The Government's Defence Policy Discussion Paper: Issues and Directions
The Government's Defence Policy Discussion Paper: Issues and Directions

Derek Woolner, Gary Brown and Dr Gary Klintworth
Foreign Affairs, Defence and Trade Group
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Contents

Major Issues ................................................................. i
Introduction ........................................................................ 1

Part 1: Australia’s Strategic Environment and Defence Planning ................. 2
by Gary Klintworth
  Predicting Asia’s Strategic Future ........................................ 4
  South China Sea .............................................................. 6
  Economic Growth ............................................................ 6
  Defence Budgets ............................................................. 7
  Indonesia’s Defence Budget and the Technology Edge Issue ...................... 8
  The Rest of the Region ........................................................ 9
  Great Power Balance ........................................................ 9
    China ............................................................................. 10
    China’s Defence Budget .................................................. 11
    Taiwan Strait ............................................................... 12
    Sino-US Relations .......................................................... 13
    South Asia ..................................................................... 14
    The Korean Peninsula ..................................................... 14
    The South Pacific ........................................................... 15
  Summary of the Strategic Environment .............................................. 15

Part 2: The Choices We Must Make; Options for Defence Policy ................. 16
by Gary Brown
  Review Force Structure Broad Options ......................................... 16
  Defeating Attacks on Australia .................................................. 16
  Forces Structured for Regional Security ............................................. 16
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forces for Operations Other Than War</td>
<td>17</td>
</tr>
<tr>
<td>The Review Options Analysed</td>
<td>17</td>
</tr>
<tr>
<td>Are Options Really Mutually Exclusive?</td>
<td>17</td>
</tr>
<tr>
<td>Constraints on Australia's Choices</td>
<td>18</td>
</tr>
<tr>
<td>What We Have</td>
<td>18</td>
</tr>
<tr>
<td>The Defence Budget</td>
<td>19</td>
</tr>
<tr>
<td>The Interoperability Issue</td>
<td>19</td>
</tr>
<tr>
<td>The Range of Choice</td>
<td>20</td>
</tr>
<tr>
<td>Force Structure Changes Slowly</td>
<td>21</td>
</tr>
<tr>
<td>Choices Come Down to Policy</td>
<td>21</td>
</tr>
<tr>
<td>Part 3: The Defence Budget and What the ADF Might Do With It</td>
<td>23</td>
</tr>
<tr>
<td>by Derek Woolner</td>
<td></td>
</tr>
<tr>
<td>The Central Issue of Money</td>
<td>23</td>
</tr>
<tr>
<td>Budget Reductions and Management Efficiencies</td>
<td>23</td>
</tr>
<tr>
<td>Expenditure on Recurrent Activities</td>
<td>24</td>
</tr>
<tr>
<td>Expenditure on Defence Equipment</td>
<td>24</td>
</tr>
<tr>
<td>The Big Issue—Paying for Personnel</td>
<td>25</td>
</tr>
<tr>
<td>The End of Defence As We Know It</td>
<td>26</td>
</tr>
<tr>
<td>The Cost of Continuing With Existing Expectations</td>
<td>27</td>
</tr>
<tr>
<td>Financial Parameters of Current Policy</td>
<td>27</td>
</tr>
<tr>
<td>The Nature of the Significant Cost Pressures</td>
<td>28</td>
</tr>
<tr>
<td>Roles and Force Structure Developments for the ADF</td>
<td>31</td>
</tr>
<tr>
<td>Some Limitations in the Review's Approach</td>
<td>31</td>
</tr>
<tr>
<td>National Level Policies Have a Significant Impact</td>
<td>32</td>
</tr>
<tr>
<td>Regional Military Capabilities</td>
<td>33</td>
</tr>
<tr>
<td>Issues in Considering Appropriate Military Technologies</td>
<td>35</td>
</tr>
<tr>
<td>Some Avenues to Redevelop ADF Capabilities</td>
<td>36</td>
</tr>
<tr>
<td>Developing Symbiotic Effects</td>
<td>37</td>
</tr>
<tr>
<td>The Capability of Personnel</td>
<td>38</td>
</tr>
<tr>
<td>The Crucial Area for Budget Management</td>
<td>39</td>
</tr>
<tr>
<td>Some Major Themes in the Future of the ADF</td>
<td>40</td>
</tr>
</tbody>
</table>
Conclusion ........................................................................ 41
Endnotes ........................................................................... 42
Appendix 1—Rate of Change in the Defence Budget—Government Projection and Actual Outcome ........................................................................ 50
Appendix 2—Nature of Equipment Programs Involved in Block Obsolescence ........................................................................ 51

List of Figures

Figure 1: Effects of Increase in Personnel Costs and Level of Budget Compensation ........................................................................ 26
Figure 2: Imaginary Defence Budget ........................................................................ 27
Figure 3: Growth Options for Defence Budget and Personnel Costs ........................................................................ 29
Figure 4: Value of Annual Cost Increases for Defence Budget Options ........................................................................ 30
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF</td>
<td>Australian Defence Force</td>
</tr>
<tr>
<td>AEW&amp;C</td>
<td>Airborne Early Warning and Control (aircraft)</td>
</tr>
<tr>
<td>ANZUS</td>
<td>Australia, New Zealand and United States (defence alliance)</td>
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<td>APEC</td>
<td>Asia Pacific Economic Cooperation</td>
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<td>ARF</td>
<td>ASEAN Regional Forum</td>
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<td>ASEAN</td>
<td>Association of South East Asian Nations</td>
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<td>ASP97</td>
<td>Australia's Strategic Policy 1997 (Ministerial Paper)</td>
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<td>CDF</td>
<td>Chief of the Defence Force</td>
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<td>CDR</td>
<td>Closer Defence Relations Agreement (between Australia and New Zealand)</td>
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<td>CWC</td>
<td>Chemical Weapons Convention</td>
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<td>DA94</td>
<td>Defending Australia 1994 (Defence White Paper)</td>
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<td>DFAT</td>
<td>(Australian) Department of Foreign Affairs, and Trade</td>
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<tr>
<td>DIO</td>
<td>Defence Intelligence Organisation</td>
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<tr>
<td>DoD</td>
<td>(US) Department of Defence</td>
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<td>DRP</td>
<td>Defence Reform Program</td>
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<td>EMP</td>
<td>Electromagnetic Pulse (weapon)</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>INTERFET</td>
<td>International Force East Timor</td>
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<td>MIRV</td>
<td>Multiple Independently-Targeted Re-entry Vehicle</td>
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<td>MOOTW</td>
<td>Military Operations Other Than War</td>
</tr>
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<td>MTCR</td>
<td>Missile Technology Control Regime</td>
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<td>NMD</td>
<td>National Missile Defence</td>
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<td>NPOC</td>
<td>Net Personnel and Operating Costs</td>
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<td>NPT</td>
<td>Non Proliferation Treaty</td>
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<tr>
<td>PLA</td>
<td>Peoples Liberation Army (of the PRC)</td>
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<tr>
<td>PNG</td>
<td>Papua New Guinea</td>
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<tr>
<td>PRC</td>
<td>Peoples Republic of China</td>
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<tr>
<td>RAAF</td>
<td>Royal Australian Air Force</td>
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<tr>
<td>RAN</td>
<td>Royal Australian Navy</td>
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<tr>
<td>RMA</td>
<td>Revolution in Military Affairs</td>
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<tr>
<td>ROC</td>
<td>Republic of China (also known as Taiwan)</td>
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<tr>
<td>TMD</td>
<td>Theatre Missile Defence</td>
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<tr>
<td>UN</td>
<td>United Nations Organisation</td>
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<td>USN</td>
<td>United States Navy</td>
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<td>WTO</td>
<td>World Trade Organisation</td>
</tr>
</tbody>
</table>
Major Issues


Over recent years, problems in the management of Australian defence, coupled with the stresses of the recent deployment to East Timor, have indicated that the Australian defence establishment and force structure cannot avoid change. Essentially this is so because the costs of sustaining the Australian Defence Force (ADF) as currently structured exceeds available resources and it is likely that it will continue to do so.

In concert with significant global and regional strategic change in the decade since the end of the Cold War, these pressures imply that readjustment of national security policy, force structure or the defence budget—or, more likely, all three of these—is now necessary. The Government's *Review* document is the first phase of this process.

It is dangerously easy, in considering issues raised in the *Review*, to allow financial considerations to dominate. This paper suggests that the root cause lies in policy, and that any effective corrective action must likewise begin (though not end) with policy.

It is the broad defence policy settings which have been in place since the end of the Vietnam War which have generated the demands on the ADF and budget which have now reached a sticking point. Because of policy settings, Defence has been under-funded for wage increases over the last decade. The bulk of increased wage costs have been met by diverting funds from other areas of the budget. This process has been exhausted and, if it were to continue, would lead to a situation where Defence would be unable to purchase any equipment at all by about 2009.

In addition, Defence is working its way through a budget crisis caused by an over commitment to equipment programs in 1997–98. The extent by which the cost of these programs exceeds projected finances at current budget levels is so great that they will take around ten years to absorb, thus restricting options for commencing new programs.

In essence, either policy needs to be adjusted to less ambitious and more sustainable settings, or substantial extra resources must be allocated to defence on an ongoing basis. The latter course will involve either cuts in other areas of Government spending, or tax increases, or some mix of the two. Moreover, whatever budgetary measures are
announced, history does not fill one with confidence that long term funding will be sustained.

On the other hand, adjusting policy to less demanding settings will involve rethinking many hitherto sacrosanct aspects of defence policy. The rapidly rising costs of maintaining forces closely interoperable with the world's only superpower, and the quantity and quality of some ADF weapons and platforms, are only two of the issues that are raised by such an approach.

The difficulty of revising policy settings is complicated by the lack of any clear indications of direct military threat to Australia or its vital interests. The issue here is that there is nothing in the strategic environment to alter the judgement that Australia faces no immediate threat of hostile military action and there is nothing that seems capable of changing this assessment for the foreseeable future. Thus, the argument that Australia should increase its defence budget simply on grounds that the region is fluid, unstable and unpredictable, and therefore threatening, is difficult to sustain.

Nonetheless the general contention of the Review, that it should not be assumed that major war is a thing of the past, is difficult to contest. It can be assumed then, that government will wish to continue to operate an ADF with a reasonable range of military capabilities, even if financial pressures force some change to policy settings and, consequently to ADF force structure.

In deciding directions without overwhelming strategic guidelines, a number of high level national policy imperatives are likely to be more important in deciding the nature of the ADF than will be most of the issues identified by the Review. Among these are a conviction that Australian forces will not be deployed overseas without the permission of the host country or support of a significant regional coalition. This will rule out the possibility that an ADF structured for regional involvement would include a marine corps for seizing hostile coastline. Similarly, a priority to reduce the risk of sustaining Australian casualties overseas is likely to support the maintenance of conventional military ground forces, making unlikely the adoption of New Zealand's approach of optimising them for peacekeeping operations by an Australian government aware of the latter's different strategic environment.

In such circumstances, it is likely to be lessons drawn from recent experience that influences the future development of the ADF more than any 'purer' analytical process. The two most salient experiences appear to be those of East Timor and the increasingly sophisticated, largely aerial, campaigns from the Gulf War operations in 1991 to the 1999 bombing of Serbia and Kosovo. These examples have significance for differing reasons.

The former arose without the development of traditional national military threats, yet was seen to involve significant Australian issues and was very taxing to an ADF which had been built-up somewhat beyond its normal peace time levels. The second has been used as a means of forcing recalcitrant states to conform to international morés in a situation of
less than conventional war. Of most importance in the long run is that many of its technologies are becoming more easily accessible and have, indeed, been practised in part by teenage computer hackers. Growing ubiquity renders this development relevant regardless of the strategic environment.

The critical issue in this scenario is managing the development of military capabilities which are almost schizophrenically opposed. The experience of the Timor deployment emphasised the need for a larger personnel base sufficient to sustain operations over several years, the critical nature of logistics support and the operational advantages of the potential to use more advanced military capabilities. The aerial campaigns introduced war fighting concepts built around advanced levels of technology, bound together by information technology and increasingly targeted more at an opponent's support, information and management infrastructure than military forces. The trend of these latter concepts might lead to development of components of the ADF that have little to do with force structure as it is recognised today and which conceive of themselves operating in cyberspace rather than in any particular theatre of operations.

That leaves the issue of whether the 'middle' of the current ADF force structure will be squeezed out when financial limits are reached. This is the issue of the extent to which the ADF can afford to reduce its more conventional military capabilities based on vessels, aircraft and vehicles. There is little clear guidance on this and few opportunities to get an effective balance of decisions across the range of capabilities. Nevertheless, the financial analysis indicates that it is in this area where decisions will have the most significant impact.

The one unifying issue in such developments is the central importance of personnel to building the future capabilities of the ADF. Whether it is sustaining sufficient numbers to achieve objectives or developing the intellectual capabilities to meet the challenges of new technologies, recruiting, retaining and effectively using Service personnel will become a central test of defence policy over the next two decades.

In the immediate future, paying for personnel will be the dominant issue of Defence financial management. The mechanics of the problem are such that defence labour costs are only marginally responsive to management strategies. Therefore the defence budget will have to rise in real terms by about one per cent immediately, rising to two per cent by 2020, simply to pay the full cost of prospective Defence wage rises. Similar unfunded pressures on operational costs of defence equipment will add, on average, a further $75 million each year. Thus discrete and sustained increases in the budget will be required simply to allow the ADF to continue as it currently exists.

Enabling Australia's defence to maintain its capacity to deal with the range of options that it has in the past will cost even more. To replace major equipments that are due to be retired over the next 20 years will cost between $80 billion and $110 billion. Increasing the defence budget to accommodate these pressures would, on average, require rates of budget growth of between 4 and 4.5 per cent and 2 to almost 3 per cent for the high and
low examples, respectively. Additional expenditure per annum would range around $500 million or $300 million and produce defence budgets of just under $23 billion and $18.4 billion respectively at the end of 20 years.

However, only by pursuing the most expensive of options should it be necessary to devote significantly more of Australia's Gross Domestic Product (GDP) to defence than is the case at present.

Even so, the thrust of defence management over the last few decades will have to be stood on its head. Whereas it was the policy to constrain personnel and operational costs in order to free funding for equipment, the opposite is likely to be necessary in the early 21st century. Most of the discretion in formulating defence budgets will be exercised over the capital components of expenditure. Consequently, it appears wise to assume that some reduction of roles and consequent changes to the force structure of the ADF will result whatever the financial pressures. A worse outcome would be to presume that no changes will be necessary and to have the ADF forced into an *ad hoc* reduction of roles because inadequate funding has made it unavoidable.
Introduction


To receive this input the Government has appointed a Community Consultation Team, consisting of the Hon. Andrew Peacock (former Minister for Foreign Affairs and recently Ambassador to the United States of America), Dr David MacGibbon (former Liberal Senator for Queensland), Mr Stephen Loosley (former Labor Senator for NSW), and Major General Adrian Clunies Ross (retired). The team will visit capital cities and regional centres during July and August, listening to community feedback and will then report back to the Government.

Over recent years a number of well-publicised and costly errors in the management of major defence projects, coupled with the stresses of the recent deployment to East Timor, have brought home the fact that the days of the present Australian defence establishment and force structure are probably numbered. Essentially this is so because the costs of sustaining that structure have exceeded available resources and will continue to do so.

In concert with significant global and regional strategic change in the decade since the end of the Cold War, these pressures imply that readjustment of national security policy, force structure or the defence budget—or, more likely, all three of these—is now necessary. The Government's *Review* document is the first phase of this process.

In this paper, we attempt to set out the principal policy, strategic, force structure and funding issues identified by the *Review* and offer some comment on the implications of the choices identified by its authors. The purpose of this paper is not to propose particular choices or solutions, but rather to make available to Senators and Members some background analysis indicating the nature of the choices now confronting Australia. When the Government releases a formal White Paper policy statement, an analysis of the policy and other settings it seeks to put in place will be provided.

This paper has three principal sections: the strategic background; the nature of the choices Australia must make; and the financial and operational issues arising. Although the *Review* raises issues which involve discussion of a very wide range of influences and pressures on defence policy, this paper maintains a focus on the more conventional issues of state-based strategic developments, military combat capabilities and near term issues of defence management.
Part 1: Australia's Strategic Environment and Defence Planning
by Gary Klintworth

The Defence Review 2000 (hereafter the Review) states that Australia is located in an extraordinarily dynamic, complex and unpredictable region.\(^1\)

If the term 'security' is broadly defined, there are indeed many trends and developments that make the Asia Pacific region seem complex and unpredictable. They include the recent financial crisis, the spread of technology, the impact of the information revolution, rapid political change and differences over democratic values. Some countries have coped quite well. For others, such as Indonesia, change has generated considerable domestic turbulence with religious strife in Ambon and the threat of separatism in Aceh and West Papua. Australia has to think about how it might cope with a spillover of Indonesian refugees as well as adapting to a new style of Indonesian politics and dealing with militia remnants in East Timor. There are also uncertainties about economic and social stability in Papua New Guinea and elsewhere in the South Pacific. Local unrest might damage Australian commercial interests and/or threaten Australian nationals. At some stage, Australia may need to take account of non-mainstream security concerns that could arise, for instance, from regional shortages of fresh water, energy, or food.\(^2\) Other transnational issues which might have some effect on regional security include environmental degradation, overpopulation, climate change and illegal activities such as piracy, and drug and people smuggling. It is conceivable that the government might allocate the Australian Defence Force (ADF) a role to deal with the consequences of such developments and to do so, it might have to fund new ADF capabilities.

There may be other reasons why Australia should increase its defence budget. For instance, for political reasons we might want to demonstrate our credentials as 'a credible US ally', able to deploy forces in support of the US in contingencies, such as the Persian Gulf or the Korean peninsula.\(^3\) In this context, Australia might want to keep in technological step with the US, as suggested by US Secretary of Defense William Cohen.\(^4\) Australia might wish to have sufficient forces to be able to respond to calls from the UN for regional peacekeeping, as in East Timor. It might simply aim to have a well-rounded defence force that provides a suitable level of deterrence to Australia's neighbours.

But for the foreseeable future, the argument that Australia should increase its defence budget because the region is fluid, unstable and unpredictable and therefore threatening, is difficult to sustain. Judged by the yardstick of their capacity to generate credible military threats against core Australian security interests, there are no regional issues that presently qualify.\(^5\) On the contrary, Australia's strategic environment is relatively benign. As the Review observes, no country has the intent or capability to use armed force against Australia and 'we do not expect to be attacked by anyone', now or in the reasonably foreseeable future.\(^6\) There are no armed forces, and especially no air and naval forces nearly as capable as Australia's within operational range.\(^7\) Australia has no territorial disputes with any neighbour. It has a security treaty with the world's only superpower, the
US, and through the Washington hub, it has security links with Japan and South Korea. Australia is not 'now more alone than we have been probably since the 1930s', as some have argued. Australia, on the contrary, has a reassuring network of bilateral defence relationships with other countries in the region. This was amply demonstrated in the Australian-led peacekeeping missions in Cambodia and East Timor.

Australia has a Closer Defence Relations (CDR) agreement and close geographic, historical, economic and cultural ties with New Zealand. Australia is effectively allied with Singapore, Malaysia, and the United Kingdom through the Five Powers Defence Agreement. As the Defence Department noted in its Australia's Strategic Policy 1997, Malaysia and Singapore are Australia's closest defence partners in Southeast Asia. Australia has also developed what Australian defence officials have described as 'a robust defence relationship' with China. Ministerial talks, naval ship visits, a strategic dialogue and college and intelligence exchanges between Australia and China have become a matter of routine.

The Review argues, nonetheless, that 'there is little point in basing our long term defence planning on specific predictions about the strategic future of Asia' because 'we simply do not know what is going to happen' (emphasis added). Implicit in this statement is that Australia therefore needs to plan for the worst. Any list of worst-case scenarios in the region might include some or all of the following:

- the break-up of Indonesia
- Islamic fundamentalism in Southeast Asia
- an ongoing insurgency in East Timor
- the collapse of law and order in Papua New Guinea
- domestic upheaval in China
- escalating tension in the Taiwan Straits
- a possible Sino-US conflict
- a new Cold War in Asia
- a great power missile/anti-missile arms race
- increased tension in Sino-Japanese relations
- naval conflict in the South China Sea
- a regional proliferation of weapons of mass destruction
• renewed conflict in the Korean peninsula, and
• the threat of an India–Pakistan nuclear exchange.

Meanwhile, the *Review* asserts elsewhere that Australia's 'strategic planning will need to take account of the expectation that Asia's economies will continue to grow strongly', the corollary being increased spending on defence and an enhancement of regional defence capabilities. In other words, the *Review* is prepared to predict that defence budgets in the region will continue to expand, but it is not prepared to make long term predictions about other important trends and developments in the region.

**Predicting Asia's Strategic Future**

There will always be uncertainties in trying to predict strategic change but it is not an impossible task. The US Department of Defence routinely makes assessments about the likely strategic environment in the Asia Pacific region in ten or twenty years time. The Australian Government has intelligence agencies that employ hundreds of professional analysts. They have access to voluminous classified and unclassified information and the resources of the US intelligence community. It ought to be their business to make insightful strategic assessments that will give early warning of any significant deterioration in Australia's strategic environment. It is within their competence to make specific predictions as well as strategic assessments about Australia's security outlook. They have done so in the past and if they are unable to do so now, then it would appear that something is seriously amiss with Australia's intelligence and early warning capabilities.

There are, meanwhile, important regional trends that could have a positive bearing on Asia's strategic future and Australia's security. One is the spread of democracy. Another is the consolidation of Western style market capitalism. Both developments can generate destabilising social and political change.

But taking a broad view—apart from closed societies like North Korea, Laos, Burma and perhaps Vietnam—few governments in the Asia Pacific region are in a position to ignore domestic and international public opinion. They have become increasingly sensitive about their domestic legitimacy and international image. Democratic values and institutions are well-established in Taiwan, South Korea, the Philippines and Thailand.

Even in China, economic liberalisation and the spread of information is gradually transforming social and political values in that country. Of course, there are no iron-clad guarantees, but the record, including Taiwan's, shows a strong link between trade interaction, economic liberalisation and democratisation. China has been operating a market-based economy for two decades and is now experimenting with political reform, beginning with local level elections that affect an estimated 600 million people in 900 000
The Government's Defence Policy Discussion Paper: Issues and Directions

villages across the country. Entry into the World Trade Organisation (WTO) will add to the pressure for democratisation in China. As a member of the WTO, China will be obliged to reduce censorship and open its door even wider to Western liberal values and the rule of law. Without ruling out the risk of transitional instability, China's political system is likely to evolve in a positive way.

North Korea has a long way to go but it too is on the threshold of open door economic reform policies similar to those pioneered by China twenty–five years ago. India is a democracy. Although democracy will remain fragile until Indonesia wins the loyalty of its regions, completes the reconstruction of its political institutions and reconciles its armed forces to a withdrawal from politics, Indonesia nonetheless has become the world's third largest democracy.16

Another positive development is the growing habit of economic cooperation, defence transparency, security dialogue and the practice of common security. The regional security dialogue process has become institutionalised. Senior defence and intelligence officials from virtually every country in the Pacific community are talking to each other more frequently and more frankly than ever before. China for example, has bilateral defence intelligence exchanges with Australia, Japan, the US, Russia, South Korea, Singapore, Thailand, the Philippines, Malaysia and Indonesia. These developments have enhanced regional trust, transparency and stability. Most governments in the region realise that regional cooperation on trade, banking and investment, science and technology, transport and communications, energy and the environment, disaster relief, crime, drugs and refugees is in their own self-interest.

According to Professor Stuart Harris, regionalism in the Asia Pacific region has been strengthened by the Asian financial crisis and the major achievements of regional multilateralism—normative frameworks for economic and security relations—have come through unscathed. There is moreover, a continued regional priority on economic growth, open liberal economic development and the settlement of disputes by peaceful means.17 In a similar vein, US Secretary of State Madeleine Albright observed that after the Asian financial crisis, regional governments in Southeast Asia have shown a deeper understanding and commitment to financial transparency, political openness and democratic principles and that this augured well for Association of South East Asian Nations (ASEAN) ability, as a group, to work together effectively on security issues.18

Cooperativeness on regional security is reflected in the continuing ASEAN Regional Forum (ARF) process, and North Korea's participation in that forum. More tangible examples include the regionally-based peacekeeping coalitions that operated successfully in Cambodia in 1992 and East Timor in 1999.19 Australia's intelligence agencies should be able to make a reasonable prediction as to whether or not these trends are likely to continue, thereby enhancing regional stability and security.
South China Sea

The benefits of the new regionalism are evident with regard to disputed claims to island and maritime territory in the South China Sea. The South China Sea is often cited as one of the region's critical flashpoints because of the ASEAN fear that China might again resort to the use of force to assert its claims against smaller neighbours like Vietnam and the Philippines.\(^\text{20}\) It should be noted, however, that China has acted with relative restraint given the strength of its claims in international law. For example, compared to Vietnam, China has a superior legal claim to the Paracel Islands and compared to the Philippines, it has a better claim to the various Spratly Islands.\(^\text{21}\) Nonetheless, influenced by the diplomacy of Asian regionalism, China's hitherto inflexible attitude has changed significantly over the last decade. China has declared that it respects the right of free navigation through the South China Sea's crucial shipping lanes.\(^\text{22}\) It is an active participant in South China Sea working groups and has co-hosted some meetings.\(^\text{23}\) It is also prepared to discuss a code of conduct in the South China Sea in a multilateral forum.\(^\text{24}\) On 16 May 2000, China and the Philippines pledged to settle their territorial disputes in the Spratly Islands in the South China Sea by peaceful means in accordance with international law, including the UN Convention on the Law of the Sea.\(^\text{25}\)

Ongoing low-intensity small scale incidents or activities in the South China Sea, such as the sinking of a fishing boat, acts of piracy and out of area naval exercises are foreseeable, but such matters do not affect Australia or its military security. On the other hand, they do provide good reasons and an opportunity for more pro-active Australian diplomacy.

Economic Growth

The Review barely acknowledges the positives for regional security that can flow from the economic well-being and the growing interdependence of regional economies. Instead, the Review asserts that the region's economic growth will pose new security challenges that could directly affect Australia's strategic interests.\(^\text{26}\)

Economic growth is critical for impoverished countries like Vietnam, the Philippines, Indonesia and North Korea. It alleviates the risk of social unrest and uncontrolled population flows. Economic development in large, overpopulated, under-resourced countries like China and India contributes to regional stability. In China's case, the alternative is social fragmentation. Regional economic growth and interdependence gives member countries a stake in regional stability, in expanding trade and in the development of regional economic and security organisations like Asia Pacific Economic Cooperation (APEC) and ARF.

Fortunately, it appears that East Asia's economic recovery is well underway with growth set to lead the world, during the next two years at least. The latest economic growth figures for China give an annual rate of 8.2 per cent.\(^\text{27}\) The World Bank report, East Asia
Recovery and Beyond, forecasts GDP growth could easily range from five to seven per cent in Korea, Malaysia and Thailand, and even four to six per cent in Indonesia and the Philippines. If these figures are sustained, there will be important social and political spin-offs that will have a positive influence on Australia's security environment. They suggest that earlier gloomy forecasts that a collapse of economic prosperity in Asia threatened the very basis of political stability in the region were overblown.

Papua New Guinea has usually been listed as one of the fragile countries in the so-called arc of instability on Australia's doorstep. However, there are signs of a recovery with projected GDP growth rates of 4.5 per cent in 2000, up from 3.8 per cent in 1999. Prime Minister Sir Mekere Morauta's efforts to stabilise the economy and eliminate public corruption have been given ticks of approval from the World Bank, the IMF, the Asian Development Bank and the European Union. The new government has been welcomed by Australia and greeted with relief by the international business community. Many problems associated with good governance and financial management remain. But even if Papua New Guinea remains a basket case for Australian economic aid, that is a matter that is arguably of no great consequence for Australia's military security or strategic interests.

Defence Budgets

The Review claims that as defence budgets of countries in the region start to increase, Australia's relative military capability might come under pressure. It proposes that Australia should increase its defence budget so as to maintain its relative military strength. The logic of this is to commit Australia to a cycle of increased defence expenditure in an effort to keep ahead of certain countries in the region, and the region in general.

However, in the long term, such a goal will be difficult to maintain given the size of Australia and the population, resources and/or economic potential of Australia's neighbours. In 1995, Japan, China and South Korea had economies that were larger than Australia's. By 1999, the list had expanded to include India. By 2010 it will also include Taiwan.

Besides, without differentiating between particular countries in the region, it is too much of a generalisation to say that defence budgets in the region are increasing, and that if they continue to increase, this will put pressure on Australia's relative military strength. Increases in the defence budget of some countries could have positive benefits for Australia. Other countries are too far away to be a military security concern to Australia.

Japan's poor economic performance over the last few years has meant a continued tight rein on its defence budget. In 1998, the budget declined slightly in real terms with no increase for 1999. According to the Defence Intelligence Organisation's (DIO) Defence
Economic Trends in the Asia Pacific Region, this is the first time there has been no growth in the Japanese defence budget since the creation of the Japanese Self Defence Force in 1954. Even if Japan's defence budget increased, it is difficult to see how this would put negative pressure on Australia's relative military capability. Indeed, an increased defence effort by Japan would be welcomed by the United States, Australia's alliance partner.

India has increased its defence budget to pay for a nuclear capability and is acquiring a number of MiG-29s and Su-27 fighter aircraft. But India is a country with a population of one billion. Its security preoccupations are Pakistan, the subcontinent generally and China. It has no dispute with Australia. According to the DIO's Defence Economic Trends 1999, p. 28, India's defence budget grew in real terms by 16.6 per cent in 1997, 2.2 per cent in 1998, and 3.2 per cent in 1999. At the same time however, measured as a percentage of GDP (and accepting that this is crude indicator of a country's defence effort), India's defence expenditure declined from 2.2 per cent to 2.1 per cent in the period 1997–99. At 2.1 per cent of GDP, India's expenditure is on a par with the 2.2 per cent for Malaysia, the 2.7 per cent for the United Kingdom and the 2.9 per cent spent by the United States. Measured in terms of 1995 US$, India's defence expenditure in 1999 was US$9.9 billion. By comparison, Australia's defence expenditure (again in 1995 US$) was US$7.5 billion or 1.8 per cent of GDP.

Indonesia's Defence Budget and the Technology Edge Issue

Indonesia's size and proximity makes it a key determinant of Australia's military security outlook. It is however unable to afford the development of a force projection capability that might affect Australia. Its national security policy is defensive and its defence budget is comparatively modest. In current straitened economic circumstances, Indonesia cannot afford to increase its defence budget or modernise its armed forces. The Indonesian Defence Minister Juwono Sudarsono told Australian officials that for the next five to ten years, Indonesia will not have any major acquisition and modernisation plan, particularly in the technology-heavy services like the airforce and the navy. So, said Mr Sudarsono, in a changing strategic climate, Indonesia would be relying on Australia's strength. In other words, for the foreseeable future, Australia should have little fear of losing its military technology edge to Indonesia.

Ironically, in its 1997 assessment, Australia's Strategic Policy 1997, (ASP97), the Defence Department noted that Indonesia's armed forces were modest and that even if its air and maritime capabilities were being developed, this was in Australia's interest because it would allow Indonesia to better defend its archipelago and thus prevent any third power from mounting attacks on Australia from or through the archipelago.

Even if Indonesia finds itself able to increase its defence budget by 2005 or 2010, will this put pressure on Australia's relative military capability, as the Review suggests, or will it
enhance Australia's security, as posited in the 1994 Defence White Paper *Defending Australia (DA 94)* and again in *ASP97*. It would be a matter of great concern to Australia if Indonesia broke up or became 'a rudderless hulk'. A break down in law and order and refugee outflows would put pressure on Australia to respond. However, if this resulted, for instance in demands on the time and resources of the ADF for humanitarian aid and logistics assistance, say, in the Moluccas, any Australian response would be made to satisfy a diplomatic request. It would not be a matter of Australia's military security being threatened.

The Rest of the Region

The *Review* fails to discriminate between countries in the region of security importance to Australia, such as Indonesia, and those which are not. With the recent exception of India, few of the other countries in Australia's area of strategic interest are significantly increasing defence expenditure. Defence budgets have generally stabilised or have declined slightly in real terms. The governments of North Korea and South Korea are under pressure to reduce defence expenditure and spend more on social welfare. In Southeast Asia—with the exception of Singapore—defence budgets are down. Most countries continue to be constrained by scarce resources and the aftermath of the Asian financial crisis. Pakistan, beset with domestic economic and political problems, has been unable to keep up the pace. In 1999, perhaps because it has developed a basic but credible nuclear deterrent capability, Pakistan spent less on defence overall than it did in 1990.

But even if there are increases in regional defence budgets, and even if Australia's military lead in certain areas is overtaken, it is difficult to envisage countries like the Philippines, Thailand, Malaysia, South Korea, Japan, Singapore or Taiwan threatening to undermine Australia's security. On the contrary, if those particular countries acquire more modern defence capabilities, then cumulatively this circumstance will make it much more difficult for any aggressor state to threaten Australia, its neighbours or the region in general. This is precisely the point made by the previous Defence Minister Ian McLauglin. In December 1996, he spoke strongly of the defence benefits flowing to Australia as a result of countries in Southeast Asia improving their defence capabilities. He said that Australia's security would be better assured by a network of Southeast Asian countries that were able to defend themselves.

Great Power Balance

What of the great powers in general? Is there likely to be a shift in the great power balance that is disadvantageous to Australia's security? On the one hand, the *Review* claims that 'we simply do not know what is going to happen' yet on the same page, it observes that
there is every reason to be confident about the US role, in concert with Japan, as regional stabiliser.\(^{47}\)

The US is an ally of Australia's. It is likely to remain the dominant economic, cultural and military power in the Asia Pacific region for the next 20 to 30 years at least. It has strong alliances with South Korea, Japan and Australia. China and North Korea would agree that there are regional security benefits in a continued US military presence in South Korea and Japan.\(^{48}\)

Japan is unlikely to threaten Australia. It has learned a lesson from World War II and its neighbours are well able to defend themselves. Japan understands its vulnerability to modern war and is likely to remain tied to the US alliance system indefinitely. That suits most countries in the region.

It is misleading to assert that there is a struggle for power in North Asia between China, the US and Japan.\(^{49}\) Few strategic analysts would suggest there is any likelihood of great power rivalry between the US and Japan (although many Chinese strategists would like to see such a scenario unfold).

**China**

What about China?

It is true, as the DFAT White Paper *In the National Interest* noted in 1997, that how a new China manages its economic growth and pursues its international objectives over the next 10 to 15 years, and how the US and Japan respond, is a crucial question.\(^{50}\) The *Defence Review 2000* makes the same point.\(^{51}\)

But China may never become a great power that can compete with the US. It is struggling to narrow the gap between scarce, finite resources and a population of over 1.2 billion that is increasing by the size of Australia's population every year. China needs the continued support and cooperation of the Asia Pacific community, especially the United States, Japan and Taiwan, if its ambitious modernisation plans are to succeed. That is, China's survival over the next twenty years requires a peaceful environment, low defence expenditure, increasing inflows of foreign capital and technology, reliable access to global markets and raw materials, and a good credit rating with global financial institutions.

China's response during the recent East Asian financial crisis, its willingness to agree to a code of conduct in the South China Sea, its cooperation with the US in easing tension in the Korean peninsula and its record in supporting global objectives in the area of arms control suggest that China has just as much interest as any other great power in maintaining peace, stability and predictability in the Asia Pacific region and the global community.
If Australia is unsure of its ability to make long term judgements about China's future, we might note the comments made by US Secretary of State, Madeleine Albright. She said that China is becoming a responsible power that is increasingly part of a rules based world order, including the WTO; that it has made 'systematic improvements' in complying with various arms control regimes, such as Non Proliferation Treaty (NPT), Chemical Weapons Convention (CWC) and Missile Technology Control Regime (MTCR) and that it has made 'remarkable strides toward greater openness'.

China's Defence Budget

One of the pieces of evidence used to support forecasts about China's emergence as a great power threat is its defence budget. However, defence modernisation has been China's lowest national priority since 1980, and this remains the case today.

According to China's official figures, Beijing spent US$11.3 billion on defence in 1999, an increase of 14.4 per cent over 1998, although as a percentage of GDP, China's defence expenditure declined from 1.6 per cent in 1990 to 1.2 per cent in 1999 (compared to Australia's 1.8 per cent of GDP in 1999). Most of the increase in China's defence budget in the last three years (14.4 per cent in 1999, 9.7 per cent in 1998 and 13.8 per cent in 1997) is due to significantly improved pay and pension packages for personnel and compensation for the PLA's retreat from business enterprises. PLA officers at the colonel level, for example, are now entitled to a lump sum payment on retirement of about US$25,000.

Most analysts agree, however, that China's real defence budget is much higher than the official figures indicate. But even if it was doubled, it is a relatively modest amount for a country with the largest population and the second or third largest economy in the world. If China's official defence budget for 1999 is tripled to US$34 billion, it is still considerably less than the US$52 billion that Japan spent on defence in the same year.

Whatever the figure may be, China is a long way from developing significant force projection capability despite China's acquisition of relatively modern Russian fighter aircraft, such as the Su-27 and the Su-30 and the purchase of a few Russian naval platforms such as the Sovremenny-class destroyer and Kilo-class submarines. Little attempt is made to put these purchases into the perspective of China's strategic, demographic and economic circumstances, its social transformation, the domestic impact of its compliance with rules on entry to organisations like the WTO, its reliance on access to the US market (40 per cent) and its growing economic interdependencies.
Taiwan Strait

According to a June 2000 US Department of Defence report, China will not begin to gather the forces or the capabilities necessary to successfully capture Taiwan until at least 2020. In our view, Chinese society will then be quite different from what it is today and it will by then have come to terms with Taiwan. China is increasing the number of short range missiles that it could use to attack Taiwanese defence facilities. However, Taiwan's defences are also being constantly honed with sophisticated anti-missile technologies developed indigenously or purchased from the US under the terms of the 1979 Taiwan Relations Act. (Taiwan is the fourth largest buyer of US military equipment after Saudi Arabia, Israel and Greece). At the end of the day, it is American military power that has and will continue to deter China and steer it towards a peaceful settlement of the Taiwan issue.

Despite the appearance of sabre rattling in the Taiwan Strait in 1995–96 and more recent reminders of China's preparedness to use force, conflict in the Taiwan Strait is unlikely. US Seventh Fleet Commander Admiral Thomas Fargo stated that China is not poised to strike Taiwan and nor would such an attack succeed. China does not have the capability to invade Taiwan and it is not building the fleet of amphibious ships that might be required to support such an undertaking. The pragmatism of Taiwan's President Chen Shui-bian and China's Jiang Zemin suggests that the risk of conflict in the Taiwan Strait is receding. China's Defence Minister Chi Haotian told US Secretary of Defense William Cohen that although China reserved the right to use force, it did not intend to attack Taiwan. There are moreover important signs of goodwill and a willingness by both sides to find a compromise. Vice Premier Qian Qichen (who manages Taiwan policy) has stated that the term 'one China' did not have to be defined as the Peoples Republic of China (PRC) or the Republic of China (ROC), a concession that comes close to President Chen's offer to talk on the basis of 'one China, different definitions'. If Taiwan accepts the principle of 'one China' in one form or another, Beijing is willing to give Taiwan significant concessions, such as the right to choose the name, capital, flag and anthem of a new China, to keep its own armed forces and to be otherwise free to run its own affairs. Once the dispute is resolved, it will remove the biggest irritant in the development of a more cooperative Sino-US relationship.

In any event, China is not now and will not be in a position to challenge US military supremacy in the Asia Pacific region, even looking out twenty or thirty years. China's navy and airforce is and will be no match for Japan's. Even if China acquires all the Sukhoi aircraft that it has contracted to assemble over the next ten years, it will still be outnumbered and outclassed by Taiwan's more modern airforce. According to an authoritative RAND study, the Chinese airforce does not constitute a credible offensive threat to the US or its Asian allies, a situation that will not change dramatically over the next ten years. If anything, according to the report, China's airforce capabilities, relative to its neighbours, is likely to diminish over the next ten years. Admiral Dennis C. Blair, US Navy Commander in Chief, US Pacific Command made a similar observation. He said that
notwithstanding an increased Peoples Liberation Army (PLA) defence budget and an accelerated pace of modernisation, Taiwan's military would maintain its qualitative edge and no decisive change to the military balance in the Taiwan Strait was expected over the next several years at least.  

Sino-US Relations

Meanwhile, China-US relations are back on track after being derailed by the May 1999 Belgrade embassy bombing. There has been a resumption of military to military relations and arms control talks. As US Undersecretary of State for Security and Arms Control, John Holum observed in Beijing, there are more areas of agreement than disagreement between China and the US, particularly on broad policy directions. According to US Secretary for Defense William Cohen, the United States and China have a framework that allows the two countries to work together productively. Forecasts of great power instability because of rivalry between China and the US need to be tempered by the superiority of US military and economic power and China's reliance on the US as a market and source of technology. China may not always like the way a superpower US does business but it needs the support and cooperation of the US if it is to have a decent chance of modernisation and development.

Of course, much more work will have to be done on Sino-US relations if Washington proceeds to develop a national missile defence system National Missile Defence (NMD).

The US development of anti-missile defences (TMD or Theatre Missile Defence and NMD) may seem to be only experimental and inherently defensive but for China, a TMD system in Northeast Asia that includes Taiwan is seen in a very negative light. Moreover, an NMD that preserves US strategic superiority is perceived in Beijing to be particularly worrisome. Without astute diplomacy and credible assurances on the limits of NMD—and the US is trying hard in this regard—a US decision to go ahead may force-China to increase its defence budget and modernize, multiply and add multiple warheads (MIRV) to its strategic weapons. This could contribute to a negative spiral of distrust and a missile and anti-missile arms race, with adverse implications for arms control in East Asia and ripple effects in South Asia as well as Europe. China would probably feel bound to abandon its promise of no first use of nuclear weapons. China's fragile commitment to support arms control regimes such as MTCR might also weaken.

A second uncertainty arises from the US political process. If the presidential campaign rhetoric can be believed, a Republican President George Bush is likely to be more assertive in pursuing US values and confronting China on the Taiwan issue. Advisers to Bush, such as Richard Armitage and Paul Wolfowitz might demand a stronger alliance commitment from Australia in the event of increased tension in the Taiwan Straits or elsewhere in the region. Assuming that US presidential campaign rhetoric translates into US policy and China and the US are unable to avoid a collision over Taiwan, and
assuming further that Australia would wish to become involved, the high-intensity nature of likely operations in the Taiwan Strait could place very costly demands on the Australian defence budget. However, the common interests of China and the US in conflict avoidance and strategic and economic cooperation should prevail.

South Asia

There are no immediately obvious reasons for suggesting that India presents a threat to Australia or its strategic interests, now or in the reasonably foreseeable future. Australia–India ties are on the mend after India’s nuclear tests in May 1998. We have many common interests, including the Indian Ocean, language, cricket, membership of the British Commonwealth, concern about Fiji and democratic institutions. India is Australia’s 12th largest export market and 24th largest source of imports. Australia and India have differences, notably on the issue of India’s development of nuclear weapons, but there are no grounds for suggesting that India might threaten Australia directly or indirectly. The rivalry between India and Pakistan might be regretted, but it is not a matter that should affect the Australian defence budget.

The Korean Peninsula

The Korean peninsula is often cited as one of the critical security flashpoints that impinges on Australia’s strategic environment. This is presumably because of the commitment Australia made in a 16 nation declaration on 27 July 1953 to the effect that it would return to Korea in the event of another armed attack from the North and because of Australia’s obligations under ANZUS. But any careful analysis of developments in the Korean peninsula over the last decade would lead to the conclusion that there is a steadily decreasing risks of serious conflict there.

The summit meeting between North Korea’s Kim Jong-il and South Korea’s Kim Dae Jung on 12–15 June is a positive development for the security of the Asia Pacific region. It is an excellent example of how a cooperative approach to regional diplomacy by China and the US, in coordination with interested parties like Japan and Australia, can achieve a remarkably good outcome.

Significantly, the US State Department now judges that North Korea has indeed made a decision to reach out and engage the rest of the world, that it was behaving in a very useful, constructive and business-like manner and that North Korean President Kim Jung-il is a leader with courage and vision.

Of course, fundamental differences and distrust remains deeply embedded in the psyches of both North Korea and South Korea. But it is fair to say that stability in Northeast Asia has been significantly enhanced. The four big powers with a stake in the region have
demonstrated a new style of cooperative diplomacy. The collaboration between China, the US, Japan, and to a lesser extent Russia in opening the door to North Korea reflects a shared great power interest in reducing tension and building trust and common security in the peninsula.

The South Pacific

Stability in the South Pacific is generally regarded as a matter that falls within Australia's area of responsibility, and thus, the Australia defence forces are often involved in a low level role, for example, peacekeeping and training. There is some social and consequent political instability in the South Pacific, most recently in the Solomon Islands and Fiji and such matters are always of concern to Australia as a near neighbour. Internal political instability may occur in the future in Vanuatu and New Caledonia. Australia might be called upon to assist the civil power and may become involved in negotiating a peace settlement, as in Bougainville. But it is difficult to accept the proposition that these developments contribute to an 'arc of instability' of military significance that threatens Australia's security.\(^1\) As the Secretary of the Department of Foreign Affairs and Trade, Dr Ashton Calvert observed, it was not Australia's role, nor was it in Australia's interests to step in and run any South Pacific country whenever there was any trouble there.\(^2\) The Solomon Islands has a population of 400 000 (about the same size as Canberra) and does not rate a mention in the International Institute of Strategic Studies' *Military Balance 1999–2000*. Fiji has a population of 800 000, an armed force totalling 3500, twelve 81 mm mortars, four 25 pounder ceremonial guns, a few small coastal patrol boats and no airforce. As the Defence Department noted in its *ASP97*, there is no evidence that any foreign government is seeking improper influence over any of the countries of the Southwest Pacific, and nor is there much reason for them to do so in the future.\(^3\)

Summary of the Strategic Environment

There have been and will be significant changes in the Asia Pacific region but they do not undermine the security and stability of Asia's strategic future nor do they adversely affect Australia's strategic outlook. In our view, the strategic trend is in the opposite direction. If there is any change forthcoming, our intelligence agencies should be skilled enough to give us ample warning time. Whilst agreeing with the *Review* that it should not be assumed that major war is a thing of the past, Australia's defence planners should be reasonably confident that in the Asia Pacific region, a major war is not likely for the foreseeable future. The issue for government defence policy is that there is nothing in the strategic environment to alter the judgement that Australia faces no immediate threat of hostile military action and there is nothing that seems capable of changing this assessment for the foreseeable future.
Part 2: The Choices We Must Make; Options for Defence Policy
by Gary Brown

Chapter 7 of the *Review* discusses the question: what sort of force will Australia need for the future? It offers three options:

- forces for defeating attacks on Australia
- forces structured for regional security
- military operations other than war.

Below we set out in summary the *Review*’s analysis of what these options imply.

*Review* Force Structure Broad Options

Defeating Attacks on Australia

The *Review* suggests\(^7^4\) that a force capable of defeating attacks on Australia could be funded inside the present defence budget. Such a force would, the paper suggests, emphasise air defence and maritime strike capabilities, so as to deny use of the approaches to Australia to an enemy.

The paper suggests that though this approach 'would be likely to place some limits on Australia's options to pursue its regional strategic interests' it would still be true that air combat capabilities and submarines would be 'valuable contributions to regional coalitions'.

Perhaps the most striking feature of the *Review* discussion on this option is that the role of land forces is barely mentioned.

Forces Structured for Regional Security

A policy which emphasised Australian contributions to regional security 'would be a legitimate alternative if the risk of direct attack on Australian territory by sophisticated forces were considered less likely'. This option 'would involve capabilities that might not be a high priority for a force primarily designed to defeat attacks on Australia'.\(^7^5\)
Possible approaches to this include designing land forces for participation in higher-intensity conflict, or to emphasise maritime forces capable of operating in the region.

A key issue in this is interoperability. This means the ability to operate in concert and close cooperation with military forces from other states. At its highest level, interoperability (especially with the United States) implies very high levels of technology. Interoperability is further discussed at pp.19–20, below.

**Forces for Operations Other Than War**

In recent times the ADF has not been required to fight foreign aggressors. In the decade since the end of the Cold War Australia has found that the principal requirement has been for forces capable of non-belligerent operations in places like Somalia, Cambodia, Bougainville and most recently East Timor. These are 'military operations other than war' (MOOTW).

MOOTW can support our security by defusing, containing or helping to resolve regional conflicts. Even where success is incomplete—as in Cambodia—such operations can at least remove potential triggers for armed conflict. There are also international relations gains in performing a role as a 'good citizen'.

The *Review* notes that we could not maintain existing levels of military capability and add emphasis to MOOTW inside the present defence budget. We could, however, emphasise MOOTW at the expense of other capabilities 'if it was assessed that the need for combat forces was very low and that alliances would provide an adequate guarantee of our security'. It further notes that in effect this is what New Zealand has done over the last decade.

**The Review Options Analysed**

Are Options Really Mutually Exclusive?

Perhaps the most notable point to be made about the *Review* options is the emphasis on mutual exclusivity. Although not complete, the paper does tend to imply that the choices it presents are alternatives, and that the choice of one excludes the others.

In one sense this is true: granting that there is a realistic ceiling above which the defence budget will not rise short of clear emergency, financial considerations inevitably constrain choices among options. But the *Review* often conveys the impression that there are constraints in any event.
It is arguable, however, that the choices set out Chapter 7 of the paper represent not so much mutually exclusive alternatives as they do a continuum or spectrum of choice, ranging from what might be called the 'New Zealand option' at the lower end to the 'full-on regional and alliance option' at the other. In this interpretation there is more range of choice than there is if one thinks only about choices between three broad options.

For example, an ADF primarily structured for regional deployment and operations would necessarily contain within itself capabilities relevant to MOOTW. At the other end of the spectrum, a MOOTW-oriented ADF would of its nature possess some capacity for overseas deployment, albeit not into high-intensity theatres. The troops sent to Timor, for example, had to be capable of fighting infantry actions up to at least company, if not battalion, level, so as to meet the threat posed by pro-Indonesian militias.

**Constraints on Australia's Choices**

The lack of mutual exclusivity does not, however, imply that Australia has unlimited choice between force structure alternatives. Several important structural factors constrain our choices. These include: the existing and committed ADF structure (i.e. what we have and what we are already committed to acquire), the finite size of the defence budget and the need for some level of interoperability with other armed forces.

**What We Have**

As the *Review* says, 'Governments do not have the luxury of starting with a blank sheet of paper'.77 The force-in-being (what we have) plus what we are already legally bound to acquire (legally enforceable contractual obligations) represent a more-or-less fixed starting point. Over time we can vary the force structure, but government cannot simply decree, for instance, that as from tomorrow morning or even next year, the ADF will be structured for coalition warfare in Northeast Asia.

Ironically, however, the problem of block obsolescence (discussed elsewhere in this paper) does widen the range of choice more than might usually be the case. Because so many key ADF weapons and platforms are approaching the end of their service lives in a relatively short time frame, Australia does in fact have the block obsolescence opportunity as well as the problem.
The Defence Budget

The history of Australian defence budgeting strongly suggests that forward plans predicated on sustained real funding increases over lengthy periods are unlikely to be realisable. In the last quarter-century Governments of both persuasions have announced forward defence funding programs (see Appendix 1), most of which have not survived beyond year one. In recent years the budget has remained at less than two per cent of GDP and—a better measure of its national priority—has fallen from 8.9 per cent of government spending in 1990 to an estimated 7.1 per cent for the year 2000.

The problems confronting the Australian defence budget have been analysed in detail elsewhere, suffice it to note here that it seems improbable that the ADF as presently structured can be sustained inside present funding levels. It will therefore be necessary either to increase defence expenditure (which, given that the Government will not wish to increasing its total spending as a proportion of GDP, means either cutting Government outlays in non-defence sectors, or raising taxes, or some combination of these) or to restructure the ADF so that it can operate on present funding scales. These are the alternatives recognised by the Review.

The Interoperability Issue

The Review suggests that interoperability is a key priority. As noted above, this means the ability to operate in concert and close cooperation with military forces from other states. At its highest level (with the United States), interoperability implies very high levels of technology based on the US concept of a technology driven Revolution in Military Affairs (RMA).

If interoperability is being used as an argument to maintain the Australia–US alliance, then perhaps that term needs to be explored more directly and in more detail. There is merit in Australia's armed forces being interoperable with the US in certain areas such as 'knowledge flow within the strategic, operational and tactical battlespace', that is, knowledge connectivity, as distinct from weapons platforms. On the other hand, there is the argument, made by the former Chief of the Defence Force, General John Baker, at the public forum on the Review, Parliament House, Canberra, 30 June 2000, that full battlefield interoperability with US armed forces need not be a key issue for the ADF. He noted that in conflicts such as Korea, Vietnam and the Gulf War, the Australian contribution to US-led coalitions was diplomatically significant but was not of any consequence in determining military outcomes. Thus, how to operate at the high end of the interoperability spectrum may not be an issue for the ADF. General Baker's observation, if taken on board in the forthcoming White Paper, may relieve at least some of the budget pressure by reducing requirements for US high-technology RMA equipments.
The ADF’s pursuit of interoperability at lower levels—e.g., communications and mutual understanding of doctrine and procedures—is a different issue. This does not downgrade the US alliance, because there are other ways of maintaining the US–Australia alliance besides high-tech interoperability. Australia has value as a middle power of some substance and influence in the region, as demonstrated in East Timor. Australia has the same values, language and cultural origins as the US. As Madeleine Albright stated in a meeting with Ministers Alexander Downer and John Moore, ‘the US and Australia may be geographically distant, but as defenders of political and economic freedom and advocates of the rule of law, we are inseparable’. In praising Australia’s role in East Timor, she said the US was ‘proud and grateful’ to have Australia as an ally. This had nothing to do with the issue of interoperability of Australian and US armed forces but was because Australia had taken the lead in settling the East Timor issue.

Just as importantly, the concept of interoperability has value in the context of Australia working with countries with different or lower levels of defence technology than Australia’s. For example, Australia found itself working successfully in peacekeeping coalitions in Cambodia and East Timor with the armed forces of regional countries such as the Philippines, China and Pakistan. Thus, instead of aiming for an edge that keeps up with US high technology but contributes to regional arms envy, we could seek technologies ‘downwardly compatible’ with regional levels. This would contribute to interoperability with our neighbours and reduce the envy factor in regional arms technology. One could also note that unless it is to price itself out of effective alliance relationships, the US too should be considering this option, because few states can afford to develop or acquire the top-end RMA technologies now entering US service. It is noteworthy that in its 1998 Strategic Defence Review the British Government, while recognising its need for interoperability with the US, noted that the ‘pace of technological advance … makes it unlikely that every opportunity can be exploited. Hard choices will be required to cope with the wide range of possibilities within a limited budget.’

The Range of Choice

Notwithstanding the considerable publicity given to the defence budget and its present (very real) difficulties, and the issue of interoperability, it is arguable that of these constraints the other—what we have now or are committed to—is the more potent. This is so because governments have it within their power to vary defence funding (at the usual economic and political costs), and to choose a level of interoperability, but are much more limited when it comes to the existing ADF force structure.
Force Structure Changes Slowly

The ADF as it is today is the result of decisions taken as long ago as the mid-1960s, when the F-111 was ordered. There is a large credibility investment in the broad force structure which has evolved since that time. Indeed, in all that time there have really been only two major force structure variations—the decision to drop fixed-wing aircraft carriers and naval aircraft, taken almost twenty years ago, and the sharp reduction in Regular Army numbers which began in the late eighties. Aside from that, the force structure, though fine-tuned and modernised, has not really altered.

Yet the *Review* makes it abundantly clear that this broad force structure is not sustainable inside the present budget, while other analysis shows that failing sustained real increases some capabilities will have to be dropped. But dropping (or adding) significant capabilities to military force structures can only be achieved inside a coherent and internally consistent policy framework.

There is thus a risk in consideration of the defence funding problem that it will be allowed to drive decisions, whereas in fact the first thing requiring change will be policy. Policy, once in place, can then drive force structure decisions in concert, of course, with budgetary considerations.

Choices Come Down to Policy

Therefore the range of choice for Australia is fundamentally not one of funding, or even force structure *per se*, but of policy. The policies of the previous three or even four decades have been the underlying determinant of today’s force structure, and certainly underlie the present funding crisis. This is clear, because less financially demanding policies would not have generated the wide range of perceived requirements the ADF is currently seeking to meet.

In essence, to date Australia has sought what might be called a comprehensive level of security against a wide range of potential threats—it seeks not to identify particular threats but particular *types* of threat, and be secure against all these. We therefore maintain capabilities for land, sea and air war-fighting, and the force structure reflects this. But it is doubtful, even given some funding increase, if we can continue to seek so high a level of security. It is, moreover, questionable whether the strategic environment in which we now live requires such a level.

The *Review* states:

> There are no armed forces, and especially no naval and air forces, nearly as capable as ours within operational range of our shores. There is no reason to expect that to change.
We need to decide what weight we should give to the remote possibility that our strategic circumstances could change for the worse.\(^87\)

The Review also notes\(^88\) that 'unexpected demands can arise with little warning', but (though the Review does not) it should further be noted that in general the severity of such demands is inversely proportional to their probability—that is, the more challenging the unexpected scenario, the less probable it is. This is so because posing serious security challenges requires major resources, whereas minor threats can be mounted with fewer resources at short notice.

It is also relevant to note that in March last year, when questioned by the Parliamentary Public Accounts Committee about the decline in available submarines due to ongoing problems with the new Collins class, the then Deputy Chief of Navy commented:

We know we are down to one fully operational submarine. We have some operational capability in the other Collins class which are in service and commissioned at the moment, so it is better than just a single submarine capability that we have at the moment. When we were looking at that over the last two years we addressed that as being satisfactory, or acceptable, I suppose, would be a better word, in our current strategic circumstances.\(^89\)

As has been argued elsewhere\(^90\) there is a distinction which needs to be drawn between international and regional developments which have the potential to pose military threats to Australian security interests, and those which pose problems without implying any increase in threat. Many of the issues in our region—e.g., the destabilisation in Indonesia and the recent attempted coup and subsequent hostage crisis in Fiji—represent problems but do not appear to pose threats.

This is an issue which Australian policymakers, drawing up the forthcoming White Paper, will need to take on board. Failure to do so—in other words, a continued quest for unrealistically high levels of military security—will undoubtedly maintain the impossible pressures which existing policies have imposed on the defence vote. In short, if Australia is to bring the demands on its defence vote under control, the starting point of the process needs to be at the level of strategic assessment and strategic policy.
Part 3: The Defence Budget and What the ADF Might Do With It
by Derek Woolner

The Central Issue of Money

The Review places more emphasis on considerations of cost driving policy decisions than any other defence policy document for quite some time. Past white papers have always had a chapter on the resource impact of their policy directions but these were about what the policy decisions would cost to implement. Reflecting its role as a consultation document, the Review approaches the issue of costs from the perspective of what amount Australian's are willing to pay for the nation's defence.

There is good reason for this. Australia's strategic situation has seen various developments over the decade since the end of the Cold War but none have changed the long persisting situation that Australia faces no discernible military threat to its national security. There remains a situation where Australia has no dominant circumstance that it must organise its defence forces to counteract.

Budget Reductions and Management Efficiencies

The significant changes for Australian defence policy since the end of the Cold War have all been driven by money. Since 1987, when defence expenditure was reduced in response to the fiscal imperatives highlighted by (then) Treasurer Keating's 'banana republic' remarks, outlay on defence has reduced by about 2.3 per cent. In that period outlay on defence has declined as a proportion of GDP from around 2.5 to 1.8 per cent.

The defence policy debate is being driven by the increasing difficulty of implementing policy from within the current budgetary limits. Defence is presently dealing with a budget crisis caused by over commitment to new equipment programs and its Secretary recently described the Department's financial situation as 'parlous'. The crux of the issues addressed by the Review is that this situation and other problems within the system cannot be materially improved in the next two decades unless some significant decisions are taken.

Throughout most of the 1990s Defence has conducted a series of efficiency campaigns to try to counteract the effects of reduced spending on the maintenance of ADF capabilities. The latest of these was the Defence Reform Program (DRP), initiated in 1997. Between 1991 and about 2003–04 these campaigns will have released around $1.5 billion to be redirected to the development of military capabilities. However necessary these processes may have been to offset the consequences of falling budgets, they have not been sufficient to ensure the development of ADF capabilities in the early 21st century. The great majority of the savings
have gone back to paying Defence civilian and ADF salaries. Little of the savings has been available for the procurement of new equipment, and only slightly more for increased operational readiness. The main benefit of the efficiency programs has been to divert Service personnel from support activities and thus increase the numbers in combat and combat related units.

Expenditure on Recurrent Activities

At the same time, the extent of ADF operations has increased over the last decade or more. As the Review demonstrates, the number and extent of overseas deployments by ADF units has been substantially greater since 1987 than in the previous 15 years. Although the defence budget has usually been supplemented to cover the cost of these deployments, they have resulted in growing pressure on the ADF and, as demonstrated in the almost $3.7 billion estimated cost of the deployment to East Timor, a real cost to the nation.

Over the past three decades balancing the defence budget has often been achieved by reducing the amount spent on the operational budget. The increasing amount being spent on deployment of the ADF and in preparing it for deployment (such as readying the second brigade group for action at short notice in March 1999) makes this option less available today. Many of the efficiency programs of the last decade have made savings of up to 30 per cent by outsourcing functions and reducing defence personnel. However, the process has transferred some defence expenditure to the operational budget, which would not be a problem except that, as noted above, most of the savings than should have been transferred have remained in the personnel component of the budget. Instead of further savings being available from the operational budget, Defence must find more from within other areas of the existing budget to pay for the increasing costs of operating current and currently planned capabilities (see below).

Expenditure on Defence Equipment

The cost of replacing equipment has been a continuing problem in defence management over the last three decades. It is one which becomes increasingly more difficult in those cases where it is judged that advanced levels of technology are required, thus driving up costs. Where keeping abreast of the latest technological developments is desired, the rate of increase in the cost of new defence equipment can equate to as much as 5 per cent per annum.

At the moment, the Department of Defence is working its way through a budget crisis caused by the approval of equipment programs in 1997–98 which far exceed in value the finance Defence has now or in the immediate future for this component of the budget. The extent by which the cost of these programs exceeds projected finances at current budget levels is so great that they will take around ten years to absorb, thus restricting options for commencing
new programs. One of the outcomes of the Review process might be clearer strategic guidelines and financial planning to help avoid such occurrences in the future.

However, the nature of the problem of funding defence equipment will only get worse over the next two decades. In an occurrence referred to as 'block obsolescence', significant items of equipment, from which derive important ADF capabilities, will leave service between about 2007 and 2020 (see Appendix 2). If the capacity to achieve broadly similar outcomes is not provided to the ADF in their place, there will be important things which the ADF will cease to be able to do. The Review estimates the cost of equipment programs through to 2020 to total between $80 billion and $110 billion which is as much as 50 per cent higher than the amount which would be made available from the defence budget at current levels.

The Big Issue—Paying for Personnel

Worrying about what equipment to buy for the ADF in the future may become academic. Whether Defence will have any money at all to spend on equipment in 10 years or so is a real question under current financial guidelines because finding funds to pay for increases in personnel salaries threatens to drain all other areas of the budget. Hence the most significant cost pressure facing defence is paying for its personnel.

This is the result of the incompatibility of two policies. One is the expectation that the ADF should continue to provide government with a range of defence capabilities meeting current expectations for national security, regional involvement and alliance cooperation. The other is that Commonwealth agencies should provide most of the increases in the salaries of their personnel from within existing budgets.

Since the introduction of this policy in the early 1990s defence personnel costs have grown by an average of four per cent per annum whilst the contribution from Treasury in each budget has averaged only 1.5 per cent. Thus, Defence has had to transfer funding from other areas of the budget to ensure that Service and civilian pay rates kept abreast of community standards. It is this process which has meant that most of the savings made from the management efficiency programs since 1991 have gone back to personnel costs.

This situation will only get worse. The DRP is nearing completion and there is no prospect of a similarly radical process to further reduce personnel numbers to any significant degree. Future increases in defence personnel costs can only be funded from other areas of the budget which are, as shown above, under unsupportable strain. Figure 1 illustrates the consequences. If the pattern of salaries growth and budgetary compensation were to continue over the next two decades as it has for the last, by 2020 Defence would be required to divert almost $4 billion to personnel costs from other areas of the budget.
Figure 1: Effects of Increase in Personnel Costs and Level of Budget Compensation

Source: Derek Woolner, 'Pressures on Defence Policy: the Defence Budget Crisis', Department of the Parliamentary Library, April 2000.

The End of Defence As We Know It

The consequence of this would be to shut down most other areas of defence activity. Figure 2 illustrates this outcome. If the current budgetary and policy settings were to stay in place till 2020, no funds for defence equipment procurement would be available after 2009. By 2020 almost half of all other defence functions would be without funding. Meaningful defence capability would have long ceased to exist.
These are the dynamics behind the Review process. Australia cannot continue with a defence force of the same size, doing what it has in the past, at the same cost. Although scope may exist for improved Defence management, any further major savings in the costs of defence would probably require significant changes in defence policy. Conversely, providing the ADF with the personnel and equipment it requires to maintain its current roles and posture in the region will be expensive. Hence the Review’s emphasis on the choices that need to be taken on the future nature of Australian defence.

The Cost of Continuing With Existing Expectations

Financial Parameters of Current Policy

One of the options for dealing with this policy dilemma is to pay the cost of continuing with policy settings similar to those at present. Just what these might be would depend on a range of decisions but the parameters of cost for this range are generally known. By examining the nature of these cost parameters it is possible to identify the crucial issues and policy choices which might be available to government.
One choice might involve sustaining ADF numbers at the level of 53,500 indicated following the Prime Minister's statement on the East Timor deployment of November 1999. Alternatively, it might be possible to meet current policy objectives with a ceiling of 48,000 personnel as indicated by the Chief of the Defence Force (CDF) on the eve of the launch of the Review. Although other combinations of force numbers might be considered, this paper examines the financial consequences of these two options as they sufficiently indicate the issues involved.

Sustaining current policy settings would also involve purchasing new equipment and paying the cost of operating it. The Review gives the cost of the capital expenditure required to retain current ADF roles at between $80 billion to $110 billion over the next 20 years. If anything, the estimation of cost allocation in this area is more difficult to predict than in others. Already, in the five months since the Secretary of Defence revealed the predicted costs of future capital requirements, their impact has been recalculated as rising from being 40 per cent above the guidance for new investment to 50 per cent.

It might be assumed that costs in other areas of defence expenditure could be held at about the levels before the deployment to East Timor (that is, broadly manageable at current prices). However, over recent years Defence has badly managed the costs involved in running Service equipment. These, referred to as Net Personnel and Operating Costs (NPOC) have now accumulated to such a degree that meeting the predicted requirement over the next 10 years will take an amount equivalent to the savings of the DRP, some $760 million.

The Nature of the Significant Cost Pressures

In reality, the first part of any real increase in the defence budget will go, directly or otherwise, to meet the full costs of personnel. Initially, a one per cent real increase will be required, equivalent to around $130 million at 1999–2000 costs. By the end of the period a two per cent real increase will be required to keep pace with labour costs. By then an additional $3.5 to $3.9 billion will be needed to cover fully the costs of an ADF of between 48,000 billion and 53,500 billion.

As well as these personnel options, Figure 3 looks at a 'high' and a 'low' total budget option. On average, these require rates of growth of between 4 and 4.5 per cent and 2 to almost 3 per cent for the high and low examples, respectively. Additional expenditure per annum would range around $500 million or $300 million and produce defence budgets of just under $23 billion and $18.4 billion respectively at the end of 20 years.

The Minister has been quoted as wishing to increase the defence expenditure by $1.5 billion in the 2001–02 budget. This is more than is necessary for the initial phase of building to a level of funding sufficient to sustain current policy settings. It may be, however, that the additional billion dollars will be used to facilitate some of the equipment programs which have been under review because of the current budget difficulties.
The factor to note in the growth of defence personnel costs is that significant reductions in numbers only slightly reduces the extent of their impact on the budget over time. A reduction of over 10 per cent in ADF personnel (from 53,500 to 48,000) and of 2000 civilians reduces the personnel costs that Defence must find from elsewhere in its budget by only about $409 million by 2020, down from the $3.9 billion shortfall which will have accumulated with an ADF of 53,500. Nonetheless at a shortfall still exceeding $3.5 billion, maintaining current defence policy settings will not be made significantly more affordable by reducing ADF numbers.

There may be some management initiatives which might reduce defence labour costs, such as simplification of the rank structure, lowering remuneration profiles through increased turnover, and further reduction of uniformed involvement in non-operational Defence activities.111 However, as long as the surplus of defence wage rises has to be drawn from other areas of the budget, defence labour costs will be only marginally responsive to management strategies. In terms of policy options, the conjunction of these factors would seem to suggest an investigation of the advantages of casual and part time staff; in ADF terms, the roles of the Reserve Forces.

Source: Foreign Affairs, Defence and Trade Group, Information and Research Services, Department of the Parliamentary Library, August 2000.
If defence labour costs are significant because of their relative insensitivity to the size of the Force and their under funding is remorseless undermining current defence policy, capital costs are important for the opposite reasons. As Figure 4 demonstrates, decisions on capital spending can have significant effects on the size of any budget increase needed to maintain policy settings. In fact, if it were possible to contain the capital expenditure program over the next 20 years at the lower levels indicated by the Review, at around $80 billion, a comparatively minor average annual increase in this component of the budget might maintain current policy settings. The required increase is slightly less than the currently estimated annual average increase in NPOC costs.

This analysis provides us with an idea of where the most crucial management decisions of the next two decades will lie. It will be in debate over capital equipment programs that the critical decisions for the future management of Defence will be made and in the effectiveness of those decisions where the future capability of the ADF will be determined. Hence it will be in this area that innovative management techniques for provision of capital requirements (such as the Private Finance Initiative\textsuperscript{112}) should have greatest strategic importance. The prominence of the ongoing cost penalty for the former mismanagement of NPOC suggests that attention to reduction of operational costs will be an issue in the development of new equipment programs. Again, commercial options such as those developed under the existing Commercial Support Program should have similar strategic importance.

In considering various budget options it is important to note that increased expenditure on defence will generally not result in a higher proportion of Gross Domestic Product being allocated to the function. If the Treasury's long term average rate of growth of GDP (of 3.5
The Government's Defence Policy Discussion Paper: Issues and Directions

per cent) holds true over the next two decades, only in the extreme case would defence spending be at a rate of real increase higher than that of GDP.

However, it is not likely that cost pressures will lessen if the nation wants the ADF to continue its present role into the 21st century. The record of the past indicates that it is unwise to assume a sufficient and sufficiently sustained increase in funding will be maintained over the next 20 years to meet these demands. Nonetheless, sustained real increases in spending to meet increases in personnel costs appears to be unavoidable.

If so, the thrust of defence management over the last few decades will have to be stood on its head. Whereas it was the policy to constrain personnel and operational costs in order to free funding for equipment, the opposite is likely to be necessary in the early 21st century. Most of the discretion in formulating defence budgets will be exercised over the capital components of expenditure. It appears wiser to assume that some reduction of roles and consequent changes to the force structure of the ADF will result. A worse outcome would be to presume that no changes will be necessary and to have the ADF forced into an ad hoc reduction of roles because inadequate funding has made it unavoidable.

Roles and Force Structure Developments for the ADF

Some Limitations in the Review's Approach

The Review provides limited help in deciding where priorities could be fixed in identifying role and force structure changes for the ADF. This is not surprising. Departmental strategic evaluations have been able to identify priorities in broad roles for the ADF but, with the exception of the Dibb Review, have been unable to provide focus sufficient to translate these into specific force structure recommendations. Little has changed in Australia's strategic environment that has direct relevance to the conventional military roles and structure of the ADF since the last evaluation, ASP97. Nor has the development of non-military threats to security proceeded sufficiently to make inevitable a response in defence policy. It cannot be expected that the Review could be any more specific than its predecessors.

Instead, it outlines the three broad roles for the ADF described above. These capture the dichotomies of the strategic debate over the last few years but do not help when trying to identify priorities in the future development of the ADF. As explained above, the range of ADF capabilities implied by this approach are not exclusive but are better seen as a continuum or spectrum of choice. In some cases the spread of the spectrum can be quite broad. For instance, equipment as sophisticated as aerial electronic 'eavesdropping' (signals intelligence) contributed to the success of INTERFET forces in East Timor.
There may be differences in numbers in inventory, associated systems and states of readiness dictated by decisions relating to the three 'choices' of role the ADF might perform. However, without more precise consideration of the issues involved, there are more powerful policy drivers indicating that these are more likely to remain at the level of balance within, rather than fundamental differences of, force structure.

National Level Policies Have a Significant Impact

In contrast, it is likely to be policy assumptions at a much higher level of generality that have more significant influence on the force structure of the ADF. For instance, it appears that Australia has operated for most of its history under an implicit policy that it will not deploy forces overseas without the approval of regional countries or as part of a much larger coalition (reinforced by the Government's studious effort to gain Indonesian permission to deploy INTERFET to East Timor). Hence there has never been any significant claim that the ADF should contain, for instance, a marine corps capable of seizing defended coastline.\textsuperscript{116}

Consequently, ADF amphibious troop lift capabilities will be of much the same nature if based on requirements for the defence of the nation, involvement in the region, or for peacekeeping. Their size and nature will be determined more by questions of logistics requirements and the likely availability of suitable commercial transport when required\textsuperscript{117} than by the issue of the combat power they will have to be able to project over a beachhead. That the former approach has been followed by the ADF over recent decades has helped moderate cost pressures in the defence budget.

The same assumptions about the nature of Australia's deployment of forces outside the country would also have implications for other areas of the ADF. For instance, it would imply that an aircraft carrier would have a comparatively low priority in force structure development.

Similarly, there appears to be an implicit policy that Australian land forces will be used overseas under conditions that minimise casualties. This is part common sense and part wariness of the possible political costs of adverse media coverage. It is also in part recognition of the decisive effects of focusing overwhelming force on an opponent's weakness, which has been part of Australia's military tradition since Monash demonstrated the combined effects of (then) modern military technologies to overthrow the meat grinder tactics of trench warfare.\textsuperscript{118}

These factors imply that, even were government to identify peacekeeping as a major role for the ADF, on current political settings any Australian government would be unlikely to follow New Zealand policy and restructure the ADF as predominantly a peacekeeping force. This is not to say that Australia will deploy only conventionally armed forces overseas (unarmed ADF and Australian civilian peacekeepers have taken significant risks to help Bougainville return to peace) but that few governments would wish to be unready to support the objectives
of a peacekeeping deployment should it face more violent resistance to its mandate than expected. It should be noted that such a conclusion would have important consequences for Navy and Air Force, as well as Army.

These higher level national security policies are essentially political in nature. It is proper that they be so because they should be the means of passing national strategic objectives down to the defence planning process. Nor should it be forgotten that the immediate objectives of campaigns appear to be becoming more overtly political, attempting to force hostile governments to change policy instead of political ends being realised at the end of a process of defeating the enemy's military forces.¹¹⁹

At least two implications of this trend for the development of the ADF seem noteworthy. The first is that many of the possible deployments of the ADF in support of regional security (especially those further away from Australia) would be made for political objectives which could be achieved by a selection of forces within a broad range of ADF units. It is difficult to see many examples of this type needing to be the focus of specific force structure development (see p.20 above).

The second is that advances in technology¹²⁰ are quickly making it possible to fight campaigns that can be planned to produce the political effects desired without necessarily engaging opposing forces. Such concepts remain controversial and it can be claimed that, even where more-or-less successful, enforcement of the political outcome requires (as in Kosevo) the deployment of conventional ground forces.

Nonetheless, the functioning of nations is becoming increasingly dependent on electronic systems. Hence the scope for crippling their political and economic structures through information or cyber warfare, or the use of Electromagnetic Pulse (EMP) weapons such as the E-bomb (sufficiently simple to be constructed by a terrorist group),¹²¹ probably will come quickly to assume at least as great importance as current conventional military capabilities. ADF consideration of such issues seems unavoidable, if only to develop defensive strategies. Were Australia to adopt such an approach, the capabilities required would be seen as operating largely in cyberspace. The issue of which of the three broad roles outlined in the Review should influence future ADF structure would be irrelevant.

Regional Military Capabilities

The Review sharpens its argument about the importance of the defence policy decisions facing the nation with reference to the development of advanced military capabilities in the region based on increasing access to modern defence technologies. These are said to be important because they indicate a trend which might mean that the ADF could lose the technological superiority it has held in most areas compared to regional forces and on which concepts of its military effectiveness are based.¹²² However, it is not simple to convert these
observations into prescriptions for the development of the ADF. In general, the Review's focus on regional technological developments per se is too undifferentiated to be useful.

In fact, the technologies identified as entering regional inventories are not by themselves military capabilities. To constitute a real threat to the ADF's ability to achieve strategic goals, the technologies purchased by regional countries must first be 'absorbed' by their host Service. This involves not only effective training, logistics support and maintenance, but the integration of the technologies into systems of intelligence and command and control which can use them to effect. Although the nub of the development of effective capabilities, command and control systems also introduce critical vulnerabilities in human and electronic systems and provide a focus where forces can be attacked to great effect.

The Review does little to quantify the effective levels of military capability in the region. This is not insignificant because the ability of a force to deliver effective military power can be of far different proportion to its equipment inventory. For instance, much has been made from time to time of the Chinese airforce's number and type of aircraft. In contrast, (then) US Assistant Secretary of State for Defense, Joseph Nye, argued that the Chinese airforce possessed limited military capability and its effectiveness could be more accurately compared to an airforce like Malaysia's than to that of a major power. The Review provides few perspectives of this sort.

In any case all developments of military capability need not be treated as constituting a threat to Australia and therefore requiring a counter in ADF force structure. As noted above recent Ministers have acknowledged that much of what must realistically be seen as measured development of capability in Southeast Asian armed forces has contributed positively to regional and therefore, Australian security. Action to counter such developments is not required.

Instead, a case could be made that strategic advantage can be gained by selectively supporting the armed forces of many regional neighbours to develop their technological base into effective military capabilities. This approach might pro-actively shape Australia's strategic environment by supporting the development of military competence that could contribute to effective mutual regional security. The important decisions in such a case would relate to the maintenance of the appropriate areas of technology where the level of ADF capability would sustain it as a regional leader.

The issue of the weight that should be given to interoperability with allied forces as a factor in developing ADF capabilities would then relate not as much to the more expensive developments of US armed forces as to the steps needed to allow the ADF to cooperate more effectively with regional forces. The recent remarks of the Indonesian Defence Minister, Juwono Sudarsono, cited above, indicate some degree of similar thinking even amongst one of the countries that might be thought to be least likely to accept such a role.
Issues in Considering Appropriate Military Technologies

An opportunity to clarify the issues involved in dealing with emerging military capabilities is missed because the Review fails to indicate that the links between strategic objectives, potentially hostile capabilities and ADF force structure development are not necessarily linear. That is, the counter to technological developments are not necessarily one-on-one iterations of the opposed technology. On a basic level, an increase in, say, anti-shipping missiles in the region says little about the structure of the RAN. A wide range of vessels is able to accommodate anti-missile defence systems and, in any case, efficiency will dictate that the weapons used to destroy them are standardised across the Service.

Recently, the Minister commented that expenditure on new equipment over the next 20 years would not reach the maximum of $110 billion forecast by the Review. This was because he discounted the need for the ADF to introduce the most advanced of technologies. He named the F-22 and Joint Strike Fighter tactical combat aircraft, the American Aegis class air warfare destroyer and the Apache anti-tank helicopter as being in this category. In fact, USAF testimony to the US Congress demonstrates that new fighter aircraft designs less costly than the F-22 are capable of performance superior to the Russian Sukhoi 20/30 series tactical aircraft about which, as mentioned above, much has been made as a regional 'threat'.

While the Minister's statement might be thought to be an intervention in the public consultation process initiated by the Review, his comments are a reminder of the importance of decisions on capital equipment programs to the future manageability of the portfolio. Furthermore, he was underlining a reality not sufficiently explained by the Review. This is that a force does not need a direct, or equivalent answer to enemy technology to be able to develop capabilities sufficient to achieve strategic goals.

For instance, in the decisive naval battles across the mid-Pacific in the Second World War, US Navy aircraft carrier forces were protected by a fighter aircraft that was extensively outclassed by its renowned opponent, the Japanese A6M2 Zero-Sen. Yet by dint of superior tactics, which reflected the skill and professionalism of the USN, the Grumman Wildcat achieved kill to loss ratios of 5:1 in aerial combat during some of the most desperate battles of the Pacific war, including the Battle of the Coral Sea. In most of those battles American forces were able to position themselves to advantage because of the superior intelligence they gained through 'cracking' Japanese naval radio code. The Review could be more forthcoming on the issue of professional skill being the key to turning technology into capability.

Although this example may seem archaic, current advances in technology actually extend the options for a well trained professional force to defeat individually superior equipments. Command and control systems, computer capacity and systems which combine these elements with surveillance capability, such as Airborne Early Warning and Control aircraft (AEW&C), assist combat platforms to perform more capably in concert than as individual units.
Significantly, the more effective counter to emerging capabilities in the region may already exist, or be developed more appropriately, in other areas of the ADF. Thus, to continue the analogy, development by some regional forces of the capability to effectively use anti-shipping missiles does not necessarily imply an Australian need for air warfare destroyers. Study may show that the desired effect—preventing the use of aerial weapons against Australian vessels—may be better achieved by other than new naval weapons systems. Alternative approaches might include

- developing strike options to destroy an enemy's capability to deploy the weapons
- developing alternative operational concepts to avoid exposing RAN ships to the danger of aerial attack
- developing coalition arrangements that add to allied capabilities to provide cover against hostile air attack, or
- mobilising international fora such as the IMF or UN to dissuade a government from using such weapons.

It seems probable that, reasonably soon, affordable technologies will make it easier to prevent the effective use of aerial threats against shipping by destroying an opposing force's ability to command and control its units. It might then be found to be cheaper and more effective to adopt such an approach than to develop naval vessels to directly defend shipping against missile attack. In this case the appropriate capability would include long range strike forces operating beyond the Timor Sea, which is currently seen as the focus of the defence of Australia strategy. Yet these new capabilities may include electronic systems firmly rooted in Australia's south. Should such an approach prove feasible for a country of Australia's restricted resources, the concept of defence of Australia will become blurred with that of involvement in regional security and the question of the nature of an opponent's military weaponry less important than his means of targeting and commanding it.

**Some Avenues to Redevelop ADF Capabilities**

In light of the issues outlined above it can be seen that, in practice, consideration of the appropriate force structure for the ADF must be far more closely focused on the particular than is allowed for by the structure and purpose of the Review. Earlier, we outlined the restrictions on government's ability to change the ADF's force structure. As we said, the effect of this is that significant change to the force structure is made more difficult (and has, over the past two decades, in reality only occurred under financial pressure). Change will usually only occur when:

- the opportunity arises with the approaching decommissioning of equipments or units
• funding for an alternative approach can be secured
• the defence organisation can sustain enough cohesion to resist arguments to replace the aging equipments with something similar, and
• this position can be sustained for time sufficient to emplace an alternative vision.

Outside time of great national danger, this conjunction has rarely occurred.

The Review could not have been expected to broach these issues but, without a knowledge of them the public will find it difficult to argue for particular changes within the financial constraints. An approach suggested by the direction of technological development is to focus less on the equipments involved and more on the underlying elements of capability. Two particular approaches not developed at any length by the Review are likely to be crucial in how effectively we are able to develop ADF capabilities within the constraints of the likely future budget.

Developing Symbiotic Effects

One is the symbiotic benefits of complementary technologies in developing capabilities. This is the nub of approaches to achieving military objectives grouped around the concepts under the banner of the RMA. An outgrowth of the increasing capacities of sensors, information technologies and communications, the result is to lessen the importance of platform (aircraft, ships, vehicles) performance in military capability and increases the advantage of the force best able to organise its constituent elements to act in the most cohesive manner.

Where the issue is one of financial necessity forcing priorities to be allocated amongst competing equipment programs, the concept of planning the overall capability of the system rather than the more traditional selection of individual types of equipment, may offer benefits. An example may be the greater effectiveness of tactical aircraft operations coordinated by intelligence and command systems such as AEW&C aircraft, drones or satellites. Since Israel pioneered these tactics in the early 1980s, and with confirmation since in the Gulf War and Balkan conflicts, it has been apparent that forces with such capabilities are superior to those without. The significant point is that it is the capability of the system, not that of the individual components which is important. Thus it appears to be possible to have the better air warfare capability without necessarily having the better aircraft.

As explained above, government does not have the luxury of developing an ideal force structure from scratch. In practice some elements of a capability system will already be in place, some be approaching selection and others still under research. For instance, by around 2005, the ADF will have AEW&C aircraft in service, be approaching selection of a new fighter aircraft and studying the issue of what to do when the F-111 is retired. The tendency at present is for each Service capability developer to argue for the best feasible equipment
solution as each selection process proceeds. In future, the only way that the ADF may be able to preserve a capability might be to compromise the performance of some components (say, fighter aircraft) in order to develop an optimum affordable capability (say, AEW&C aircraft, satellite communications, fewer new fighters or refurbished F-18s and cruise missiles).

This is a narrow explanation of the concept but, in practice, a symbiotic approach to force structure development should take a holistic approach to achieving the ADF's strategic objectives. Such concepts are not new issues to the ADF or Defence. Their outline was developed in ASP97 under the rubric of the 'Knowledge Edge'.131 The essential issue in achieving the symbiotic approach is, as explained above, whether Defence management can hold together the conjunction of events that could make it happen.

The Capability of Personnel

The Review makes no extensive reference to the role of ADF personnel in the development of Australian military capability. In contrast, the US DoD's Joint Vision 2020 develops an assessment that the military edge of American forces will only be maintained into the future by the skills of their personnel.132 Many areas of business are recognising that the knowledge of their staff is significant in retaining market position. Likewise, it seems likely that attaining strategic objectives will depend increasingly on the skills of personnel to exploit the advantages offered by the information technology revolution. Policy areas in Defence are aware of these developments and recently a position of Chief Knowledge Officer was established and filled by Air Vice-Marshall Peter Nicholson, an officer who has long understood the importance of personnel skills in the future development of military capability.133 However, the position does not sit in the Defence Personnel Executive which, at the least, poses some dangers that the message will not reach the higher Defence management.

Certainly, ongoing problems of recruitment, retention and shortage of specialists has raised personnel planning to the level of a strategic issue. This is because these problems appear to be a long term challenge to the maintenance of ADF capabilities.134 Whether the viability of ADF capability development will depend on linking personnel requirements with new capital programs has become an issue. It is one which may require a change to the balance between capital and personnel spending in the procurement, as well as the in-service life phase of defence capabilities.

For instance, a recent report found that there were only some 40 pilots available to crew the RAAF's F/A-18 squadrons.135 This is not a unique occurrence but the situation has worsened in that the traditional means of overcoming the problem, paying a bonus to pilots who undertake to remain in the Service, has been abandoned as ineffective.136 There is some evidence to suggest that recruitment and retention of personnel in critical areas has emerged as an ongoing problem.137 This circumstance is ironic where, for instance, new generations of fighter aircraft have been designed for sequential operations by two or three pilots. In this
case it becomes an issue whether the acquisition strategy for the new fighter aircraft should also include a strategy, funded as part of the procurement program if necessary, to supply the pilots needed to ensure that an aircraft's high use potential remains a viable military capability.

It is only after work of this nature has been done that it will be possible to get a more accurate idea of the full cost of developing the ADF's military capabilities for the 21st century as they come to depend increasingly on the knowledge of its personnel. That assessment can then include costed evaluation of options for the most effective use of reserve forces and hence scope to reduce budget pressures caused by increasing personnel costs. For instance, alternative approaches might include evaluation of paying the airlines for the use of their ex-RAAF pilots for sufficient time to retain capability on military aircraft, against that of training greater numbers of new aircrew.

The Crucial Area for Budget Management

In the past the Defence capability development process has delivered effective systems of equipment and weapons which have kept the capabilities of the ADF in the forefront of the regions' defence forces. It hasn't needed to be particularly good at most of the approaches discussed above. Yet in handling the financial challenges of the next 20 years, mastering more sophisticated force development processes will be as important to the ADF as might be the impact of strategic developments.

This is not a trivial issue. Managing the cost of its capital program will be the best tool that Defence will have to control its budget over the next 20 years. If Australia's strategic policy objectives could be achieved, for instance, without the purchase of air defence destroyers, somewhere perhaps between $5 billion and $8 billion would be saved or redirected to other capability development. If the new fighter project could be brought in for around $10 billion rather than the $20 billion high-end estimate, the problem of coping with block obsolescence would be made easier at a stroke.

Some of the latter is likely to be necessary. The $80 billion–$110 billion projected for capital equipment purchases over the next 20 years is very replacement oriented. It has been derived by looking at what the ADF already does and has to do it with, rather than foreseeing what it might be required to develop in future. The calculations leave little for the development of new or under strength capabilities nor for responding to developing technologies or strategic circumstances. It would be unwise to assume that that some significant new developments in the ADF's capabilities will not be required at some time during the next two decades.
Some Major Themes in the Future of the ADF

Despite the best efforts of the Review, the dilemma of Australian defence planning remains—the strategic environment can provide only a limited guide to the capabilities that the ADF should have. There is thus little help to be had when financial strictures demand a tighter selection among ADF capabilities than has been required in the past.

Despite a lack of analytical purity, it appears a better course to look at lessons from recent experience which do indicate the issues to be addressed in the future development of Australia's defence capabilities. The deployment to Timor arose without the development of traditional national military threats, yet was seen to involve significant Australian issues and was very taxing to an ADF which had been built-up somewhat beyond its normal peace time levels. Many of the technologies underpinning modern high-technology warfare are becoming more easily accessible and have, indeed, been practised in part by teenage computer hackers. Growing ubiquity renders this development relevant regardless of the strategic environment.

Nevertheless, one issue stands out as important whichever route the ADF should adopt. It is the importance of personnel issues in determining the future nature of the ADF. At its most brutal this concerns the dilemma posed by the financial grip of personnel cost increases. Either these are funded or so much of defence finance will be diverted from other areas that the ADF will inevitably lose capabilities. Either these are funded or personnel numbers will have to be reduced to such an extent that the ADF will inevitably lose capabilities.

At another level is a different conundrum. It seems likely that attaining strategic objectives will depend increasingly on the skills of personnel to either (often both) apply a sensitive understanding to the political realities of the situation in a foreign land and exploit the advantages offered by the information technology revolution. Attracting and retaining the type of people needed for this seems likely to be difficult.

At the same time the East Timor experience seems to argue that there are minimums of military personnel strength, certainly as far as ground forces and their supporting elements are concerned, required to achieve fairly simple strategic objectives. Circumstances like those surrounding the Timor deployment can arise at short notice. Further, as the events showed, Australia's involvement in such operations may not be as discretionary as once thought. Whether Service numbers should be maintained at around their current level (perhaps with various mixes of Permanent and Reserve numbers) is a major policy issue.

The experience of high-technology warfare development from the Gulf War to the Balkans, is changing strategic thought and will change the nature of many future campaigns. There are indications of significant improvements in military effectiveness but also of high cost. It seems wise that elements of the ADF should be developed to take advantage of the most relevant of these developments, at least to the extent of proficiency in their use, developing offensive and defensive doctrine and planning a capacity to expand to an operational capability if or when required. The issue in this case will be how far along this course will be sufficient.
That leaves the problem of the 'middle' of the current ADF force structure being squeezed out when financial limits are reached. This is the issue of the extent to which the ADF can afford to reduce its more conventional military capabilities based on vessels, aircraft and vehicles. There is little clear guidance on this and few opportunities to get an effective balance of decisions across the range of capabilities. Nevertheless, the financial analysis indicates that it is in this area where decisions will have the most significant impact. Accordingly, one might expect the greatest attention to be focused here whenever the budget is under pressure. Consequently, it will probably in this area that we will see the hardest fought decisions on the future shape and capacity of the ADF.

**Conclusion**

It is dangerously easy in considering issues raised in the *Review* to allow financial considerations to dominate. This paper suggests that the root cause lies in policy, and that any effective corrective action must likewise begin (though not end) with policy.

In essence, either policy needs to be adjusted to less ambitious and more sustainable settings, or substantial extra resources must be allocated to defence on an ongoing basis. The latter course will involve either cuts in other areas of Government spending, or tax increases, or some mix of the two. On the other hand, adjusting policy to less demanding settings will involve rethinking many hitherto sacrosanct aspects of defence policy.

The difficulty of revising policy settings is complicated by the lack of any clear indications of direct military threat to Australia or its vital interests in current or likely future strategic circumstances. It can be assumed, however, that any government will wish to continue to operate an ADF with a reasonable range of military capabilities, even if financial pressures force some change to policy settings and, consequently to ADF force structure.

Regardless of the policies adopted and consequent changes to the ADF, the issue likely to dominate will not be so much that of equipment but the central importance of personnel to building the future capabilities of the ADF. Whether it is sustaining sufficient numbers to achieve objectives or developing the intellectual capabilities to meet the challenges of new technologies, recruiting, retaining and effectively using Service personnel will become a central objective of defence policy over the next two decades.

Similarly, paying for personnel will require the defence budget to increase in real terms by about one per cent immediately, rising to two per cent by 2020, simply to pay the full cost of prospective Defence wage rises. Similar unfunded pressures on operational costs of defence equipment will add to the discrete and sustained increases in the budget that will be required simply to allow the ADF to continue as it is currently exists. It will cost even more to maintain the ADF’s current range of capabilities. However, only by pursuing the most expensive of options should it be necessary to devote significantly more of Australia’s GDP to defence than is the case at present.
Endnotes


4. For example, Paul Dibb, quoted in 'US fears drop in defence spending', *The Australian*, 17 July 2000, pp. 1, 2.


12. op. cit., p. 2.

13. Vince Crawley, 'Vision 2020: US military cannot rely on technological advantage', *Defense News*, 26 June 2000, p. 48. According to this report, US Joint Chiefs of Staff predicted that by 2020, the US would have to rely on flexible thinking and superior people skills. It would be unable to count on maintaining its edge in military technology because the information revolution and access to the global commercial industrial base meant potential adversaries would have much the same technology as the US.


18. 'Albright remarks to sixth ASEAN Regional Forum', USIA Washington File EPF102, 26 July 1999. See also the remarks of US Assistant Secretary of State for East Asia, Stanley Roth, at the
In Cambodia, the Australian-led peacekeeping forces included contributions from Malaysia, Pakistan, China, Japan, Indonesia and Malaysia. In East Timor, the Australian-led force included contributions from China, Thailand, the Philippines, Malaysia and South Korea.

For example, Paul Dibb, 'Crunch Time for Defence', *The Australian Financial Review*, 16 September 1999, p. 18.


'Spokesman agrees to ASEAN Talks on South China Sea Code', *Zhongguo Xinwen She*, Beijing, 25 November 1999.

Jiang Zemin, Estrada hold talks on ties, South China Sea etc', *Xinhua*, Beijing, 16 May 2000.


'Demand has tigers roaring again, for now', *The Australian*, 15 June 2000.


'PNG has come a long way in a year', *Courier Mail*, 5 July 2000, p. 19.


IMF figures, based on current growth rates.


The Government's Defence Policy Discussion Paper: Issues and Directions


44. Defence Economic Trends in the Asia Pacific Region, DIO, Department of Defence, Canberra, 1999.

45. ibid.


47. Review, p.10.


52. 'Albright Press Conference', USIS, Beijing, EPF401, 22 June 2000.

53. In 1998, the US took 40 per cent of China's exports. Most of China's US$154 billion in foreign exchange reserves, the second highest in the world, is derived from trade with the US. In the late 1970s China's trade accounted for about 13 per cent of GDP, one of the lowest ratios in the world. Since then, China's trade has surged to more than 30 per cent of GDP, which is similar to other large developing countries, China 2020: Development challenges in the new century, World Bank, Washington, 1997, p. 84.


55. 'Military might focused on Taiwan', China Post, Taipei, 19 May 2000.


64. 'PRC arms control official warns against bringing Taiwan into TMD', Wen Wei Po, Hong Kong, 11 July 2000.


69. Dr Allen Hawke, Secretary, Department of Defence, 'Money matters', Speech at RUSI, Melbourne, 27 April 2000.

70. 'Special State Department Briefing', USIS EPF502, 9 June 2000.


72. Dr Ashton Calvert, Secretary of the Department of Foreign Affairs and Trade, speaking at the National Press Club, Canberra, 3 August 2000. See report, The Canberra Times, 4 August 2000, p. 2.

73. Australia's Strategic Policy, Department of Defence, Canberra, 1997, p. 13.

74. Review, p. 59.

75. ibid., p. 61.

76. ibid., p. 62.

77. ibid., p. 57.
82. 'DOD launches annual look at emerging military technologies', USIA Washington File, EPF509, 7 July 2000.
85. Primarily the Woolner paper cited above.
87. ibid., p. 19.
88. ibid., p. 33.
97. Dr Allan Hawke has said that the current situation of the defence budget is a consequence of the approval of equipment programs worth $7 billion in the 1997–98 Budget context. These were approved in the expectation that the DRP would release funds for investment in equipment but a subsequent decision to reverse reductions in personnel had led to the savings on efficiencies being spent on wages (Senate, Proof Committee Hansard, Foreign Affairs, Defence and Trade Legislation Committee, 'Consideration of Budget Estimates', 29 May 2000, p. 28). In fact, a trend to over-commitment in capital programs dating back to 1988–89 was clearly discernible by 1997 (Derek Woolner, 'Paying for it all?' in Hugh Smith, ed., From Tail to Teeth Implications of the Defence Efficiency Review, Australian Defence Studies Centre, Canberra, 1997, pp. 39–40). Details of Defence capital equipment programs currently under development are available on the Defence Acquisition Organisation website at: http://www.defence.gov.au/index.html


100. Woolner, op. cit., pp. 17–18.

101. ibid., p. 12.

102. ibid., p. 18.


104. 'Defence numbers to drop to 48 000', Canberra Times, 27 June 2000.

105. Dr Allan Hawke, 'Defence—the State of the Nation', p. 30.

106. In contrast, an alternative argument can be made for operational costs increasing after Timor, in part as a reaction from experience during that deployment indicating that expenditures in this area had been held at a level that was unsafely small, see Woolner, op.cit., p. 20.


108. The budgetary calculations in this paper are been done on the basis of the 1999–2000 Budget of May 1999. This was prepared before the impact of the Timor deployment and thus represents a more normal distribution of funding and a better basis for projecting trends of current policy settings out to 2020.

109. The 'high' cost option is based on an ADF of 53 500 and a capital equipment program of $110 billion. The low cost option is for 48 000 personnel and a $80 billion capital program. The former is a worst case scenario which assumes the other capital costs—such as for facilities will have to be met else where, the latter that all capital costs can be met within the $80 billion allocation. Both cases allow for increases in NPOC as calculated by the ANAO. The earlier years of both examples are distorted by this feature and the non-wages costs of build up of ADF numbers and, in the latter case, their reduction.

110. Ian McPhedran, 'Bargain Buys only, top brass ordered', Courier Mail, 1 July 2000.
111. Mark Drummond, 'There are ways out of the Defence Dilemma', Canberra Times, 9 May 2000.

112. The PFI is a mechanism for government procurement of capital items whilst deferring and spreading costs over the life of the investment. It may include approaches such as leasing equipment or purchasing the services based on use of the equipment, with the supplier responsible for day-to-day operations. This approach has been most extensively developed in the United Kingdom, where the Ministry of Defence has formulated a set of guidelines for its use.


116. The Review notes this fact (p. 27) but in a way which does not highlight the underlying importance of higher level government policy in defining priorities for the ADF.

117. The RAN commissioned commercial vessels into service to meet logistics requirements of Australia's involvement in both the Vietnam conflict and the UN missions in East Timor.

118. General Sir John Monash, as commander of the Australian Corps, oversaw the implementation of an operational concept that combined the effects of artillery, tanks and aircraft to support infantry operations. There is dispute about the extent of his personal contribution to this concept (for a brief account see, Peter Dennis, et al. The Oxford Companion to Australian Military History, Oxford University Press, Melbourne, 1995, p. 406.). However, his name is popularly linked to an approach that is seen, in its application in battles such as Hamel and Amiens, as typically 'Australian'. The tradition has a link to current defence policy in the recognition that, Australia, with a comparatively small population base, will generally focus on intelligent use of technology to achieve military objectives. In general, however, the basis of this approach to war is classic; perhaps most economically expressed by Confederate American Civil War cavalry leader, Nathan Forrest, 'I gets there firstest with the mostest'.

119. Thus the objectives of the American-led UN contingent in the Gulf War of 1991 were to remove Iraqi forces from Kuwait, not to destroy them or overthrow Sadam Hussain and those of NATO forces in the Balkans in 1999 were to force President Milosovic to stop the operations of Serbian forces in Kosovo. This in part reflects the changing nature of warfare at the close of the 20th century and the recognition that the correct strategic goals will determine whether the outcome of conflict actually improves the security environment. For instance, after the First World War the Armistice with Germany, followed by a punitive peace treaty did not improve the security situation in Europe whereas the total defeat of German forces followed by a Marshall Plan to rebuild it and the rest of Europe did (assisted by the threat of Soviet expansion). Sadam Hussain was not overthrown at the end of the Gulf War because of fears that this might destabilise the Middle East and thus worsen, instead of improve, the security environment.

120. These are broadly linked to advances in surveillance systems, information technology, communications and targeting devices that have produced changes in the potential of military operations so significant as to be dubbed the Revolution in Military Affairs.
121. EMP weapons are intended to degrade or destroy electronic circuits by overwhelming them with pulses of magnetic energy. See Ian Sample, 'Just a normal town', *New Scientist*, 1 July 2000, pp. 20–24.


123. The *Review* observes that military capabilities are more than pieces of equipment and discusses some of the issues in their development in the ADF (p. 27) and makes the same point with regard to regional defence forces (p. 28). It even states that some of the equipment in regional forces is not maintained or operated to the standards of the ADF but (perhaps not surprisingly) does not go on to assess how regional capabilities therefore compare with those of the ADF. It concludes with the statement: 'We cannot rely on better-trained people to make up for lower-quality equipment'. This is something with which this paper does not entirely agree.


126. Ian McPhedran, 'Bargain buys only, top brass ordered'.


130. The *Review* touches on these issues (pp.16–17) and notes that this is an area 'where our comparative advantage over potential adversaries is likely to last the longest'. It does not draw out the implications for alternative approaches to the development of ADF force structure.


137. Woolner, op.cit., p. 17.
Appendix 1—Rate of Change in the Defence Budget—Government Projection and Actual Outcome

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Real Change (%)</th>
<th>Projected Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976–77</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>1977–78</td>
<td>0.0</td>
<td>3.0</td>
</tr>
<tr>
<td>1978–79</td>
<td>1.0</td>
<td>2.6</td>
</tr>
<tr>
<td>1879–80</td>
<td>3.0</td>
<td>5.5</td>
</tr>
<tr>
<td>1980–81</td>
<td>5.6</td>
<td>5.3</td>
</tr>
<tr>
<td>1981–82</td>
<td>-1.7</td>
<td>4.3</td>
</tr>
<tr>
<td>1982–83</td>
<td>4.6</td>
<td>na</td>
</tr>
<tr>
<td>1983–84</td>
<td>4.1</td>
<td>4.5</td>
</tr>
<tr>
<td>1984–85</td>
<td>2.8</td>
<td>4.5</td>
</tr>
<tr>
<td>1985–86</td>
<td>2.9</td>
<td>3.8</td>
</tr>
<tr>
<td>1986–87</td>
<td>-0.4</td>
<td>3.0</td>
</tr>
<tr>
<td>1987–88</td>
<td>-1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>1988–89</td>
<td>0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>1989–90</td>
<td>0.0</td>
<td>2.0</td>
</tr>
<tr>
<td>1990–91</td>
<td>0.0</td>
<td>1.0</td>
</tr>
<tr>
<td>1991–92</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1992–93</td>
<td>0.0</td>
<td>-0.5</td>
</tr>
<tr>
<td>1993–94</td>
<td>-0.8</td>
<td>0.5</td>
</tr>
<tr>
<td>1994–95</td>
<td>-0.5</td>
<td>-0.5</td>
</tr>
<tr>
<td>1995–96</td>
<td>-0.5</td>
<td>-0.5</td>
</tr>
<tr>
<td>1996–97</td>
<td>-0.5</td>
<td>-0.5</td>
</tr>
<tr>
<td>1997–98</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1998–99</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1999–00</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2000–01</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>


### Appendix 2—Nature of Equipment Programs Involved in Block Obsolescence

<table>
<thead>
<tr>
<th>Description</th>
<th>Estimated Year of Decision</th>
<th>Estimated Year of Withdrawal</th>
</tr>
</thead>
<tbody>
<tr>
<td>F/A-18 Fighter Aircraft&lt;sup&gt;(1)&lt;/sup&gt;</td>
<td>2007</td>
<td>2015</td>
</tr>
<tr>
<td>Guided Missile Frigate</td>
<td>2008</td>
<td>2013–20</td>
</tr>
<tr>
<td>M113 APC&lt;sup&gt;(2)&lt;/sup&gt;</td>
<td>2014</td>
<td>2020</td>
</tr>
<tr>
<td>Leopard Tank</td>
<td>2014</td>
<td>2020</td>
</tr>
<tr>
<td>F111 Strike Aircraft</td>
<td>2010</td>
<td>2017–20</td>
</tr>
<tr>
<td>Air to Air Refueling Capability—B707</td>
<td>2001</td>
<td>2005</td>
</tr>
<tr>
<td>C-130H Hercules Aircraft</td>
<td>2003</td>
<td>2008</td>
</tr>
<tr>
<td>HMAS MANOORA &amp; KANIMBLA</td>
<td>2008</td>
<td>2015</td>
</tr>
<tr>
<td>HMAS WESTRALIA</td>
<td>2004</td>
<td>2008</td>
</tr>
<tr>
<td>HMAS SUCCESS</td>
<td>2010</td>
<td>2016</td>
</tr>
<tr>
<td>PC3 Orion Maritime Patrol Aircraft</td>
<td>2008</td>
<td>2016</td>
</tr>
<tr>
<td>Military Satellite Comms–Ground Infrastructure</td>
<td>2014</td>
<td>2017</td>
</tr>
<tr>
<td>Military Satellite Communications</td>
<td>2006</td>
<td>2009</td>
</tr>
<tr>
<td>Small Arms Replacement (Steyr, Minimi)</td>
<td>2016</td>
<td>2020</td>
</tr>
<tr>
<td>HMAS TOBRUK</td>
<td>2003</td>
<td>2010</td>
</tr>
<tr>
<td>8 tonne Mack and 4 tonne (4x4) Unimog trucks&lt;sup&gt;(3)&lt;/sup&gt;</td>
<td>2008</td>
<td>2015</td>
</tr>
<tr>
<td>Perentie 2 tonne (6x6) and 1 tonne (4x4) Vehicles&lt;sup&gt;(3)&lt;/sup&gt;</td>
<td>2008</td>
<td>2015</td>
</tr>
<tr>
<td>High Grade Cryptographic Equipment (Speakeasy)</td>
<td>2005</td>
<td>2008</td>
</tr>
<tr>
<td>105mm Howitzer (Hamel Gun)</td>
<td>2005</td>
<td>2010</td>
</tr>
<tr>
<td>155mm Howitzer (M198)</td>
<td>2005</td>
<td>2010</td>
</tr>
<tr>
<td>Very Low Level Air Defence (RBS 70)&lt;sup&gt;(4)&lt;/sup&gt;</td>
<td>2010</td>
<td>2015</td>
</tr>
<tr>
<td>Land Radios (RAVEN, WAGTAIL)</td>
<td>2003</td>
<td>2007</td>
</tr>
<tr>
<td>Seaking Helicopter</td>
<td>2003</td>
<td>2008</td>
</tr>
<tr>
<td>Caribou Aircraft</td>
<td>2003</td>
<td>2010</td>
</tr>
<tr>
<td>Patrol Boat</td>
<td>2000</td>
<td>2005</td>
</tr>
<tr>
<td>Landing Craft Heavy</td>
<td>2003</td>
<td>2008–10</td>
</tr>
<tr>
<td>Rapier Ground Based Air Defence Weapon System</td>
<td>2004</td>
<td>2010</td>
</tr>
</tbody>
</table>

**Notes:**
1. Assumes an upgrade to extend the life of the F/A-18 is approved in 2003.
2. Assumes an upgrade to extend the life of the M113 is approved in 2000.
3. Assumes that upgrades to extend the life of the trucks and Landrovers are approved in the period 2003–2006.
4. Assumes an upgrade to extend the life of the RBS 70 is approved in 2001.