The Parliament of the Commonwealth of Australia

CONSTRUCTING AND RESTRUCTURING AUSTRALIA'S PUBLIC INFRASTRUCTURE

Report of the House of Representatives
Standing Committee on Transport,
Communications and Infrastructure

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(34th Parliament)

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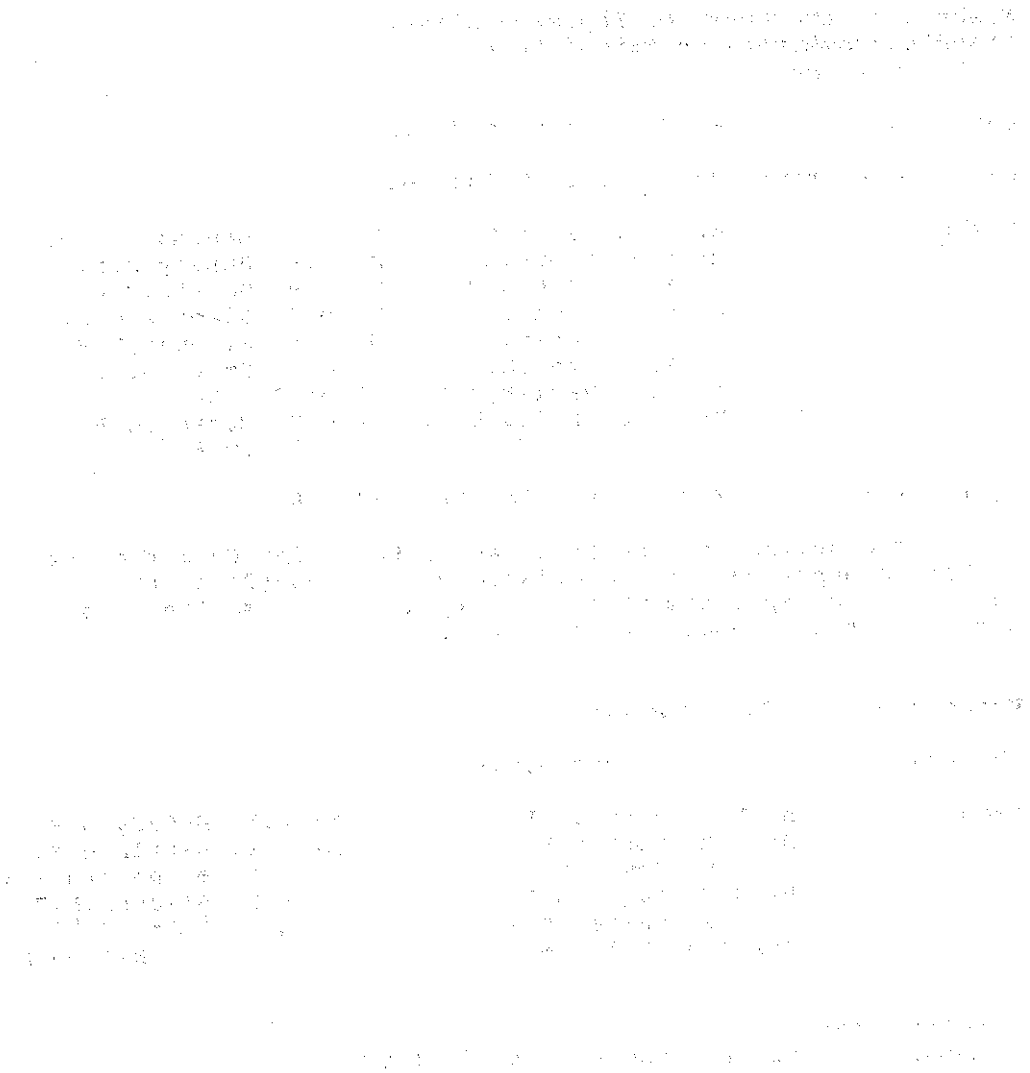

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Terms of Reference of the Inquiry in the 34th Parliament

The House of Representatives Standing Committee on Expenditure resolved to inquire into Infrastructure on 28 May 1986.

1. To review trends in Australia's expenditure on infrastructure and compare those trends with overseas countries;

2. To examine Australia's infrastructure expenditure and public capital stock to determine any areas of imbalance;

3. To examine, through a case study approach, the framework for public capital investment in order to identify possible improvements to the decision-making processes; and

4. To recommend measures that could be undertaken to improve the efficiency and effectiveness of expenditure on the public capital stock.

Terms of Reference of the Inquiry in the 35th Parliament

On 5 November 1987 Senator the Hon. Gareth Evans Q.C. Minister for Transport and Communications wrote to the Chairman of the House of Representatives Standing Committee on Infrastructure (later renamed the Committee on Transport, Communication and Infrastructure) to refer the inquiry with the same terms of reference as adopted by the Expenditure Committee in the 34th Parliament (See Appendix 1).

FOREWORD

Foreword by Mr J Saunderson, MP

On 24 September 1987, for the first time since Federation the House established what can be termed a comprehensive system of committees when it set up 8 general purpose standing committees. The House of Representatives Standing Committee on Transport, Communications and Infrastructure was one of these committees.

This first report produced in the name of the Transport, Communications and Infrastructure Committee represents the completion of an inquiry conducted in the 34th Parliament by the then House of Representatives Standing Committee on Expenditure. On 28 May 1986 that committee resolved to inquire into the provision of infrastructure in Australia. Briefly, the decision to hold an inquiry reflected the Expenditure Committee's concern for the need to replenish adequately public investment capital stock during periods of continuous public expenditure restraint.

The Expenditure Committee received a large number of detailed submissions, took evidence at public hearings and commissioned a paper on the macro-economic effects of public investment in Australia. At the dissolution of the 34th Parliament, however, that committee had not completed preparation of a draft report. The Expenditure Committee has not been reappointed in the 35th Parliament.

The matters covered by the Expenditure Committee inquiry are important and still relevant. The Transport, Communications and Infrastructure Committee has concluded that given this, and given in particular the interest displayed in the inquiry, it has a parliamentary duty to present a report to the House. Accordingly, the committee sought and received from the Minister for Transport and Communications agreement to a reference in identical terms to those adopted by the Expenditure Committee.

The committee appointed a sub-committee consisting of Mr J.V. Langmore (Chairman), Mr R.N.J. Gorman and Mr J. Saunderson to prepare for its consideration a report based on the evidence presented to and taken by the Expenditure Committee. Mr Langmore was the chairman of the sub-committee the Expenditure Committee appointed to undertake its inquiry into infrastructure.

The report presented to the sub-committee was prepared under the guidance and direction given by Mr Langmore to staff of the former Expenditure Committee who assisted in the inquiry. Mr Langmore presented his draft report to the sub-committee and after deliberation and amendment, the amended report was presented to the committee. The committee agreed that it should adopt the report, so that it could be presented to the House.

In adopting the report of the sub-committee, the committee was following a practice common to parliamentary committees that appoint sub-committees. Nevertheless, I emphasise that this inquiry described earlier, does not necessarily contain or reflect the views of committee members who were not members of the sub-committee. Nor does it necessarily reflect the views of the earlier Expenditure Committee. This approach is also supported by the precedent of the 1976 report on Passenger Motor Vehicle Safety from the then House of Representatives Standing Committee on Road Safety.

I believe this report is both wide ranging and controversial. After identifying the basic problem, namely the urgent need to finance significant increases in infrastructure in the 1990's, the report embarks on a detailed examination of a number of funding options which in turn lead to the examination of various aspects of macroeconomic policy. This examination covers the size of the public sector and the role of government, privatisation, increasing the efficiency of statutory

authorities, an examination of whether government consumption can be reduced and pubic expenditure cut (and taxes increased), public borrowing, national savings, and, institutional and national priorities.

Some of the issues are decidedly controversial and some members of the committee both Government and Opposition, do not necessarily agree with all that is said or with all the conclusions that are reached.

Nevertheless, given the importance of adequate infrastructure to the future well being of Australia, I believe it is necessary for this report to go forward as a contribution to an important national debate.

John Saunderson
Chairman

Foreword by Mr J.V. Langmore, MP

One of the few relationships about which all economists agree is between investment and economic growth. A necessary condition for sustained economic growth is increased investment. Yet public investment in Australia has been allowed to fall as a proportion of GDP from just over 9.6% in 1965-66 to 7.5% in 1985-86 - and this is not because private investment has increased to fill the gap. Private investment (including housing) has also fallen from 18.4% of GDP in 1965-66 to 15.9% in 1986-87.

This report examines reasons for the fall in public investment, consequences, and ways of financing a renewed increase as well as ways of increasing the effectiveness with which the existing infrastructure and available funds are used.

The report is an attempt to outline a strategy for providing the infrastructure framework for increasing national productivity and restructuring the economy - both of which are essential if we are to cope with our current account deficit, let alone continuing high unemployment.

As chairman of the Expenditure Committee sub-committee which undertook the infrastructure inquiry I would like to warmly thank parliamentary colleagues who attended the hearings and took an active interest in the issues. Those who were particularly involved were Julian Beale, Bob Brown, David Hawker, Leo McLeay, Stephen Martin, John Mountford, Warwick Smith and Ian Wilson. They were all members of the Expenditure Committee and therefore carry no responsibility for the report, because they did not have the opportunity to study the draft report since it had not been completed when the 34th Parliament was dissolved in June 1987. The Expenditure Committee was not reappointed in the 35th Parliament. The new Transport, Communications and Infrastructure Committee took over the infrastructure inquiry and, because of the new membership, almost all the members of the Expenditure Committee could not participate in the consideration of the draft report which was finalised after the election and considered by the new committee. Although I know that some of the members of the Expenditure Committee will disagree with some parts of the final report, I hope that they will recognise in the discussion points which they made at the hearings, and be satisfied with the broad thrust of the conclusions.

As chairman of the sub-committee given the responsibility for preparing a report for the Transport, Communications and Infrastructure Committee I am grateful to John Saunderson, the Chairman of the new Transport, Communications and Infrastructure Standing Committee, for his close interest in the content and process of completing and tabling the report, and to Russ Gorman, the other member of the sub-committee which approved the final report.

One of the fascinating aspects of this inquiry has been the wide range of groups and individuals who were sufficiently concerned about the issues to make submissions and to appear. All the members of the National Infrastructure Committee made important submissions, both together and through their organisations. To illustrate, but without being able to cover many of those who made valuable submissions, I would like to mention the CSRIO Division of Building Research, the Australian Federation of Construction Contractors, the Building Workers Industrial Union, Telecom, the Victorian Department of Management and Budget, and the Commonwealth Departments of the Treasury and Finance.

The paper commissioned from Professor John Nevile on the macroeconomic implications of public investment made a centrally important contribution to the committee's work. Members also appreciated Professor Nevile's willingness to visit Canberra to discuss the issues informally. Emeritus Professor Russell Mathews gave advice to the committee during the inquiry for which I am particularly grateful.

I would particularly like to thank the staff who have worked on this report. The adviser to the sub-committee, Peter Hamburger, wrote most of the first draft. His high quality analytical work and writing have been crucial to completion of the report. Evan Tully, seconded from the Department of Housing and Construction for most of the inquiry, made a major contribution through his knowledge of the construction industry and his logical, thoughtful and sustained application. Ian Dundas, the sub-committee secretary made a vital contribution too, through his organisation of the committee and his editing of the report. Phil Bergin, Malcolm Aldons and Lexia Noakes, all contributed at various stages in important ways to the committee's work. Kylie Freer and Kelly Edwards both did outstanding and timely work on the keyboard to help bring the report to fruition.

I hope that this report will be extensively debated and influence thinking about appropriate national economic policies. Ideas can be powerful.

John Langmore
Sub-Committee Chairman

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LIST OF MAIN CONCLUSIONS

1. Much of our infrastructure is younger than that of comparable western nations. It is not much younger, however, and there is no reason to believe that Australia will be immune from a build-up of rehabilitation or replacement needs of the type that has occurred in other developed economies. (Para 2.17

2. Maintenance and replacement needs will substantially increase during the rest of this century due to the overall age pattern of Australian infrastructure. Unless the need due to ageing can be offset by savings elsewhere, through lower demand, aggregate need for public investment must rise. (Para 2.23)

3. There are still significant gaps in Australian infrastructure networks, all of which it would be desirable to fill and some of which it is essential to fill. We may have to cope with the ageing of much of our existing infrastructure before we have completed many of its networks. (Para 2.32)

4. Australia has no option but to look toward significant restructuring of its economy. This can be expected to require increased infrastructure investment, and desirable structural change in the Australian economy will generate a need for significant increases in private investment and a complementary need for public infrastructure investment. The result will be higher investment needs in Australia in the next decade or two. (Para 3.12)

5. Demographic changes may lead to some temporary easing of infrastructure investment need in some areas but any such effect will be modest and short lived and offset by increased needs in other areas because of rapid population growth in some regions and the ageing of the population. (Para 4.5)

6. Technology has the potential to allow us to meet our infrastructure needs more efficiently and at lower cost but there is risk of under investment in technology in the Australian public sector. (Para 4.11)

7. Privatisation is unlikely to offer an effective means of increasing national infrastructure investment, because sale of public authorities is likely to divert private capital from alternative uses. (Para 5.25)

8. It would not be feasible to fully finance a substantial increase in public investment from reduced consumption spending growth and some constraints on the relative proportion of national income devoted to public and private consumption expenditure is likely to be required to finance increased investment including infrastructure, but this alone will not meet the likely needs. (Para 5.31)

9. Although there are practical limits to the extent to which necessary increases in infrastructure investment can be financed from higher levels of taxation a reversal of the decline in the share of revenue contributed by the corporate sector would be an appropriate approach to providing funds for economic infrastructure. (Para 6.8)

10. The simple version of the crowding out theory which holds that higher levels of public borrowing will reduce the scope for private investment cannot be sustained. (Para 6.18)

11. A heavy reliance on foreign capital for national investment carries risks for Australia that have been dramatically illustrated by the events of the past two years. (Para 6.22)

12. The present levels of public debt which are low by historical and international standards and the absence of clear direct links between moderate levels of public borrowing and interest rates suggest that there is scope for increased infrastructure investment financed by borrowing. However any increase in borrowing would require careful implementation so as to minimise the danger of adverse market perceptions. (Para 6.28)

13. The present practice of not separating capital and current expenditure in the Commonwealth budget provides a misleading presentation of the budget deficit which has the potential to damage Australia's interests in the capital markets. (Para 6.36)

14. A stricter separation of source and application of funds for capital and recurrent purposes in the Commonwealth budget would be desirable. This would give a clearer picture of Australia's budgetary circumstances and would reduce the excessive weight currently placed by financial markets on a somewhat misleading "bottom line". (Para 6.39)

15. The failure to clearly distinguish between commercial and non-commercial public activities in important published accounts misleads market opinion. The opportunities for making this distinction should be pursued and the most logical approach would be to exclude borrowings by commercial public authorities from the PSBR as is done in a number of western countries. (Para 6.46)

16. A higher level of investment in Australia would lead to a higher level of economic growth. Private investment may be influenced by government efforts to create a favourable climate for investment but it is important in doing so that opportunities for public investment yielding sufficient returns are also taken. (Para 6.47)

17. The national savings rate is too low. The spread of occupational superannuation may not raise committed household savings to a level sufficient to finance desirable investment without undue reliance on foreign capital. (Para 6.59)

18. The aims of the Treasury/Finance line on increasing efficiency should be supported but the potential benefits are not as great as those claimed by its proponents. (Para 7.13)

19. *Comparisons with average private sector performance are* not likely to be a valid measure of efficiency in the public sector (Para 7.16)

20. There is some scope for improvement in efficiency through the establishment of target rates of return for public enterprises. The rates selected should be specific to each enterprise in recognition of the different circumstances in which various enterprises operate. These targets need to be supplemented by some direct controls, but the mixture of direct and indirect methods needs to assist flexibility and performance. (Para 7.29)

21. Potentially profitable public investment has been prevented by current arrangements and this is likely to continue. The shortfall in investment is a greater problem than any shortfall in efficiency. (Para 7.33)

22. The level of public investment in Australia appears to be largely determined by the amount of funds available after recurrent commitments have been met and a deficit target set. Rather than being a residual, public investment should have a much higher priority with all parts of the budget - recurrent capital revenue and the deficit - being set on an iterative basis. (Para 7.36)

23. The Treasury/Finance approach to improved efficiency in Commonwealth enterprises pays insufficient attention to the possibility of under-investment in this sector and may increase the possibility that aggregate investment will be too low, nor does it fully consider the value of such projects in stimulating economic growth. (Para 7.45)

24. There is little scope for improving efficiency by eliminating deliberate cross-subsidies in the Commonwealth sector, but such subsidies should be made transparent through systems of clear annual reporting of their extent and direction. (Para 7.51)

25. The removal of unintended cross-subsidies offers scope for improved efficiency in a number of areas and should be pursued through policies of appropriate pricing and charging. Many such subsidies occur in the budget sector and this area should not be neglected. (Para 7.60)

26. There is scope for some improvement in priority setting at the national level, but achieving such an improvement will be difficult. A political process such as occurs in the Loan Council is a most appropriate forum for setting national public investment priorities. (Para 8.28)

27. Some improvement in priority setting might be available through improving the quality of the input to the Loan Council process. Decisions which effectively determine the level of public investment are made with little regard to actual need. Better judgements would be made if more information on actual investment needs was available to members of the Loan Council. (Para 8.29)

28. There is no national body to assess whether a higher level of public investment in infrastructure would lead to more rapid economic growth. There is insufficient co-ordination of major public sector investment proposals and the Loan Council has not been effective in this regard. (Para 8.33)

LIST OF RECOMMENDATIONS

1. The declining trend of public investment be reversed and preparations be made for increased public investment for the remainder of this century. (Para 2.32)

2. The Government should give high priority to promoting research and development by CSIRO, universities and other public authorities related to improving the efficiency and effectiveness of the provision and management of infrastructure. In particular, the CSIRO proposal for a four year infrastructure research program should be supported. (Para 4.13)

3. The Government should apply a stricter separation between its capital and current accounts so that the Commonwealth budget deficit is recorded in line with conventional accounting practice. (Para 6.39)

4. The Government should exclude the borrowings of commercial public authorities from the Public Sector Borrowing Requirement. (Para 6.46)

5. Consideration should be given to positive incentives to voluntary saving as exist in Japan and as are proposed in Sweden. (Para 6.60)

6. The Government should review the controls over government business enterprises outlined in its policy information paper with a view to allowing a higher level of managerial autonomy. Accountability should be assured through better specification of desired results and agreed, periodic review of performance after the event. (Para 7.30)

7. The Government should consider complementing the asset management work undertaken by the former Department of Housing and Construction with research by its successor and CSIRO into analysis of the asset replacement problem, strategies for asset management and research into construction materials and practices. (Para 7.32)

8. The Department of Finance should complete and issue its proposed manual on benefit-cost analysis as soon as possible. (Para 7.41)

9. The Government should act to remove the distorting effects on allocative and operational efficiency of unintended cross-subsides; the most glaring example being the large cross-subsidy to heavy road transport vehicles. (Para 7.60)

10. The Loan Council should attempt at least some broad measure of priority-setting and coordination of major public investment proposals. (Para 8.33)

11. Serious consideration be given by the Commonwealth Government to participating in a joint venture with the present proponents of the Very Fast Train. (Para 9.33)

1. INTRODUCTION

Infrastructure. Those structural elements of an economy which facilitate the flow of goods and services between buyers and sellers. Examples of these structural elements are communications and transport (roads, railways, harbours, airports, telephones etc.), housing, sewerage, power systems etc. These facilities are usually, though not necessarily, provided by public authorities and may be regarded as a prerequisite for economic growth in an economy. (David Pearce)[1]

THE INQUIRY INTO INFRASTRUCTURE

1.1 The seeds of a parliamentary inquiry into infrastructure were sown at the first National Infrastructure Forum in October 1985. The forum showed that concern with inadequate infrastructure was a serious matter of concern for all sectors of Australian society and one of its recommendations was that a parliamentary infrastructure committee be established. In May 1986 the House of Representatives Standing Committee on Expenditure established a sub-committee to conduct an inquiry into infrastructure. That sub-committee identified several specific areas of interest:

- the consequences and longterm implications of the reduction in public investment in Australia during periods of public expenditure restraint;

- the maintenance of public infrastructure assets during periods of public expenditure restraint;

- any gaps or inadequacies in the public capital stock or the current structure of public investment;

- the priorities in allocating public investment funds;

- the co-ordination between Commonwealth, State and Local Governments of investment funding and allocation, and the role of the Federal Government in overseeing the arrangements; and

- the adequacy of the Loan Council as a co-ordinating body and of Loan Council procedures.

1.2 The sub-committee gathered a large amount of wide ranging evidence but had not prepared its report by the time the 34th Parliament was dissolved in June 1987. The Expenditure Committee was not re-appointed in the 35th Parliament. (See Appendix 1)

1.3 After the election the consideration of infrastructure issues was considerably advanced by the appointment of a junior minister with responsibility for land transport and infrastructure support and the establishment in both Houses of the new parliament of standing committees on infrastructure.

1.4 This report represents the completion of work carried out by the sub-committee of the Expenditure Committee and is based largely on the evidence and background material gathered by that sub-committee. Consideration of the evidence and preparation of this report was carried out by a sub-committee of the House of Representatives Standing Committee on Transport, Communications and Infrastructure.

A CONCEPT OF INFRASTRUCTURE

1.5 The national infrastructure comprises many, diverse elements. There are hundreds of thousands of kilometres of roads and tens of thousands of kilometres of railway track. Sea and air transport are served by hundreds of ports and airports. We are accommodated at home and work in vast numbers of buildings of varying size and complexity. We are educated and trained for work, leisure and social responsibility in thousands of public and private schools, colleges and universities. Most people are born in hospitals and are treated in them when injured or sick and some of us are incarcerated in prisons when we transgress the laws of the land. We receive water and sewerage services through hundreds of thousands of kilometres of piping. Power is supplied through a huge and complex network of electricity generation and distribution facilities, as well as gas and oil wells, refineries, stores and pipelines. A large part of the nation's capital stock provides these and other services which support our economic and social activities and are essential to development.

TABLE 1.1

AUSTRALIA'S INFRASTRUCTURE - SELECTED STATISTICS

Kilometres of road open for general traffic	805 000
Kilometres of government railway track	39 000
No. of aerodromes	440
No. of ports	71
No. of major dams and reservoirs	94
No. of telephone instruments in use	8 330 000
Kilometres of telecommunications cable	798 000
No. of primary and secondary schools	10 025
No. of occupied dwellings	4 691 000
No. of hospital beds	87 586

Source:

Australian Bureau of Statistics, Year Book Australian 1986 Australian Bureau of Statistics, Canberra, 1986, Australian Telecommunications Commission, Annual Report 1986, Melbourne 1986. Department of Transport and Communications, Department of Health.

1.6 The term infrastructure, which groups these diverse goods and services, is to some extent an abstraction. The word embraces a host of different investments; some wholly in the public sector, some private but encouraged or facilitated by governments, others purely private. They all share several common elements:

- they exist to support other economic or social activities, not as an end in themselves;
- incur relatively high initial capital costs;
- have relatively long lives; and therefore
- should be managed and paid for on a long term basis.

1.7 Australia's economic problems - relatively high levels of unemployment and inflation, a balance of payments crisis, a high and rapidly increasing level of overseas debt and widespread occurrence of hidden poverty - will not be solved without serious attention to the structure of our capital stock. The supporting infrastructure framework is an important constraint on our ability to increase the ratio of our exports to imports, reduce our level of indebtedness and achieve the levels of growth necessary for full employment and rising living standards. We cannot produce more manufactured goods, for export or to replace imports, for example, if our transport, communications, energy and marketing networks are inadequate for the task. The infrastructure constraint to economic activity is often overlooked.

1.8 Infrastructure is not, of course, the only constraint. The National Institute of Economic and Industrial Research, in a recent study, has argued that "severe, mutually interlocking constraints" limit the capacity for economic growth in Australia.[2] Infrastructure limitations are one of these. The balance of payments deficit is also a constraint. It restricts both our capacity to import and our capacity to borrow overseas for the productive investment necessary to replace imports. Limitations on the skills base of the workforce and difficulties in changing that base are a further constraint. They reduce our capacity to increase production and productivity and to build on the areas of strength in the economy. Also, Australia's relative inattention to research and development, particularly in the private sector, constrains our economic growth by limiting the rate of product development.

1.9 The inter-relationship of these constraints complicates analysis of the problem and prescription of solutions. To bring the balance of payments and debt problems under control, we need more investment. But the extent to which we can fund more investment is strictly limited by these same problems. Dealing with the skills and research limitations will divert scarce resources from necessary physical infrastructure and will also run up against the balance of payments constraint. The need for new investment in a variety of fields is as clear as the difficulty of funding it.

1.10 In this report, the Committee focuses mainly on the infrastructure constraint to economic and social activity. While much of the report discusses economic issues, the committee was aware that infrastructure networks are not purely economic in their effect. Schools are important in developing workforce skills, but they also shape our social relationships. Roads

transport freight but they are also a crucial social link between members of Australian society. Infrastructure needs cannot be viewed in isolation from their social impact any more than from their economic importance.

1.11 The report focuses mainly on public infrastructure. The network of publicly owned and managed transport, energy, education, health and housing assets are an important component of the national capital stock. Public infrastructure supports every aspect of private economic activity. There may well be argument as to the best mix of public and private investment but it is impossible to deny that the public component is and will remain important. Increased private investment automatically carries with it the need for complementary increases in public investment. A new private factory will increase the load on some public roads, telecommunications, electricity supply and educational facilities. A general increase in private investment will increase the load on public infrastructure in general. The capacity and efficiency of public investment, in turn, will affect the prospects for private investment.

1.12 The initial concern of the report is whether Australia's infrastructure is adequate. The National Institute of Economic and Industrial Research study mentioned above is only one of a number of expert studies to claim that infrastructure deficiencies are an important potential limitation on our future economic well-being. The committee's charter to examine this claim clearly extends further in the public than the private sector and this is reflected in the report. However, the links between public and private capital are too close for any clear distinction to be possible. If Australia has an infrastructure problem, it is a matter for concern in both the public and private sectors. The needs and performances of each sector cannot be divorced from those of the other.

ENDNOTES:

1. David W. Pearce (ed), The Dictionary of Modern Economics, McMillan, London, 1983, p.211.

2. Peter Brain & Ian Manning, 'Australia's Economic Predicament' in National Institute for Economics and Industrial Research Review No.7 (June 1987). Melbourne 1987. pp. 5-60.

2. THE AGE AND ADEQUACY OF OUR INFRASTRUCTURE

Infrastructure was popularly discovered in US News and World Report on July 9, 1978 when that publication weighed in with "Worn Out Cities: Ticking Time Bomb for Taxpayers." From then on, the public works category is dominated by the tick, tock, tick of infrastructure deteriorating and things going to hell. (Royer & Carr)[1]

WHERE WE ARE AND HOW WE GOT THERE

2.1 The Australian economy is unusual among those of developed nations. Although the Australian standard of living has been, and remains, high, our pattern of trade and economic development has much in common with the third world. Like many developing countries, we have traditionally had advantages in production of agricultural and mineral commodities. We have been a very efficient commodity exporter and have enjoyed a high standard of living, much of it due to that efficiency. As a large sparsely populated nation which for much of this century has aimed to increase its population through immigration, Australia has undertaken a huge infrastructure construction task over a relatively short period. Many of these assets support our traditional agricultural and mineral industries. Like most developing countries, and unlike much of the developed world, Australia has been a nett importer of capital. Our development has traditionally been partly financed by inflow of foreign capital.

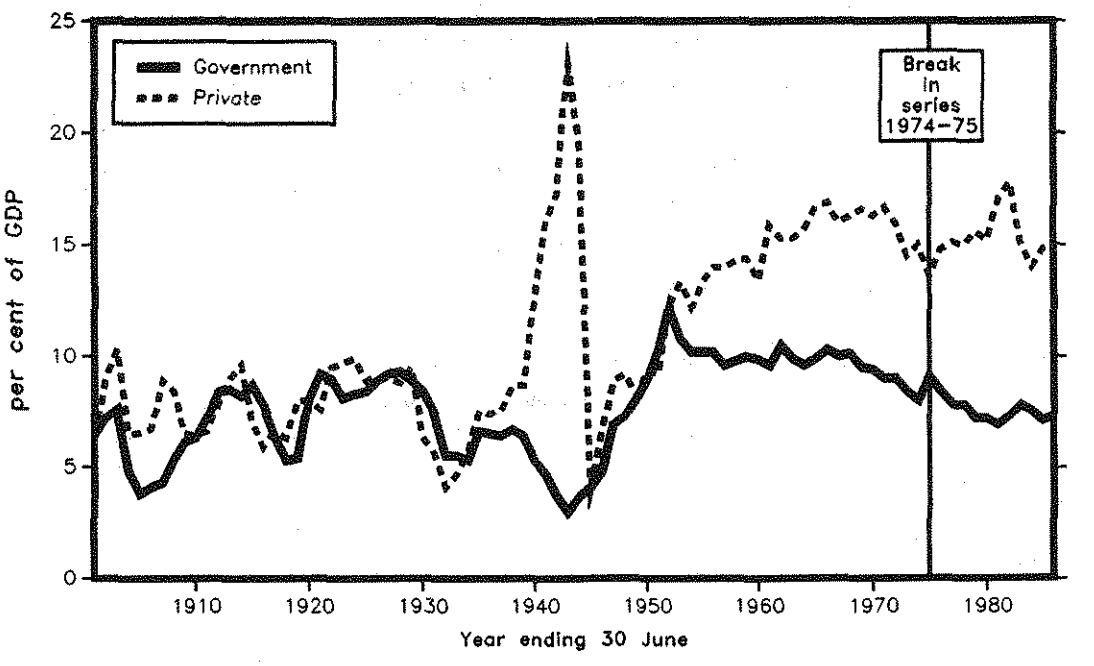
2.2 The public sector played a leading role in infrastructure provision through out of Australia's development and is still important. This also matches the experience of most developing countries. But figure 2.1 shows that, while the proportions of private and capital formation have fluctuated

throughout the 20th century, there has been a trend away from public and towards private investment, particularly in the early post-war period. However, over the past 20 years both public and private investment have declined. Public capital formation as a proportion of GDP has fallen from around 9.5% in 1985-86 to 7.5% in 1985-86. But since infrastructure costs have risen more rapidly than prices overall and therefore the fall in real terms is more pronounced; from almost 10.9% in 1965-66 to 7% in 1985-86.[2]

FIGURE 2.1

PUBLIC AND PRIVATE CAPITAL FORMATION 1901-1986

(As a percentage of GDP)



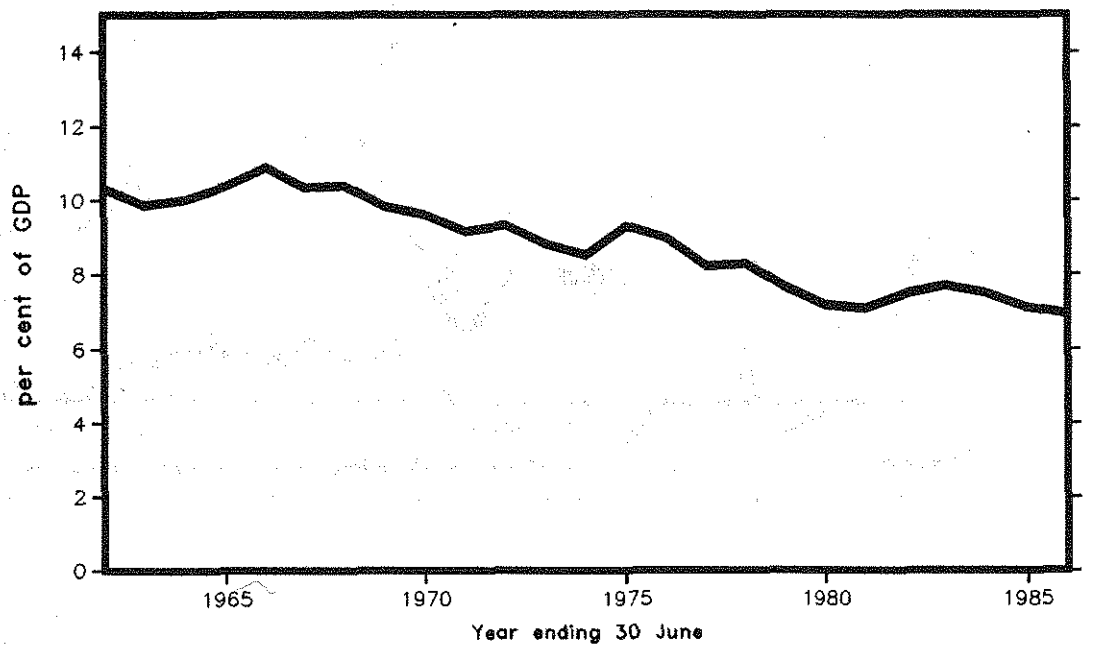
Source : A. Barnard and N.G. Butlin,"Australian Public and Private Capital Formation 1901-75", Economic Record, December 1981; ABS 5204.0.

2.3 Figures 2.1 and 2.2 aggregate the spending of Commonwealth, State and local governments. Figure 2.3 shows, State governments are predominant, providing over 60% of infrastructure. Commonwealth and local governments each provide less than 20%. But financing does not match responsibility. In the Australian federal system there is a general tendency for funds to be raised at a higher level of government and spent at a lower. There is typically a very substantial gap between the political level at which funds are raised and the level at which they are spent. A number of submissions to the Committee argued that this division of responsibility is a major cause of inefficiency in public investment decision making.

FIGURE 2.2

PUBLIC CAPITAL FORMATION

(As a percentage of GDP in real terms)



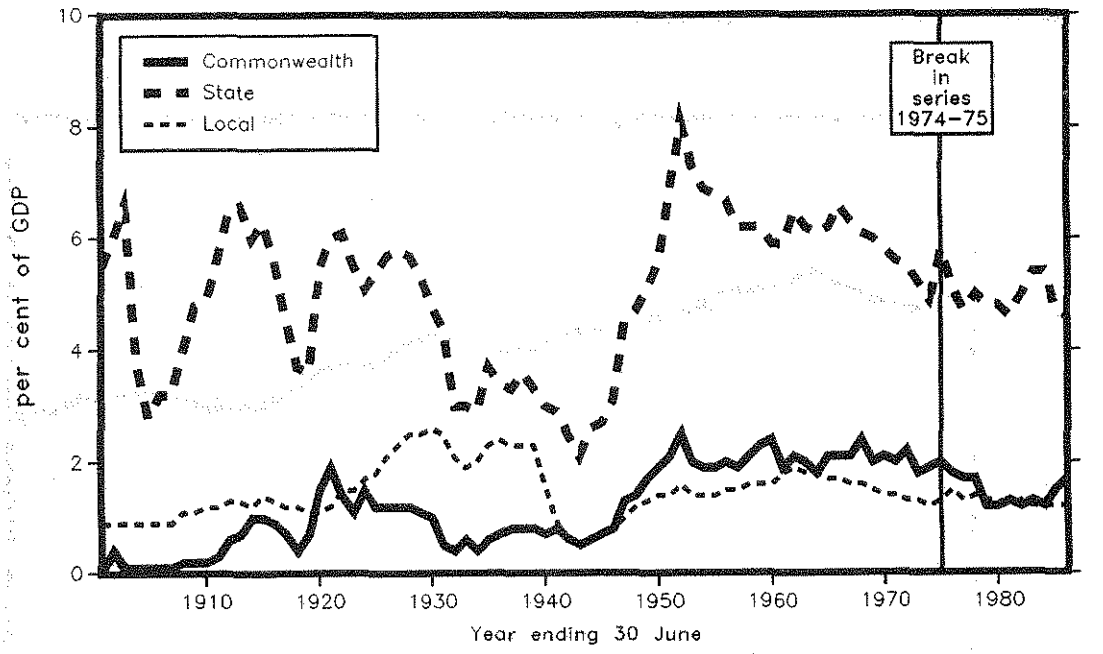
Source : Treasury

2.4 It is also necessary to note that much public investment at each level of government is undertaken by semi-autonomous agencies rather than directly by government. At the Commonwealth level, for example, 85% of investment is undertaken by public enterprises like Telecom, Australia Post and Qantas. At State level electricity authorities, port authorities and like enterprises are responsible for a major component of public investment. To a lesser but still important extent, the same is true of local government. Figure 2.4 shows that overall about 55% of all public investment in Australia is undertaken by public business enterprises.

FIGURE 2.3

PUBLIC CAPITAL FORMATION

(By level of government)



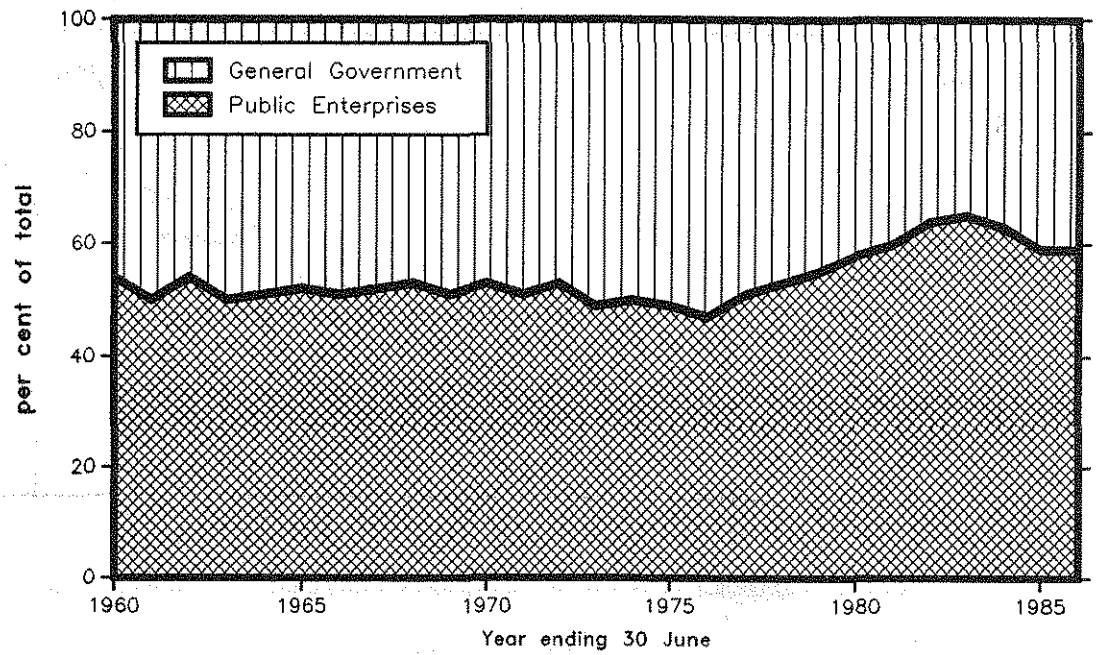
Sources : A. Barnard and N. G. Butlin ; ABS 5501.0

2.5 Investment by these public enterprises has more in common with private investment than with traditional government activities. Each enterprise invests to achieve a return from sale of products or services just as private firms do, although many public enterprises have non-commercial public service obligations as well. This mix of government and business functions makes it difficult to draw conclusions about the efficiency or effectiveness of public enterprises. The mix of business and social activities in overall government accounts also makes it difficult to draw any conclusions on investment need from aggregate public investment statistics. The fluctuating fortunes of particular public business enterprises may mask any underlying picture of over or under-investment in the public sector.

FIGURE 2.4

PUBLIC CAPITAL FORMATION

(by organisation)



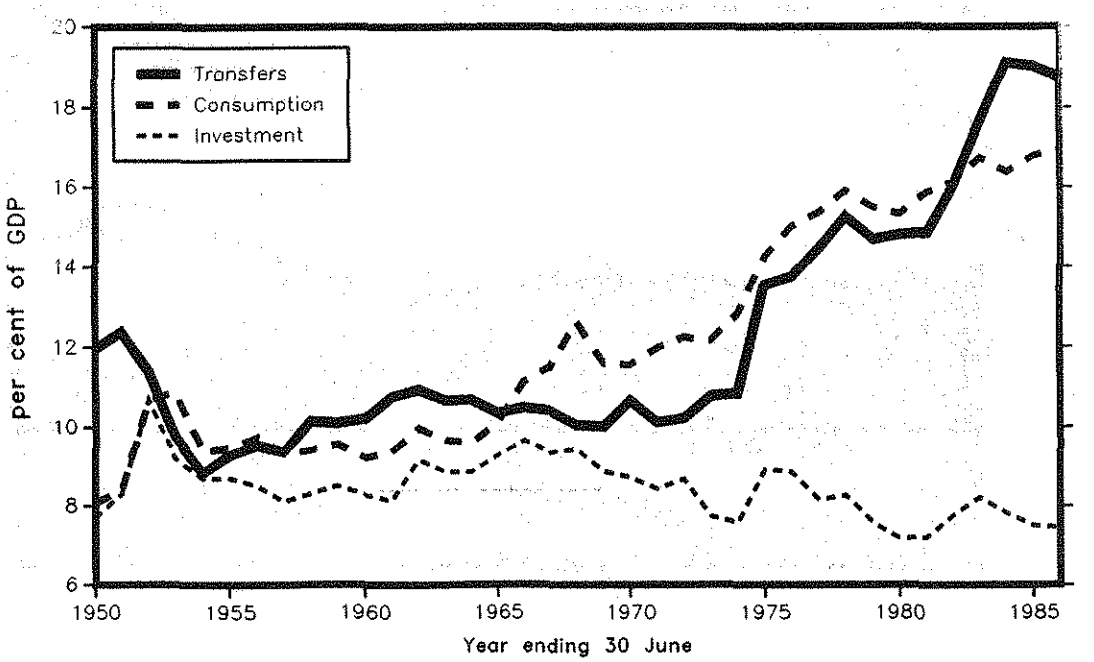
Source : ABS 5204.0

2.6 Many interested parties have seized on the long-term decline in public capital investment as one cause for concern about infrastructure. The Australian Federation of Construction Contractors (AFCC), for example, has claimed that the decline in public investment reflects an "infrastructure gap", citing decline from 27% to 21% in the proportion of total government expenditure allotted to new fixed assets over the last 15 years.[3] (see Figure 2.5) Much of this proportional decline, it should be noted, has resulted not from the relative decline in public investment but rather from a substantial increase in government consumption spending and in transfers of income by government. While public investment has slowly declined as a proportion of GDP, public consumption spending has rapidly risen.

FIGURE 2.5

TOTAL PUBLIC OUTLAYS

(by purpose)

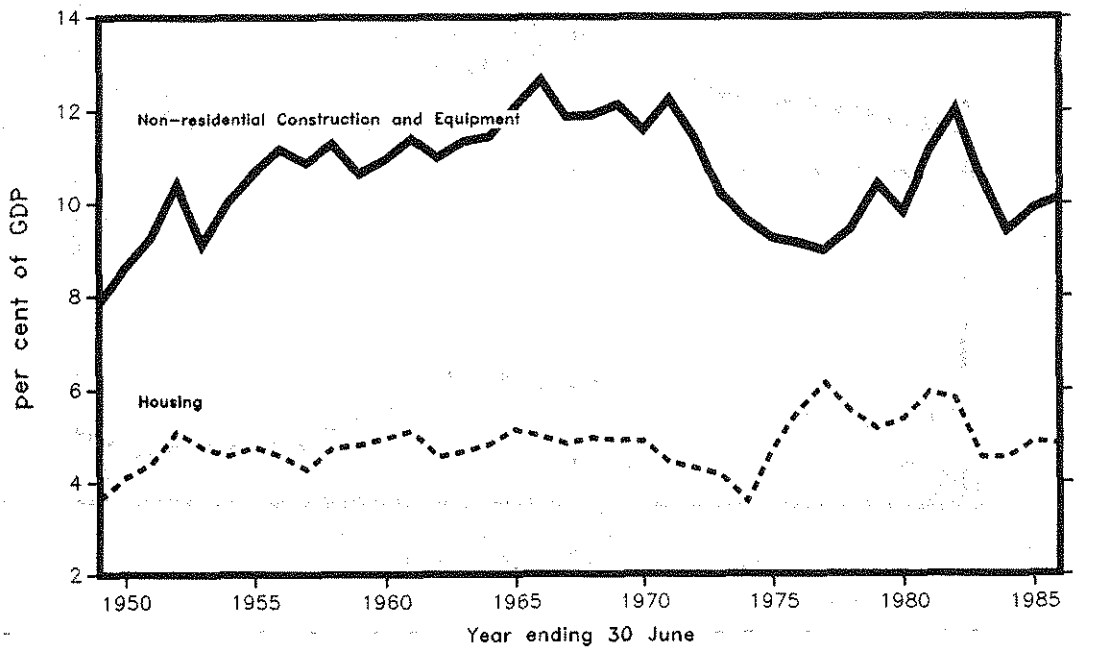


Source : Department of Finance

2.7 Whatever the justification for the AFCC's call for higher levels of public investment, private investment trends cannot be ignored. Figure 2.6 shows that private non-housing investment as a proportion of GDP has fallen over the past 15 years. The exception to that trend in the late 1970s and early 1980s is largely the result of investment in resource-related projects during the so-called mineral boom. Many of these investments have produced disappointing results with the collapse of world commodity prices. The overall private investment trend has been disappointing.

FIGURE 2.6

PRIVATE INVESTMENT
(by categories)

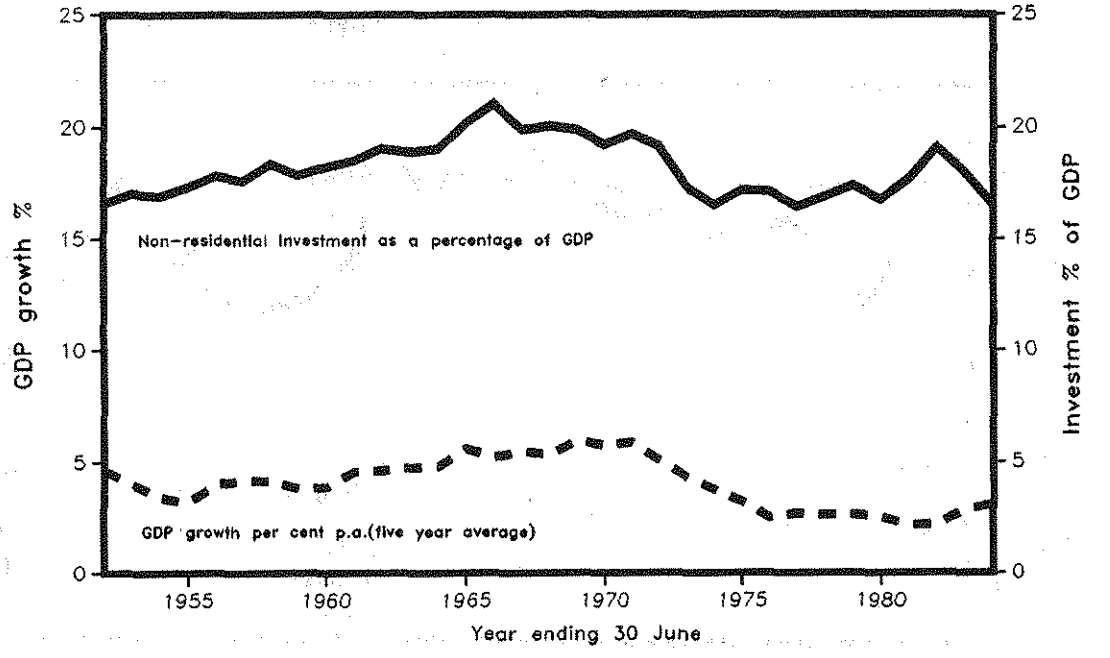


Source : ABS 5204.0

2.8 If inadequate investment is a problem in Australia, it is as much a problem in the private sector as the public. Most public investment is complementary to private sector activity. Leaving aside for the moment the question of whether the public sector is efficient in complementing private investment, it is not surprising that reduced activity in the private sector will be reflected in the government accounts. Conversely, future public infrastructure needs are likely to be influenced by private investment trends.

FIGURE 2.7

TOTAL NON-RESIDENTIAL INVESTMENT AND GDP GROWTH



Source : ABS 5204.0

2.9 There is a close connection between overall investment levels and rates of economic growth. Figure 2.7 shows that growth in real GDP in Australia has closely mirrored aggregate, non-housing investment over the past 30 years. The one notable exception occurred in the late 1970s and early 1980s when high levels of investment in expectation of a minerals boom did not improve economic growth when the boom failed to eventuate.

2.10 It does not follow from any of the above that lower proportions of public investment in total public expenditure are necessarily bad. Australia's pattern of development meant that we had much to build in the early and middle years of this century. It may be that much of this necessary construction has been completed and investment can safely decline. The mass immigration programs of the 1950s and 60s are past, along with much of the need they created for urban infrastructure. Our basic road and rail networks may be largely complete. There are no new projects on the horizon as large as the Snowy Mountains scheme of the 1950s and 60s. Australia may well have followed the common development pattern of progressively shifting responsibility for investment from the public to the private sector. To justify higher levels of public investment, it is necessary to show not only that present levels are lower than those of the past but also that needs have not declined proportionately.

2.11 Infrastructure needs could arise from 5 possible causes:

- ageing of the infrastructure - some other countries have experienced maintenance/ rehabilitation backlogs as their infrastructure networks have grown older;

- gaps in the existing network - some infrastructure needs may not yet have been met;

- structural change - new infrastructure may be needed to support changes in social and economic direction;

- demographic change - infrastructure may need to change to match changes in the size, age and location of the population, and

- technological change - much existing infrastructure will be progressively replaced as technology advances.

The balance between these factors will determine whether there is any overall deficiency in Australia's infrastructure, as some have argued, or whether we have no real grounds for concern.

AN INFRASTRUCTURE CRISIS?

2.12 An 'infrastructure crisis' in the United States was discovered by the mass media in the late 1970s. A number of spectacular failures of particular infrastructure items had occurred. Bridges and dams had collapsed and large sections of the interstate highway network needed repair. Supporting these visible examples were several national needs studies, identifying requirements for vast investments in replacement or rehabilitation of the national capital stock. The ageing of the infrastructure had been discovered and the need for vastly increased infrastructure investment became a commonplace.

2.13 A similar interest in infrastructure deficiencies developed in Western Europe. The Institution of Civil Engineers in the United Kingdom twice urged the British Government to establish an Infrastructure Strategy Board to determine investment needs and coordinate proper provision of basic infrastructure. In the absence of government action, the Institution itself conducted a major study and found major areas

of concern.[4] Governments and relevant interest groups in other developed nations also became more concerned with the condition of their national infrastructure and assessments of repair and replacement needs were undertaken in many countries.

2.14 Large parts of the public infrastructure in Western Nations were at or approaching an age at which maintenance and rehabilitation costs would sharply rise. Funds for public works were less readily available than they had been in the 1950s, 60s and 70s but there was scope for considerably better management of public investment, both in the choice between projects and the management of particular programs and projects. The opportunities available from these management techniques and from emerging technologies had the potential if applied to the public infrastructure to provide real benefits for the economy. In short, infrastructure deserved serious attention but this presented an opportunity as much as a crisis.

AN AGEING INFRASTRUCTURE

2.15 A central issue in the committee's inquiry was the question of whether this overseas experience carries lessons for Australia.

2.16 It might be assumed that the Australian infrastructure would be significantly younger than that of most nations which have become concerned at the age of the public capital. However this is not entirely true. F.A.Blakey and W.R.Finighan, of the CSIRO Division of Building Research, point out that:

> "Even though many European cities have some buildings that considerably predate the 18th and 19th centuries in terms of urbanisation and industrial development, the major cities in Australia have a range of ages in buildings and infrastructure similar to that of cities in Europe and the United States.

> Considering utilities, for example, we find that London was sewered in the 1880s and Melbourne around 1900. On the other hand, Melbourne had a reticulated water supply in 1853, while London's was not completed until 1899. Parts of London were supplied with town gas in 1810 but general distribution was not implemented until some time later; distribution of gas to dwellings began in 1860 in Melbourne..."[5]

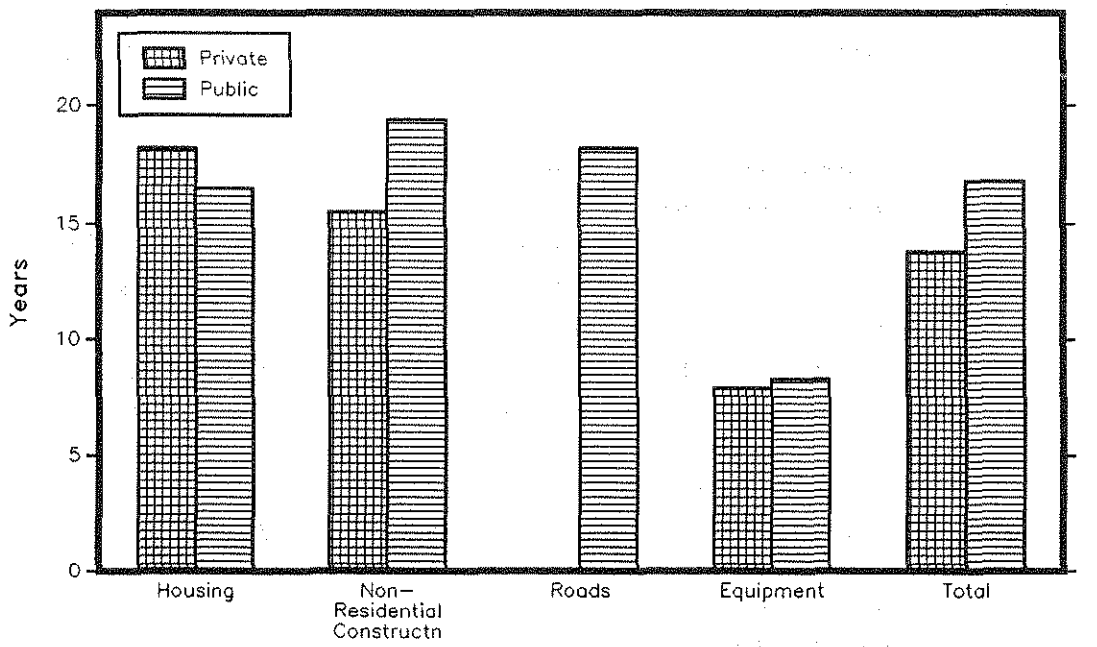
2.17 The Launceston water supply and sewerage network, which the committee inspected, is among the oldest still operating in the world (see Appendix 6). The interstate highway networks of the United States, one of the major areas of infrastructure need in that country, were planned in the 1950s and constructed mostly in that decade and the next. They are of about the same age as much of Australia's road infrastructure. Construction of our railway network was largely completed before World War 2. Despite these and similar exceptions, much of our infrastructure is younger than that of comparable western nations. It is not much younger, however, and there is no reason to believe that Australia will be immune from a build-up of rehabilitation or replacement needs of the type that has occurred in other developed economies.

2.18 Relatively little work has been done on the age and replacement profile of public infrastructure in Australia. The Australian Bureau of Statistics recently released aggregate estimates of the age of the Australian capital stock including the major categories of infrastructure.[6] The average age of public housing, for example, is estimated at more than 16 years and that of roads at about 18 years (see figure 2.8). These estimates were based on a fragmented and inconsistent supply of data and some caution is advised in use of the figures. To

estimate maintenance and replacement requirements one needs to know the expected life and age profile of the stock of assets. The average age alone is of limited use in assessing the rate at which assets are depreciating or being used up.

Figure 2.8

AVERAGE AGE OF THE AUSTRALIAN CAPITAL STOCK



Source : ABS 5221.0

2.19 The Public Accounts Committee of the South Australia Parliament has completed a series of asset replacement studies which show the potential problem in particular areas (see Appendix 7). These studies of public housing, highways, electricity supply and hospital assets show that replacement needs for much of South Australia's public infrastructure will in the next 10 years and double again in the following decade. They show that government accounting systems have not supported proper asset management.[7] Dr Penny Burns, who assisted the South Australian Committee in its inquiry made this point in a recent paper:

> "Unfortunately the annual wearing out of our existing capital stock has, in general, not been recorded. It is almost as if, once created, assets last forever. ...Take the case of the South Australian Highways Department - and this is true in the other States also. Here, the accounting system does not even recognise that roads and bridges are assets, but sees them rather as 'output'. This means that a road building truck with a life of about 5-7 years is recorded as an asset but the road itself, with a life of 30-35 years is not..."[8]

To address the problem the South Australian Public Accounts Committee recommended a shift from cash accounting to accrual accounting for the Public Accounts and the financial statements of statutory authorities; depreciation of assets to be calculated on the basis of current replacement cost; and balance sheets to be published.

2.20 The committee is satisfied that the situation shown to exist in South Australia is widespread. The Hunter District Water Board, a public infrastructure agency which has been forced to consider its future, is one of many possible examples in other States (Appendix 9). In a review of its charging policies issued in 1982, the Board said:

> "...in recent years (the Board's) plant has run down badly due to inadequate spending on the maintenance and renewal of its ageing system. The money has gone to expanding the system. Recent strategy has been equivalent to the householder who adds a new room while the house falls apart. ... The past strategy will come to a dramatic end when maintenance backlog spending can no longer be safely deferred, and simultaneously the Board must invest in a new water source. At that date a substantial increase in both revenue and loan funds will be inevitable. This coincidence of increased demands on funds will arise in the next two or three years..."[9]

2.21 The Launceston sewerage and water supply system mentioned earlier is another example as are the emerging problems of concrete deterioration described in Appendix 8 and our ageing prisons (see Chapter 9). A disturbing picture emerges when these and other examples are aggregated.

2.22 It seems most likely that the ageing of our infrastructure will increase the rehabilitation need over the next two decades. The South Australian studies are indicative of the real maintenance-replacement-rehabilitation need that can be expected in Australia. In North America and Western Europe, with infrastructure which is probably no more than a decade or two older on average than ours, just such a rise in replacement need commenced 5-10 years ago. It therefore seems reasonable to expect that the 1990s will be the decade in which the ageing of the Australian infrastructure begins to impose serious costs.

2.23 Higher maintenance, rehabilitation or replacement costs may not be a problem in themselves. It may be that these increases will be balanced by reduced needs for new construction or it may be possible to stagger replacement over many years so that the cost burden is bearable. For these reasons the Commonwealth Treasury and Department of Finance suggested to the

Committee that no real peak in need due to ageing can be predicted. However neither department could supply any empirical evidence suggesting that such a peak would not occur. The overall age pattern of Australian infrastructure leads the committee to conclude that maintenance and replacement needs will increase substantially increase during the rest of this century. Unless this need due to ageing can be offset by savings through lower demand elsewhere, aggregate need for public investment must rise.

GAPS IN THE NETWORK

2.24 As a relatively young country and one characterised by great distance and small population, Australia has faced the task of developing a substantial infrastructure in a relatively short period of time. Although some of the infrastructure is comparable in age to that of North America and Western Europe, it does not follow that this has provided Australia with a network of public assets as comprehensive as those of the older and more settled nations. A greater task and fewer resources have left this country with significant gaps in its basic infrastructure network.

2.25 The committee heard evidence of a variety of infrastructure deficiencies. Urban arterial roads, aspects of the rail network, rural communications, urban sewerage and water supply infrastructure all offer scope for significant improvement. Most areas outside the capital cities have limited access to television and AM radio and none at all to FM radio. A significant upgrading of national highways has occurred since the late 1970s, largely as a result of pressure from road users for a higher quality of service. Similar pressures can be expected in other areas of infrastructure need.

2.26 Many of the gaps listed above have important economic implications. The Bureau of Transport Economics 1984 review of the road system showed, for example, that about 40% of

Commonwealth roads expenditure went to projects expected to return three times their cost.[10] The Australian Railway Research and Development Organisation (ARRDO) demonstrated in its 1981 Report on Rail that annual investment in mainline general freight facilities was at least 20% below the commercially optimal level at prevailing interest rates.[11] On one estimate, 45% of Perth remains to be sewered.[12]

TABLE 2.1

EXAMPLES OF GAPS IN THE NETWORKS

. Urban arterial roads in capital cities
. Rail, general underinvestment
. VFT, pre-feasibility study promising
. Intermodal links
- standard gauge rail to port Brisbane, Melbourne and Geelong - standard gauge rail to Sydney international airport
. Airport capacity, Sydney
. Perth, significant area unsewered
. Salination Murray-Darling, quality Adelaide water
. Telecommunications, ISDN

2.27 While there remains a backlog of projects as economically important as these, additional infrastructure investment can be expected to add to national economic growth. In many cases, like the salinisation problem outlined above, there is no realistic alternative to investment designed to progressively plug the gap. Many of the gaps in our present infrastructure simply have to be filled and the only question is one of timing.

2.28 Identifying opportunities for productive investment beyond these more obvious gaps may not be easy however. The Economic Planning Advisory Council (EPAC), in the course of preparing a discussion paper on infrastructure, undertook a survey of business users of the elements of public infrastructure which directly support economic activity. The results suggest that there is relatively little user dissatisfaction with the existing infrastructure among that limited sample.[13]

2.29 The committee noted this finding but had some reservations about opinion surveys of this kind. Users of infrastructure may not appreciate the potential advantages to them of improvements which could be made in the network. A network which serves the present industrial structure may not be appropriate for the structure we will need in the next decade, even if it satisfies present users. The EPAC survey focused on infrastructure of direct service to business. Deficiencies in areas of less direct effect, such as training and retraining, housing and health, may still have significant effect on economic activity but it is unlikely that these effects will be readily detected in a survey of business user opinion. The deficiencies which go unnoticed in such a survey may lead to the loss of opportunities for long-term economic growth.

2.30 One example of the many possible deficiencies likely to be missed in the survey technique used by EPAC was suggested to the committee by Telecom, the largest public investing agency in Australia. Our national telecommunications organisation is committed to a very large investment program to progressively upgrade the Australian telecommunications network into an Integrated Services Digital Network (ISDN). ISDN is a concept which would bring back together the various networks that have grown up to support such services as telephony, telex, telegraph and computer data transmission. The existing separate networks require large scale investments and often force users who need services from more than one network to obtain separate wiring, plugs and terminal equipment. The risks associated with large investments in emerging technology are clear but failure to keep up with world trends in communications technology will have serious implications for our future as a trading nation, especially in the services area.

2.31 ISDN is an especially clear example of the type of investment need which may not be detected by a user survey such as that undertaken by EPAC. Current users may well be satisfied with present telecommunications technology but they will not be aware of what is needed to keep the Australian network competitive or even compatible with those of the rest of the world. They will also not be aware of benefits that might be available to them if the present technology is replaced. Equally importantly, the present users may not be the ones whose opinions are most important. ISDN will be of particular value to exporters of services and of manufactured goods. Both are currently in the minority in the business community but this will have to change if the Australian economy is restructured in the way which the committee believes to be desirable and necessary to the maintenance of an acceptable standard of living. A decision to restrict Telecom's investment in ISDN because current users are satisfied with existing services might well retard the pace of urgently needed change.

2.32 The committee concludes that there are still significant gaps in Australian infrastructure networks, all of which it would be desirable to fill and some of which it is essential to fill. The priority that particular gaps in the infrastructure network should receive relative to other needs will be discussed later in the report. It is important to note at this point, however, that Australia's infrastructure network is not complete and that many of the gaps are significant. Unlike most of the western economies, where the ageing peak imposes costs on a mature or largely complete infrastructure network, Australia still has important areas to develop. We may have to cope with the ageing of much of our existing infrastructure before we have completed many of its networks. When added to the likely need for structural change, discussed in the next chapter, this gives ground for serious concern. The Committee recommends that:

> **the declining trend of public investment be reversed and preparations be made for increased public investment for the remainder of this century.**

ENDNOTES:

1. Robert Royer & Cathleen Carr, Public Works Improvement: A Concept Paper, National Council on Public Works Improvement, Washinton, 1986, p. 5.

2. Submission by Department of the Treasury, Appendix C, Table 1.

3. Australian Federation of Construction Contractors, Target 2000: The Infrastructure Report, AFCC, Canberra, 1984, p. 4

4. The Institution of Engineers, Second Report of the Infrastructure Planning Group, London, April 1986, pp. 3 & 4.

5. F.A. Blakey & W.R. Finighan, Building our Third Century: Rebuilding our First and Second, CSIRO - Division of Building Research, Melbourne, 1985, p.1.

6. Australian Bureau of Statistics, Autralian National Accounts: Estimates of Capital Stock 1985-86, (Cat. No. 5221.0), ABS, Canberra, 1987.

7. South Australia, Parliament, Public Accounts Committee, Reports No. 44, 46, 47, & 48, Adelaide, 1986.

8. Dr J.P.A. Burns, 'Asset Management and replacement in Government', in New Directions in Financial Management, Australian Society of Accountants, Melbourne, 1987, pp. 217-220.

9. Hunter District Water Board, An Equity Based Water and Sewer User-pays Tarriff, HDWB, Newcastle, 1982, p.7.

10. Evidence, p. 146.

11. Exhibit 14, pp. 74-76.

12. Exhibit 18.

13. Discussions between EPAC and Committee Secretariat Staff.

3. INFRASTRUCTURE AND STRUCTURAL CHANGE

But the engine of an economy is different from the engine of a car in one vital way: its parts are people. A mechanic may be able to fix a badly working engine by disconnecting or reconnecting things or by discarding worn-out parts for new ones. But when you fix an economic engine, you are disconnecting or reconnecting people - to work, money, opportunity. When you throw old parts of the engine aside and put in new ones, you are consigning industries, regions, cities, to hardship or good fortune. (Robert Heilbroner & Lester Thurow)[1]

STRUCTURAL CHANGE

3.1 The age of our existing infrastructure and the gaps in the network are both important indicators of investment need. Potentially more important, however, are the effects of structural change. Melbourne economic historian, C.B.Schedvin persuasively argues that:

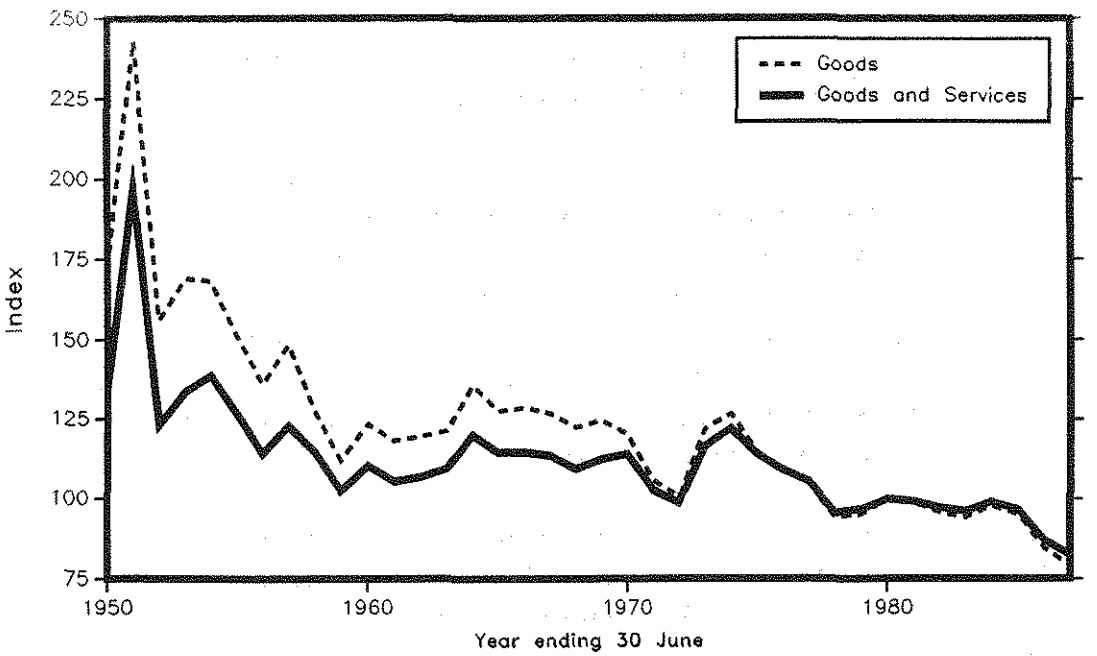
> "There are good reasons for believing that we are nearing the end of our heavy reliance on resource exploitation. Nineteenth-century style commodity production has been maintained well beyond time in the twentieth-century, and the future must bring major changes to the composition of our export production and the style of our economic life..."[2]

Australia, according to Schedvin may now be 'on the hinge of history towards the development of a more diversified and dynamic orientation to the world economy', provided we take the opportunity.[3]

3.2 Australia has traditionally maintained its high standard of living by very efficient production and export of primary products. The returns from these products, however, have shown a long term decline relative to the costs of manufactured goods over most of this century. All indications are that this trend will continue. As Australia has traditionally paid for a significant proportion of its requirements of imported, manufactured goods from the proceeds of its primary product exports, the decline in the relative value of our exports is a central issue in economic policy. The present balance of payments crisis is the latest of a series which reflect a clear long-term trend against our traditional areas of specialisation (see Figure 3.1).

FIGURE 3.1

AUSTRALIAN TERMS OF TRADE: 1951-85



Sources : W.E. Norton and P.J. Kennedy,"Australian Economic Statistics 1949-85", Reserve Bank of Australia ; ABS, Trade and Shipping Section

3.3 Economic commentator Peter Drucker has argued in a widely cited article that three fundamental changes have occurred in the world economy during the last 10-15 years:

- the primary-products economy has become "uncoupled" from the industrial economy;

- in the industrial economy itself, production has become "uncoupled" from employment;

- capital movements rather than trade in goods and services have become the engines and driving force of the world economy ...the link (between them) has become quite loose, and worse, quite unpredictable.[4]

3.4 Drucker argues that food production has increased faster than demand, and this trend is likely to continue. At the same time industrial production has become much less material-intensive, reducing the demand for non-farm commodities. For most developed countries, the primary product sector has become marginal to economic activity. The importance of these changes cannot be overstated for a country like Australia, which has been heavily dependent on trade in primary products and on capital imports. A large part of the infrastructure which we have developed over the past 200 years may be directed towards a pattern of economic activity which we cannot sustain in the long term. It is now critically important to determine how much and in what directions infrastructure must change to support a reorientation of the Australian export economy from primary to secondary and tertiary production.

THE IMPLICATIONS OF STRUCTURAL CHANGE

3.5 Evidence to the committee from Commonwealth economic departments tended to minimise the infrastructure implications of structural change in the economy. In a written answer to a question from the committee, the Secretary to the Treasury commented:

> "Structural change in the economy may tend to increase demands for economic infrastructure servicing manufacturing and service industries, while reducing those for some parts of agriculture and mining. Such compositional changes could lead to either higher or lower aggregate infrastructure needs..."[6]

3.6 The Secretary to the Department of Finance, in response to the same question, wrote:

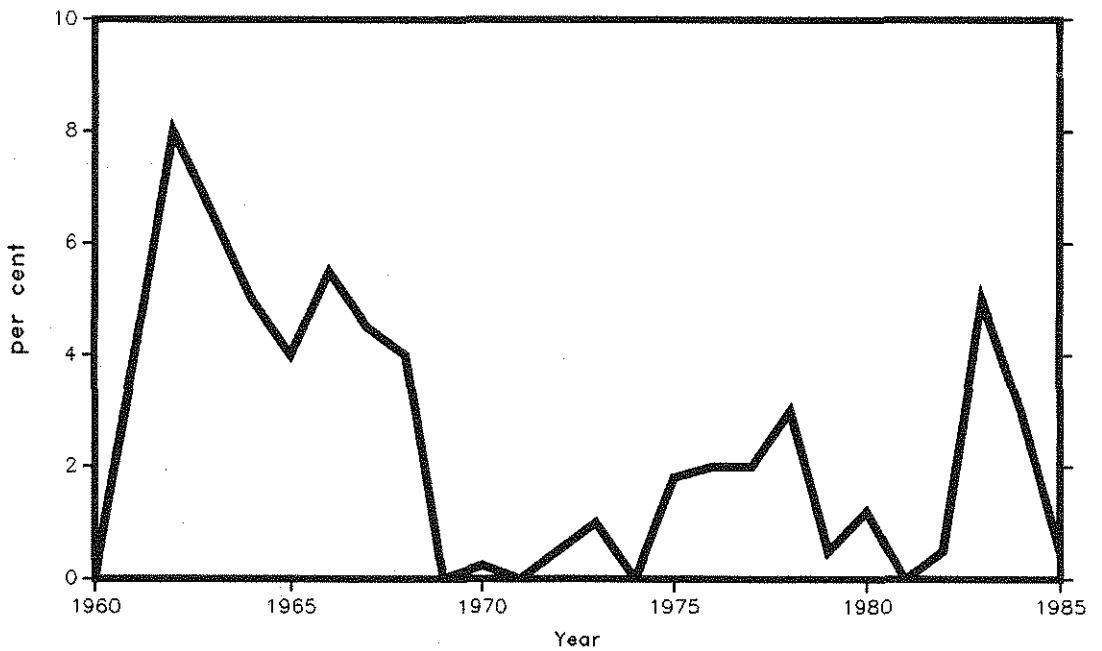
> "Insofar as structural change places greater reliance on manufacturing and service industries in locations where transport, power, port etc facilities are already well catered for, there will be less requirement for infrastructure than would be the case for new resource sector developments. To a significant extent, restructuring can also be achieved by redirecting the investment capacity that would otherwise have been devoted to supporting activities that have relatively poor commercial prospects or which are no longer as profitable as in the past..."[7]

3.7 While Treasury and the Department of Finance do not draw firm conclusions about structural change and future levels of infrastructure investment, the committee considers that arguments can be made in support of greater investment. Professor Noel Butlin, for example, has suggested that possible options for structural change in the Australian economy could include

development of a natural resource processing capacity and "so increase the quality of our human capital that we can effectively compete in world markets by living on sophisticated manufacturing and service wits."[8] Both these options could require higher levels of investment. Other economists have expressed similar views. It is difficult to accept that significant structural change could be achieved in Australia without new infrastructure investment in both the public and private sectors.

FIGURE 3.2

CAPACITY UTILISATION - EXCESS



Source : P.Brain and I. Manning, "Australia's Economic Predicament", N.E.I.R. Review, June 1987

3.8 The National Institute of Economic and Industrial Research (NIEIR) paper referred to in Chapter 1 attempted to estimate investment needs associated with structural change. The paper's authors, Dr Peter Brain and Dr Ian Manning estimate that usage of Australia's capital stock is approaching capacity. Figure 3.2 charts the NIEIR estimates of excess capital capacity, showing that the excess developed in the early 1980s has been effectively absorbed. Brain and Manning further argue that most of the existing capital stock cannot be redistributed. Rates of growth and employment, they argue, can only be increased by the accumulation of more capital.

3.9 The NIEIR study concludes that:

> "Any attempt at reducing unemployment with a constant capital stock then becomes an exercise in creating jobs which do not require capital, or which make more intensive use of existing capital in the limited number of cases where such use is possible. Australia has indeed followed this course for some time by creating welfare services jobs in the public sector, but tax resistance has put an end to such job creation. Job creation could continue on this basis in the private sector if the public could be persuaded to buy the products - mostly services - so produced. This might be possible if the inequality of income were to increase markedly: the poor could then be employed providing child care and domestic services for the professional and executive classes, so incidentally further increasing the resemblance between Australia and the less developed countries..."[9]

3.10 The NIEIR calculations suggest that growth in manufacturing output of the order of 4% per year would be required through the 1990s to resolve Australia's balance of payments problem. The paper argues that, based on Australian

historical trends and international comparisons, this would require an overall increase in private sector investment of approximately 8% per year supported by complementary public investment increases of about 5% per year.[10] The precise accuracy of these figures is less important than their direction. If funding of investment increases of this order are required, significant increases in aggregate national saving will also be needed. The implications of this will be discussed in the next chapter.

3.11 The committee accepts this general line of reasoning and believes that structural change to the extent necessary in the Australian economy will generate a need for increased investment in infrastructure. Recognition of this increased investment need is crucial to establishing the public policies which will be necessary to support it. It will also be necessary to consider how the need can be met. As we learnt from the resources boom of the late 1970s, the quality of investment may be as important as the quantity. Acceptance that more investment is needed does not imply that any aggregate increase will be sufficient. The direction of the investment will also be important.

3.12 It cannot be assumed either that a high investment strategy in Australia will occur in a vacuum. Other Western and developing countries with similar problems are almost certain to attempt similar solutions. The economies of the developed countries will themselves evolve while ours is changing. Actions by the United States of America to reduce its balance of trade deficit, for example, will probably reduce international demand and intensify competition in industries in which Australia has specialised or where we need to try to increase capacity. Nevertheless, the committee believes that Australia has no option but to look towards significant restructuring of its economy to achieve greater production of manufactured goods and services, both for export and internal use. We expect this to require increased infrastructure investment and conclude that desirable

structural change in the Australian economy will generate significant increases in private investment and a complementary need for public infrastructure investment. The total effect of those factors will be to create higher investment needs in Australia in the next decade or two than has been the case in recent years.

ENDNOTES:

1. Robert Heilbroner & Lester Thurow, Five Economic Challenges, Prentice Hall Inc., Englewood Cliffs, NJ, 1981, p. x.

2. C.B. Schedvin, 'the Australian economy on the hinge of history', The Australian Economic Review, 1st Quarter, 1987, p. 20.

3. ibid p. 30

4. Peter Drucker, 'The changed world economy', Foreign Affairs, 64 (4) reprinted in Peter Drucker, The Frontiers of Management, Truman Talley Books, New York, 1986, p. 21.

5. ibid pp. 23-49.

6. Exhibit 23, p. 2.

7. Exhibit 22, p. 2.

8. N.G. Butlin, Bicentennial Perspective of Australian Economic Growth, Economic History Society of Australia, Adelaide, 1986, p.41.

9. Brain & Manning, p. 33.

10. ibid p. 58.

4. DEMOGRAPHIC AND TECHNOLOGICAL CHANGE

Unlike chemical reactions or engineering tolerances, which can be predicted accurately to within a small range, no agreement has been reached on the nation's infrastructure requirements. It is not known, for instance, how much infrastructure the nation, or a particular region, must have to maintain economic viability - although we do know that the United States is dependent on its infrastructure, and that the absence of adequate public facilities eventually will stifle economic activity.
(U.S. National Council on Public Works Improvement)[1]

DEMOGRAPHIC CHANGE

4.1 Demographic changes may offer some scope for reduction in medium term investment needs. Changes in the numbers, age distribution and place of residence of the Australian population are factors which can affect infrastructure need in different ways. The rate of immigration, and with it the rate of growth of the Australian population has slowed in the last 15 years. This could be expected to result in lower demand for many infrastructure items, in proportion to GDP, than was formerly the case. Nett overseas migration is rising again from the low of 54,800 in 1983 to around 103,000 in 1986 and may continue to increase.

4.2 Changes in age distribution and locational preference also determine the pattern and overall level of infrastructure. For social infrastructure the numbers and distribution of the young and the old are important factors in the provision of

schools and health facilities. Most of our large cities, for example, show a pattern of excess supply of schools and hospitals in inner suburbs and shortages in outer suburban areas. We could expect that, in aggregate terms, the ageing of our population might lead to lower needs for new schools and higher needs for health care facilities and aged persons accommodation. But it is likely that many of the potential savings in areas like education will not be achievable because of changes in location of users and in the standards of service they require (See Chapter 9).

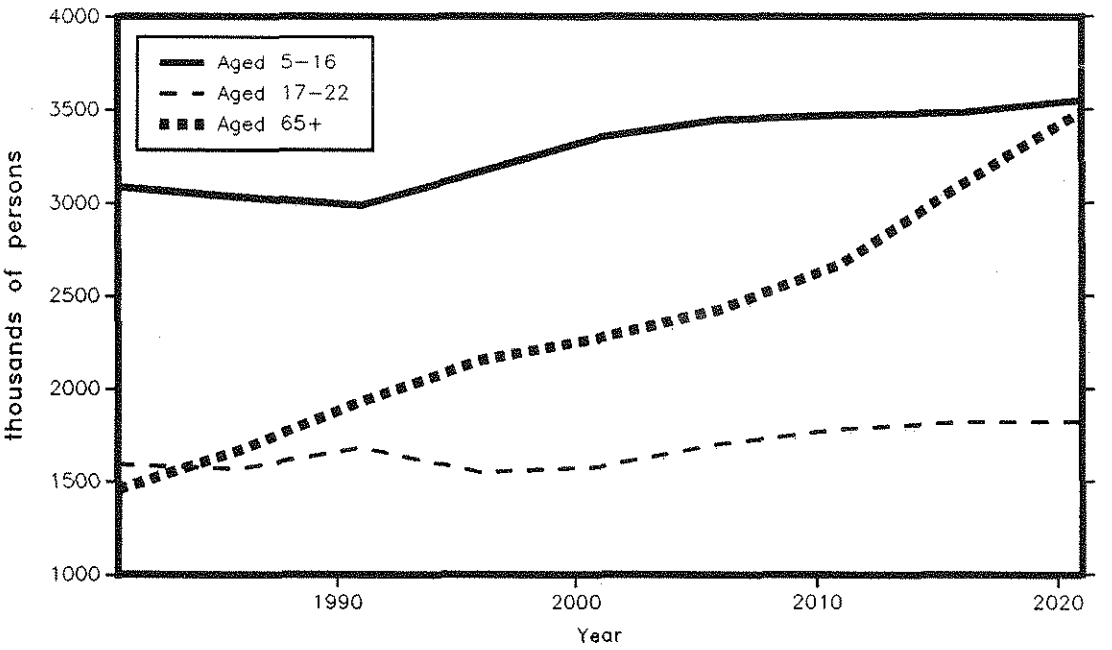
4.3 Tertiary and trade training facility needs are less location specific than school needs as students in this age group are more mobile, at least within cities and to a lesser extent within States. There are also significant differences in the age distribution of these groups between States which could lead to excess capacity in some States but a need for new facilities in other States. Rates of net internal migration in Australia have also been significant in recent years. All of these factors need to be allowed for in assessing needs from population projections (see figure 4.1).

4.4 While reduced levels of immigration in the past decade may have slowed the rate of growth of need for some types of infrastructure, many commentators have also noted that a side benefit of immigration has been reduced training costs as fully or partly trained workers have been imported.[2] One effect of a lower reliance on immigration of skilled workers for population growth will therefore be an increase in local training and retraining expenses. A general consensus has also emerged on a need for improvements in training and retraining in Australia. This has significant infrastructure implications for the

education sector. The Commonwealth Tertiary Education Commission, for example, recently estimated that the Government's policy objective of a 65% retention rate to high school year 12 will, in the next 5 years, increase year 12 enrolments by 33.4 % and higher education intakes by 35.5%.[3]

Figure 4.1

POPULATION PROJECTIONS IN SELECTED AGE GROUPS



Source : ABS 3222.0

4.5 From this information the committee concludes that demographic change may lead to some temporary easing of infrastructure investment requirement in some areas. Any such effect will be modest and short-lived and offset by increased needs in other areas because of rapid population growth in some regions and the ageing of the population.

TECHNOLOGICAL CHANGE

4.6 It has been argued that technology offers opportunities for reduction in the cost of repairing, replacing or adding to our infrastructure. The United States National Council on Public Works Improvement, which is undertaking a comprehensive review of infrastructure problems in that country on behalf of the Congress, concluded in 1986 that:

> "Technological innovation represents a potential means of meeting the nation's infrastructure requirements in a more efficient and less costly manner. New technologies can provide better construction materials and more reliable systems for planning, designing and monitoring public works facilities..."[4]

4.7 However, a submission to the committee from Telecom opened with:

> "A major theme of this submission is that technological obsolescence in the telecommunications infrastructure may have even more important implications for Australia's economic prosperity than physical obsolescence in other parts of the public infrastructure..."[5]

Telecom argued that while technological change and the development of concepts like ISDN present great opportunities, there is a risk of underinvestment in the public infrastructure because the needs presented by technological change may not be properly recognised in the public decision-making process.

4.8 The National Council on Public Works Improvement noted a similar problem in the United States:

> "The perception is widespread among industry representatives, professional engineering and trade associations, and researchers that technological innovations in the public works field have lagged well behind those in defense, medicine, and space exploration. In fact, the basic technology of public works has changed very little in the past 50 years..."[6]

4.9 A similar situation almost certainly prevails in Australia. Infastructure covers a number of industries including transport and communications, but the provision of most infrastructure involves the construction industry. Research and development expenditure in the construction industry is low by industry and international comparison.[7] It is over 20 times lower than for agriculture and 5 times lower than for the mining industry both of which are of similar size to the construction industry. An inter-country comparison by the International Council for Building Research Studies and Documentation showed Australia to be sixteenth out of 17 countries.[8] Expenditure on construction research and development in Sweden was 8 times greater than that in Australia while the U.K. spent 6 times as much.

4.10 Many industry and public leaders accept that aggregate research and development in Australia is at less than adequate levels. The NIEIR study cited earlier sees inadequate research and development as a basic constraint on Australian economic growth.[9] Schedvin, whose major recent study has been a history of the research organisation CSIRO, claims that, with some qualifications:

> "Despite the extent of manufacturing expansion in the quarter century after the war, there was virtually no relationship between that expansion and Australian-based industrial innovation..."[10]

4.11 It is accepted in most western countries that technology is one of the more promising solutions to the infrastructure problem. But technological change cannot be expected to lead to nett reductions in investment need in the Australian infrastructure if our commitment to research and development is inadequate or if we lag in applying the results. The committee concludes that technology has the potential to allow us to meet our infrastructure needs more efficiently and at lower cost than in the past but there is a risk of underinvestment in technology in the Australian public sector.

4.12 There is considerable scope for progress in this area in Australia. CSIRO has proposed a 4 year infrastructure research program which would address areas of research which this committee thought offered great scope for productive results. The first part of the research proposal is the development of predictive techniques which will enable planning of corrective action to avoid crises in infrastructure funding. An important spin-off will be identification of the components of infrastructure that will most benefit from the application of "new" technologies. A further part covers the practical problems

of asset management, the aim being to identify the improvements which could be made in management, construction and maintenance practices. A key aspect is the need to predict the least cost path for maintenance and eventual replacement. Finally, "new" technologies for construction and maintenance will be applied in order to achieve a least cost path. Findings from the first two parts of the research program will focus attention, while results from the final part will provide essential feedback that will impact both future predictions and strategies for asset management. While many larger authorities have developed their own procedures the CSIRO research will be applicable to a range of public authorities. CSIRO is planning on sponsorship of around $250,000 per year to fund up to half the value of the project. Some of the research will be in areas identified by sponsoring organisations.

4.13 The committee recommends that:

the government should give high priority to promoting research and development by CSIRO, universities and other public authorities related to improving the efficiency and effectiveness of the provision and management of infrastructure. In particular, the CSIRO proposal for a four year infrastructure research program should be supported.

THE OVERALL SCALE OF NEED AND THE ALLOCATION OF PRIORITIES

4.14 The problem facing australia in the provision of infrastructure during the next two decades flows from the competing forces discussed above. our existing infrastructure network is incomplete and is ageing. increasing maintenance and replacement costs are likely along with a continuing requirement for new work. added to this, there will almost certainly be

significantly increased needs resulting from structural changes. the overall infrastructure investment need may be reduced at times by demographic and technological trends but it will remain substantial. The consequences of not adequately funding necessary infrastructure investment would, in the long-run, impose a serious constraint on Australia's economic development.

4.15 Determining what investment is needed then becomes crucial. A thousand projects may be justified in themselves but choices have to be made if the community can only afford half of them. When asked for an indication of major areas of investment need, the Chairman of the National Infrastructure Committee said that:

> "There are a number of areas of need. I guess it is fair to call them 'wish lists' presented at the National Infrastructure Forum. ...What the basis of those is I do not know as we have never gone into any detail..."[11]

Wish lists may be a useful starting point but hard choices will be necessary in the climate of fiscal restraint in which this country will exist in the foreseeable future.

4.16 The amount of investment needed can vary greatly according to the standard of service specified. Water supply infrastructure needs, for example, will be much higher if constant supplies of high quality water are required than if periodic water restrictions and turbidity problems are acceptable. The amount of investment needed at a particular time depends on the specified life of the asset. It is possible to trade off shorter life against lower initial costs and vice versa. There is often a choice between new construction, upgrading and repair of assets to meet any need. These options carry different costs and benefits in each case.

4.17 There may often be scope for making greater or more efficient use of existing infrastructure. It may be possible, for example to allow greater after-hours use of schools by community groups as an alternative to construction of a civic centre. Tertiary institutions may be able to accommodate an additional semester by rearranging their calendars. Reduced curfew periods at airports may reduce the need for new airport facilities and improvements to traffic flows on existing roads may defer the need for new construction.

4.18 All this means that the investment needs related to any infrastructure project are contingent on several factors. In relation to a particular project, it is often less useful to use a single needs figure than it is to express needs in contingent form such as:

- this level of service can be achieved for this period of time by spending this amount on new construction; or

- that level of service for that period of time by spending that amount on upgrading.

4.19 To aggregate needs across a range of projects will require an answer to the contingent questions on each project. The more this is done, the less meaningful the aggregate is likely to be. It will be contingent on the particular assumptions of too many specific cases. It is a useful, indeed necessary, discipline for an individual enterprise to assess its investment need in this way. Figures for aggregate national needs, however, are likely to have little or no meaning. They are dependent on too many assumptions in too many particular cases to be of any real value.

4.20 In the balance of this report the committee discusses how Australia can finance the higher levels of infrastructure investment which the committee sees as necessary and how the hard choices between priorities can be made. The committee proceeds from the premise that higher investment is necessary for a more productive and rapidly growing economy. There may be argument as to what level of additional investment is required but the committee believes that the first and most important requirement is acceptance that an increase is needed.

ENDNOTES:

1. National Council on Public Works Improvement The Nation's Public Works: Defining the Issues Report to the President and Congress, National Council on Public Works Improvement, Washinton, 1986, p. 7.

2. See for example, Brain & Manning, pp. 39-40.

3. Commonwealth Tertiary Education Commission Report for the 1980-90 Triennium Vol. 1, p. 137.

4. National Council on Public Works Improvement, p. 70.

5. Submission 39 (Telecom), p. 653.

6. National Council on Public Works Improvement, p. 37.

7. Building Research and Development Advisory Committee Building Research and Development AGPS, 1986, p. 17-19.

8. Cited in Building Research and Development Advisory Committee, p. 19.

9. Brain & Manning, pp. 40-41.

10. Schedvin, p. 24.

11. Evidence p. 32.

5. THE ROLE OF THE PUBLIC SECTOR

Before we sell off the public sector, exempt the private sector from law and order and upset the supply of capital to the domestic sector it would be prudent to remember why the three are there and what they do.
(Hugh Stretton)[1]

THE HIGHER INVESTMENT OPTION

5.1 For the purpose of this inquiry the committee assumes that the central objective of Australian economic policy is the maintenance of an acceptable standard of living for Australians. The committee sees full employment and stability of costs and prices as critical components of an acceptable national standard of living. These in turn depend on related requirements for satisfactory rates of economic growth and increased productivity as well as on restoration of a sustainable balance of payments.[2] It is generally accepted that there is a strong positive relationship between levels of investment and rates of economic growth. Some correlation over time between investment and growth in Australia is shown in Figure 2.7. Figure 5.1 shows a similar picture for a range of comparable countries in the post-war period. There would seem no alternative to higher investment if Australia is to escape the balance of payments trap, rehabilitate an ageing infrastructure and eliminate chronic unemployment. Failure to improve our investment performance can be expected to lead to permanent recession and a decline in our relative living standards.

5.2 Government decisions will inevitably affect levels of investment. The public sector is directly responsible for investment in important sectors of the economy while government regulations form an important part of the framework for private investment. There are also indirect effects. A government

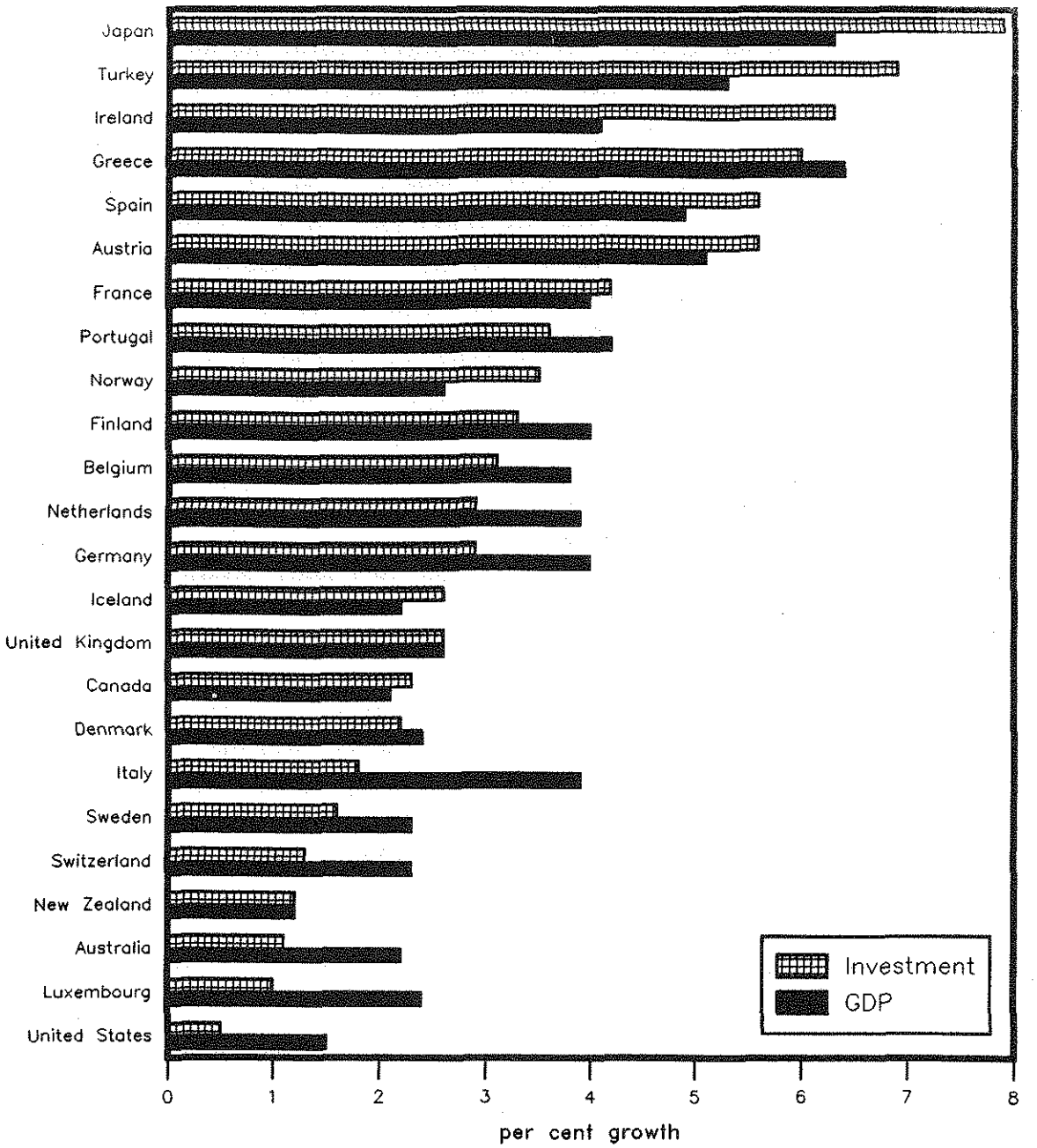
decision to build a road, for example, may encourage private investment in one location at the expense of others. The way in which governments recover road costs may favour some vehicle owners over others and the way road users pay in comparison with rail may favour one mode of transport over another (See Chapter 9). The overall level and direction of public investment will have economic effects that may encourage or deter particular components of private investment. The role of the public sector is important in considering levels of national investment.

THE SIZE OF GOVERNMENT

5.3 The optimum size and role of government has been an important area of policy debate throughout the western world in recent years. Some commentators have argued that the public sector competes with private economic activity for scarce funds, is inherently inefficient and, if it grows too large, may threaten individual liberty. Others have maintained that government intervention is required to cope with general and severe market failure and that present, or indeed greater, levels of public activity are justifiable. In the next two chapters the committee considers the extent to which the public sector actually competes with private investment and the question of efficiency. For the moment, however, it is convenient to consider the scope for reducing or redirecting public spending.

FIGURE 5.1

INTERNATIONAL COMPARISONS OF INVESTMENT AND GDP PER PERSON EMPLOYED (% of growth 1962-1979)



Source : IAC Annual Report 1981-82

5.4 It is necessary first to note that, as measured by levels of taxation and public spending, the Australian public sector is relatively small. Figure 5.2 shows levels of taxation and spending on general government services in a range of developed countries. It is clear that Australia falls towards the bottom of the league in both categories. This broad quantitative trend is reflected in the extent of direct government involvement in the economy. It also is clear that much of the international trend towards privatisation has applied to many activities which are already substantively in private hands in Australia, for example, oil production, mineral exploration, car and aircraft production, steel and chemical manufacturing, banking and insurance. It follows that Australia will still be in the lower part of the international field after many countries undertaking privatisation have moved quite aggressively to sell public assets to private interests.

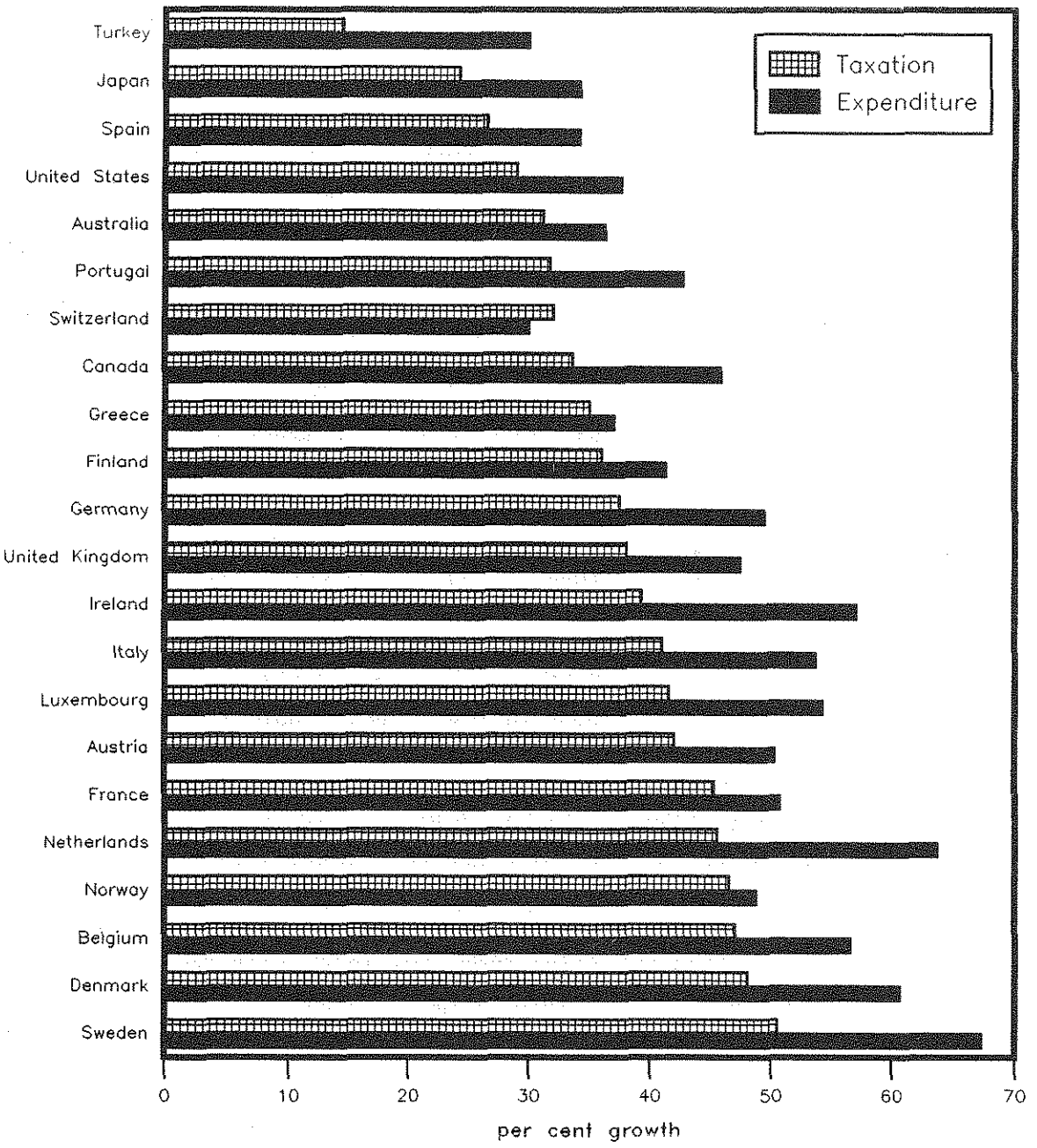
5.5 The committee noted that direct public ownership or management of assets is not the only measure of the size of government. Public regulation of private activity is as much a government intervention in the economy as is direct ownership. Rudolph Klein makes the point well:

> "Consider a mythical country whose government decides to keep public expenditure below the 25 percent of gross national product once thought to be the maximum tolerable proportion. Instead of introducing a social security scheme or a national health service, it makes it mandatory for every firm comprehensively to insure its employees and their families. Instead of building motorways, it offers generous tax concessions to turnpike trusts. Instead of subsidizing jobs to prevent unemployment from rising, it introduces legislation forbidding companies to dismiss anyone. Instead of spending money on pollution control, it compels private industry to clean up the air and rivers it has befouled.

This welfare society has virtually no welfare spending as measured in the conventional public expenditure statistics..."[3]

FIGURE 5.2

TAXATION AND PUBLIC SPENDING IN SELECTED OECD COUNTRIES



Source : OECD Economic Studies 4/1985

5.6 While Klein's society is mythical, the examples he gives are not. All the measures he describes have been implemented in at least one western economy. Comparisons of the size of government in different countries are therefore very difficult. But it must be noted that there is no reason to believe that Australia ranks highly in the big government league even when regulation is taken into account. The United States, which ranks below Australia in terms of direct government ownership of assets, imposes strict regulations on the power and communications utilities which comprise an important part of its economy. Japan and several western European nations offer far greater security of private employment than exists in Australia, where many of the costs of unemployment are borne by the public sector.

5.7 Even allowing for this uncertainty of definition of the public sector, there is no persuasive empirical evidence of any link between size of government and economic growth. Australian economist Peter Saunders, who was co-author of an important OECD study on the size of government, recently summarised some of the study's findings in the following terms:

> "...broadly speaking there is little evidence that the size and growth of government spending is influenced to any great degree by overall economic performance. Economic growth for example is not associated with differences in government size or growth. Nor is there evidence that the level of national income per capita influenced the demand for government provision. The level of unemployment and its increase over the period were similarly found to have had no overall impact on the size and growth of government spending. The only aspect of economic performance that did appear to be important is the inflation rate. Countries with lower inflation rates had government spending levels at the end of the period which were higher at the end of the

period and grew fastest over the period..."(emphasis in original)[4]

5.8 The justification for placement of activities in the public or private sectors can be expected to change with time. It must be asked whether there would be advantages in extending the scope of the public sector in some areas and reducing it in others. In particular, as some submissions suggested, it may be possible to finance increased investment by reducing public consumption spending, by expanding the tax base or by passing responsibility for some areas from the public to the private sector.

THE ROLE OF GOVERNMENT

5.9 The first factor to consider in proposing a transfer of responsibility from the public to the private sector is the initial reason for public involvement. Classical economics held that the public role is minor. The 'invisible hand' of market forces would ensure that the sum of individual decisions based on self interest would best approximate the public interest. But even the staunchest of neo-classical economists concede that markets sometimes fail to deliver the best outcome. Decisions by individuals to produce and consume may, for example, lead to pollution which adversely affects all of us. But the effect on the individuals concerned may not be large enough for market forces to resolve the problem. If national defence were to be funded by individual citizens buying security in a market, it is likely that the nation would have less effective defences than those of countries which choose to concentrate defence resources in a planned way. Market failure is the underlying rationale for all public intervention in the economy.

5.10 Market failure can take several forms. Markets may, for example, fail to supply what economists call 'public goods' - products which if supplied to one person, are available to others at no extra cost. National defence, street lighting and environmental protection are typical public goods which we all enjoy, once they are provided, and for the use of which it is very difficult to charge individual users. Most economic activities generate externalities - positive or negative spillovers from the main transaction. Thus, artists selling their work for profit may also benefit the broader community by enriching the general culture. A manufacturing plant may impose costs on the general community by generating pollution as a side effect of its production. The first case justifies an element of government subsidy to the arts to encourage the beneficial externality, the second justifies government anti-pollution regulations to minimise the negative externality.

5.11 Some economic activities are natural monopolies. There could be no justification, for example, for the construction of two electricity supply networks, but if only one existed and it was in unregulated private hands, the charges might well be set at a level which would generate excess profit and discourage optimal use. In fact it has been demonstrated by economists that the profit maximising price for a monopoly is above that which is of greatest benefit to the economy as a whole. Monopoly power in particular parts of the economy will reduce the productivity of other sectors. Government intervention, either through ownership of potential monopolies or through regulation of private owners, is essential to avoid this problem.

5.12 Many large, long-lived projects require a level and stability of investment which may not be easily organised through the market system alone. Much infrastructure falls in this category and governments have often intervened to provide large capital works. The Snowy Mountains Scheme and the Trans-continental railway in Australia, the Tennessee Valley

Authority and the Interstate Highway network in the United States, the alpine tunnels and the super-highway networks of Western Europe all fall into this category. All could conceivably have been privately financed but would probably not have attracted sufficient private funds for a long enough period had the attempt been made. Markets also pass through cycles of boom and bust. It is generally accepted that governments have a part to play in smoothing these cycles, intervening to a greater extent when private investment falters and limiting their activities when the private sector recovers. The resulting stability is to the advantage of by far the larger part of society.

5.13 Some government intervention has been designed to improve the efficiency of the economy as a whole by increasing competition. Where components of private sector activity are not subject to extensive competition, there may be a role for public enterprise to increase competition. Hugh Stretton has argued the the South Australian Housing Trust introduced a beneficial degree of competition into the Adelaide housing market for many years, ensuring as a result much lower urban land and house prices than would otherwise have existed.[5] The Commonwealth Bank and Australian Airlines are two Commonwealth enterprises which reportedly had similar goals when established and which appear to have made such a contribution in practice by increasing the level of competition.

5.14 Government economic intervention in all western, liberal societies is intended primarily to complement rather than compete with private activity. Governments aim to benefit private economic activity when they act to ensure that costs and prices take proper account of external effects, that public goods are supplied in sufficient quantity and that monopoly power is not allowed to distort resource allocation. They aim to assist the vision that inspires large investment, to minimise the disruption caused by cyclical business changes and to ensure desirable

levels of competition. The cause of any government economic intervention can generally be traced to a perceived market failure at some time.

5.15 It is important to note here that market failure is concerned with more than technical efficiency. We began this chapter with the assumption that the central objective of national economic policy is the maintenance of an acceptable standard of living for Australians. A market outcome in the Australian economy is theoretically possible which would produce high levels of economic growth but also lead to persistent high levels of unemployment, a degradation of the quality of work available to those in employment and decreases in the quality of the social and physical environment. Whatever its technical efficiency, this outcome would be a market failure in the committee's terms.

5.16 The judgement on whether and to what extent governments should intervene to correct market failure is, to some extent, a matter of goals and values. The economic and social environment in which the decision is made will have an effect and this will change over time. There is currently, for example, a broad consensus on the role of government in the provision of pure or near pure public goods like roads but less agreement on some of the network services such as telecommunications, electricity, gas, and transport services. Governments have accepted various levels of responsibility for provision of services like these at different times in Australian history. Governments of other countries take different approaches at the present time. Air transport, for example, was a wholly private activity in Australia at one time but now involves both the public and private sectors. It is largely public in some comparable overseas countries and wholly private in others.

5.17 It need not be true that any particular market failure will continue to exist or that the original solution will remain valid as times change. Nor is it always the case that public intervention will necessarily lead to a better result. Market failure is more easily described than measured. There are few pure public goods and the size and effect of externalities in any economic transaction can usually be debated. A local government authority, for example, may have to choose between investment which will make the council chambers more attractive and imposing or investment in a park or other community facility, a reduction in its debt or lower levels of rates. Although techniques like cost-benefit analysis exist which attempt to measure and balance the external effects and public benefits involved in choices like this, the problems of placing values on many of the variables ensure that there will never be complete agreement.

CHANGING THE ROLE OF GOVERNMENT: PRIVATISATION

5.18 This report is not principally about privatisation. Only one aspect of this subject is relevant: whether privatisation would be likely to increase or decrease the aggregate level of investment in infrastructure. Given that there is room for debate on the optimum size of the public sector and that the justification for any particular government intervention may not apply for ever, is there scope for Australia to resolve its public investment problem by transferring functions from public to private hands? This could be done in various ways. Existing public assets could be sold to the private sector through sale and leaseback arrangements. Public functions could be delegated to private suppliers or private funding could be sought for new projects which would formerly have been publicly financed. All these techniques have been used in Australia.

5.19 The potential for transfer of public functions to the private sector is currently a matter of significant political debate, few submissions to the committee dealt with the issue. Perhaps the most substantial support for some privatisation came in a submission from the Confederation of Australian Industry:

> "...in view of the continuing need to reduce persisting high public sector deficits, public expenditure restraint should be regarded as an essential part of Federal and State economic policies. It is important to avoid a negative approach to public spending restraint. The real issue is how to attract increasing private sector participation and redirect public sector spending - within an overall commitment to Commonwealth and State expenditure restraint - to ensure adequate funding of infrastructure. The roles of public and private sectors should be seen as complementary, not competitive. This makes it important to assess the effects of periods of public expenditure restraint in terms of opportunities to attract greater private sector participation in *funding and operating infrastructure components*. As a general rule, private enterprise should be encouraged to finance and operate infrastructure components in areas in which it can do so more efficiently than the public sector..."[6]

Opposing views to this were expressed in a number of submissions but generally the issue received little attention in the evidence presented to the inquiry.

5.20 Privatisation of any public activity might be justified if it led either to higher levels of aggregate investment or to efficiency gains within an existing level of investment. No evidence was presented to the committee or is known to the committee which leads to these conclusions. In any case, such a

move is unlikely to be the only means of achieving the desired ends and close examination of the costs and benefits of alternatives will always be necessary.

5.21 There will be no nett increase to overall, national investment from private moves into the traditional public field if they are at the expense of private investment elsewhere. It is possible that reductions in the scope of public sector activity may lead not to new private investment but to a redirection of private investment into areas which would formerly have been public investment. Private investment, instead of creating new production, may be increasingly devoted to maintaining the support structure which government formerly provided. This effect will be much more marked if public assets are sold and the proceeds used to finance any form of consumption. As Hugh Stretton explains it:

> "If a government's purpose in privatizing is to attract political and business support by reducing taxation, it will not reinvest its cash takings, or use them to reduce its own borrowing. By using the proceeds to replace tax revenue it in effect distributes the proceeds to the taxpayers. They will save a little and spend the rest. If, as is likely, they spend about 80 per cent of it, there will have been national dissaving to that amount..."[7]

5.22 If the public equity in Telecom, for example, were to be sold for a potential market price of $10-15 billion, that amount would be drawn from private capital markets. The way in which a government then used the proceeds would be crucial. Any part of it which was diverted to consumption expenditure, whether through its return to taxpayers in the form of tax cuts or through subsidy of government consumption spending, would represent a nett reduction in investment.

5.23 The arguments for privatisation usually rely on potential for increased efficiency of one sort or another. It appears to be the predominant view in the economic literature that public sector management is not inherently superior or inferior to private sector management. One convincing review of the issue by Kay and Thompson in the Economic Journal in 1986 concluded that:

> "...it does not seem that there is anything intrinsically superior about performance under private ownership...there are efficient and inefficient public enterprises and efficient and inefficient private enterprises..."[8]

The Economic Planning Advisory Council (EPAC), reviewed the literature on this subject and also concluded in a recent study of the efficiency of public trading enterprises that there was no conclusive evidence of any inherent qualitative differences between public and private management.[9]

5.24 There have been particular cases of better or worse performance in the public sector and there are probably particular types of activities that are better performed in one sector or the other. But for the purpose of this inquiry it is sufficient to note that any efficiency gains expected from a particular decision to privatise would need to be large enough to offset the transaction cost and the diversion of investment funds from new investment in the private sector to the purchase of existing public capital.

5.25 The committee concludes that privatisation is unlikely to offer an effective means of increasing aggregate national infrastructure investment, because sale of public authorities is likely to divert private capital from alternative uses.

CHANGING THE ROLE OF GOVERNMENT: REDUCED CONSUMPTION

5.26 A relatively small proportion of public expenditure is directed to investment. Public investment as a proportion of total government spending has, in fact, declined from 27% in 1950 to only about 17% of all public outlays today. It has been suggested that reductions in public consumption spending could make room for increased public investment. The Australian Federation of Construction Contractors (AFCC), for example, has argued that the proportion of public spending allocated to capital purposes should be returned by the year 2000 to that which applied in the late 1960s; an objective the Federation has called Target 2000. According to the AFCC:

> "To achieve our Target 2000 objective it is necessary to increase the proportion of total outlays allocated to capital expenditures from the present level of 20.9% to 27.2% and, it follows, decrease the recurrent expenditure share from 79.1% to 72.8%..."[10]

Assuming annual growth in GDP of 4%, AFCC calculated that this shift in emphasis could be achieved by containing growth in recurrent expenditure to 3.43% per year in real terms.[11]

5.27 This seductively simple approach has some flaws. A significant proportion of the recurrent expenditure, which AFCC equated to consumption, in fact supports investment. Capital investment in schools and hospitals, for example, is supported by the recurrent expenditure incurred in supplying teachers and health workers. The committee is not alone in believing that deficiencies in our training and retraining systems, our research and development structure and the information and support base for our exporters are all important constraints on economic development. These and similar essential economic services are classified as consumption in the national accounts. Assuming that

such services would be excluded from the general reduction in consumption spending proposed by the AFCC and others, the areas which were to be cut would clearly suffer greater reductions.

5.28 The pattern of government consumption spending is also shaped by demographic change. An ageing population will make heavier demands on services such as social security, health services and aged persons' facilities. The Economic Planning Advisory Council, EPAC, released a paper examining Australian social expenditures in March 1986. The paper classified the causes of increased social expenditure according to whether they are due to demographic change, expansion of coverage or higher benefits. It concludes that a substantial part of the increase in social expenditures in recent years is the result of demographic change rather than either of the other factors, which are the result of conscious decisions to increase expenditure.[12] It can be expected, in short, that attempts to redirect expenditure from government consumption to government investment will run up against demographic factors which are causing a large part of the trend towards increased consumption spending.

5.29 Large parts of so-called consumption expenditure are, in any case, virtually fixed. Public debt interest payments account for 10% of consumption expenditure - an area which can only be cut by reductions in either interest rates or the size of the debt. When this and similar areas are excluded, very large cuts in items like social security payments, education and welfare would be necessary to finance the amount of investment required. This is likely to be unacceptable to the community because Australia already spends a much smaller proportion of national income in these areas than most Western countries.

5.30 It must also be noted that AFCC's relatively painless solution assumed annual growth in GDP of 4% per year. This was a valid assumption in 1985 when the AFCC issued its paper. Growth rates at this level will be difficult to achieve and maintain

again given the balance of payments constraint. To the extent that actual growth rates fall short of 4% the cuts in public recurrent expenditure would need to be be greater.

5.31 None of this should be taken as criticism of the AFCC, whose paper is representative of a widely held point of view. The committee accepts that a high investment strategy in Australia's present circumstances implies a reduction in both public and private consumption spending. Rather than arguing that consumption spending cannot be cut, the committee is suggesting that its growth must be constrained. The committee cannot accept that this can be as painless as the AFCC suggests. Nor does the committee believe that it would be feasible to fully finance a substantial increase in public investment from this source and conclude that some constraint on the relative proportion of national income devoted to public and private consumption expenditure is likely to be required to finance increased investment, including infrastructure but this alone will not meet the likely needs.

THE SCOPE FOR PUBLIC SECTOR CUTS

5.32 The committee's quick review of the public sector can be easily summarised. It is not realistic to expect that investment increases in traditionally public areas can be funded by transfers of responsibility to the private sector or by reductions in public consumption spending such as education. Some contribution should be possible from restraint of consumption growth but excessive zeal could be counter-productive. Aggregate national investment would be reduced rather than increased if, for example, productive private investment was diverted by inappropriate asset sales or if cuts were made in economically productive 'consumption' spending such as education. An attack on the public sector also risks losing sight of the fundamental reason for its existence. Governments intervene to correct the

effects of market failure and not all these effects are economic in the narrow sense. Some of the more extreme proposals for reductions in the public sector seem to argue that we must destroy our standard of living in order to save it.

ENDNOTES:

1. Hugh Stretton Political Essays Georgian House, Melbourne, 1987, p. 23.

2. This view is broadly consistent with that advanced by the Vernon Committee 20 years ago, Report of the Committee of Economic Inquiry, Commonwealth of Australia, Canberra, 1965.

3. Rudolph Klein 'Public expenditure in an inflationary world' quoted in Gruen, p. 55.

4. Peter Saunders 'Understanding government expenditure trends in OECD countries and their implications for Australia' Australian Quarterly, 59 (1), Autumn 1987, p. 38.

5. Stretton, pp. 152-159.

6. Submission by the Confederation of Australian Industry, p.1.

7. Stretton, p. 33.

8. J.S. Kay & D.J. Thompson 'Privatisation: a policy in search of a rationale' The Economic Journal, 96, March 1986, pp.

9. Economic Planning and Advisory Council Efficiency in Public Trading Enterprises Council Paper No. 24, EPAC, Canberra, 1987, p. 18.

10. AFCC, p.7.

11. AFCC, p. 3.

12. Economic Planning and Advisory Council Growth in Australian Social Expenditures Council Paper No. 17, EPAC, Canberra, 1986, p.2.

6. TAXING, BORROWING AND SAVING

> *...a low level of savings lies behind the present low rate of investment spending, this in turn having been brought about by the collapse of business and government saving. Saving by businesses has fallen due to high interest rates and the related shortening of stock exchange time horizons; saving by governments has fallen due to a combination of tax resistance with a high demand for current government expenditure. (Brain & Manning).*[1]

FUNDING HIGHER INVESTMENT

6.1 It is necessary to consider how far Australia is capable of increasing investment in infrastructure. It may be possible to improve the efficiency of public and private investment, and a smaller increase in overall investment might be acceptable, but the scope for such improvement is limited. It may also not be easy to increase either private or public investment. The low levels of private investment in recent years, despite some changes which might have been expected to improve them would suggest that there have been significant barriers to private investment. High interest rates and currency fluctuations, for example, may have discouraged the export oriented investment which is now needed. The significant advantage provided by depreciation of the Australian dollar can be expected to provide a better private investment climate and hence a need for complementary public investment.

6.2 Both private and public investment are ultimately funded from savings. A higher investment policy will therefore require that increased levels of savings be harnessed in productive ways by both sectors. Private firms either attract savings directly through equity investment or retained earnings or indirectly by

borrowing from domestic or foreign savers. Governments normally finance public investment through taxation or government charges, which in economic terms amount to public saving, or by borrowing, again from domestic or foreign savers. In concluding that levels of public and private investment in Australia need to increase, the committee has implicitly concluded that this country needs to increase aggregate domestic savings, attract higher levels of foreign savings or achieve some combination of the two. To the extent that there are risks associated with excessive foreign borrowing, a higher reliance on domestic savings would be prudent. The level of foreign debt we have accumulated to date will be a central factor in this risk and our economic past will, in this way, affect the options now open to us.

6.3 To aid its consideration of these issues, the committee commissioned a paper on public investment from Professor John Nevile of the Centre for Applied Economic Research at the University of New South Wales. Professor Nevile's research for the paper, which is reproduced at Appendix 5, supports the committee's view that higher levels of investment in public infrastructure are essential in the short to medium term. The first question is whether this increase can be funded by higher taxation.

TAXATION

6.4 Professor Nevile observed that financing higher levels of public investment through increased taxation would have two opposing effects on investment:

> "The increased public investment will increase output and employment and the increased taxation will reduce it. If the public investment is on building and construction, or other items with low import content, there will be a small increase, on balance, in demand,

output and employment. On the other hand, the demand for imports will decline since the public investment will have a significantly smaller import content than the private expenditure that no longer takes place because of the increase in taxation. Apart from any costs associated with increased taxation, the short run effects are beneficial.

The political costs of increased levels of taxation are obvious, the economic costs are not so clear cut. High levels of taxation do introduce distortions into private decision-making. The actions that maximise after-tax income are not the same as those that maximise before-tax income and this leads to inefficiencies in the use of resources. It is difficult to quantify these, but in this context...it is probably not important to do so, since raising taxation levels is not a politically viable option..."[2]

6.5 Brain and Manning, in the NIEIR study, are less definite on the political impossibility of increasing taxation:

"Unless ways can be found for economising on other heads of government expenditure, economic recovery in Australia is likely to require higher tax rates, not lower, in order to finance government activities complementary to private investment. It would be simple to say that this is not possible; taxes are unusually politically unpopular at the moment and no increase would be tolerated. However, such bald statements of impossibility should not be accepted without examination..."[3]

6.6 The NIEIR paper goes on to note that the political resistance to increased taxes rests in large part on public perceptions that the taxation system is unfair and inefficient. These perceptions are said to be encouraged by the present mix of direct and indirect taxes, the redistributive features of the tax system, the fiscal imbalance between the Commonwealth and the States and the popularity of a particular strand of economic thought - public choice theory. Brain and Manning conclude that:

> "With these forces opposed to tax increases, the observation that Australia is only moderately taxed by OECD standards, and the argument that its modernisation is likely to require tax increases, are received with incredulity. It may be, therefore, that Australian economic growth will be tax constrained..."[4]

6.7 Some economists agree that an increase in the moderate levels of taxation presently applying in Australia would be desirable if it led to higher levels of investment. The distinguished American economist, John Kenneth Galbraith, expressed such a view during his recent visit to Australia.[5] Others argue, however, that Australian taxes are too high and that any increase would deter investment in the private sector to a greater extent than it would increase public investment. So long as the latter opinion retains significant support, the political difficulties of financing higher investment through increased taxation will be greatly compounded. Tax increases may also adversely affect investment through their effect on expectations in the financial markets. Any attempt to support a high investment strategy with higher taxation would therefore be difficult and subject to severe practical limits.

6.8 Most taxes in Australia are low and it is instructive to look at the change in share of revenue contributed by the major categories over the last 25 years. Pay as you earn income taxes have doubled from 20% to around 40% other income taxes have been fairly stable at around 12%, sales and other consumption type taxes have fallen from 35% to less than 30% while company taxes have fallen from around 18% to 10%. Aside from the jump in PAYE tax the biggest change has been the reduction in taxes paid by the corporate sector. Since a substantial part of public investment is in economic as opposed to social infrastructure it may be appropriate to consider increasing the proportion of revenue contributed by the corporate sector to economic infrastructure by way of company taxation. Though there are practical limits to the extent to which necessary increases in infrastructure investment can be financed from higher levels of taxation the committee concludes that a reversal of the decline in the share of revenue contributed by the corporate sector would be an appropriate approach to providing funds for economic infrastructure.

6.9 Recent events in the United States show, however, that the speed with which such attitudes can change is striking. The Wall Street collapse has focussed the collective American mind on the size of the US budget deficit in a way which responsible economic commentators have been urging for several years. The conventional wisdom now is that taxes should be increased and military expenditure cut - policies which two or three years ago were regarded as wildly radical. It is difficult to forsee events which could have a similar impact in Australia - but the situation already exists and we should be considering such policies in the interests of restructuring and coping with our current account deficit.

PUBLIC BORROWING

6.10 It is often argued that public borrowing reduces the scope for, or "crowds out", private investment. In its crudest form, the crowding out theory assumes that there is a fixed supply of savings and that a dollar borrowed by the public sector will reduce private investment by the same amount. Since the deregulation of financial markets, the closed economy assumption underlying the fixed supply of savings is even more obviously invalid than before as virtually unlimited funds are available from overseas, although the price of these funds may become prohibitive. It is now more commonly argued by the "crowding out" theorists that public borrowing competes for scarce but not fixed supplies of savings and thus forces up interest rates. The higher interest rates then deter private investors they argue. It follows from this that private investment could be encouraged by reducing the public call on available funds.

6.11 Professor Nevile's paper shows that, in fact:

- there has been no direct correlation in recent Australian history between levels of public borrowing and interest rates;

- Australia has traditionally financed a high proportion of its public investment through taxation rather than borrowing, in this sense the Australian public sector has been a net saver throughout the post-war period; and

- present levels of public debt are lower as a proportion of GDP than the levels of the mid-1960s and lower than those of all Western countries except Finland.

6.12 Professor Nevile's work shows that, if there is any relationship at all between levels of public borrowing and interest rates, it is clearly not a simple or direct one; interest rates have risen as public sector borrowing has decreased more often than not in recent years. He argues that Australian interest rates, in fact:

> "...are determined by interest rates in major financial markets overseas adjusted for the expected change in the value of the Australian dollar on foreign exchange markets..."[6]

6.13 Nevile notes that a higher budget deficit may lead to higher levels of imports through its stimulatory effect on general economic activity. This could adversely affect the balance of trade and cause a tendency towards lower rates of exchange for the Australian dollar. If the government should then choose to resist this fall through increasing interest rates, public investment financed by borrowing could be said to have crowded out private investment. A long chain of conditions would have to be met before this would happen and many other forces also affect the balance of payments. Professor Nevile expected Australia's balance of payments to improve over the following 18 months from May 1987 and did not therefore regard this potential source of crowding out as a threat.

6.14 Professor Nevile, in any case, suggests that public investment is more likely than private investment to be in productive rather than financial assets, and also less likely to require imports. Professor Nevile's Table 4 (see Appendix 5, p.20) shows that about three-quarters of corporate borrowing is now used to acquire financial assets rather than to directly create new capital structures and equipment. This trend has increased markedly in recent years while the opposite trend has occurred in the public sector. The effect is that, even if public investment did crowd out private investment, a larger proportion

of total investment would then be in productive assets rather than used to finance paper transactions. Public investment, in the short term at least, may thus promote higher levels of growth than would investment by the private sector.

6.15 Nevile also commented on the idea that borrowing to finance public investment may be limited because existing levels of public debt are too high. He observed that public debt in Australia is still well below the level of 20 years ago and very low by international standards.(See Figure 6.1) OECD figures show that as of 1983, only Finland had a lower ratio of public debt to gross domestic product in 20 developed countries surveyed. Professor Nevile concluded that there is little scope for increases in taxation but:

> " ... there is room for an increase in public investment, financed by borrowing, without either a fall in the value of the Australian dollar below the levels holding at the beginning of 1987, or upward pressure on interest rates..."[7]

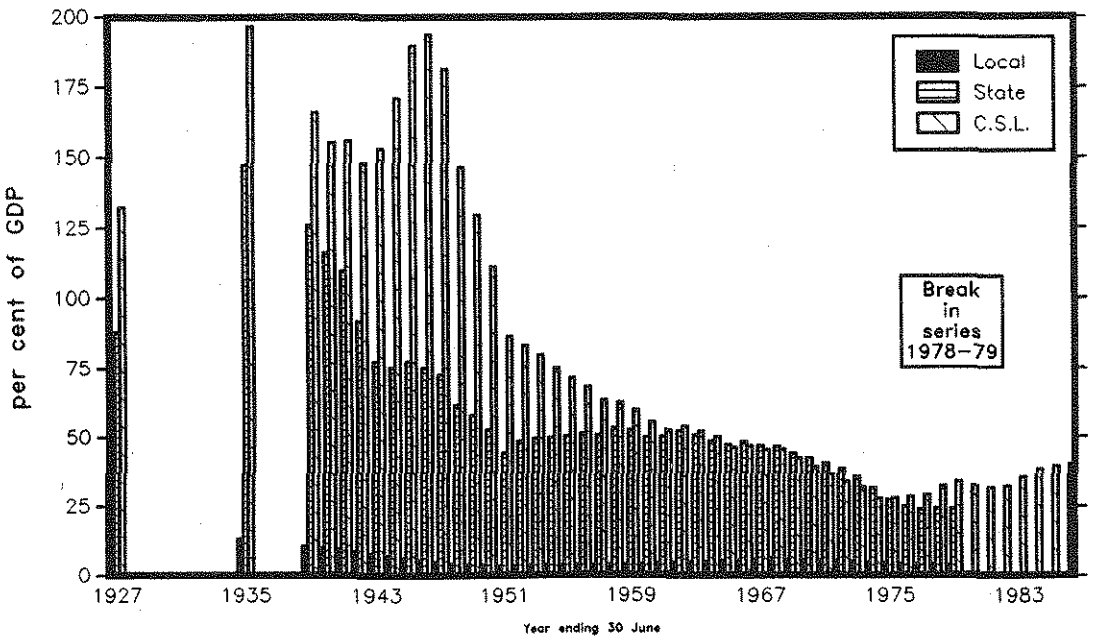
6.16 The committee asked the Commonwealth Treasury and the Department of Finance to comment on Professor Nevile's paper. Both departments acknowledged that many factors determine interest rates but argued that a link between public sector borrowing and interest rate levels could not be ruled out. Both saw market expectations as a key factor. The Department of Finance took the view that:

> "Market opinion on these issues is not capricious. Experience in Australia (and elsewhere) is that reduction in the current account deficit and the associated necessary structural shifts in savings and lending by other sectors necessarily take time. This seems to be appreciated by markets but if they are to provide the required bridging finance to allow the country to trade its way out of its present

difficulties, then understandably markets will want to see some signs that progress is being made. This is not just a matter of progress in reducing the current account deficit but also progress in winding back the public sector borrowing requirement (PSBR) in support of the structural adjustments that clearly are required in the medium term..."[8]

FIGURE 6.1

NET PUBLIC AUTHORITY DEBT (% of GDP)



Sources : J.P. McAuley, "The Structure of Australian Public Debt", Centre for Research on Federal Financial Relations ANU, Department of Finance.
Note : Commonwealth equals Total less State ; C.S.L. equals Commonwealth, State and Local.

6.17 The Treasury submitted that:

> "The predominant view among economists and financial analysts is that in the present circumstances of the Australian economy a reduction in the public sector borrowing requirement would contribute to a sustainable reduction in (real) interest rates and, hence, a better climate for business investment..."[9]

6.18 The Treasury and Finance responses do not challenge Professor Nevile's main point: that there are no simple, direct links between public borrowing and interest rates. The argument that factors other than the level of public borrowing may affect interest rates would seem to confirm rather than contradict the Nevile thesis. Treasury and Finance officials, when questioned at public hearings provided no further support for their arguments. The committee was concerned to note that although official witnesses maintained that Australian interest rates were determined by a number of variables, none was able to offer empirical evidence of the relative effect of these variables.[10]

6.19 It is clear in any case that the simple version of the crowding out theory cannot be sustained. The claims, often thrown about in political debate, that Australian interest rates will automatically fall in line with a decline in public sector borrowing are simplistic. As the Chief Economist to Telecom, Mr John De Ridder, observed in correspondence to the Committee:

> "...the present retreat from the simplistic crowding-out argument reminds me of the retreat from monetarism. That is, the long and variable lags which obscured the alleged relationship between the growth of money supply and prices is akin to the expectation effects which are now held to account for the poor empirical relationship between movements in budget deficits and interest rates.

> Most countries including Australia have now abandoned simple money supply targets. Maybe deficit fetishism will go the same way..."[11]

MARKET PERCEPTIONS

6.20 It need not follow, however, that significant increases in public borrowing are appropriate. Treasury and Finance stress the importance of market expectations in determining the extent to which Australian interest rates vary from those in important financial markets overseas, a point to which Professor Nevile gives due attention. The way in which our economy is perceived in the markets in which we borrow is clearly important to the level of domestic interest rates even if there is not a simple and direct relationship.

6.21 Markets are not capricious. A senior Treasury witness observed that:

> "...very largely, markets are an aggregation of people making hard-headed decisions about where they are going to put their money and what the risks are. It is not in the interests of the market's participants to be irrational, any more than it is in the Government's interests that they should be..."[12]

If the belief of most market participants is that public borrowing in Australia is at too high a level, it can be expected that increased public borrowing will tend to force interest rates up through its effect on market opinion.

6.22 Though Australia's level of public debt is relatively low, both by historical standards and in comparison with other developed economies, the level of private overseas debt is very high. As at March 1987 Australia's gross foreign debt was at a disturbingly high level of $109 billion; 60% of the total was

owed by the private sector.[13] Higher real interest rates in recent years have also increased the burden of servicing our foreign debt. EPAC pointed out in 1986 that external debt must be stabilised at some stage and estimated that stability could be achieved by 1990 at a level equal to about 40% of GDP.[14] The NIEIR study also saw a need for stabilisation of external debt and regarded this as a constraint to economic recovery. The committee considers that a heavy reliance on foreign capital for national investment carries risks for Australia that have been dramatically illustrated by the events of the past two years.

6.23 Potential lenders to Australia take our external debt position into account in deciding what levels of interest would be acceptable to them. Public and private investment may both be inhibited by the resulting high interest rates. Market expectations will be formed in part by perceptions of the prospects for the Australian economy and may lead to higher interest rates if higher public spending is perceived by the market to be in areas which do not assist our prospects for economic growth. This could reduce public spending on projects with the potential to offer reasonable rates of return.

6.24 Market expectations are not necessarily guided by potential long-term returns. It can, in fact, be more rational for market participants to focus exclusively on the short term. John Maynard Keynes, himself a very successful investor, noted that:

> "It might have been supposed that competition between expert professionals, possessing judgement and knowledge beyond that of the average private investor, would correct the vagaries of the ignorant individual left to himself. It happens, however, that the energies and skill of the professional investor and speculator are mainly occupied otherwise. For most of these persons are, in fact, largely concerned, not with making

> superior long-term forecasts of the probable yield of an investment over its life, but with foreseeing changes in the conventional basis of valuation a short time ahead of the general public. They are concerned, not with what an investment is worth to a man who buys it 'for keeps', but with what the market will value it at, under the influence of mass psychology, three months or a year hence..."[15]

6.25 Forecasting the reactions of other market participants, which Keynes called speculation, and forecasting the prospective yield from assets, which he called enterprise, are both components of most markets. Keynes went on to note that speculation does not always predominate over enterprise but that the risk of this occurring increases with the sophistication of investment markets. In words that have been much-quoted since, he then observed:

> "Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, it is likely to be ill-done..."[16]

6.26 The deregulation of the Australian financial system has led to the full integration of our investment markets into a highly sophisticated world system. Australia is a small player in the international financial system and, with the new-found flexibility comes a risk of speculative excess and instability. These short-term movements may deter some investors and overseas lenders and add to the risk premium on the interest rate charged on overseas borrowings.

6.27 If public spending is viewed unfavourably regardless of its intrinsic merit, increases in public borrowing may well work towards higher interest rates. However, lower levels of public borrowing may not lead directly to lower interest rates because Australian interest rates now seem to be more determined by overseas rates plus a risk premium related to market perceptions of our growth and trade prospects. As there is no practical prospect of reducing public spending sufficiently to meet exaggerated expectations, the reductions that are possible may not be seen as sufficient to reverse the process. Increases in public borrowing may be constrained by this factor without decreases leading to any improvement.

6.28 While Australian overseas debt remains high, this country is especially vulnerable to market opinion, whether it is based on a rational view of our economic prospects or not. In Keynes' terms, if average market opinion will not consider us a safe investment, then we will have difficulty financing investment at an acceptable price, irrespective of the prospective long-term returns. The committee concludes that present levels of public debt, which are low by historical and international standards and the absence of a clear, direct link between moderate levels of public borrowing and interest rates suggest that there is scope for increased infrastructure investment financed by borrowing. However, any increase in borrowing would require careful implementation so as to minimise the danger of adverse market perceptions.

CAPITAL BUDGETING

6.29 Given the importance of market expectations, it is clear that every effort should be made to avoid misperceptions by key market players. The committee considers that there is a risk that potentially productive public investment may be blocked by badly-based market expectations and the result of this will be

lower economic growth than would otherwise have been sustainable. The committee believes it is important that every effort be made to prevent this and a range of possible measures could be used to help in this task. A clear consensus on the role of the public sector would help and this is discussed in Chapter 5. The greater the perception that public sector management is efficient, the less the risk, and the possibility for improvements in this area is discussed in the next chapter. A third option is to improve the way in which our budgets are presented to reduce the risk of misunderstanding.

6.30 As Professor Nevile's paper shows, (see Appendix 5) the Australian public sector is a nett saver. In every year since 1949-50, public revenue has covered all public consumption spending as well as a component of public capital spending. The balance of new public investment has been met by borrowing in the same way and for the same reason that households borrow to finance large purchases like houses, cars and furniture. If assets have a long life and a potential to yield a return over that life, it is reasonable and often convenient to pay for them over time.

6.31 It is usual to repay loans for short lived items such as cars or equipment at a faster rate than long lived items such as buildings or infrastructure. At this point it is worth recalling that over 75% of public sector non-residential investment is tied up in infrastructure. In contrast only about 45% private non-residential investment is tied up in infrastructure (including buildings) with the balance in plant and equipment. Excluding equipment, ABS figures show that the nett value of public investment in infrastructure (non-residential buildings and construction) is almost twice as large as private investment.[18] If both sectors were to finance their long lived

assets by long term borrowings we would therefore expect the public sector borrowings for this purpose to be around twice as large as private borrowings. However, a considerable proportion of new public investment is financed from current revenue.

6.32 The extent to which the public sector finances capital purchases from current revenue appears to be one of the better kept secrets in Australian public finance. Few Australians are aware of it and our integration into world financial markets exposes us to the influence of market participants whose knowledge of Australian public finance is often limited. In view of the importance of market expectations, it is vital that the scope for misunderstanding in the market is minimised. The committee would therefore favour measures to improve market understanding of Australian public sector finance. The largest areas of potential misunderstanding are associated with the Commonwealth budget deficit and the Public Sector Borrowing Requirement (PSBR).

6.33 Budget deficit is defined in one well-known economic dictionary as "current expenditures in excess of current income".[19] Defined in this way, there has been no Commonwealth budget deficit in Australia since 1949-50. Current revenue has exceeded current expenditure in all years. The Commonwealth budget deficit during that time has comprised a mixture of capital and current expenditure exceeding, in total, current revenue. It is questionable to what extent this distinction is understood in financial markets outside Australia, or even indeed, within the country. It is, however, important because market participants who believe that Commonwealth budget deficits signify profligate spending may adversely affect general market expectations. It is also important because it makes it harder for most Australians to understand their own economy.

6.34 All Australian States, all commercial enterprises and many industrialised nations distinguish between capital and current spending in their accounts. The Australian Government did the same until the 1940s. There are significant definitional problems in this distinction but it is generally held to provide a more useful understanding of the budget than the simple cash flow approach used at Commonwealth level in Australia. In assessing the state of Australian public finance, for example, it is clearly useful to know that government taxation and charges cover all current expenses (including repayments of and interest on past borrowing) and make a contribution to new investment. While it is useful to know that current and capital expenses in a particular year exceeded current revenue (a budget deficit) there is also value in knowing the extent to which capital expenditure is financed by current revenue.

6.35 Dr Greg Whitwell, writing of the 1940s in a recent history of the Commonwealth Treasury, presents evidence that the practice of charging capital expenditure against current revenue, in defiance of accounting conventions applying at that time, developed as a means of disguising budget surpluses. Governments used the device to bring down budgets which were more restrictive than they appeared.[20] A restrictive bias was considered justified in the years immediately following World war II when too rapid a release of pent-up demand threatened to push Australia into a boom-bust cycle. The Hon. W.C.Wentworth, a former Minister for Social Security, who was involved in various aspects of Australian public finance for more than 40 years, supported this view in evidence to the committee:

> "The Commonwealth Treasury has for decades - in fact, ever since I can remember in the 1930s, which is a long time ago - always been restrictive. I am not trying to argue about whether that is right or wrong... What I

would argue is that the Commonwealth Treasury, since 1950 or thereabouts, has deliberately manipulated the Commonwealth accounts so that it would be in a position to cut down public works expenditure in Australia..."[21]

Similar arguments have emerged from other responsible sources. Academics from the prestigious US Brookings Institute visited Australia in 1983 and undertook a detailed study of the Australian economy. Rudiger Dornbusch and Stanley Fischer went so far as to claim in their paper "The Australian Macroeconomy" that the confusion of capital and current expenditure in the Commonwealth budget aims at "...frightening the bourgeoisie by exaggerating the deficit problem..."[22].

6.36 Whatever the intention of the present practice, there is no doubt as to its effect. Offsetting capital expenditure against current revenue produces a budget 'deficit' that would not appear as such under conventional accounting practices. At a time when Australia is especially vulnerable to market perceptions, it seems unwise to deliberately present our performance in a poor light. But this is the effect of the present budgetary practice. The committee considers that the present practice of not separating capital and current expenditure in the Commonwealth budget provides a misleading presentation of the budget deficit which has the potential to damage Australia's interests in the capital markets.

6.37 Mr Wentworth, in his evidence to the committee, offered three potential advantages of a stricter separation of capital and current spending:

- it would present a more accurate picture of changes in public expenditure;

- it would reduce the adverse effects on market perceptions, especially overseas, of Commonwealth 'deficits'; and

- it would encourage the use of productive public investment at times of economic downturn.[23]

Other respected commentators share his view.

6.38 Representatives of the Treasury and the Department of Finance agreed that it was important that the uses to which borrowed funds were put should be widely understood. Neil Hyden, a First Assistant Secretary at the Treasury, told the committee:

> "Borrowing, as a country or as a government, is not necessarily bad in itself. It is the use to which the funds are put that is important. If the lender can see that they are being put to productive uses that will yield a high return - or at least a return high enough to cover the cost of the borrowing - then the willingness will be greater and the risk premiums will
>
> be much less than if he believes that is not to be the case. ...Some better information on the use to which those borrowed funds are being put by governments, I think, would be helpful. I am not sure that a distinction merely between capital expenditure and current expenditure is a sufficient answer to that problem, because a lot of the concern is that government investment has been in poor yielding projects, or in projects that will not cover their costs..."[24]

Witnesses from both Treasury and Finance pointed out that most public capital expenditure in Australia is conducted by State or local government and that changes to the presentation of the Commonwealth budget may not have much effect for this reason.

6.39 The committee was strongly of the view that a stricter separation of source and application of funds for capital and recurrent purposes in the Commonwealth budget would be desirable. The committee believes this would give a clearer picture of Australia's budgetary circumstances and would reduce the excessive weight currently placed by financial markets on a somewhat misleading "bottom line". Representatives of Treasury and Finance urged on us the virtues of transparency in several aspects of public accounting. A stricter separation of capital and current expenditure in the budget would be a simple and cheap move towards transparency in their own area of responsibility. The committee recommends:

> **the government should apply a stricter separation between its capital and current accounts so that the Commonwealth budget deficit is recorded in line with conventional accounting practice.**

6.40 The commonwealth budget, as treasury and finance pointed out, does not directly reflect most infrastructure spending. by far the greatest part of public investment is undertaken by commonwealth and state statutory authorities, and state and local governments. Their expenditures, revenues and borrowings are brought to account in a variety of ways, some of which affect the commonwealth budget but few of which appear in any consolidated form in the budget papers. For this reason, clarification of accounting in the commonwealth budget does not approach a complete answer. The main indicator of total public borrowing levels is the PSBR, which is the extent to which the revenue of the public sector falls short of expenditure in a period.

6.41 Like the commonwealth budget defecit, the PSBR provides an attractively simple indicator for investment markets as they form their perceptions of the state of the economy. Since the PSBR is the final net result of capital and current expenditure and revenue of the three levels of government and their enterprises, it is not likely to be more valid as a 'bottom line' than the commonwealth budget deficit. This is particularly so since the PSBR fails to distinguish between commercially viable capital investment in the public sector, which can be expected to cover its costs, and other public activity which may not. No distinction is made, for example, between the borrowings of Telecom and the State electricity authorities which are effectively secured by the future earnings the loans will generate, and other borrowings for general government purposes.

6.42 The Department of Finance drew the committee's attention to recent widespread comment on the so-called "twin deficits" problem in which it is speculated that the current account deficit moves broadly in parallel with the PSBR. The Department claimed that this concept "receives considerable attention in financial markets."[25] The best economic comment on the twin deficits issue available to the committee, a paper prepared by Department of Finance officers, notes that the apparent long-term correlation between the two deficits need not be causally related and, indeed, notes that there are plausible external explanations for movements of both variables together in two significant periods. The paper concludes that:

> "Empirically isolating a simple causal relationship between the PSBR and the current account deficit using historical time series data, in the face of unknown lag structures and continuous exogenous shocks affecting both variables is at best a difficult task if not an impossible one..."[26]

6.43 The Secretary to the Department of Finance, Dr Michael Keating, conceded to the committee that simplistic market interpretations of the PSBR could be damaging:

> "...(In economic terms), our concern would be with the efficiency of the investment, the commerciality of the investment first and foremost. I think beyond that the only piece of economics I could imagine would be whether there is a perception that markets might have which may be unfortunate if the investment is truly commercial and that markets may not treat it as fully commercial if it is associated with the public sector. It may mean that the public sector ought to be reviewing how it presents its borrowing requirement and looking at ways of separately distinguishing the commercial investment..."[27]

6.44 Dr Keating went on to note that there are considerable difficulties in distinguishing between commercial and non-commercial public investment but that means of doing so should be pursued as a follow-up to the government's policy guidelines for government business enterprises. The committee of Inquiry into the Australian Financial System (Campbell Committee) saw merit in attempting to draw a distiction between "commercial" and "non-commercial" authorities. It envisaged that "commercial" authorities would continue to borrow in their own name, but without any form of government guarantee. They would be free of Loan Council regulation as to amounts, terms and conditions and their operations would in effect be subject to most normal market disciplines and they could not be said to be "crowding out" private investment. The Campbell Committee went on to recommend that where it can be clearly demonstrated that a public authority is basically subject to market disciplines it could be viewed as

a commercial authority. The Campbell Committee also recommended that the volume of borrowings by "commercial" local and semi-government authorities, and the terms and conditions of such borrowings, should be free from Loan Council control; borrowings by these authorities should not be government guaranteed.[28]

6.45 To the extent that public authorities operate commercially without practical differences between them and private firms, the reason for including their borrowings in with other goverment borrowings in the PSBR becomes obscure. The effect of borrowings of fully commercial publicly owned authorities are, from a national point of view the same as for private companies and should not therefore be included with public borrowings.

6.46 The committee agrees that the failure to clearly distinguish between commercial and non-commercial public activities in important published accounts misleads market opinion. We support the Department of Finance view that opportunities for making this distinction should be pursued. The most logical approach would be to exclude borrowings by commercial public authorities from the PSBR as is done in a number of western countries. The committee recommends:

> **the Government should exclude the borrowings of commercial public authorities from the Public Sector Borrowing Requirement.**

6.47 Whatever beneficial effect might be obtained from clarifications of the public accounts, there can be no doubt that the scope for borrowing to meet public infrastructure needs will be constrained in the short to medium term by the extent of our overseas debt and the balance of payments problem. The committee noted Professor Nevile's view that moderate increases in debt-financed public investment could be sustained in the short to medium term. This view is shared by other informed

commentators and on the evidence is accepted by the committee. The committee's conclusion is that there is convincing evidence that a higher level of investment in Australia would lead to a higher level of economic growth. Private investment may be influenced by government efforts to create a favourable climate for investment but it is important in doing so that opportunities for public investment yielding sufficient returns are also taken.

6.48 While market expectations undoubtedly represent a constraint on increased public investment, it does not follow that an erosion of the public sector is the only available response. Cutting government spending may favourably impress the market but a large part of this effect may result from excessively pessimistic market views on the quality of public management and on the contribution of public activities to economic growth. Efforts to improve the presentation of the public accounts and to improve market perceptions of the performance of public enterprises may have the potential to make a larger contribution to growth than perpetual constraint on public investment. In the next chapter the committee looks at the effect existing institutions and national priorities have had on the level of public investment.

NATIONAL SAVING

6.49 In order to finance an increased level of investment and to provide funds at a lower cost it is desirable for the domestic savings rate to be increased. It appears that Australia has always relied on overseas borrowings for a significant part of its overall investment needs. Economic historian Professor Noel Butlin has described it as;

> "...a willingness to be dependent and an unwillingness to save in Australia. From about 10 per cent in the 19th century to about 15 per cent to WW2 savings performance

did not compare with the North American level of about 25 per cent of GDP..."[29]

6.50 The committee heard evidence that Australia's overall savings ratio needs to rise by about 3 percentage points, from the current level of around 22%, just to stabilise the balance of payments.[30] To provide the necessary infrastructure for a satisfactory long term growth rate in Australia the savings ratio will need to rise, perhaps even to about 28 to 30% of GDP, as achieved in the mid 1960s.

6.51 For a comparison with Australia, the committee looked at the national savings rate of Japan and Sweden. Both countries are known for their productive investment and competitiveness on world export markets. However, despite the similarities there are some striking differences. Japan had the highest gross saving rate among the 7 major OECD countries at 31.4% in 1985 while Sweden's 17.8% was one of the lowest of all OECD countries.[31] Sweden is one of the few countries where private households have had a negative savings ratio. So, to ensure adequate national savings, the Swedish public sector has had to run a financial surplus.[32]

6.52 Sweden's low household savings rate has been explained partly because the state provides a cradle to grave welfare system and partly because the tax system discourages saving. In contrast Japan has a poorly developed social welfare system and a great many incentives to save. Sweden is known for its high top marginal rate of personal income tax (80%) but less well known is Japan's top rate of around 84%. Like Australia, Sweden's top marginal rate comes in at a relatively low level (around $A 64,000) but in January 1987 the Swedish Finance Minister announced "sketch" plans for tax reform. The plans include a lowering of the top marginal tax rate from 80% to 60% and the introduction of incentives to save.[33]

6.53 Japan's rapid post war growth has been financed almost entirely from domestic savings with virtually no net reliance on foreign capital. Although various reasons have been proposed including the old Confucian value system in which saving was a virtue, and an inadequate social welfare system, the most striking factor is the array of savings schemes on offer which are tax free up to a certain income level.

6.54 Some of the schemes warrant comment because they have the practical effect of directing savings into investment avenues which include infrastructure. The Post Office savings system (established 1875) allows the Government, through the Trust Fund Bureau of the Ministry of Finance to allocate funds into those sections of the economy thought to need most capital. The Maruyu system was established in 1955 to provide funds for industrial reconstruction. The Tokubetsu Maruyu or Maru-toko system was established (in 1967) to encourage small savers to invest in government bonds. The attraction to individual Japanese is the tax free earnings limit of 3 million yen (about $A30,000) per year in each scheme. Another avenue open to company employees is an employee's asset formation system which allows up to 5 million yen in income tax exempt interest. A dividend tax exemption system allows individuals to earn dividends of 100,000 yen ($A1,000) tax free in any particular company. Small investors with a large number of holdings pay a low rate of tax and are exempt from capital gains tax on fewer than 50 transactions per year.[34]

6.55 Japan's present national income tax system is very progressive with rates rising from 10.5% to 70% in 15 brackets. The maximum marginal tax rate of 84% is payable only on income over some $A700,000 per year, but the savings schemes overall ensure that only the very rich pay tax on interest income derived from savings. The overall effect of these schemes has been to encourage consistently high savings and provide a large volume of funds for investment at very low rates of interest. It has been

claimed that it was the Japanese savings system which prevented the country from falling into the Third-World debt trap as the economy rose from an impoverished semi-agrarian state at the end of World War 2.

6.56 The committee sought to draw out the important factors which determine the level of savings in these two countries. It has seen that there is only limited scope in Australia for a higher saving level by government (through taxation or higher charges). There also appears to be limited scope for a higher level of corporate saving given the uncertainty following the stock market collapse. The final option is a higher level of savings by the household sector.

6.57 Australia is now moving towards greater use of occupational superannuation schemes. These have the apparent short term effect of raising the level of committed savings in the household sector. It is too early to determine if the national savings rate will rise as a result of these and related schemes such as insurance bonds. But there is a possibility that the greater security in old age from the spread of superannuation may reduce voluntary saving. Sweden's experience confirms that a comprehensive social security system and high rates of taxation can be associated with very low or negative voluntary savings.

6.58 For whatever reasons savings by Australian households in recent years have been undesirably low. The nation can no longer rely on thrift from a generation whose values were established in pre-war years and the post war generation appears unwilling to suffer negative real returns on savings. The interest rates necessary to achieve a balance between saving and investing are higher now than they would be in the absence either of inflation or taxation of savings.

6.59 From Japan's experience it appears that two important factors contributing to a high rate of savings have been the poor social security system which has lifted savings through fear and risk aversion, and the tax exemption which has lifted savings voluntarily. In Sweden's case an "advanced" social security system and high rates of personal taxation have combined to virtually eliminate net personal saving. Australia's policies are substantially different to Japan; we spend less on social security than most Western countries and we offer few incentives to save. However, it may be in the long term national interest to introduce some positive inducements to voluntary saving, perhaps along the lines of some of the Japanese schemes which provide funds for investment in infrastructure. Such a scheme could be introduced equitably by limiting tax exemptions to the first (small) proportion of saving.

6.60 The conclusion to be drawn from this committee's review is that the national savings rate is too low. The spread of occupational superannuation may not raise committed household savings to a level sufficient to finance desirable investment without undue reliance on foreign capital. The committee recommends that:

> **consideration should be given to positive incentives to voluntary saving as exist in Japan and as are proposed in Sweden.**

ENDNOTES:

1. Brain & Manning, p. 10.

2. See Appendix 5.

3. Brain & Manning, p. 54.

4. Brain & Manning, p. 55.

5. Kenneth Davidson, 'J.K. Galbraith', Age, 24.2.87.

6. See Appendix 5.

7. See Appendix 5.

8. Exhibit 22.

9. Exhibit 23.

10. Evidence p. 603.

11. Letter to the committee from J.De Riddler, Chief Economist, Telecom Australia, Dated 9/8/1987.

12. Evidence p. 595.

13. ABS 5306.0, 1987.

14. EPAC, External Balance and Economic Growth, Council Paper No. 22, EPAC, Canberra, 1986.

15. John Maynard Keynes, The General Theory of Employment, Interest and Money, McMillan-Cambridge University Press, London, 1974, pp. 154-5.

16. Keynes, pp. 158-9.

17. Keynes, pp. 156-7.

18. ABS 5221.0, 1987.

19. Pearce, p. 48.

20. Greg Whitwell, The Treasury Line, Allen & Unwin, Sydney, 1986, pp. 92-3.

21. Evidence, p. 316.

22. Rudiger Dornbusch & Stanley Fischer, 'The Australian Macroeconomy', in Richard E. Caves & Lawrence B. Krause, (eds), The Australian Economy: A view from the North, Sydney, 1984, p. 67.

23. Evidence, pp. 615-7.

24. Evidence, p. 597.

25. Evidence, p. 560.

26. H.N. Johnston et al, The Role of Fiscal Policy in Post-War Australian Economic Growth, Paper presented at the Conference on Post-War Economic Growth at the Centre for Economic Policy Research, Australian National University, November 1986, p. 37.

27. Evidence, p. 563.

28. Committee of Inquiry into the Australian Financial System, Final Report, A.G.P.S. Canberra 1981, p. 199-200.

29. N.G. Butlin, Bicentennial Perspective of Australian Economic Growth, EHSANZ 1986, p. 33.

30. Evidence p. 354.

31. OECD Economic Outlook, December 1986, p. 159.

32. Economist, "Sweden's Economy," March 7, 1987.

33. Ibid p. 26.

34. Australian Financial Review, "Japan Survey," October 27 1986, p. 42.