan and the U.S.A. are evidence of inward-looking manufacturing industries. International trade in manufactured goods in these two countries is large in absolute volume and the markets within the various sectors are generally large and diversified. However in Australia’s case where the home market is small in terms of volume, the low ratio of exports to domestic production indicates that Australian manufacturers as a whole market their goods and services at home in lieu of abroad.

Most Australian industries, assisted by protection against imports in the form of tariffs and quotas, have tried to meet the needs of the domestic market only, producing a little bit of everything to the detriment of export markets. In fact, the range of commodities produced by manufacturers since World War II has included almost every category of imports.

There is no single industry within the manufacturing sector for which exports account for a major part of production. This situation should be contrasted to Australia’s rural and mining sectors, where the ratio of exports to gross product is 53.7 per cent and 69.5 per cent respectively, evidence of the “natural resource base underlying Australia’s area of comparative advantage.” Few people would dispute the message in

these statistics that the future of Australian manufacturing is partly dependent upon many industries developing export potential.

*The Asian Challenge*

In “Recovery Through Exports” (IPA Review, April-June, 1978) we emphasised the impact that the developing market Asian economies (DMAE) were having, and would continue to have on Australia’s trade, particularly trade in manufactured goods. The economic impact of the industrial revolution in Asia on our standard of living in the last quarter of this century will be significant.

The region encompassing DMAE countries is presently the world’s fastest growing developing area. Newly industrializing countries in this region have growing industrial bases geared to exports. The natural advantage of a large and growing supply of low-wage labour in countries such as Hong Kong, Taiwan, South Korea and Singapore has stimulated rapid export growth in a whole range of industries. In the period from 1970 to 1976 the average annual growth rate in the value of exports from countries of developing market economies was 36.0 per cent, second only to the oil-producing countries of the Middle-East (51.8 per cent), and well ahead of developed market economies (25.0 per cent).

It is interesting to compare the growth rate of national product per head in some of the more rapidly developing Asian market economies with growth rates of Japan and Australia in two post World War II periods.

<table>
<thead>
<tr>
<th>Rate of growth in GNP per capita (adjusted for inflation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>average annual percentage increase</td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Singapore</td>
</tr>
<tr>
<td>Korea (Republic of)</td>
</tr>
<tr>
<td>Australia</td>
</tr>
<tr>
<td>Japan</td>
</tr>
</tbody>
</table>

The economic growth of the two developing economies is roughly comparable to the phenomenal growth rate experienced by Japan in the period following World War II.
Although the value of Korea's national product per head is presently only a tenth that of Australia, economic development in Korea in the last few years has been spectacular. Real GNP has increased at an average annual rate exceeding 11 per cent. Following a path of export development from 1960 to 1970, Korea achieved an incredible average growth rate in exports of manufactures of 64 per cent per annum. In this period manufactured goods increased their share of total exports from 14 per cent to 77 per cent. From 1965 to 1975 the ratio of exports to national product rose from 5 per cent to 28 per cent. At present Korea takes $A200 million worth of Australian produce or 3 per cent of the total value of our exports. Australia's imports from Korea have increased rapidly from $A10 million in 1972-73 to $A100 million today.

The economic health of Australian manufacturers in the next 25 years will be in no small way dependent upon industries capturing markets in the fastest developing areas closest to our shores. As the Financial Review correctly suggested recently: "Australia has the opportunity to establish a position as a specialist supplier to the developing industrial regions of the Third World now opening up within relatively short shipping distances from our doorstep". As our few examples have illustrated, we have the technology and expertise in manufacturing that would enable us to penetrate on a large scale markets comprising hundreds of millions of consumers with growing real incomes. Whilst Australian exporters in the future must not neglect traditional markets (U.S.A. and E.E.C. currently take 24 per cent of our total exports), their failure to exploit emerging opportunities on our doorstep would not only be their loss but Australia's as well. We cannot afford not to take advantage of expanding markets, for they will provide not only a stimulus to new Australian export industries and hence new employment prospects, but also a source of imported goods and ideas that can only enrich our standard of living.
PREPARING FOR THE WORLD OF WORK
by Howard Kelly

Business leaders in commerce and industry are taking an increasing interest in providing school teachers with educational material which helps to prepare students for the work environment of adult life.

Mr. Kelly is a teacher and Co-ordinator of the Social Education Materials Project (SEMP). This article is an edited version of a paper, "What the Teacher Needs and Doesn't Need", which he addressed to business leaders at a seminar, "Bridging the Gap", conducted by the Society of Industrial Editors in Melbourne in June, 1978.

My perception of the material that has been forwarded to me by major industrial/commercial groups with a strong desire to produce educational material is that its basic role is to disseminate information. I have no doubt that this is a worthwhile aim for companies that have enabled such high production of information material to be available. However, in terms of what a teacher needs, I think that by and large it misses the mark.

Most of the material I have seen appears to be produced for a variety of targets at once, amongst these:

- The general public
- Specific interest groups
- Sales promotions
- Schools

I presume the bulk of the material produced would meet the needs of most of those targets, but it is not particularly effective in meeting the needs of teachers interested in pursuing a general education for students. Perhaps that comment would be clearer if I referred to comments on the goal of secondary education as stated at a UNESCO seminar held at Burwood in 1967:

"The goal of secondary education is not, one presumes, the preparation of professional economists, political scientists, sociologists, anthropologists . . . The task of secondary education is to bring to adolescents a broad, coherent, systematic understanding of society, its structure, what constitutes it, its central institutions and processes, how they operate, and the problems of understanding or interpretation that arise in connection with all these things."

The statement goes on to comment that it "requires a form of teaching that crosses the boundaries of separate disciplines, that draws concepts, general principles of explanation."

I believe that the statement conveys quite effectively the mismatch between a considerable proportion of the material produced and the teaching process involved in attaining these goals. The aim of secondary education is not the imparting of information for its own sake, but the development of general understanding and ongoing inquiry skills to effectively

1. Innovation in Social Education.
deal with information in society. In short, to learn to:

- Investigate
- Understand
- Participate

Given the fact that the material produced possibly meets the needs of other target groups, one feels a certain hesitancy at going any further. What I am suggesting is that if the needs of teachers are to be more effectively met, it almost requires new sets of materials to sit alongside the material for the other target groups. I have studied the material and, while acknowledging its professionalism, I must say that I could not use much of it in my teaching because of a variety of factors, for example:

- Reading levels
- Lack of social or economic comments
- Lack of personalised information on people involved
- Lack of suggestions to the teacher

Most of the material would require me either to do all the processing myself, for which I probably have not the time, or to use the material as it stands and run the risk of encouraging students to think that intricate details are important in themselves. This would pose several problems for me, as I do not believe that such detailed information is useful in terms of the goals of secondary education as previously outlined.

I would like to focus on some of the material produced by the mining industry. Consider the booklet, "Mining and Environment", issued in the interests of education and national development by the Australian Mining Industry Council. At the risk of offending people, I suggest that the booklet is likely to be used in classes, particularly in the current climate, to ponder on what features the mining industry may have omitted. The booklet states that it is not going to comment on social/political aspects. It strikes me as an example of material that could have gone much further by commenting on the areas that it states in the introduction it will not develop. It is a shame that the Council decided not to pursue those aspects, not to comment on such issues as Aboriginal Land Rights. It is not as if the Council has made no comments as it has certainly made comprehensive statements to such bodies as the Senate Standing Committee on the Social Environment.

This particular booklet is one of missed opportunities in areas of increasing importance. The inclusion of such material, and more comprehensive teaching notes, would have made a significant contribution to the inquiry process in a classroom and be seen for what it essentially is. It is, and it has a right to be, a piece of strong advocacy.

To be specific again, in the publication, "Offshore Adventure", BHP/Esso gives a fascinating outline of the development of Bass Strait and in one section acknowledges the effect of the energy crisis. However, the solution to the declining resources is simply seen as the need for more fields, there is no suggestion of considering differing forms of energy. In using this material in the classroom I would need to encourage students to question that proposed solution. In other words, to most teachers the material produced is there for critical dissection rather than unquestioning consumption. To be positive, I would be far more impressed with such a publication if it has acknowledged the need for other forms of energy. I would also be more impressed if it was more human. For example, more comments could have been made on the lifestyles of the people who work in the industry and particu-
larly on the rigs. It would be very use-
ful if the following information was
included:
★ How long do men work on the rigs
★ How many men work on the rigs at
the one time
★ Can they see TV
★ What effect does the lifestyle have on
the families
★ Perhaps a case study of a particular
family
As it stands it is professional, pic-
turesque, but cold. If you want teachers
to use such material it needs to be per-
sonalized. With such material on people
involved in the offshore adventure, a
careful look at the reading level and
some suggestions on use, the material
could quite easily be used by a teacher
discussing work and differing lifestyles. It
is that type of change that is needed for
a large amount of material. The same
type of comment could be made on the
publication, "Sugar 1977". Why are
there no comments on government assist-
nance, no comments on the life of the
people involved?

Much of the material and a lot of
valuable work is being sold short for a
number of reasons:
★ Much of it is not saying that it is
strong advocacy
★ Useful material considers both the
pros and cons of contentious issues
★ It seems to be more interested in the
idea of progress for the sake of pro-
gress with only a token effort at the
environmental and social ramifica-
tions
★ It is too clinical as it lacks material
on the effects of such things as
economic development on people.

I consider that much of the money
being spent at the moment may be effec-
tive at meeting the needs of some of the
target groups, but is more likely to be
ignored as straight P.R. or used for pur-
poses other than those for which the
material was written.

The Banking Education Resource
material is the type of material from in-
dustry that is very useful to teachers. It
takes heed of the changes in curriculum.
It is written with the schoolroom as its
primary target. It appears quite clear
that because this is the primary target
group that it is able to personalise in-
quiry situations for students to explore.
It is not merely about transmitting in-
formation. The material has an ongoing
use that most of the other material does
not possess. Apart from its basic inter-
est in curriculum as such, its format and
style enables students to be involved in
understanding the concepts it is attempt-
ing to convey.

The contrast between it and other
material has been made not to offend
people and praise others but re-emphasise
the central dilemmas.
★ "Are information handouts relevant to
the needs of teachers and children?"
My answer to that is that they are
potentially useful but are nowhere near
as relevant as they could be.
★ "Should company publications include
material which develops inquiry, de-
cision making, personal and social
skills?"
My answer to that question is basically
"yes". However, I would acknowledge
that it is not the task of businessmen to
write text books, but if the purpose is to
transmit more than information an at-
tempt needs to be made to integrate these
skills in your material.

Suggestions
★ Approach relevant people at the Cur-
riculum and Research branch over
major curriculum changes,
★ Study the teaching notes of Australian
Social Education Project (ASEP)
and Social Education Materials Project (SEMP).

- Approach schools that have used the material currently produced. Find out what they used and what they did not use.
- Approach other schools that have not used any of the material. Ask them for their comments and suggestions for modification.
- Persuade those who need to be persuaded that for the school target there is less need for the obvious P.R. type of material.
- Whatever is produced, attempt to humanise it more wherever possible. This is particularly important if middle and lower secondary school students are to be interested.

From my standpoint having taught, then having been involved in national and state projects, and then having returned to school, I consider that much can be done for the credibility of the material. I would imagine that a host of ideas, some successful, some disastrous, will need to be tried to bridge the gap in this area. Not to be adventurous in this field will relegate much of the material to the curriculum context of the project aids that we used to send away for in the 1950's and copy out word for word.

The SEMP project has been the subject of much controversy. Mr. Dan O'Donnell, a former lecturer at North Brisbane College of Advanced Education, has this to say:

"Is it any wonder that, with such drivel streaming out of the Curriculum Development Centre, ordinary classroom teachers are beginning to despair? After all, these are the experts, the pure theorists, now pouring forth, for the benefit of the ignorant, the new holy truths. The source of their inspiration remains a mystery; it is certainly not classroom experience with real, live, intelligent children. And the force-feeding of all children with the controversial elements goes beyond exposing children to life, warts and all. There is an excessive emphasis on the warts, and the seamy, and the unsavory."¹

Many I.P.A. supporters would agree with Mr. O'Donnell. However, this article by Howard Kelly, Co-ordinator of the SEMP project, has been published in the hope that practical men of affairs in the business community will respond to Mr. Kelly's call for help.

¹ News Weekly, August 9, 1978.