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Per email: admin@armscomm.org.za

Dear Adv. Mdumbe

REQUEST TO DECLASSIFY CABINET DOCUMENTS

Your letter dated 22 January 2014 refers.

Please find attached documents that the Department of Defence has declassified.

Yours sincerely

R. Cassius Lubisi, PhD
Director-General and Secretary of the Cabinet
Date: 18/02/2014

Confidential report to the Ministers' Committee

AFFORDABILITY OF THE DEFENCE STRATEGIC ARMAMENTS PACKAGES:

AN ASSESSMENT OF THEIR ECONOMIC, FISCAL AND FINANCIAL IMPACTS

Affordability Team
August 1999

1. INTRODUCTION

1.1 Background

1.1.1 On 18 November 1998, Cabinet selected preferred bidders in each of the six categories of defence equipment to be procured. Cabinet also decided to establish a interdepartmental negotiating team (NT) to negotiate with the preferred bidders with a view to achieving an affordable package. Terms of reference for the process were finalised in January 1999. The team is led by a chief negotiator representing the Office of the President, and reports to a Ministers' Committee (MC) chaired by the President.

1.1.2 The mandate of the NT was to negotiate the best possible terms in three main areas: the cost of the acquisition; the value of the industrial participation offered by the preferred bidders and the terms of the loans offered to fund the packages. To assess the affordability of the package, the Ministers Committee agreed in March 1999 on an additional affordability analysis to be conducted under strict confidentiality by a four member team, the 'Affordability team' (AT), assisted by experts wherever necessary.

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1.1.3 The AT's mandate was to evaluate the overall economic, fiscal and financial impact of the procurement, with primary focus on the timing and need for the defence equipment, the economic benefit of the industrial participation, and the fiscal and financial risks, in order to prepare alternative scenarios for consideration by the Ministers Committee to enable the MC to make an appropriate final decision about the scale and nature of the arms purchases.

1.1.4 The work of the NT was organised as follows: into preliminary negotiations conducted by Armscor/DoD on the technical specifications and the prices of the various pieces of equipment involved; preliminary negotiations on the Defence industrial participation (DIP) conducted by Armscor; preliminary negotiations on Non-defence industrial participation (NIP) conducted by DTI; followed by negotiations between the full negotiating team and each of the suppliers on an umbrella agreement, and specific supply terms, DIP terms and NIP terms for each draft contract. Negotiations were also conducted with five international banks on the loan terms offered to fund the procurements. These were conducted primarily by the DoF, advised by WDR (London). Consequently negotiations on the schedule for drawdown of payments by the banks to the suppliers was conducted with each preferred bidder. As data became available, the AT undertook an in-depth economic analysis.

1.1.5 The overall negotiation strategy adopted was to leave the technical negotiations to Armscor/ DoD with the broad guideline to bring the full cost of the acquisition under the tender cost submitted to Cabinet in November 1998; to focus on the industrial participation negotiations to attempt to raise the industrial participation commitments of the suppliers (which stood at 50% of the contract price each for DIP and NIP) to the full value of their indicative business plans; and to improve both the terms and the costs of the loan packages.

1.1.6 The current status is that the negotiations are substantially completed. Subject to consideration at the forthcoming MC, the NT has completed two draft contracts, two records of understanding (which covers three types of equipment), and has received a signed draft record of understanding from the corvette consortium which reflects agreement on most substantive issues. However, although these documents record prices for equipment to be purchased, the technical process of evaluating and

selecting equipment is not fully completed in all cases. Negotiations with the international banks have also been concluded and recorded in revised term sheets.

1.1.7 The overall assessment is that we have largely accomplished our goals and have achieved significant cost reductions, a massive improvement in the real economic value of the industrial participation, and a much more favourable financial package.

1.1.8 An additional dimension to the process emerges from the decision of the MC in May 1999 to defer the procurement of the ALFA, and to mandate the team to instead negotiate with BAe/SAAB an option which commits the RSA to procure the ALFA from BAe/SAAB at some future point, while securing from them their continued participation in Denel and immediate delivery of their industrial participation commitments. BAe/SAAB have submitted a proposal in response which provides for the acquisition of a combination of LIFT and ALFA aircraft with options on the remaining LIFT and ALFA aircraft. The implications and costs of this are discussed in depth in the document.

1.1.9 Based on these inputs the affordability team, assisted by local experts, has conducted a comprehensive analysis, using economic models from the IDC and the Bureau of Economic Research at the University of Stellenbosch.

1.1.10 This document draws together the data arising out of the negotiations, and the economic analysis conducted by the AT. It examines the potential impacts of different levels of procurement on the fiscal, financial and economic position of the country, focusing in particular on the risks that different procurement expenditure levels pose in these areas. The price and other data reflect the position as negotiated by mid-August 1999. Inevitably, there will be some changes as negotiations are concluded.

1.1.11 The document begins with an overview of relevant negotiation outcomes. The heart of the affordability analysis then follows. This proceeds by outlining three expenditure levels, then explores the potential fiscal, financial and economic impacts of each, given different risk assumptions. In fact, the primary concern of the document is with risk: *the central objective of the analysis is to indicate to the Ministers Committee the potential fiscal, financial and economic outcomes of these purchases as these may be affected by the risks associated with them.*

1.2 Comparison with previous work done

1.2.1 This document obviously needs to be read in the context of the documents previously produced on this matter, viz. *"Affordability Assessment of Defence Special Package Procurements"* (November 1998), *"Defence Strategic Packages: An Assessment of the Potential Fiscal Impact"* (March 1999), and *"Defence Strategic Packages: An Assessment of their Macroeconomic Impact ..."* (March 1998.) The quality of the analysis in the current document, however, is very significantly improved on that previously presented, for four chief reasons:

- Time and resources have allowed the use of a macroeconomic model to simulate the impact of both the costs and the benefits associated with these purchases. The previous economic analysis was much cruder, and excluded a thorough assessment of the effects of the NIP investments;

- It has been possible to clarify the treatment of these expenditures in the national accounts, hence the impact of any level of expenditure on the national budget;

- An analysis of the impact of the procurements' funding requirements on South Africa's financial condition has been conducted (by Warburg Dillon Read, see Appendix F.)

- New data has become available. In part, this is because the negotiation outcomes have changed certain important variables; in part this is because updated and more realistic fiscal information – e.g. on budgetary restructuring within the Department of Defence – has emerged.

1.3 BAe Hawk-Gripen tranching option

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1.3.1 In the previous MC in May, it was reported that the single seater Cheetah supersonic fighter would only need to be replaced in 2010 – 2012. The dual seater Cheetah becomes obsolete in 2007. Alternatives were available for training of pilots, such as training abroad, which would enable the procurement of the dual seater ALFA to be delayed if necessary. It was generally accepted that it is risky to make procurements so far ahead of the actual requirement. On the other hand, the procurement of the Gripen from BAe/SAAB was perceived as generating substantial benefits through the strength of their industrial participation offers and the role of BAe/SAAB in Denel. As a result, the MC decided to defer the procurement of the ALFA (Gripen), and mandated the negotiating team to explore the possibility of taking an option which would allow BAe/Saab to supply Gripen to the SANDF at a future time on condition that this did not lead to a price premium or technological obsolescence, and on the basis that BAe/SAAB would continue their participation in Denel and would deliver on their DIP and NIP commitments in the meantime.

1.3.2 In response to this proposal from the NT, BAe/SAAB have indicated that the option we proposed would not assist them with the promotion of the Gripen into new international markets. Hence they would not be able to deliver on their DIP commitments which are linked to the Grippen and work related to the Gripen going to Denel would also not materialise thus affecting the viability of Denel. In the circumstances, there was little incentive for them to undertake their NIP commitments in advance.

1.3.3 As an alternative, BAe has proposed a combination transaction for the supply of 24 Hawk and 28 Gripen. The offer involves the supply of a combination of Hawk and the dual seater Gripen up front, with an option to the SAG to cancel on the remaining Hawk followed by another option to cancel on the single seater Gripen.

1.3.4 The NT has agreed to explore a transaction structured along these lines, subject to approval by the Ministers Committee. The concept of an option to cancel has been motivated by BAe on the grounds that it will allow the financing terms to be contractually locked in without prejudice to the RSA's right to decide not to go ahead with the rest of the procurement. The NT has explored the concept of an option to cancel as compared to an option to procure with our legal team. It appears that either option can be structured such that it does not restrict the Government's capacity to decide whether or not to acquire the additional equipment, no costs would be payable should the SAG elect to exercise its option to cancel, and there would be no difference in the impact on Government expenditure or the deficit until the procurement of the additional equipment became effective. On the other hand, the

structure of an option to cancel could achieve the purpose of contractually locking in price and loan terms.

1.3.5 However, the option to cancel as specifically proposed by BAE has a significant cost impact compared to the NT's option proposal at two levels. Firstly, the contract price for the Hawk alone is R4 050m, while the contract price for the proposed combined tranche 1 is R6 565m. Secondly, the purchase of some dual seater Gripen upfront implies an almost irrevocable commitment to completing the acquisition of the full Gripen package. Exercising the option to cancel the single seater Gripen in 2004 will imply a major waste of resources as the only purpose of acquiring the dual seater Gripen is to train pilots to fly the single seater Gripen.

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1.3.6 BAe/SAAB has proposed a three trache package with 12 Hawks and 9 Grippen in Tranche 1, 12 Hawks in Trance 2 with an option to cancel up to 2002, and 19 single seater Grippen in Tranche 3 with an option to cancel up to 2004. The DoD has communicated its in principle support for the combination approach, but has not commented on whether the 12 plus 9 Tranche 1 is a suitable combination. The NT has accordingly not negotiated with BAe about the configuration.

1.3.7 Although further adjustments to the configuration proposed by BAe are possible, from either a cost reduction or defence perspective, our current work is based only on the configuration offered by BAe. The basic dimensions of this offer are summarised in the following table.

Table 1: Summary of BAe tranching options

	Tranche 1	Tranche 2	Tranche 3	Total
Equipment	12 Hawk 9 Gripen	12 Hawk	19 Gripen	24 Hawk 28 Gripen
Payment dates First Final	 2 000 2 009	 2 002 2 006	 2 004 2 011	
Total price*	R6 565 m	R1 292 m	R5 316 m	R13 173 m
Unit cost Hawk Gripen	R213 m R445 m	R108 m -	- R280 m	R161 m R333 m
Margin above / below average unit cost Hawk Gripen	 +35% +34%	 -33% -	 - -16%	 - -

* For purposes of simplification, these prices are stated at R6.25 / US$1; net of escalation and forex depreciation; inclusive of ECA premia.

1.3.8 The option involves a single purchase contract, for the full amount (a "Base Price") of approximately R13 173 m (including the ECA premium), with the aircraft to be constructed and delivered in three batches as indicated above. The SAG, however, may cancel tranches 2 and 3 without paying any cash breakage costs in cash. This is different from a contract to procure, say, 12 Hawk and 9 Gripen with a cost-free option to order another 12 Hawk or 19 Gripen at a later date. In the latter case government would sign a contract for expenditures of R6 565 m; in the former, the expenditure obligation and actual contract amount – hence the amount of finance that government will need to secure – is R13 173 m, albeit with an "escape" clause covering some R6 608 m.

1.3.9 The financial implications of the tranche option require close examination. The costs of the aircraft in tranche 1 are 35% and 34% higher than the average unit costs for the Hawk and Gripen respectively. This is primarily because BAe/SAAB have front-loaded their non-recurrent expenditures (NRES) for the full contract into the tranche 1 price, being unable to amortise the NREs over the total contract (i.e. tranches 1, 2 and 3) as would have been the case if there was no option to cancel. The NREs include expenditures related to customising the aircraft for SA usage and additional equipment such as flight simulators.

1.3.10 The implication for the SAG is that the option to cancel involves a large implicit cost. Exercising the cancellation option would effectively mean that government would pay a premium for the aircraft in tranche 1 of 34% - 35%. This equates to a total of R1

736 m. If government accepts the combination package it would be financially perverse for it to cancel tranches 2 and 3 later.

1.3.11 The actual choice, then, in the light of the previous MC decision, is to fully defer the ALFA package without taking any options, or to accept a combination package as proposed. If the latter course is selected, then the MC would have to approve the option to cancel approach, and give guidelines about the configuration of Hawk and Gripen for Tranche 1.

2. OVERVIEW OF NEGOTIATION OUTCOMES

2.1 Prices and costs

DIP

2.1.1 The total cost of the procurements comprises a number of elements:

- Costs of the actual military equipment as procured from the suppliers (i.e. the tender or contract price);
- Statutory costs which consist of items such as freight, insurance and taxes, the largest portion of which are incurred in South Africa;
- Project management costs incurred by the Department of Defence and Armscor in managing the procurements;
- Financing costs for deferring payments to suppliers so as to fit more closely an optimum cash flow schedule;
- ECA premiums which are payable on all ECA-backed loans;
- Escalation on all of the above payments made in future years.

2.1.2 The costs as presented to the Cabinet in November 1998 did not take into account all the elements as described above for each and every package. Consequently, the total full cost was substantially higher than that presented to Cabinet. The latest estimates of the costs for the full original package is summarised in Table 2 below. In each case, the amounts shown include all known costs as outlined in the previous paragraph. As the purchase will be paid for over a number of years, it is prudent to take account of the foreign exchange effect over the repayment period. An additional escalation rate has also been applied to all cash flows described in the previous paragraph, and all foreign currencies have been converted to Rands at the estimated foreign exchange rate prevailing at that time (see **Error! Reference source not found.** for the forward curve assumptions.) The results have been discounted back to real 1999 Rands to give an actual Rand cost to government at today's prices.

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Table 2: Total cost of packages, August 1999 (Rm 1999)

Equipment type	Net % local	Costs Aug 99 (Rm 1999, fwd fx rate estimate)
Submarines (3)	5%	6 088
Corvettes (4)	29%	7 361
Maritime helicopters (MH) (4)	7%	967
Light utility helicopters (LUH) (40)	18%	2 446
Lead-in fighter trainer (LIFT) (24)	9%	5 469
LIFT & ALFA Tranche 1 (12 & 9)	5%	8 502
LIFT & ALFA Tranches 1, 2, 3 (24 & 28)	5%	19 620
1.1 TOTAL – Excl Gripen		22 331
1.2 TOTAL – Tranche 1 only		25 364
1.3 TOTAL – Tranche 1, 2 & 3		36 482

DIP

2.1.3 In order to effect cost reductions, negotiations have been conducted on price, specifications have been downgraded where possible, and the delivery time table has been adjusted where possible. In addition, the reduction of the LIFT/ALFA package, either through deferring the ALFA or through taking options on a combined LIFT/ALFA package will result in a substantial cost reduction relative to the full cost of the entire original package.

2.1.4 For comparative purposes, Table 3 shows the cost breakdown for each package based on latest available estimates, together with the cost estimates as per the reports presented by DoD to Cabinet in November 1998 and the Department of Finance to the Ministers Committee in March 1999.

2.1.5 The costs are shown in real 1999 Rands (1998 Rands in the case of the November 1998 report.) The first three columns of figures are based on a simplified average exchange rate for the entire period of R6.25:$1. In other words, real dollar prices have been converted at that rate to give real Rand prices. The last column of figures, however, shows the August 1999 figures based on the conversion of all foreign currency cash flows according to the estimated forward exchange rate at the relevant period. The resulting nominal Rands have then been discounted back to real 1999 Rands to remove the effect of inflation.

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Table 3: Comparison of equipment costs, November 1998, March & August 1999

Equipment type	Cabinet Nov 98 (Rm 1998, R6.25:$1)	Report Mar 99 (Rm 1999, R6.25:$1)	Outcome Aug 99 (Rm 1999, R6.25:$1)	Outcome Aug 99 (Rm 1999, fwd fx rate)
Submarines (3)				
Tender price		4 709	4 226	4 911
Statutory costs & project mgt		672	744	744
Financing preferred cash flow profile		-	97	106
ECA premium		269	287	326
Total	5 213	5 650	5 354	6 088
Corvettes (4)				
Tender price		5 473	5 469	5 681
Statutory costs & project mgt		600	1 214	1 214
Financing preferred cash flow profile			164	178
ECA premium		221	254	288
Total	6 001	6 694	7 101	7 361
Maritime helicopters (MH) (4)				
Tender price		647	623	732
Statutory costs & project mgt		123	151	151
Financing preferred cash flow profile		-	39	45

ECA premium		-	33	39
Total	788	770	846	967
Light utility helicopters (LUH) (40)				
Tender price		1 863	1 803	1 938
Statutory costs & project mgt		382	442	442
Financing preferred cash flow profile		-	-	-
ECA premium		56	58	66
Total	2 169	2 301	2 303	2 446
Lead-in fighter trainer (LIFT) (24)				
Tender price		4 047	3 902	4 481
Statutory costs & project mgt		827	813	813
Financing preferred cash flow profile		-	-	-
ECA premium		-	151	175
Total	4 728	4 874	4 866	5 469
Advanced light fighter trainer (ALFA) (28)	10 875	11 154	-	-
LIFT & ALFA Tranche 1 (12 & 9)				
Tender price	-	-	6 317	6 998
Statutory costs & project mgt	-	-	1 204	1 204
Financing preferred cash flow profile	-	-	-	-
ECA premium	-	-	247	300
Total	-	-	7 768	8 502
LIFT & ALFA Tranches 1, 2 & 3 (24 & 28)				
Tender price			12 612	16 349
Statutory costs & project mgt			2 585	2 585
Financing preferred cash flow profile			-	-
ECA premium			561	686
Total			15 758	19 620
TOTAL - LIFT ONLY	18 899	20 289	20 470	22 331
TOTAL – TRANCHE 1	-	-	23 372	25 364
TOTAL – TRANCHES 1, 2 & 3	29 774	31 443	31 362	36 482

2.1.6 The most significant source of the difference in prices between the last two columns is that the actual Rand depreciation rate (6% to 8% p.a.) is expected to exceed the inflation differential between South Africa and the US/EU (average of 2.5% to 3% p.a.), and so the real cost of the procurements is higher than it would be if it was simply calculated at a rate of R6.25:$1.

2.1.7 Aside from the foreign exchange differences, it is evident that the underlying prices of the armaments have generally decreased through the negotiation process. As the number of equipment to be procured was reduced prior to the November 1998 Cabinet meeting, the prices presented to the Cabinet were DoD estimates based on the preferred bidders Best and Final Offers. Relative to those estimates, the current underlying prices, excluding statutory, project and financing costs are significantly lower.

2.1.8 In some cases, the March 1999 prices included the ECA premium and this has been stripped out of the August 1999 prices. The amounts shown for ECA premiums are the latest estimates, but these are likely to change as the loans are finalised.

2.1.9 On the other hand, statutory and project management costs have increased in most cases, and the cost of the submarines, corvettes and maritime helicopters now also include the financing costs of adjusting the payment profile to suit the South African government.

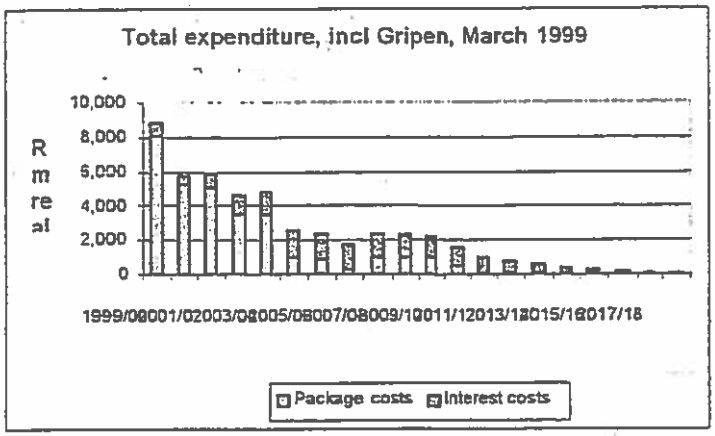
2.1.10 Finally, it should be noted that the escalation calculation is a simplification of the terms which will actually apply. Since escalation formulae have not been finalised with suppliers, for current purposes annual escalation rates of 5% and 2.5% have been used for Rand and foreign currency denominated cash flows respectively.

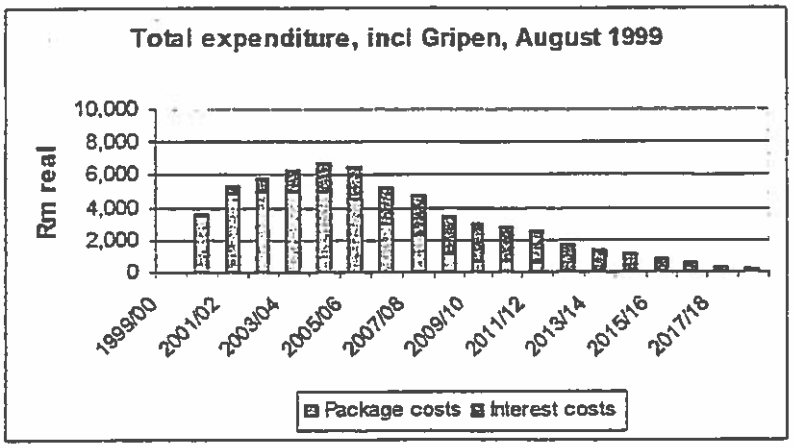
2.2 Cash flows

2.2.1 The profile of cash flows associated with the proposed procurements has changed considerably between March and August 1999. In particular, the payments which would have to be made to suppliers have been smoothed out and some payments have been deferred. The consequent profile of loan repayments and interest costs has also shifted.

2.2.2 The cash flow profiles as at March 1999 prior to negotiations, and at August 1999 subsequent to negotiations, are summarised in Figure 1 below. The expenditure shown includes both the costs of the equipment (including statutory and other costs) and the interest costs attributable to the packages.

Figure 1: Expenditure profiles in March 1999 and August 1999, including Gripen





2.2.3 Three observations can be made from the above graphs. First, in the March report, expenditure was shown to commence in fiscal year 1999/00 as opposed to 2000/01as is the case now. Given the existing budget cycle, it is not possible to commence expenditure on the packages in the current fiscal year since the Defence budget has no provision for such items. Second, the large initial increase in government expenditure – which would have caused the budget deficit to increase sharply from the first year – has been reduced considerably. Finally, the August cash flow profile entails higher expenditure levels from 2002/03 onward. This is the result of deferring the initial payments.

2.2.4 From a fiscal point of view, the latest cash flow profile is a significant improvement since it involves a smaller and delayed increase in government expenditure than was previously the case.

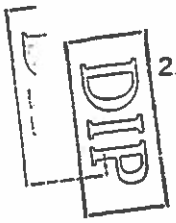
2.3 Non-defence industrial participation (NIP) and defence industrial participation (DIP) benefits

2.3.1 The tender requirements for DIP and NIP were each equivalent to 50% of the contract price measured in accordance with the rules of the respective industrial participation programmes of DoD and DTI. In their bids, the tendering companies were required to present business plans for projects which would fulfil their NIP and

DIP obligations. The rules allow companies to substitute projects which, through feasibility studies or as a result of new insights or a change of circumstances, were deemed by the companies to be no longer suitable. Typically, the preferred bidders presented a large number of projects with inflated numbers in their business plans, but committed to delivering no more than the required 50%. This enabled the companies to commence with the investigation of all their projects but allowed them to drop off some projects as they proved unviable yet still being able to meet their DIP and NIP obligations from the list of projects submitted.

2.3.2 With regard to the NIP system, the suppliers were allowed to meet their obligations through a system which awarded NIP credits for nine categories of activities, some of which involved real economic activity such as investments, exports and sales, and others which involved multipliers for exports and PDI equity participation. Credits were also available for training and technology which is generally extremely difficult to place a value on.

2.3.3 The presentation to Cabinet in November 1998 extracted the investment, exports and sales projections from the business plans, including some large projects which were not submitted as part of the tender. While the amount committed did not exceed R30bn for both the DIP and NIP, the number extracted from the business plans reflected an industrial participation performance in excess of R100bn.

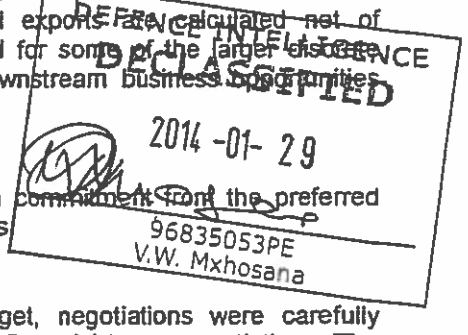


2.3.4 With the consent of DTI, the NT decided to amend the NIP system for the purpose of the defence procurement as the existing system appeared to inflate the benefits in an exaggerated manner. The NT decided to scrap all the multipliers used and to count only investments, exports and sales for the purpose of awarding NIP credits.

2.3.5 The target of the negotiations was for the preferred bidders to raise the level of their commitment to the level of the values reflected in their business plans. In general a target of a 1:1 ratio between investments and contract price was set for NIP, plus an additional amount of exports and sales. In all cases, these amounts were assessed over a period of 7 years. In some contracts a portion of the export commitments were front-loaded into the first 4 years in order to improve the overall balance of payments situation. In this case the exports are based on orders given to existing enterprises, and not directly linked to the investments facilitated through the defence procurements.

2.3.6 Relative to the commitments embodied in the tender submissions, the NIP commitments have been improved by over 100%.

2.3.7 A degree of flexibility was permitted insofar as local sales may substitute for export sales and, in certain cases, indirect DIP for export sales but no substitution of the investment commitment has been permitted. All exports are calculated net of imported inputs. A PDI component was stipulated for some of the larger investments, as was a preferential regime for downstream business opportunities where applicable.



2.3.8 For DIP the target was similarly set to achieve a commitment from the preferred bidders equal to the numbers of their business plans.

2.3.9 To maximise the chances of obtaining this target, negotiations were carefully sequenced and co-ordinated, in particular with the financial terms negotiations. The

NIP and DIP commitments of suppliers as they currently stand are summarised in Table 4 below. The table also shows the *amounts* which were presented to Cabinet in November 1998, prior to negotiations.

DIP

Table 4: NIP and DIP commitments (Rm 1999, based on R6.25:$1)

Package	NIP			Total DIP	NIP Performance guarantee
	Invest-ment	Gross exports	Local sales		
Corvettes	4 375	16 625	Included	2 899	5% of contract price, [1]
Submarines	6 242	10 669	1 629	1 139	10% of contract price for both performance & NIP guarantee,
LUH	1 153	2 926	720	1 410	10% of contract price,
MH	658	2 453	Included	576	10% of contract price,
LIFT[1]	2 000	2 500	4 500	3 125	10% of contract price,
LIFT & ALFA	12 500	32 500	Included	9 302	10% of contract price,
Total (incl ALFA)	24 928	65 173	2 349	15 326	
Cabinet Nov 98	25 336	56 204	17 861	11 176	

2.3.10 The overall DIP outcome is valued at R15.3 billion. Of this, direct participation in the equipment procurement amounts to R4.6 billion and technology transfers to R3.1 billion. On the indirect side, foreign suppliers have committed to engage South African defence companies to the value of R7.6 billion.

2.3.11 The table also summarises the performance guarantees which have been negotiated with suppliers in respect of their NIP commitments. In all cases except the corvettes (still under negotiation), these guarantees are higher than those normally applied by the Department of Trade and Industry in its NIP programme i.e. 10% of the contract price as opposed to 5% of the NIP commitment (which equalled an effective 2.5% of the contract price). There are various nuances in the way the guarantee is discharged. In some cases the reduction of the outstanding guarantee in the early years is based only on investments made, rather than local or export sales. This has the effect of maintaining the penalty during the critical period in which large projects should be constructed and developed.

[1] **Negotiations have not yet been finalised for this package.**

2.3.12 The DIP performance guarantees remain at 5% of the DIP commitment. The current DIP commitment is 37% higher than the value contained in the tender submission.

2.3.13 The above NIP commitments can, in principle, be met through both specified and unspecified projects. The specified projects consist of those which have been proposed by suppliers and for which either business plans or pre-feasibility studies exist. These specified projects include 3 large steel projects: the Ferrostaal stainless steel plant (submarines), the Danieli speciality steel plant (LUH) and the Thyssen galvanised steel plant (corvettes), as well as a number of smaller projects.

DIP

2.3.14 Aside from identified projects which are being developed with DTI, the suppliers' have made NIP commitments beyond the scope of identified projects. These commitments have been made in respect of capital investment and/or export and local sales for projects which still have to be identified and accepted. In these cases, a fixed time scale has been granted for identification and acceptance of future projects.

2.3.15 Should any of the specified projects fail to materialise or to generate the required number of NIP credits, then suppliers will be obligated to find substitute projects to make up their commitments, in the same way as the unspecified projects will have to be translated into real projects. If suppliers fail in this, the NIP guarantee may then be attached.

2.4 Outcome of negotiations on loan packages (see Appendix G)

Original offers

2.4.1 As requested per the tender process, each offer for the supply of military equipment was accompanied by a financing package to fund the purchase of the equipment by the SAG. The original finance offers from all of the preferred bidders provided finance for 100% of each contract in the form of foreign currency offshore loans consisting of:

- Export Finance officially supported by the Export Credit Agency of the supplying country (ECA Loans), and
- Foreign Commercial Credits at normal market rates and terms (Commercial Loans).

2.4.2 The ECA Loans covered up to 85% of the imported value of each contract with further amounts, to a maximum of 15% of the imported value, to assist in the financing of local work. In every case the Export Credit Agency insisted that the borrower pay the balance (15% of the imported element) from its own resources.

This 15% constituted the down payments required under the contracts. It was expected that this be funded in hard currency from the Commercial Loans offered at LIBOR plus a margin based on South African risk.

2.4.3 The ECA Loans were by and large standard ECA Consensus packages with fixed CIR Rates offered by the French, British and Italian ECAs.[2] The German ECA loans did not offer CIRR and were priced at LIBOR plus a margin of 0.50% p.a.

2.4.4 The repayment period of the ECA loans was 10 years in every case, although the commencement date for repayment varied. The UK ECA loan included useful options in respect of currency and interest rates, which provided the borrower with flexibility to choose the borrowing currency at each drawdown and to elect to use market floating rates during the delivery period.

2.4.5 As would be expected from an officially supported package, the ECA guaranteed credits provide the most favourable foreign currency borrowing terms. These are significantly better than what would be available to South Africa in the commercial markets. They also have the least impact on the availability of credit for the rest of South Africa's borrowers including the Government, although they may have an impact on the availability of ECA guarantees for future South African importers.

DIPD

2.4.6 The non-ECA loans (about 15% of the financing package originally on offer) involved commercial syndicated loans. Such international commercial borrowings are expensive and credit lines are scarce, particularly in current market conditions. The use of these lines would have a significant impact on South Africa's future borrowing ability.

2.4.7 Aside from the loan packages on offer, other financing sources could be considered. The only viable such source would be domestic (Rand) financing (gilts issued in the domestic market) to match the Rand costs of the financing requirement (i.e. the local content of the packages.) Relative to hard currency commercial loans, this would reduce exchange rate risks. However, there are capacity constraints in the market. For example, an issuance of ZAR 4.58 billion or 13% of the package, if raised in a short period, would constitute a shock to domestic interest rates, which would rise by at least 1% resulting in significant costs to Government and the wider economy. In sum, Rand financing would be the optimum source of funds for the local costs only if this could be spread over at least a 5-10 year period.

Negotiation objectives

2.4.8 Following a detailed assessment of the loan packages on offer and all alternative funding sources, a "Best Case" scenario was defined which would reduce costs, mitigate some of the serious impact on the Government's future borrowing ability and

[2] **The Commercial Interest Reference Rate (CIRR) is an artificially derived interest rate set by OECD monthly. It is a fixed rate which includes banks' lending margins. CIRRs are significantly cheaper than market rates as they do not reflect the risk premium that the private sector would charge for investing in SA since the banks receive guarantees from their governments.**

reduce exchange rate risks. In respect of the finance negotiations, the NT's objectives were.:

- to maximise ECA loan coverage (to cover the total imported content of the packages);
- to avoid Commercial Loans. This would imply that all forex down payments could be made from ECA loans;
- to finance local sub contracts with ZAR raised in the normal course of business by the Treasury;
- to maximise CIRR coverage for the ECA loans;
- to achieve the currency and interest rate options offered by ECGD for the other ECA loans;
- to reduce bank margins and fees;
- to reduce ECA premia and to have these premia paid in instalments and financed from the loans.

2.4.9 It was recognised that if these objectives were to be achieved a significant movement was required by the ECAs, since the Best Case was well beyond the terms on offer and would result in the ECA Consensus being breached. This would be difficult since defence contracts traditionally receive worse treatment than other exports.

Negotiating strategy

2.4.10 In order to achieve the Best Case scenario, maximum leverage was achieved by contract and loan negotiations being tightly co-ordinated so that the financing discussions on ECA matters proceeded alongside the contract negotiations until acceptable terms were agreed.

2.4.11 The ECA terms varied between countries and a cornerstone of the negotiating strategy was to use competitive pressure to get ECAs to match each other's best terms, so as to include the best features from each package in a common finance arrangement. Thereafter efforts were made to improve the packages to the extent that they eventually matched the Best Case scenario.

Negotiation outcomes: current financing arrangements

2.4.12 Following extensive negotiations in London and Johannesburg with the ECAs, banks and exporters, the Best Case scenario was achieved to the extent that the need for Commercial Loans has been completely eliminated. Concretely:

- ECA finance now accounts for all the imported content and, most importantly, allows down payments in respect of those goods to be made from those ECA Loans;

- the non-UK Agencies have, to different degrees, matched the attractive options that were offered by the UK ECA, ECGD;

- As a result, the ECA Loans now include options to select different currencies during the delivery period, and with the exception of the German offer, there is an option to choose floating interest rates during the delivery period, with the option to fix at market rates during draw-down, and at the first repayment date the option to fix at the CIR Rate agreed on Loan signature. The ability to fix the CIRR ahead of Loan signature for the French and the Italian packages is now much more liberal, so that a certain amount of hedging against an adverse rate movement is possible at no cost.

- The ECA premia can now be paid in instalments and financed from the ECA Loans for all packages. In one case (Italy) the ECA premium has been reduced;

- In the case of Germany an element of the finance (13% of contract value) is now available at CIR Rates rather than at market rate;

- The French have allowed 10 year repayments for the corvettes' Exocet missiles rather than the maximum 5 years;

- Bank margins and fees have been reduced.

2.4.13 These concessions by the ECAs are largely unprecedented. The finance package finally achieved has pushed out the boundaries of ECA defence financing and is probably unique.

2.4.14 The terms now achieved with the ECAs and banks have substantially improved the financing in terms of cash flow, exchange risks as well as producing substantial savings for the borrower amounting to approximately US$ 101.09 million (over R600m.)

Risks

2.4.15 Certain risks associated with the funding of the packages need special mention:

- Escalation during the manufacturing period will continue to accrue during manufacture. However it has been possible to agree extra ECA Loan amounts to cover such escalation so that at least future funding at preferential terms is secured.

- The adverse movement of CIR Rates prior to Loan signing is a possibility, so CIR Rates have been fixed with the ECAs for a period of 120 days to mitigate short-term CIRR movements.

- The adverse movements of interest rates throughout the borrowing period are largely covered by the use of CIRRs, which hold steady throughout the Loan period.

- Exchange rate movements throughout the borrowing period are largely uncovered since hedging exchange rates on amounts borrowed under the ECA Loans is impractical. Some risk has of course been avoided by the use of ZAR for the local supply.

3. ECONOMIC IMPACT ANALYSIS

3.1 The purpose of this section is to identify the main economic factors which will be impacted upon by the procurement decision, to analyse the impact of the decision, and to discuss the major risk factors in each area. The economic analysis first identifies the macroeconomic issues to be addressed, then discusses the two significant risks affecting the economic impact of the overall programme: the risk of an interest rate rise, and the risk of the NIP/DIP benefits not materialising. The last section of the chapter presents the results of a modelling exercise undertaken for the Affordability Team, which quantifies the overall economic impact of the programme.

DIP

Macroeconomic issues

3.1.1 The macroeconomic analysis focuses upon both the defence procurement and the NIP benefits, in other words, both the costs and the benefits of the defence procurement decision. The analysis focusses on four key macroeconomic variables, which together provide a succinct picture of the impact of the procurement. These four variables are:

3.1.1.1 *The percentage growth rate of the real Gross Domestic Product (GDP)* indicates whether economic activity is expanding or contracting

3.1.1.2 *The fiscal deficit (as a* percentage of GDP) is the key indicator of the government's financial position, and is an important signal to the financial markets of expected future trends in aggregate expenditure, public sector borrowing requirements and inflation in the economy

3.1.1.3 *The deficit on the current account of the balance of payments (*as a percentage of GDP) is the key indicator of the economy's foreign trade position and foreign capital needs. Like the fiscal deficit, this indicator is an important signal to the financial markets of expected future trends in the exchange rate

3.1.1.4 *The number of jobs created* (in thousands) measures the employment impact. This is driven by the GDP growth rate.

3.2.2 There is no pre-defined value, or range of values, regarded as acceptable or not for the GDP growth rate, and the fiscal and current account deficits. What is important is that these ratios are 'sustainable'. To sustain the GDP growth rate, productive capacity must grow at the same rate, which requires sufficient new investment in machinery and equipment. For both the fiscal and current account deficits, sustainability depends on there being finance available: the budget deficit is financed by government borrowing domestically and/or abroad, and the current account deficit is financed by capital inflows from abroad (or by using up foreign exchange reserves). In contemporary 'globalised' financial markets with highly mobile investors, government's ability to borrow depends on its keeping a fairly strict limit on the fiscal deficit – usually close to or below 3% of GDP. In principle, the current account deficit can rise to 4% or 5% of GDP, as long as sufficient capital is flowing in from abroad to finance it, but it is not certain that SA could sustain this size of current account deficit.

3.2.3 The defence procurement has several important macroeconomic features. The first is that the government expenditure on the defence packages exerts contractionary pressure on GDP, because the procurements are primarily imports. Any additional government expenditure above existing levels is directed towards imports, and does not add to demand for domestic production. Furthermore, to the extent that procurement expenditure *replaces* government consumption expenditure on other goods and services (so as not to add to the fiscal deficit), it replaces spending on domestic goods with imports, reducing GDP.

3.2.4 Second, the arms procurement programme increases *both* the fiscal and current account deficits, which are important signals of future macroeconomic trends for the financial markets. When either of both of these deficits increase, domestic interest rates are pushed upwards, and GDP contracts further. The defence acquisition process inevitably has a macroeconomic cost, which is heaviest during the first 5 years of the exercise. Roughly 95% of the fiscal expenditure (excluding interest) occurs by 2005/6 (85% if interest costs are included).

3.2.5 The NIP projects are intended to offset this cost, and the NIP export procurements do provide an immediate benefit. But the NIP investment projects are under construction for the first three years, up to 2002/3, during which time, they raise employment, but are also very import-intensive because capital equipment is brought in from abroad. These imports increase the current account deficit, pushing up interest rates further and cutting back GDP.

3.2.6 After 2003/4, the NIPs begin operations, and add to output, exports and tax revenues. These are all positive impacts, on production (in their own sectors and those from which they buy their raw materials), on the current account deficit and on the fiscal deficit. GDP growth then starts to recover. After 2004/5, the defence procurement expenditures are almost complete and from then on, the NIP benefits dominate the process and GDP growth returns to its previous path.

3.2.7 Two phases emerge clearly during the period 2000 – 2008, involving a shifting balance between the costs and the benefits. The first phase lasts until roughly 2004/5 and is dominated by the arms procurements (the cost side), with the NIPs under construction for most of this period. After 2004/5, there is a second phase during which the benefits from NIP production come to the fore.

3.2.8 An important risk facing the process is that factors extraneous to the arms procurement programme could lead to further economic decline during the first phase, and prevent or ameliorate the expected improvement in the later phase.

Equally, the contractual nature of the commitment introduces some degree of inflexibility during the first phase, making more difficult or more costly any policy adjustment which might become necessary during this phase.

Risks

The next two sections examine the key economic risks 'intrinsic' to the programme, the interest rate risk and the danger that the NIP benefits fail to emerge.

Interest rate risk

3.3.1 The defence procurement is a large government expenditure on unproductive equipment, and it must be expected that there will be some upward pressure on domestic interest rates, roughly in proportion to the size of the procurement. But the risk which is addressed here is that the programme's announcement could precipitate a very large rate increase, of the order of magnitude that occurred from June 1998 when SA was caught in the aftermath of the Asian crisis. An increase of this size would create serious difficulties for economic growth, job creation and government service delivery. Interest rates have dropped significantly in recent months, so an increase would also imply a reversal of a positive trend, and damage confidence of investors and consumers.

3.3.2 It is possible that the announcement of the arms expenditure programme will lead to a negative reaction by capital market investors, especially from abroad, in terms of the impact on the fiscal deficit for next year (2000/01) and subsequent years. As is well-known, the size of the fiscal deficit, and whether the government has met its fiscal deficit target, is one of the central concerns of foreign portfolio investors, who hold not only foreign currency-denominated paper issued abroad by the SA government, but also a significant share of Rand-denominated paper issued in the domestic market.

NIP

3.3.3 The perceptions of these investors are crucial for stability in SA's financial markets, as negative perceptions result in capital outflows and depreciation of the Rand which can grow quickly to crisis proportions, as occurred between February and May 1996 and again between May and July 1998. Equally, the government's high degree of success in meeting its fiscal goals over the past three years has contributed very significantly to the degree of financial stability which has occurred in that period.

3.3.4 The effect of any capital outflows on interest rates, exchange rates and foreign exchange reserves depends to a considerable extent on the policy reaction of the SA Reserve Bank. The SARB has some degree of choice in deciding how to react. It can either raise short-term interest rates to induce foreign investors to hold onto Rand assets, that is, it can focus on trying to stop or slow down the capital outflow. Alternatively, the SARB could choose to shelter domestic firms and individuals from higher interest rates and instead allow the outflow to continue and the exchange rate of the Rand to fall. A capital outflow is likely to cause the long-term interest rate to move up, but the SARB can control to some degree whether it pushes interest rates, or allows the spread between long and short rates to widen. If the SARB pushes up short rates, long rates are likely to move up faster and further.

3.3.5 Recent public statements by Governor Mboweni, as well as discussions with SARB officials, suggest that if for any reason, there is a small outflow, within a 'normal' range – the Rand will be allowed to drop and there will be no attempt to stem the

outflow by raising the short-term interest rate. A 'normal range' appears to be a 1-1.5% drop in the R:$ rate over 5-7 days. If the outflow forces the exchange rate to drop more than this, rates would probably start to move up.

3.3.6 There is some danger that the announcement of the arms programme will trigger 'herd' behaviour by portfolio investors, that is, a small but significant number of investors will react strongly to the announcement and choose to exit from SA assets, forcing other investors to follow. The interest rate risk lies in this type of self-reinforcing process occurring as an immediate and rapid reaction to the announcement, that is within the first week or ten days. If this did occur, the SARB would be forced to abandon its stance and raise interest rates to try to slow capital outflows. In 1998 the SARB tried to do this through a series of stepped interest rate hikes. This approach did not work then, and next time the SARB is likely to raise rates steeply and quickly, reversing the current trend of declining rates and causing substantial damage to investor confidence in the 'real' economy.

3.3.7 For the purposes of this report, WDR and the SARB were consulted for their views on possible capital market responses to the defence procurement announcement. (The WDR view is contained in Appendix F.) Their shared view is that although an extremely negative reaction producing large capital outflows and higher (long and short-term) interest rates is possible, the most likely market reaction is a 'low impact' one, involving limited outflows and a small and temporary rise in long-term interest rates of around 1% for a package of roughly the size announced in November 1998, with correspondingly smaller rate rises for smaller packages.

DIP

3.3.8 There are several factors favouring a 'low impact' market response, including:

- investors may already have discounted the procurement to some extent, given the previous announcement in November 1998
- the expenditure is spread out over 6-8 years
- the expenditure is being financed simultaneously, and (aside from interest costs) will not add to government's financing requirements in the short to medium term
- the foreign financing is not expected to affect South Africa's sovereign risk rating or its capacity to raise loans abroad for general budgetary needs
- the NIP export procurements can be expected to support the current account impact in the short-run, and exports from the investment projects to do so in the longer run
- the NIP projects can be expected to provide tax revenues to mitigate the long-run fiscal impact

3.3.9 On the other side, factors which could aggravate the market reaction include:

- sustained high levels of procurement expenditures over the first three to four years suggest that current fiscal targets are likely to be exceeded throughout this period (here again the size of the package is critical)

- the increase in foreign borrowing increases government's exposure to forex risks

- the NIP benefits may be heavily discounted by some investors

- government financial ratios will move close to the upper threshold of the ranges acceptable to the financial markets

3.3.10 As noted, the consensus view amongst the Affordability Team and those it was possible to consult, was that the likely balance between all these factors is towards the 'low impact' side, that is, a small and manageable rise in interest rates, of 1% or less. It should be emphasised that the critical factor in determining the balance between the two sets of factors and thereby influencing market reaction will be the size of the defence procurement, and its overall cost.

3.3.11 In addition to the above factors, market reaction will be influenced by the timing and packaging of the announcement. The probability of a minimal response can be enhanced by effective management in this respect. Two steps are essential. The first is to inform key market players directly and as quickly as possible of the full story, including the details as listed above. The announcement could trigger panic if investors do not absorb the full story, but simply react to the 'headline' news, ie. the total cost figure, which is likely to be well over one percent of GDP.[3] The second step is to ensure that the story is linked as far as possible with 'good' news about SA, and is *not* linked with 'bad' news.

DIP

3.3.12 The discussion so far has focussed on foreign investors, the critical group in determining the size of capital outflow. However, local bond market investors will have a demonstration effect on foreign investors. On the one hand, a negative reaction from local investors to the announcement would help to trigger the same amongst foreign investors. If domestic investors stream out of the bond market, foreign investors are unlikely to stay. Conversely, a move into bonds by domestic investors could play an important calming role in that market. Indeed there is a view in the market at present that local investors should be moving from equities to bonds, and the announcement might reinforce this view, by putting upward pressure on rates. In any event, the strategy for managing the announcement must ensure that key local investors as a group are also effectively informed about the programme.

3.3.13 There is also an important 'extrinsic' risk relating to the interest rate, in other words, a risk that capital outflows could occur in the wake of the announcement for reasons totally unconnected with the arms programme itself, or even with specifically South African circumstances. This is of course beyond the control of the SAG. But if an interest rate increase should occur, the effect on the overall impact of the programme would be no different than if it had resulted directly from the programme itself. That is, the macroeconomic position would deteriorate quite rapidly, particularly during the first four to five years of the programme.

[3] One percent of current GDP is R7.4 billion approximately.

3.3.14 There is a second, longer-term, interest rate issue related to the need for government to fund interest and capital repayments for the programme through borrowing. To the extent that such borrowing occurs in the domestic market, there would be upward pressure on interest rates. It is difficult to quantify this pressure, but one estimate suggested a maximum rise of 0.7% in the medium term, for a package of roughly the size as announced in November 1998. The interest rate rise is again correlated with the size of the package. It should be noted though that this estimate was based only on government borrowing domestically to finance interest payments associated with the arms programme. Government will also need to borrow to finance capital repayments.

3.3.15 In addition, the domestic financing component of the large NIP projects will also add to demand-side pressure in the capital markets. For these projects, slightly less than half the capital will be raised in South Africa, in the form of debt or equity. A rough calculation of these amounts suggests that these latter amounts will be of the order of R1.6 billion, R2.1 billion and R1.1 billion in the years 2000 through 2002, assuming the projects actually come to fruition. These amounts will be split approximately equally between the bond and equity markets. These amounts are of the order of 0.2-0.25% of GDP, approximately equivalent to the size of interest payment used in the above estimate. The NIP side of the programme thus could possibly add a further 0.5% to long rates in the medium term.

3.3.16 NIP/DIP benefits risk

The intention of the NIP and DIP programmes is to offset or mitigate the negative effects of the import-intensive arms procurements on economic performance in general and the balance of payments in particular. To the extent that these projects fail to deliver their expected results, the negative economic effects of the procurements will be exacerbated.

Two separate risks present themselves in relation to NIP and DIP projects. The first is the possibility that the NIP and DIP projects will not be implemented at all, that is, the weapons sellers intend *not* to meet their contractual commitments in respect of NIP and DIP, choosing instead to forfeit their performance guarantees. This can be labelled 'contract risk'. The second risk can be labelled 'market risk': whether the NIP and DIP projects, once implemented, are able to meet the contractual commitments in terms of investment, sales and export credits.

1.3.1.1.1.1.1 Contract risk

In the case of DIP projects, experience both locally and internationally suggests that there is a low risk of non-performance in relation to contractual commitments, In other words, 'contract risk' be ignored in these cases.

In the case of the NIP projects, the assessment of 'contract risk' is much more controversial. One side of the argument suggests that it is possible (or even probable) that suppliers have priced into their weapons contracts some or all of the penalties payable for non-performance, at least at the original 5% level. It may therefore be in their interests to accept this cost rather than to take on the additional risks and potential costs of NIP projects. It is suggested that this is the standard outcome of defence offset arrangements internationally.

There are several counters to this argument. First, the size of penalties for non-performance has increased significantly between March and August 1999, increasing the incentives for suppliers to perform on their NIP obligations.

Second, the agreements all[4] specify NIP *commitments*, as opposed to 'best efforts', which are admittedly common within the defence industry globally. 'Best efforts' contracts simply require suppliers to attempt to identify and implement NIP projects, with no penalty should they fail.

Finally, it should be underlined that offsets have become standard practice in the defence industry internationally over the past 20 years or so, to the point that there is considerable concern in exporting countries that offset requirements by foreign purchasers are taking considerable business away from domestic firms in both defence and non-defence industries. These concerns suggest that offset project implementation does indeed occur.

A US government report in 1998, for example, analysed offset agreements entered into by US companies between 1993 and 1996.[5] During the 4 year period, 173 new offset agreements were entered into with 28 countries for $15.1 billion, supporting defence contracts worth $29.1 billion. During the same period, US companies also carried out 2277 individual transactions for a total amount of $9.2 billion in 31 countries, in accordance with agreements reached in previous years.

DIP

There are numerous examples of successful implementation of defence-related offsets. In 1976, Switzerland entered an agreement with Northrop to buy 72 F5 aircraft, with Northrop and General Electric (manufacturers of the engine) agreeing to purchase or to help sell Swiss goods and services for 30% of the contract price. This transaction was very successful from the Swiss point of view, so that in 1980 38 further F5s were purchased, with offsets now set at 40-50% of contract value. In addition, 37 of the aircraft were assembled in Switzerland as part of a DIP arrangement.[6]

Another US government study examined the offset policies and practices of ten countries, both developed and developing.[7] This report documents multiple offset agreements with each country, and concluded that demands for offsets have increased in all the countries, both in value terms, and in terms of demands for more technology transfer, higher offset percentages and higher local content requirements. The focus is increasingly on longer-term deals and commitments. "This shift highlights these countries' use of offsets as a tool in pursuing their industrial policy goals."

[4] **One possible exception to this is the GKN Westland contract for the 4 maritime helicopters. The supplier was unable to propose projects to the required value, and has been given an extended period of six months to do so. But even in this case, the contract requires a *commitment* for the NIP amount and allows for cancellation should the supplier not make this commitment within the allowed time.**

[5] **Bureau for Export Administration, Department of Commerce, "Offsets in Defense Trade, 1998" (003-009-00674-1, August 1998).**

[6] **This example comes from an article in the academic journal *Defence Economics*, volume 2 (1991), by B Udis & K Maskus, entitled "Offsets as industrial policy: Lessons from Aerospace".**

[7] **General Accounting Office, "Military exports: Offset demands continue to grow" (NSIAD-96-65, April 12 1996).**

Indeed, an important conclusion to the analysis for the present report is that the success of the offset process is directly related to the broader capacity of a government to carry out industrial policy. In other words, the degree of 'contract risk' involved in the NIP process can be reduced by enhancing the industrial policy process in terms of implementation capacity and policy instruments.

1.3.1.1.1.1.2 Market risk

Given their significant weight in the total value of NIP projects of the three steel projects connected with the submarine, corvette and LUH contracts, the Affordability team decided to solicit independent assessments of the viability of the projects and the market risks associated with them.

An extensive "Initial Assessment" of the three projects was carried out jointly by a consortium of three steel analysts based in New York and Pennsylvania in the US. A somewhat briefer assessment was also provided by a steel analyst employed by Warburg Dillon Read in London. The two analysts' reports are attached as Appendix H. Both reports were based on the business plans submitted by the project sponsors, which contain the basic information for the project, but limited detail. The reports point to a number of commercial, financing and other risks which collectively raise significant questions about the viability of at least two of the three projects, the Danieli special bar quality mill and the Ferrostaal stainless steel mill. Their arguments are summarised below.

DIP

These risks are such that a cautious view is justified regarding the benefits which may accrue from these projects. Although the analysts' reports were available too late to be used in the modelling exercise, they suggest that the confidence levels used for these projects in the modelling assumptions do not in any way understate the potential benefits associated with the projects, and indeed could overstate these benefits in the case of the Danieli and Ferrostaal projects.

1.3.1.1.1.1.3 Thyssen

The Thyssen galvanizing line and cold rolling mill proposal is regarded by both reports as the *lowest* risk project. It will produce a high quality product for a clearly defined domestic market with strong growth prospects.

The three phase nature of the project is appropriate and helps to minimize overall project risk. The galvanizing line (phase 1) can stand alone and its feedstock can be sourced from the entire world market. If successful, the galvanizing project can be enhanced via upstream integration with phase 2 and phase 3 projects. The US$161 million capital cost for phase 1 (galvanizing line) is reasonable and consistent with other similar facilities. Estimated production costs of $80 per tonne are at the high end of the acceptable range of $32 - $84 per tonne. The project poses little threat to existing South African producers and, if completed through phase 3, links up with the principal producer of flat-rolled products (Iscor). Finally, the project has the potential to spawn significant downstream processing operations and thereby create additional jobs.

The project would not have a meaningful negative impact on competitors since no South African steel companies currently manufacture galvanized steel of sufficient quality to meet auto industry needs. Given the apparent market and cost feasibility of the project, we believe that financing will be obtainable. We note, however, that raising the equity share to above the estimated 20% would make it easier to attract debt capital.

1.3.1.1.1.1.4 Danieli

The Danieli specialty bar and wire mill also has the potential to be a commercially feasible project with *moderate* risk. The potential export markets for the proposed products are favourable due to the continued growth in SBQ (special bar quality) usage, especially in the automotive and industrial equipment industries. In addition, the mill is small relative to total world demand for the product. However, the small scale of the mill may impact on its competitiveness.

The opportunity for the proposed mill to displace imports is limited, however, since South Africa imports only modest volumes of bar and rod; this will make it difficult to achieve the short-term plan objective of 40% domestic sales.

The US$228 million capital investment requirement appears to be high by about $20 - $25 million based on the limited equipment information available. The operating cost appears to be optimistic to the extent of potentially reducing the estimated annual return by about $19 million per year, due to optimistic assumptions about both raw material costs and selling prices. Even with this reduction, total operating costs would be competitive but the IRR would be reduced by at least 5%. The project has some potential to spawn downstream processing operations that could create additional jobs.

DPD

1.3.1.1.1.1.5 *Ferrostaal*

The Ferrostaal 800,000 tonne stainless flat rolled mill, though potentially viable in the long-run, has a *high degree of near-term risk*. The project targets a rapidly growing world market, but the plant's finished steel output would represent about 8% of total world stainless flat rolled output, a level sufficient to negatively impact world prices.

The negative impact on the world market (especially on prices) of so much greenfield capacity brought on line in one single stage has been very significant in the most recent cases of Columbus and of Yieh United in Taiwan. Because of the imbalance between the efficient scale of new stainless steel plants and the potential impact on regional and world markets, most new capacity is added through incremental expansion. Greenfield capacity is most often installed in reverse order (cold rolling complexes, then hot mills, then melt shops and casters) in stages over several years or decades.

The world stainless flat rolled market – while expected to continue to grow at the 5% to 7% per year rate – has entered into a new era of intense international competition, excess capacity and lower prices and margins. Prior to the early 1990s, the world stainless market tended to act as a loose oligopoly, characterised by relatively disciplined production and pricing practices by the limited number of key producers in the U.S., Western Europe and Japan. New market entrants in these countries as well as Asia, South America and Africa have changed the market dynamics significantly and probably permanently.

The success of the proposed mill will require the following key components:

- ability to produce very thin gauge (less than 2mm) hot rolled sheet;
- operating cost advantage;
- long-term off-take agreements for a significant share of the output; and
- reliable, long-term contracts for nickel and scrap.

However, these could not be evaluated due to insufficient or inadequate documentation.

Because South Africa already has a new and roughly similar-sized plant, Columbus, which itself is heavily dependent (over 80%) on exports, the project will likely be very difficult to

finance *unless* the sponsors are able to negotiate long-term (3 to 5 years) off-take agreements for a substantial portion (25% to 60%) of the plant's output to mitigate the above-mentioned risks.

The project may have merit in that it appears to be designed to target the market for hot band for re-rolling by other international stainless steel mills, as well as the small but growing market for hot roll stainless coils for consumption. The former market is currently quite substantial in that a relatively large number of world stainless steelmakers operate with limited or no hot rolling capacity and are thus dependent on other companies to supply hot bands or to toll roll slabs into hot band.

This re-roll market for stainless hot band is in transition due to the Asia crisis, merger and acquisition link-ups which lock in re-roll flows, and the commercialisation of direct strip casting. Without a long-term off-take agreement with specific re-rollers, therefore, the project still entails high risk given its very large size.

The project's export dependence also makes it vulnerable to exchange rate risk and growing trade barriers. Protectionist measures are increasing around the world partly as a result of the economic difficulties in Asia, Latin American and the former USSR. This has resulted in the imposition of new or higher import quotas, minimum import pricing floors, antidumping and countervailing duties, and rising port tariffs in the U.S. and elsewhere.

DTIP

The South African market for stainless flat rolled of all types is only on the order of 100,000 tonnes – 15% of the planned capacity of the proposed plant. Approximately 90% of the South African market is already supplied by Columbus and 10% by imports, mostly of products not made by Columbus. Thus, the proposal assumption that the proposed mill will sell 10% of its production (80,000 tonnes beginning in year 3) into the domestic market appears unrealistic.

The availability of chrome is partly offset by the lack of sufficient indigenous scrap and nickel supplies in South Africa. For example, Columbus Stainless must import significant volumes of nickel from Russia. The use of high volumes of scrap, as opposed to virgin nickel ore, results in significant cost savings for producers in regions where scrap is more readily available such as North America, Japan, and Western Europe.

The IRR and operating rate assumptions may be difficult to fully achieve based on historical experience of major international stainless steelmakers over the past decade.

With respect to financing prospects, any steel project will face difficult financial market conditions for at least the next several years, given the banking experience and troubled greenfield steel track record over the last several years, especially with the Asia crisis.

The estimated capital cost of the project is reasonable and consistent with expectations based on our knowledge of similar projects.

The labour input appears relatively high. Western European and Japanese facilities of this type operate with about 8 man hours per tonne. This project assumes 10 man hours per tonne.

The analysts argued that the reported long-term sustainable gross margin of 35% is high, since efficient producers generally realize gross margins of 10-15% over the long-term. Assuming a 20% gross margin for the proposed project, the IRR, estimated to be 24.4% (pre-tax and pre-dividend) would decline to the mid teens.

1.3.1.1.1.1.6 *Overall summary*

The sponsors of all the three projects are European steel producers, traders and equipment manufacturers with excellent reputations in their respective fields. As a result, there is little risk that the sponsors lack the technical wherewithal to build and operate the proposed projects.

The recent worldwide financial problems encountered by many steel firms have made the investment community wary of undertaking new steel investments. The soft market for international project finance could further increase financing costs given perceived country and political risk in South Africa and all of Southern Africa. Under these current market conditions, financing for any new steel project will be expensive and somewhat difficult to obtain. Thus, the assumed interest rates on the three projects, which range from about 6% to 8%, may be too low.

Modelling exercise

3.3.17. A systematic analysis of the macroeconomic impacts of the procurements and offsets was carried out using the macro-econometric model of the Bureau for Economic Research (BER) at the University of Stellenbosch. The BER's model has been used extensively for medium-term forecasting of the South African economy for a number of years. Its main focus is on the key macroeconomic variables, as identified above, and it does not incorporate sectoral breakdowns of the economy. Details of the model and modelling methodology are contained in Appendix A.

3.3.18. It must be stressed that the modelling exercise must be treated with caution, as providing indicative results only, pointing to likely directions of change and their order of magnitude, rather than predicting future outcomes accurately. Nevertheless a model is a tool which ensures that the various impacts of a process like this one are incorporated as far as possible into the evaluation, and that the impacts are treated in a systematic and mutually consistent fashion.

3.3.19 In June 1999, Statistics South Africa released rebased GDP statistics. There has not been time for the BER model to be recalibrated in line with the new data. The model results emphasise the *deviation* of the alternative arms procurement scenarios from the baseline projection. Given that the modelling results are orders of magnitude rather than precise predictions, it is unlikely that these deviations would be significantly different using the new data. In addition, a detailed policy response to government expenditure in the light of the new GDP numbers has yet to be finalised by government.

3.3.20 The affordability assessment, and the modelling exercise, have used the forward Rand exchange rate quoted in the market, adjusted by a 1% discount on the annual

depreciation rate, reflecting a slightly more optimistic view than the market.[8] The underlying market forward rate has been updated for this report, and the revised rates used throughout the current analysis are shown in Table 5. These rates imply an annual depreciation in the Rand of between 6% and 8% over the period to 2009/10. This is in excess of the inflation differential between the SA and the US (which is in the region of 3%), but is consistent with historical trends in Rand depreciation.

Table 5: Rand:Dollar exchange rate assumptions, August 1999

2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
6.595	7.063	7.638	8.263	8.895	9.537	10.186	10.836	11.473	12.196

DIP

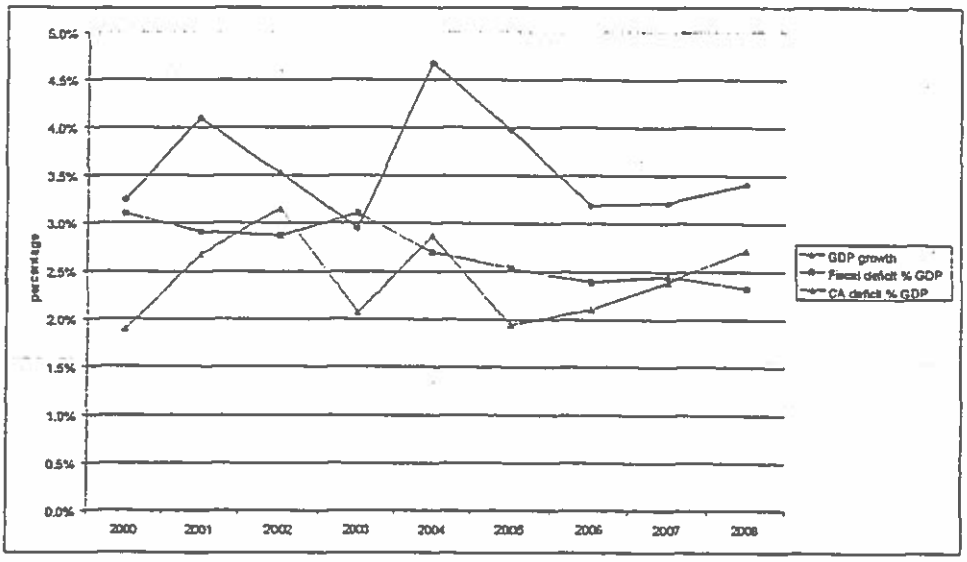
SCENARIO 0: Baseline - economic performance without arms purchases

3.3.21 The BER macroeconometric model was used to generate a macro-economic forecast of the South African economy for the period 1999 – 2008, assuming no changes in policy or in the external environment. This forecast served as the 'no change' baseline, Scenario 0, with which the macroeconomic impacts of the programme were compared.

3.3.22 The key elements of the baseline scenario are illustrated in Figure 2 which shows that GDP growth varies between slightly below 3.0% per annum and slightly above 4.5% per annum during the period 2000 to 2008, averaging 3.6% over the period. The fiscal deficit averages 2.7% of GDP, but is on a declining trend: starting at just over 3% of GDP, it rises slightly in 2002 to above 3% but ends in 2008 at below 2.5%. The current account deficit fluctuates between 2% and 3% of GDP, more or less in line with the GDP growth rate, and averages 2.4%. employment growth over the period averages 1.6% per annum.

Figure 2: SCENARIO 0: No armaments procurements - Key macroeconomic variables

[8] This approach was fully explained in the Warburg Dillon Read report produced in March 1999.



3.3.23 It must be emphasised that the analysis below is carried out entirely in terms of deviations from this baseline. Should 'underlying' economic growth turn out to be poorer (or better) than the baseline projects, then clearly the absolute levels of the macroeconomic ratios will be similarly affected.

DIP

4. Scenarios analysed

4.1 For purposes of the affordability assessment, the model was used to examine 12 alternative scenarios. Three levels of arms expenditure were combined with two levels of NIP benefits and with two levels of interest rates, to assess impact of the two major economic risks.

4.2 The three expenditure levels are defined in terms of the present value (real 1999 Rands) of total government expenditure on arms, excluding interest. This amount includes the arms themselves, statutory and project management costs, financing costs of preferred cash flows, and escalation in terms of the assumed inflation rates (5% per annum for SA, 2.5% per annum for other currencies) and the forward Rand:$ exchange rates. The present value is derived by using a discount rate equivalent to the relevant interest rate. The three expenditure levels are:

- R25 billion
- R21 billion
- R16.5 billion

4.3 In modelling these expenditure levels, the fiscal 'additionality assumption' is taken into account in all scenarios, that is, a given amount of the fiscal expenditure representing each year's drawdown is accommodated *within* the existing expenditure envelope, that is, the envelope in the absence of the arms procurement, and the remainder is additional to the envelope. The non-additional expenditure is accommodated partly within the DoD budget and partly within that of other departments. The non-additional amounts vary for each expenditure level, and are specified in paragraph XXXX and Table 7 in Chapter 4, where the additionality assumption is discussed in full.

4.4 A large number of equipment configurations could be accommodated within each expenditure envelope. For modelling purposes no attempt has been made to prescribe these configurations (ultimately a task for DoD). Instead, the cash flows for each expenditure level have been based on the profile applicable to the 'Hawk only' option, and adjusted proportionately upwards or downwards.

4.5 For each expenditure level, all NIP offset cash flow data (investments, imported equipment, output, exports, dividends etc) have been pro-rated in the same proportion as the total expenditure level.[9] This is in line with the roughly 1:1 ratio achieved in the negotiations between arms contract price and NIP benefits.

4.6 To take account of the risk of the NIP/DIP benefits not materialising, two alternative levels of NIP benefits have been modelled. This has been done by applying a confidence index (CI) to all the financial flows associated with the NIP projects. Details of this methodology, and the rationale for arriving at the respective CIs for each category of NIP projects, are contained in Appendix C.

4.7 In brief, the CI attaches a probability between 0 and 100% to the risk that the NIP will not yield the expected benefit flow, either through the NIP commitment itself not being fully met (ie. the project sponsor fails to implement the project, and forfeits the guarantee instead), or through the project itself not meeting the specified business plan targets for output, exports and profits. The associated probability therefore discounts the NIP benefit flow, to yield an 'expected value' of benefits. Thus, two alternative sets of CI were specified:

- 'full NIPs', or adequate NIP performance, with a CI ranging between 65% and 90% (between 65% and 90% of the stated NIP (or DIP) benefits are expected to materialise)

- 'adverse NIPs', or underperformance, with 2 of the steel projects eliminated (Ferrostaal stainless steel and Danieli speciality steel)[10]; cash flows for all other NIP projects discounted by a further 60%, for a CI of approximately 33%; but collection of performance guarantees related to unfulfilled NIP commitments

4.8 The DIPs have been taken at face value (100% CI) for local production, exports and investments. Less tangible components such as marketing assistance and technology transfer, which comprise a small percentage of the total DIP commitments, are more difficult to measure and have been ignored.

4.9 To assess the costs associated with the interest rate risk, two alternative long-term rate 'shocks' have been defined, reflecting a 'low impact' outcome and a more 'adverse' outcome. The size of these shocks vary for each arms expenditure level, reflecting the argument above that the degree of interest rate risk is closely related to the procurement expenditure level. The effects of the interest rate shock on the real

[9] Clearly this is a simplifying assumption since in reality a given investment project (particularly the large steel projects) will either be implemented in total or not at all; but for modelling purposes, it is assumed that the probability of these projects proceeding will decrease as the scale of arms expenditure decreases.

[10] This is in line with the conclusions of both sets of independent steel analysts consulted.

economy operate with a lag, but are assumed to work through completely within about 2 years.[11] The interest rate increases are specified as follows:

- 'low interest', where increases of 1%, 0.7% and 0.5% are assumed for the R25 bn, R21 bn and R16.5 bn expenditure levels respectively
- 'adverse interest', where a larger shock of 3%, 2% and 1% for the R25 bn, R21 bn and R16.5 bn expenditures respectively are assumed

4.10 In sum, for *each* expenditure level, four scenarios are defined, as in Table 6.

Table 6: Overview of scenarios used in modelling exercise

SCENARIO	R25 bn		R 21 bn		R16.5 bn	
	Interest	*CI*	*Interest*	*CI*	*Interest*	*CI*
Scenario I: low interest, full NIPs	+1%	0.65+	+0.7%	0.65+	+0.5%	0.65+
Scenario II: adverse interest, full NIPs	+3%	0.65+	+2%	0.65+	+1%	0.65+
Scenario III: low interest, adverse NIPs	+1%	0.35	+0.7%	0.35	+0.5%	0.35
Scenario IV: adverse interest & NIPs	+3%	0.35	+2%	0.35	+1%	0.35
Illustrative arms configuration	4 corvettes 3 submarines 4 MH 40 LUH 12 Hawk + 9 Gripen		4 corvettes 3 submarines 40 LUH 24 Hawk		4 corvettes 4 MH 40 LUH 24 Hawk	

4.11 The macroeconomic results presented below for the modelling exercise are in two parts. First, there is a focus on a single expenditure level, R21 billion, to assess the impact of variation among the four risk scenarios. This analysis is presented in Figures 2-6, each of which presents the results of the R21 bn expenditure package for a single macroeconomic indicator for Scenarios I-IV. In the second set of results, the risk

[11] In practice, interest shocks will impact on long rates rather than short rates (such as the Bank rate) in roughly equivalent amounts, depending on the policy response to any such shock. However, for technical modelling reasons, the exogenous shock on short rates was set to half the long rates quoted above. It is believed that this will more accurately simulate the impacts in the economy.

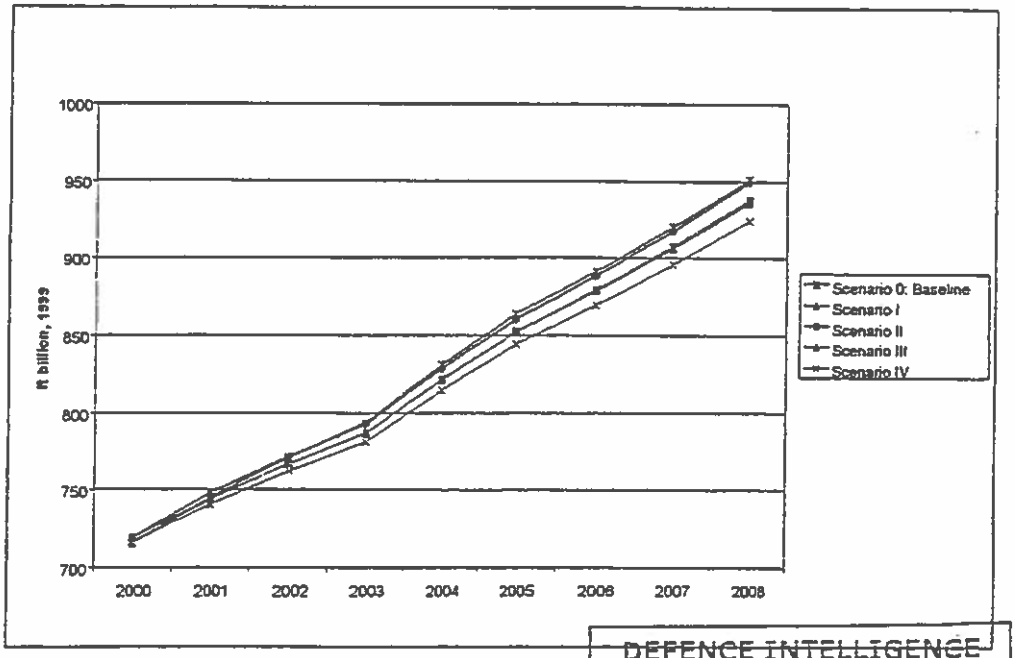
scenario is held fixed and the expenditure level varied from R16.5 bn to R25 bn, to illustrate the impact of the latter on each indicator. Figure 7 shows the GDP growth rate for Scenario I with all three expenditure levels, Figure 8 the GDP growth rate for Scenario II with the three expenditure levels, and Figure 9 for Scenario IV.[12] Figures 10-12 repeat this sequence for the fiscal deficit, Figures 13-15 for the current account deficit, and Figures 16-18 for the employment impact.

4.12 Aside from Figure 3, which reports the level of real GDP in R billions (in terms of 1999 prices), all the graphs show the impact as 'the deviation from the baseline', in other words, the difference between the variable with the defence programme and the equivalent variable in the baseline macroeconomic forecast.[13] In all cases, results for the years 2000 through 2008 are reported - the programme was assumed to begin only in the year 2000, with no effect in 1999.

4.13 Variation across risk scenarios

In this section, the expenditure level is held fixed at R21 bn to address the question of the variation across risk scenarios.

Figure 3: Real GDP level, R21 billion expenditure level



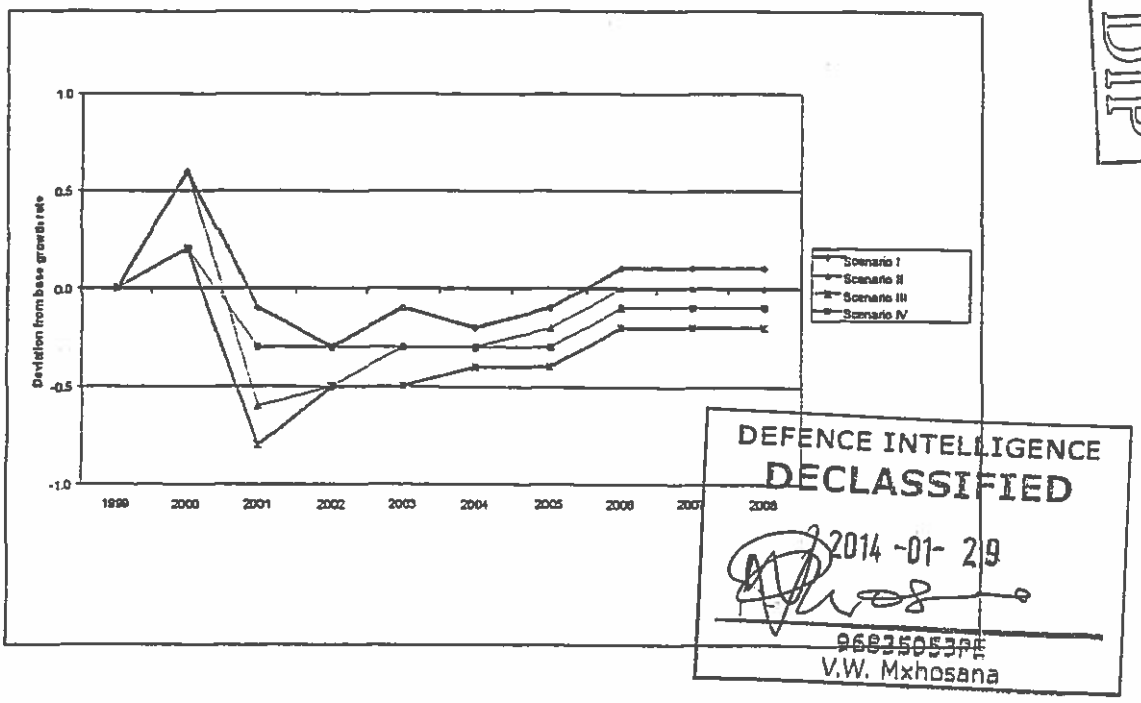
[12] In the second set of 12 figures, Scenario II was excluded simply to minimise the length of this report.

[13] The BER strongly emphasised the much greater reliability of the model in enabling comparisons, that is, in providing the deviations from the baseline, than in providing the actual values of the variables in any given year.

4.14 Figure 3 shows the *level* of real GDP in R billions (1999 prices) for the baseline scenario as well as for all four risk scenarios, assuming a R21bn level of expenditure. The graph demonstrates the following:

- under all five scenarios, GDP rises through the 9 years from 2000 to 2008, that is, GDP growth is positive throughout;
- however, under all four risk scenarios, GDP growth is slower than under the no-change baseline scenario;
- the more adverse the risk scenario, the lower is the GDP level;
- there are really two phases to the programme, with a clear increase in the upward slope of the lines from 2003 as negative interest rate impacts wear off and the NIP projects begin producing and exporting.

Figure 4: GDP growth rate: deviation from Baseline, R21 bn expenditure level



4.15 Figure 4 shows the deviations of GDP growth rates from the baseline. In all four cases, the impact of the programme is positive in the first year[14], and then turns negative in comparison with the baseline for the following five years to 2005. The positive impact on economic activity from the DIP and NIP (construction) activities is outweighed, in effect, by the contractionary pressures of an interest rate increase.

[14] **This is due in part to the fact that for technical modelling reasons, it was necessary to delay the impact of the interest rate shock for one year, so that it began to appear only in 2001. In reality, any interest rate impact that occurs is likely to take effect in the first year of the programme, i.e. 2000.**

This negative pressure is reinforced by defence expenditure replacing other government current spending, so that government spending on domestic goods and services is replaced by spending on imports.

4.16 From 2006, the growth rate in Scenario I rises slightly above the baseline, and in Scenario II is equal to the baseline. For the other two scenarios, the growth rate after 2006 remains below what would be expected under the 'no change' Scenario 0. This improvement in the economy's growth performance follows from the NIPs' production and exports, while the negative impacts on expenditure from the interest rate shift, and from the import leakage due to both the defence expenditures and the NIP construction, have disappeared.

4.17 Some other features of the graph are:

- the two distinct phases of the programme are noticeable, with the growth rate moving closer to the baseline rate from 2003/2004, as the negative effects of the interest rate shift disappear, and the benefits of the NIPs (outputs and exports) emerge;

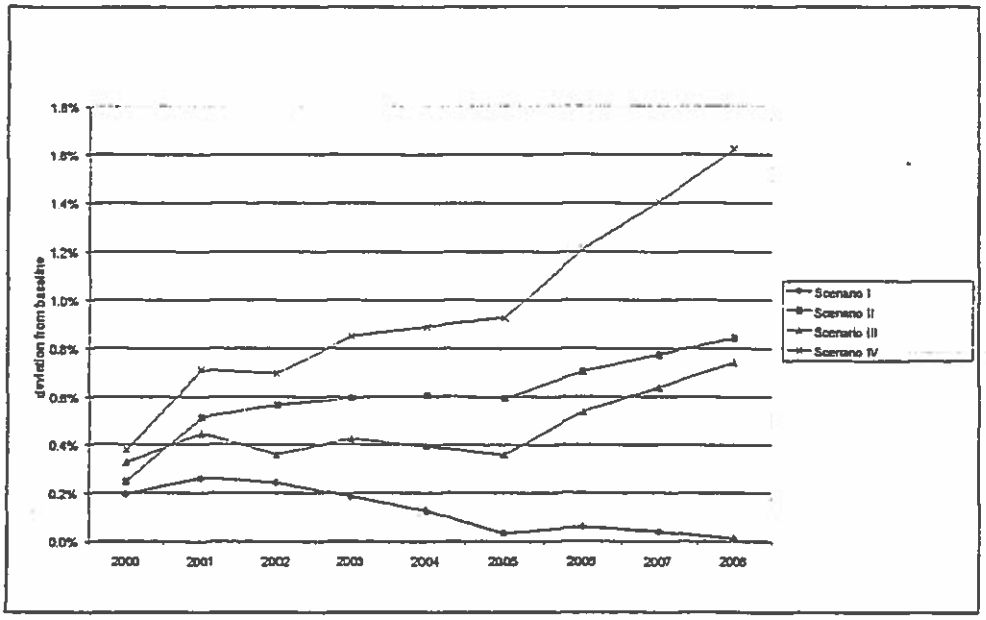
- the more serious effects of the interest rate shock during the first phase are clearly noticeable, with the growth rate of Scenario II being below that of Scenario III between 2001 and 2003;

- the completely parallel lines from 2005 on show that GDP growth in these years is determined by the NIPs, but also show that a significant decline in the growth rate during the early years establishes an inertia in the growth rate and the GDP which never quite recover to the baseline level.

4.18 Illustrating this last point, the GDP level in 2008 for each scenario at the R21 bn expenditure level are projected as:

- Scenario 0 R951 bn (baseline)
- Scenario I R949 bn (0.2% below baseline)
- Scenario II R937 bn (1.5%)
- Scenario IIII R935 bn (1.7%)
- Scenario IV R924 bn (2.8%)

Figure 5: Budget deficit as % of GDP: deviation from Baseline, R21 bn expenditure level

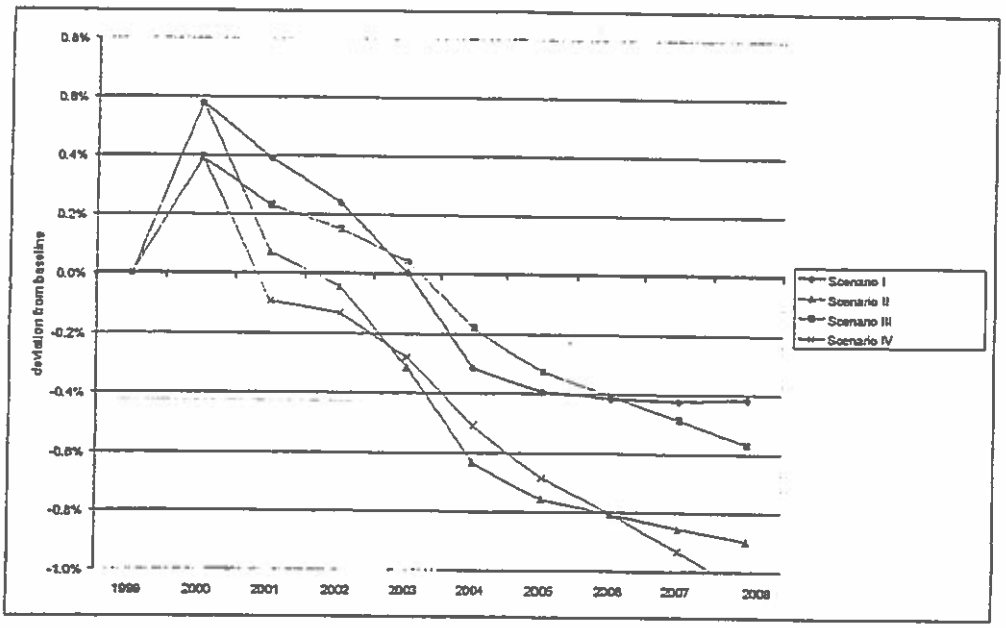


4.19 Figure 5 reports the deviation from the baseline levels of the budget deficit, expressed as a percentage of GDP. In terms of the 'fiscal additionality' assumption, the additions to the budget deficit reflect only part of the arms expenditure for each year. Differences between scenario and baseline deficits are related in the first few years of the period to the fiscal expenditures to pay for the programme (as well as interest payments on the financing), offset to a limited degree by the inflow of tax revenues due to the construction of the NIP projects. In addition, the slower growth in economic activity – relative to the baseline – squeezes tax revenue. In the second part of the period, the tax income from the NIPs becomes a positive factor. It is noticeable that the deviation from the baseline rises initially in all cases, and then declines *only* for the 'best case' Scenario I, for which it is more or less equivalent to the baseline level of the deficit from 2005.

DIP

4.20 In the other three scenarios, the deviation from the baseline deficit moves above 0.5% in the second year of the programme, and does not narrow. Rather, the gap widens markedly after 2005, even for Scenario II where the NIP benefits are the same as in Scenario I. Except in Scenario I, tax revenues from the NIPs are inadequate to offset the wider fiscal impact of economic decline. Finally, the interest rate effect dominates the deficit during the first phase, as illustrated by the fact that the deviation for Scenario III is significantly smaller than for Scenario II.

Figure 6: Current account deficit as % of GDP: deviation from baseline P21 on expenditure level

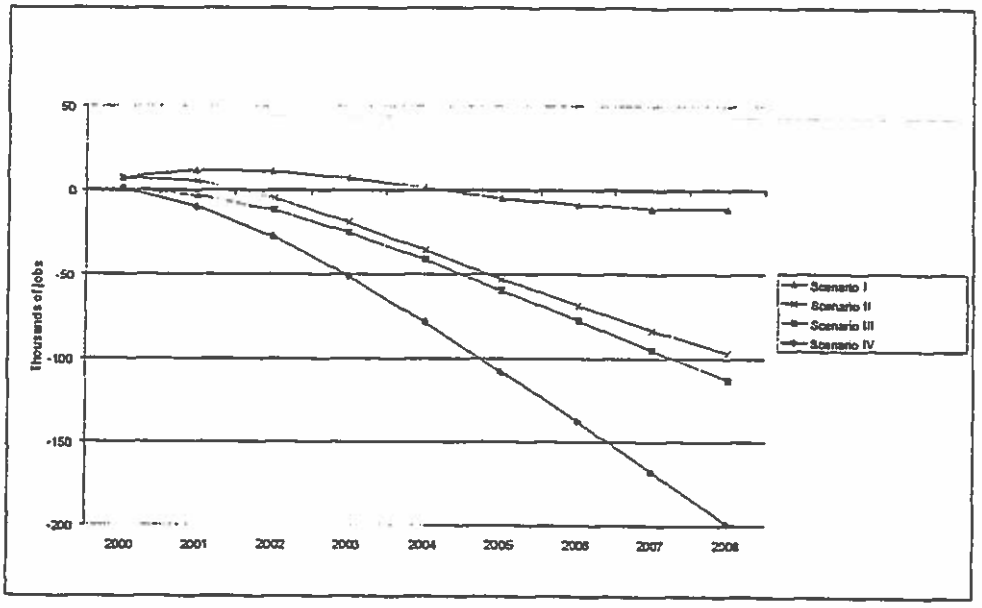


DIP

4.21 Figure 6 presents the deviation in the current account deficit between the baseline and the four scenarios. In this graph, imports and interest payments push the curve upwards above the horizontal axis, ie increase the current account deficit, while exports push the curve downwards and reduce the deficit. The factors determining the current account impact of the programme have been discussed, and include weapons imports, interest payments, and NIP imports of machinery and equipment. These raise the deficit above its baseline level in the first four years. But the indirect impacts of higher interest rates reduces imports by depressing economic activity in the economy as a whole, so that up to 2003 the current account deficit is largest in Scenario I, and smallest for Scenarios II and IV which have higher interest rate shocks.

4.22 From 2004, weapons and NIP equipment imports drop off while NIP exports begin, reducing the current account deficit well below its baseline level. The contractionary effect of the interest rate is still the stronger factor, so that the two 'adverse interest' scenarios (II and IV) have smaller import bills and smaller current account deficits than the other two scenarios. But comparing scenarios with equivalent interest rates, the 'full NIPs' scenario has the larger current account deficit because higher exports spur the economic growth rate, which in turn raises imports.

Figure 7: Employment: Deviation from baseline, R21 bn expenditure level



4.23 Figure 7 presents the employment implications measured in thousands of jobs. In Scenario I there is a positive impact on job creation during the first phase of the period, when the DIPs are in process and the NIP projects are under construction. This positive impact disappears entirely during the second phase of the period, when the overall economy is growing slower than the baseline, and the capital-intensive NIP projects create few operational jobs. In the other scenarios, the overall contractionary impact (relative to the baseline) of the higher interest rate and/or the reduced size of the NIP projects, means that the net employment effect of the overall programme is negative.

Variation across expenditure levels

4.24 In this section, the four main macroeconomic variables – GDP growth rate, budget deficit, current account deficit and employment impact – are compared *across* the three expenditure levels of R25 billion, R21 billion and R16.5 billion. This is done for three risk scenarios: Scenario I (low interest rate, full NIP benefits), Scenario II (adverse interest rate, full NIP benefits), and Scenario IV (adverse interest rates and NIP under-performance).

4.25 The main point in this section is that higher arms expenditure levels leads to higher fiscal and current account deficits, which leads in turn to higher interest rates[15] and a

[15] **In the BER model, : a higher current account deficit leads to a higher Bank Rate (short-term interest rate) as well as a higher long-term rate, while the higher fiscal deficit also raises the long-term rate.**

contractionary effect on the level of economic activity, lowering GDP growth and employment creation.

GDP growth

4.26 The impact of the level of arms expenditure on GDP growth is shown clearly in all three of the following figures. In addition, a comparison of

Figure 8 and the two graphs following shows that that as one moves to scenarios with greater risk-associated costs, the negative impact of higher spending worsens. The gap between the R21 bn level and the R25 bn is larger in Scenario II (

Figure 9) than in Scenario I (

Figure 8), and larger again in Scenario IV (Figure 10).

Figure 8: GDP growth rate: deviation from baseline
All expenditure levels, Scenario I

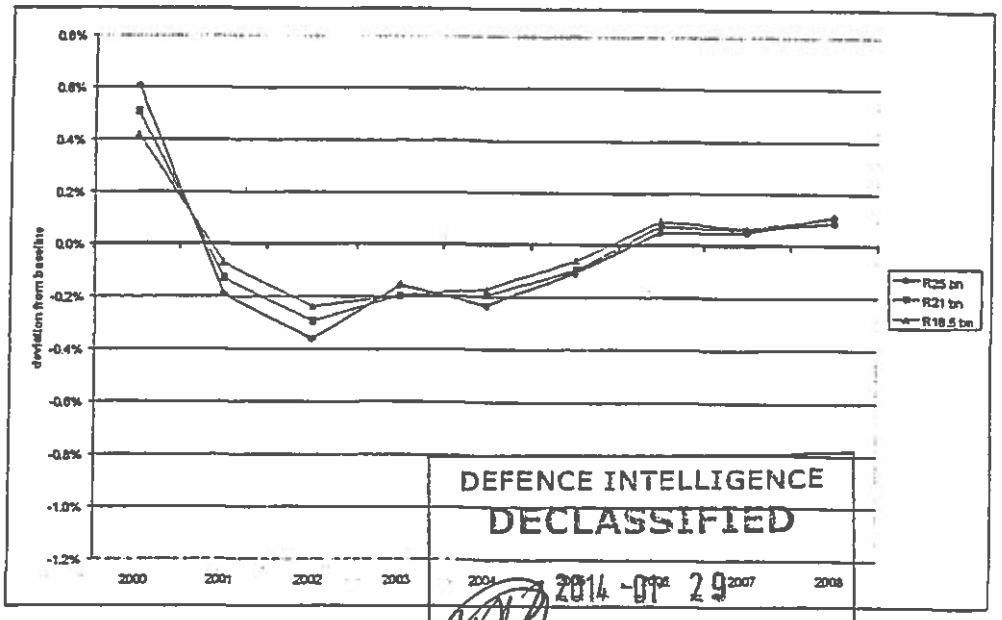


Figure 9: GDP growth rate: deviation from baseline
All expenditure levels, Scenario II

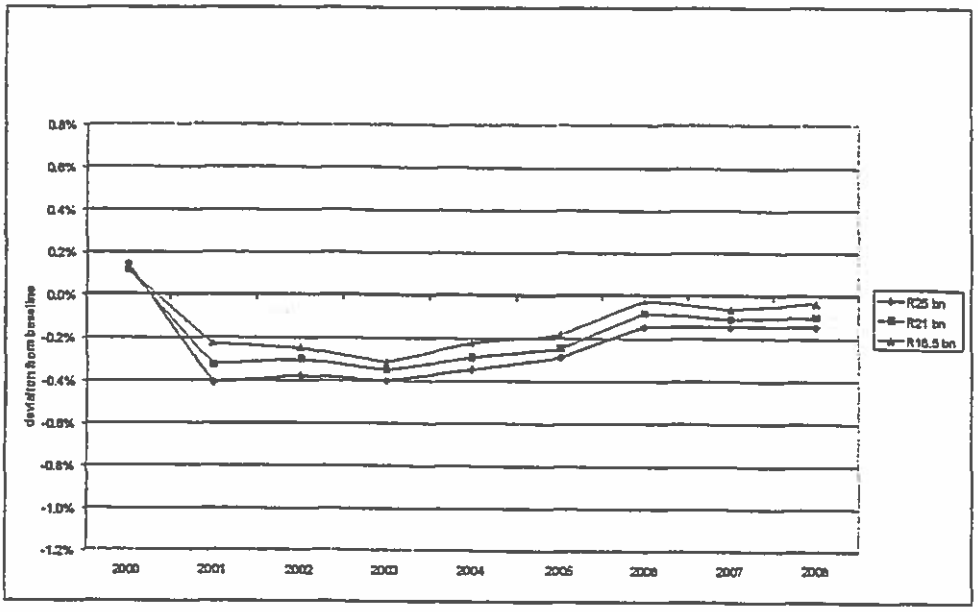
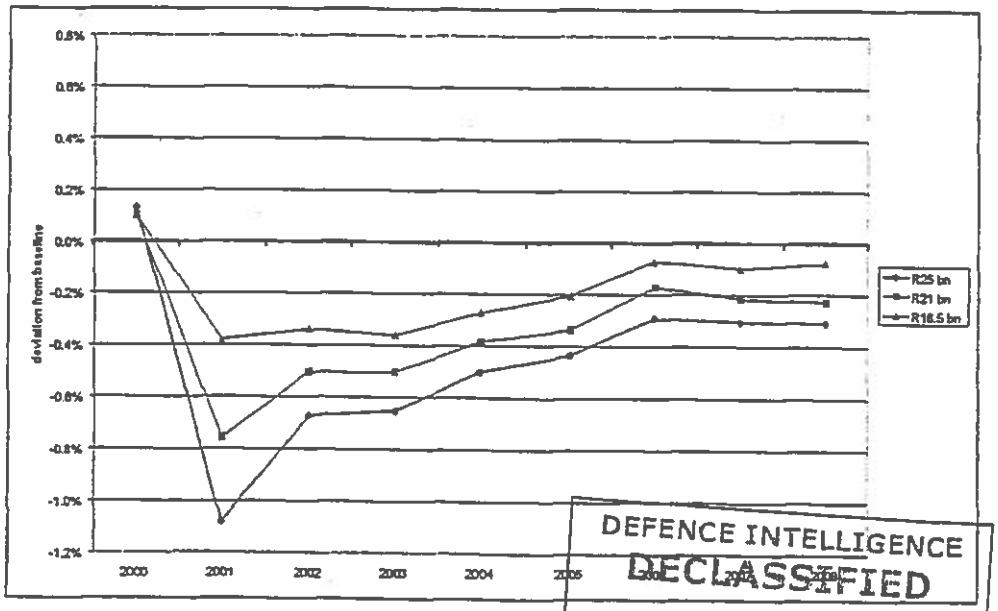


Figure 10: GDP growth rate: deviation from baseline
All expenditure levels, Scenario IV



4.27 *Budget deficit*

The next three figures show that a rising level of arms expenditure produces a rising fiscal deficit. Again there is a clear and direct relationship between expenditure levels and the costs associated with each risk, the gaps between curves expanding sharply as we move from

Figure 11 to Figure 13. In Scenario I (

Figure 11), all three expenditure programmes keep the fiscal deficit within 0.5% of the baseline case. But

Figure 12 shows that if interest rates are worse than anticipated, the fiscal deficit remains within 0.5% of the baseline only at the lowest expenditure level (R16.5 bn). Figure 13 illustrates that if Scenario IV with both interest rate and NIP risks materialises, the fiscal deficit increase exceeds 0.5% after 2005 even at the R16.5bn level.

Figure 11: Budget deficit as % of GDP: deviation from baseline,
All expenditure levels, Scenario I

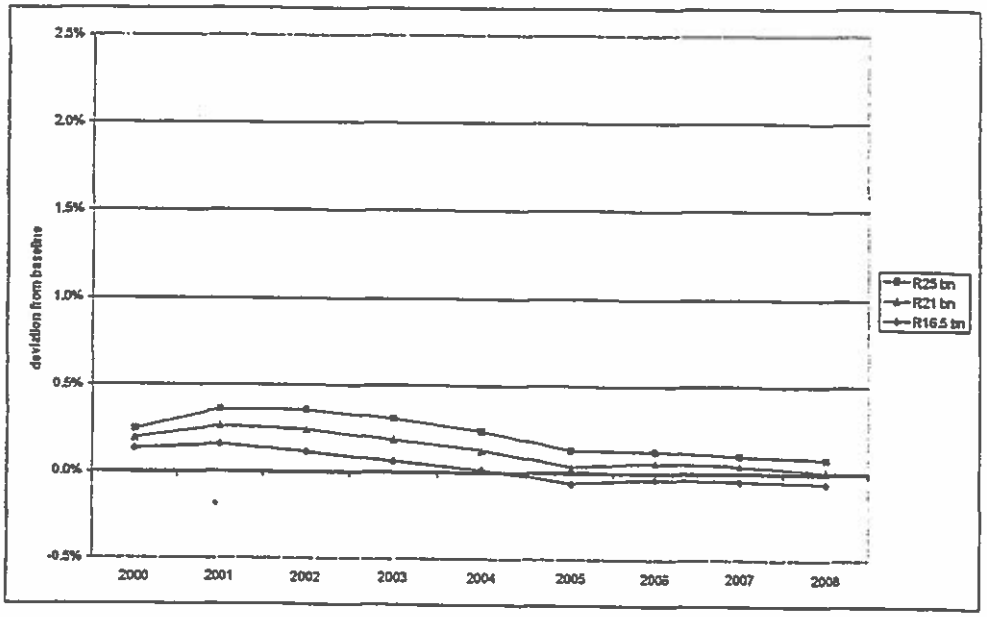


Figure 12: Budget deficit as % of GDP: deviation from baseline,
All expenditure levels, Scenario II

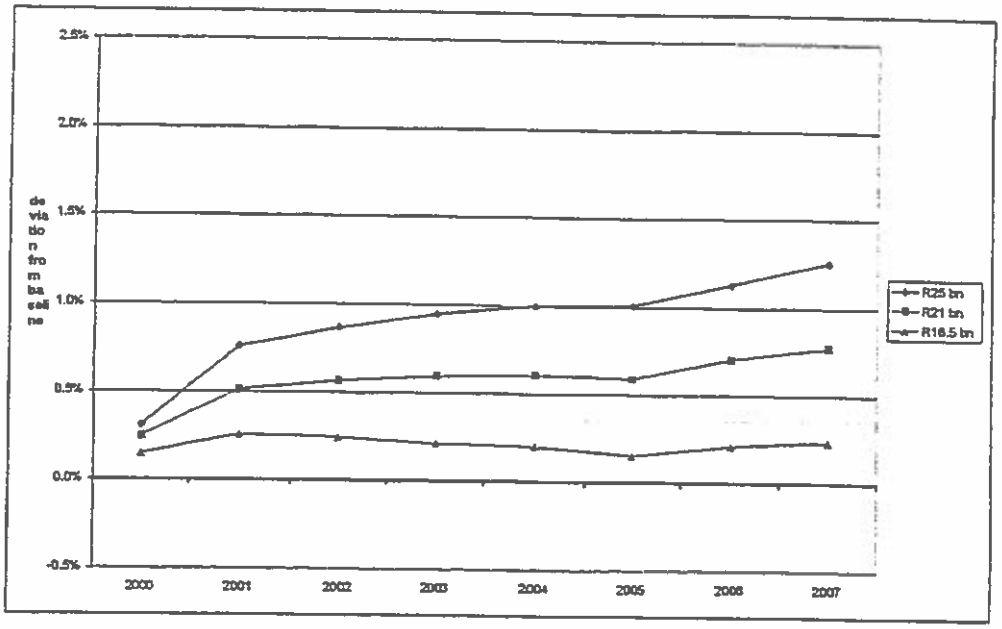


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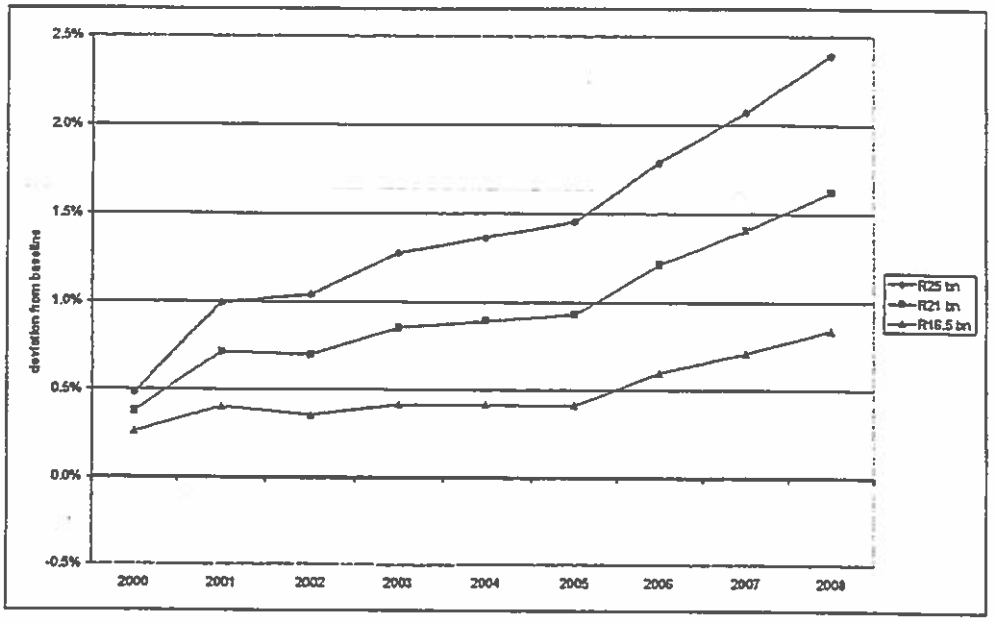
Figure 13: Budget deficit as % of GDP: deviation from baseline, All expenditure levels, Scenario IV



4.28 Balance of payments

Figure 14 to Figure 16 present the current account deficit of the balance of payments for the three expenditure levels. The initial impact of the programme is to increase the deficit relative to the baseline case, due to the import-intensive nature of the first 4-5 years of the programme. Subsequently, the decline in programme-related imports and the onset of programme-related (NIP) exports helps to reduce the current account deficit relative to the baseline.

In all three cases, the larger the programme, the larger the deviation from the baseline, and the impact of the same expenditure level is greater as the risk-associated costs rise (compare Figure 15 with Figure 14 for the same expenditure level, and Figure 16 with the other two). It should be noted that even though the current account deficit in these Scenarios is *smaller* than in the baseline, and the deviation grows with arms expenditure, this is not necessarily positive, since the size of the deficit is related less to larger exports, and more to lower imports, compressed as a result of contractionary pressures on overall economic activity.

Figure 14: Current account as % of GDP: deviation from baseline
All expenditure levels, Scenario I

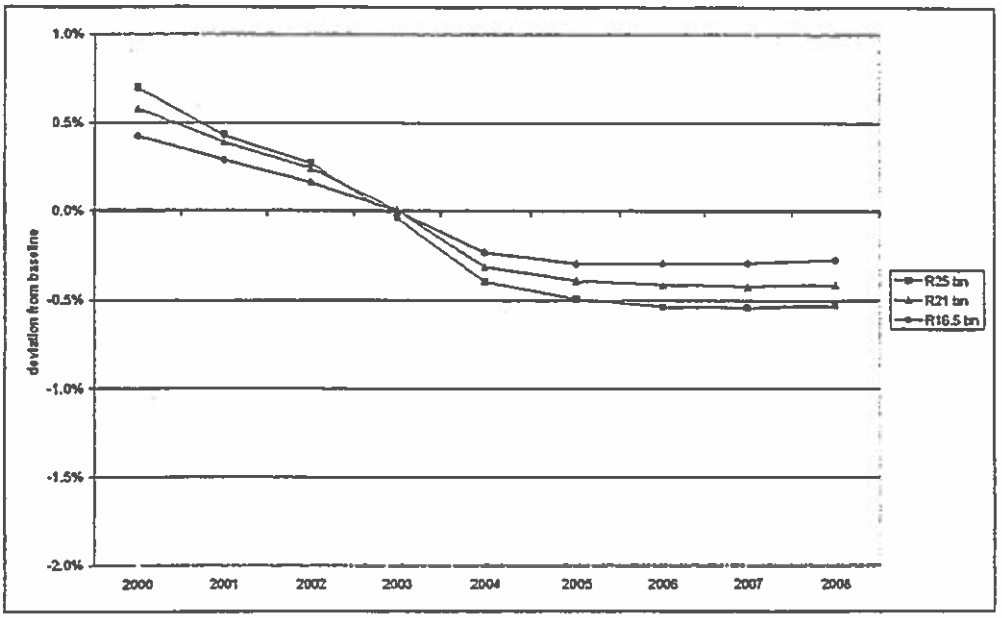


Figure 15: Current account as % of GDP: deviation from baseline,
All expenditure levels, Scenario II

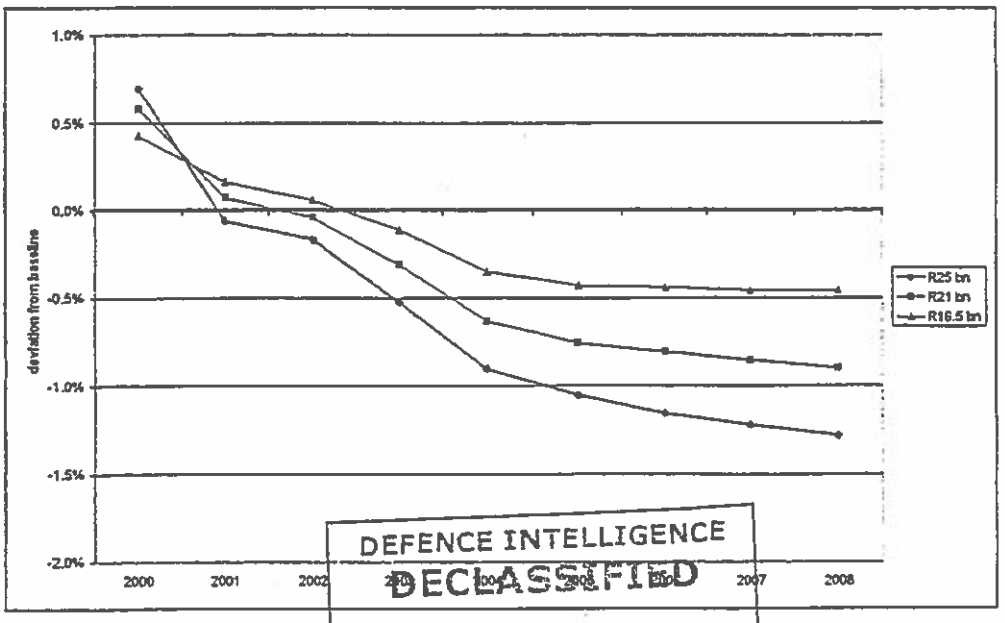
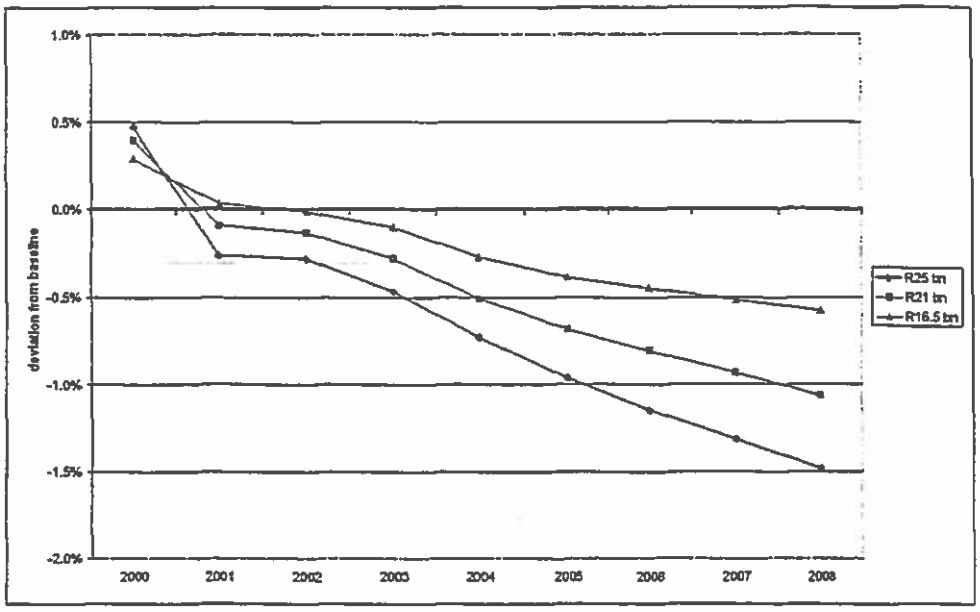


Figure 16: Current account as % of GDP: deviation from baseline, All expenditure levels, Scenario IV



4.29 *Employment*

The final three figures, Figure 17, Figure 18 and Figure 19, examine the impact of the range of arms expenditure programmes on the number of jobs in the economy. Since job impact (creation or destruction) is primarily driven by GDP growth, employment deviations track overall economic performance. In all three figures, the initial impact on employment in 2000 is positive relative to the baseline. Relative job growth then drops below zero, the decline being steeper, the higher the expenditure level. The pattern as risk-associated costs grow is the same as for the other three macroeconomic variables.

Figure 17: Employment: deviation from baseline, All expenditure levels, Scenario I

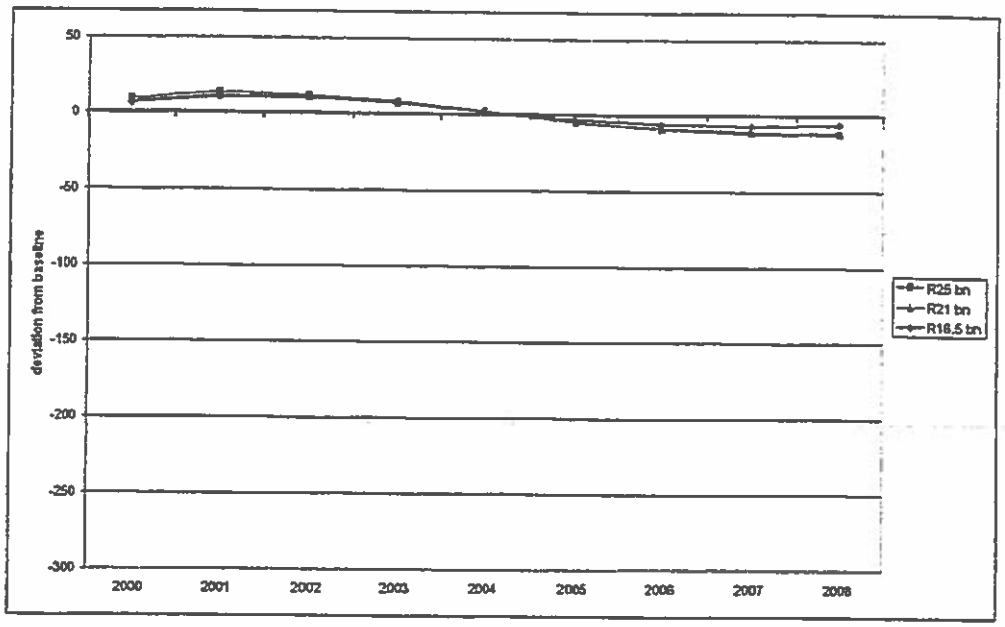


Figure 18: Employment: deviation from baseline, All expenditure levels, Scenario II

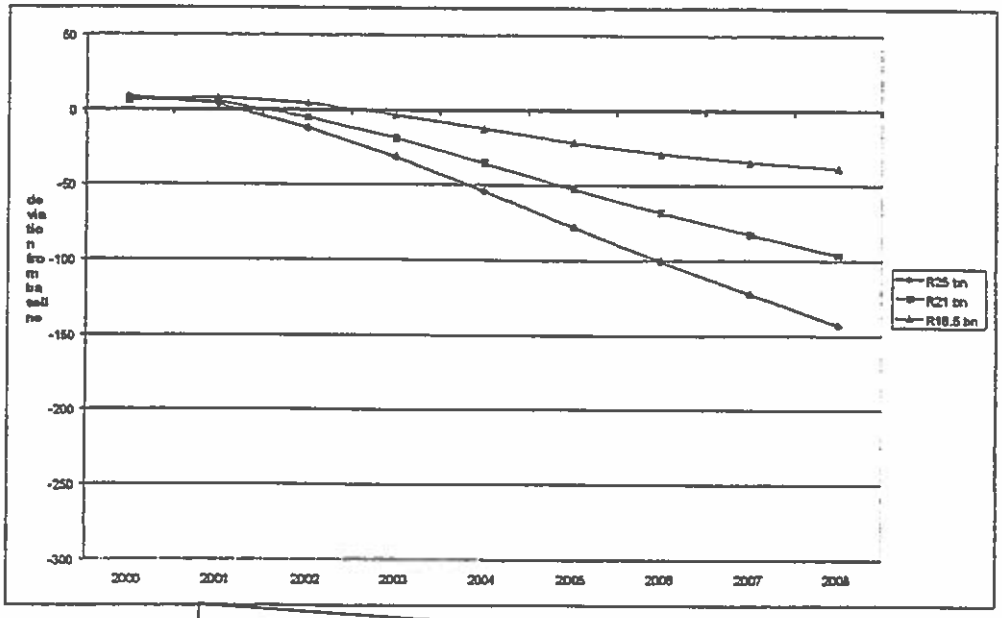
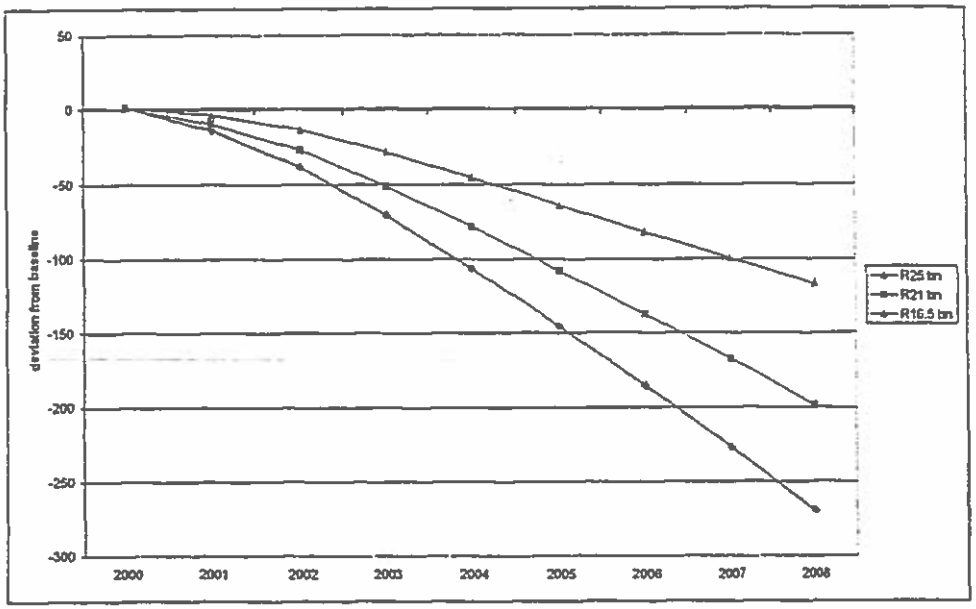


Figure 19: Employment: deviation from baseline, All expenditure levels, Scenario IV



4.30 Summary

The analysis conducted above indicates three central points. First, if, for whatever reason, the risks do not materialise, the arms expenditure programme has a limited, but non-negligible, negative impact on the macroeconomy. This is true even for the highest (R25 billion) expenditure level.

Second, the two distinct phases in the programme emerge clearly. Up to 2003/4, the impact is substantially negative on all macroeconomic variables except employment impact, whatever level of expenditure is analysed, and even for the best case Scenario I at each expenditure level. In the second phase of the project, starting from 2004/5, the macroeconomic impact of the programme itself is broadly positive, at least for the GDP growth rate and the fiscal and current account deficits. But there is still inertia from the negative macro impact during the first, so that the overall improvement is moderated. In most of the alternative scenarios, the macro variables remain worse than their corresponding values in the baseline.

Third, if either one of the two risks analysed – a larger than expected interest rate shock in reaction to the announcement[16], or the failure of the vehicles to meet a significant proportion of their NIP commitments – come to pass, the macroeconomic impact of the programme is likely to be significantly negative in comparison with the baseline scenario.

[16] Or if the announcement happens to coincide with an interest rate shock caused by some other factor.

Budget treatment

It is important to be clear on the correct budgetary and accounting treatment of the various cash flows associated with the procurement transactions, since these transactions have significant implications for the government's fiscal and economic targets.

The accounting issues are summarised here and addressed in more detail in Appendix E. The current approach is consistent with the IMF's fiscal accounting framework.

The first transaction to be recorded occurs when actual payments are made to foreign suppliers in terms of the arms contracts or to other local parties in respect of statutory and similar costs. These amounts must be shown as government expenditure as and when they are incurred, even though government itself does not make the actual payment to the supplier.

In the case of most foreign currency payments, there will be matching ECA loans against which drawdowns are made to finance the expenditure. The resulting increase in liabilities (equivalent to the principal amounts) should be shown 'below the line' as a normal government financing activity.

The next transaction relates to interest payments. As with other financing activities of government, these must also be recorded as current government expenditure. Consequently, total government current expenditure is the sum of interest payments and expenditure on arms and related items, as outlined above.

The repayment of loans is a normal 'below the line' financing activity and does not impact on recorded government expenditure.

Therefore, for purposes of calculating key fiscal ratios the relevant transactions are the amounts of expenditure on the arms, statutory costs, project management, etc, as well as the interest costs on the loans taken out to finance the procurements. To the extent that any portion of these costs are additional to the existing expenditure envelope, they will clearly add to the budget deficit.

The IMF accounting guidelines do not specify how the expenditures should be distributed between departments. However, the consistent method of accounting for these transactions will be for the non-interest expenditures (i.e. payments to suppliers; for statutory costs; ECA premia; and so on) to be funded from the budget of the Department of Defence in the normal way. Interest costs will come off the 'top-slice' used to fund government's debt service obligations.

"Additionality" approach

Government can adopt a range of fiscal policy approaches to the additional expenditure on the arms packages. A critical choice revolves around the degree to which the arms expenditure is *added to* the existing expenditure envelope of government, or the degree to which it is accommodated *within* the original macro expenditure envelope. The latter option depends on two factors: the provisions already made in the Defence budget for the strategic arms packages, and the extent to which expenditure can be reallocated from other departments to Defence.

For purposes of the macroeconomic modelling exercise, the following assumptions have been made. These are based on recent estimates made by the Department of Finance's Budget Office in the context of current and anticipated pressures on the national budget, including funding requirements for various high priority new initiatives. Ultimately, however, the overall fiscal policy decision will be made by Cabinet.

The portion of total expenditure which will be accommodated *within* the existing budget envelope (that is, from Defence's existing allocations and from other departmental budgets) is assumed to be the sum of:

- the full interest costs associated with package expenditure, and
- an additional amount, specified in Table 7, which will have to be cut from other government departments

The amounts assumed to be available within the budget are summarised in the table below. Also shown, are the amounts by which the packages at each expenditure level exceed the amounts assumed to be available.

DID

Table 7: Amounts available within, and additional to, the national budget (Rm nominal) [17]

	Rm nominal	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06 +
1	Available from DoD budget: Modelling exercise	52	868	982	913	1 030	1 157
2	Available from DoD budget: Revised Aug 99	117	247	543	699	859	1055
3	Available from elsewhere in national budget	300	800	1 800	3 000	3 000	3 000
4	Addition to national budget: Model simulations						
	R25 bn level	3 801	3 692	3 458	3 350	2 645	1 [illegible]5
	R21 bn level	3 138	2 836	2 461	2 193	1 581	702
	R16.5 bn level	2 389	1 869	1 336	888	381	(0)
5	Addition to national budget: Revised Aug 99						
	R25 bn level	3 866	4313	3897	3564	2816	1707
	R21 bn level	3 203	3457	2900	2407	1752	804
	R16.5 bn level	2 454	2490	1775	1102	552	102

DIP

Two sets of Rand amounts "available from the Defence budget" are presented.

The amounts in Row 1 – labelled "Model simulations" – were agreed between DoF and DoD in March 1999 and subsequently used in the macroeconomic modelling exercise. After completion of the modelling work, DoD indicated in mid-August 1999 that the amount available for packages from within the Defence budget was, in fact, likely to be different, and provided the amounts presented in the Row 2 of the table – labelled "Revised Aug 99". These amounts are significantly lower and result from DoD re-evaluating upwards the expected expenditures for normal operating costs within its budget.

Prior to this latest revision, it had been assumed that interest costs on the packages could be accommodated within the existing MTEF envelope, since the amounts roughly approximated the original provision within the DoD budget. However, the effect of the revision is that interest payments can no longer be accommodated within theMTEF envelope, and any additional amounts will have to be added to the overall level of expenditure.

[17] The amounts which are estimated to be available from other departments (for purposes of the modelling exercise) represent roughly 10%, 20%, 40%, 60%, 80% and 100% of the package expenditure (excluding interest) in each year, based on the 'Hawk only' procurement package.

This implies that the amounts available from within the existing MTEF envelope - the sum of rows 2 and 3 ("available from elsewhere in national budget") – will cover only a portion of the total arms expenditures, including interest costs. The amounts that will be additional to the baseline government expenditure envelope are presented in the final two rows. Row 4 presents the data used in the modeling exercise, based on the DoD figures in Row 1. Row 5 presents the revised amounts now expected to be additional to the baseline expenditure envelope, based on the DoD revised figures in Row 2. The revisions add slightly less than 0.1% of GDP to the projected deficit in 2001/02, and about half that in 2002/03.

A key indicator in the affordability exercise is the amount of expenditure which will be added to the existing MTEF expenditure envelope. The macroeconomic consequences of government exceeding its budget deficit targets have been fully addressed earlier. The perception of a more relaxed fiscal stance may be aggravated by the technical classification of armaments as unproductive expenditure, and by the lower policy flexibility induced by the contractual commitments with the arms suppliers.

The additionality approach outlined above mitigates this risk to some extent by limiting the net increase in total government expenditure. The trade-off for this however is that the arms procurements are likely to impact negatively on expenditure by other government departments in two ways. Firstly, there is an explicit assumption – shown in Table 7 – that certain amounts will be shifted from the expenditure of other government departments to Defence. At this stage, the departments whose budgets will be cut have not been identified.

Secondly, the overall pool of funds available to government will grow in line with GDP growth, less any future fiscal contraction. But the additional expenditure on the defence packages will reduce the portion of these funds which would otherwise have been available to other departments.

Potential impact of increased expenditure to smooth cash flows

The summary of package costs in Table 2 included items for the financing of preferred cash flows. These amounts referred to the additional financing costs which would be incurred by suppliers, and passed on to the South African government, for deferring certain payments to suit the government's fiscal programme.

In theory, it may be possible to use the same strategy on a much larger scale, to contain the increase in government expenditure in the early years of the procurement when the pressure on the budget deficit is most acute. Effectively, this option would require the suppliers to take out additional loans to finance their working capital requirements in the first few years of their contracts. These financing costs would then be paid by the South African government once the pressure on the deficit eases.

Whether or not this option is practicable and wise will depends on three main factors. First, it depends on whether the suppliers and their banks are willing to explore this option, which is not common practice in the industry. Moreover, it depends on the

size and strength of the suppliers' balance sheets, their gearing levels and their policies on taking on additional debt in this way.

Secondly, the effect of this option would be to partly mask the fact that the South African government wishes to incur expenditure which cannot be accommodated within its target expenditure and debt levels. In essence, the liabilities will be shown on the balance sheet of the suppliers rather than on government's accounts. The fundamental truth would remain that government wishes to spend more than it is able to within existing fiscal parameters and is borrowing (indirectly) to do so.

Finally, the effect of this option would be to increase the amount paid as interest costs, since the terms at which the suppliers would borrow from the financial markets would certainly be less favourable than the terms applicable to the government's borrowing options under the ECA-backed loans. In other words, the government would be spending more per unit than would otherwise be the case. It is difficult to quantify this additional cost without addressing the issues noted above, but the premium in borrowing costs could run at several percentage points per annum.

Risks

There are a number of risks relevant to the fiscal analysis. These include failure to restructure the DoD budget, adverse economic developments such as Rand exchange rate depreciation, and cancellation costs.

4.27 Unsuccessful Defence budget restructuring

The Department of Defence has based its medium- and long-term expenditure planning on a set of expectations regarding the reduction in personnel levels, which will free up resources for capital spending on both packages and non-package items (primarily for the army.) The present personnel complement is 85 495 (as at June 1999), and the Department aims to reduce this to about 70 000 (and possibly lower in the long-term.)

Achieving this staff reduction, however, is predicated on the availability of an employer-initiated retrenchment (EIR) tool. In the March 1999 report, it was assumed that an EIR would be available for implementation in 2000/01, and that the proportion of the Defence budget spent on personnel, operating and capital items would improve from its 1998/99 level of 56:32:12 to a long-term level of 42:30:28 by the year 2006/07.

To-date, an EIR mechanism has not been approved by Cabinet and the personnel reductions envisaged initially are unlikely to materialise. DoD's latest estimate is that a more probable scenario will entail a split between personnel, operating and capital expenditure of 47:32:21 in the long term. Even this entails a fairly significant reduction in personnel levels and the risk exists that this might also not be achieved.

In rough terms, for every 1 000 personnel members in excess of the optimal force design, the budget available for capital expenditure on the strategic packages (and other non-package items), is reduced by approximately R62 m per annum. Thus the current surplus personnel complement represents an additional cost of just under R1 billion per annum. This is equivalent to almost 10% of the total DoD budget, and over 60% of total capital expenditure. It is clear, therefore, that the failure to rationalise the personnel complement will place additional pressure on DoD's capital expenditure

programme and on the ability of the SAG to fund the packages without diverting further resources to DoD from other government departments.

Adverse Rand:forex movements

The fact that roughly three quarters of the cash flows in the arms deals is denominated in foreign currencies (mainly US Dollars), means that the South African government is fully exposed to the depreciation of the Rand against foreign currencies, which account for about 75% of the total purchase amount. As noted in the March 1999 report, there is no effective means of hedging the currency risk inherent in the procurements.

The forward exchange rates used (see Table 5) already incorporate the market view of the currency risk associated with Rand assets, given that these rates reflect more rapid depreciation than expected from the inflation differentials. Nonetheless, there remains some additional risk that currency depreciation could be even more rapid than expected by the market, perhaps due to a sudden shock such as that precipitated in 1998 by the Asian crisis. This is analogous to the 'adverse interest rate' shock analysed above (and indeed could be part of the latter).

Table 8 provides some indication of the additional package costs resulting from a more rapid depreciation of the Rand against foreign currencies, with the additional costs also shown as percentages of the 'Hawk only' package, ie an amount of R22.331 billion.

Table 8: Estimated costs of adverse Rand depreciation (1999 Rands)

Additional depreciation	Arms exp	Financing		
		Interest	Principal	Total
10% shock in 2000 *% change from 'Hawk only'*	R1.6 bn *7%*	R1.0 bn	R1.9 bn	R2.9 bn
+1% p.a. depreciation *% change from 'Hawk only'*	R0.5 bn *2%*	R0.8 bn	R2.2 bn	R3.0 bn
+2% p.a. depreciation *% change from 'Hawk only'*	R1.1 bn *5%*	R1.7 bn	R4.6 bn	R6.3 bn

While these examples should be treated as illustrative only, the potential addition to costs associated with the scale of the currency risks are evidently substantial. For instance, if the Rand suffers a 10% shock in 2000 and depreciates at the same average annual rate thereafter, the increase in government expenditure on the arms packages will be around R1.6 billion (real 1999 Rands), or 7% of the 'Hawk only' package, while the total increase in interest and principal payments will be about R2.9 billion. Likewise, if the Rand depreciates by 2% p.a. more rapidly, the increase in government expenditure is R1.1 billion during the drawdown period and R6.3 billion in loan servicing and repayment.

More rapid Rand depreciation will produce the benefit of encouraging a shift to a more export-oriented economic structure. But this benefit occurs over a longer time horizon, and with less certainty, than the immediate budgetary impact from the arms procurement, which cannot be avoided due to long-term contractual commitments.

4.27.1.1.1.1.1 Lower underlying economic growth

Low economic growth leads to lower government revenue, higher deficit:GDP and debt:GDP ratios, and lower interest cover, so that continuing to service the loans could place undue pressure on government finances. Although unlikely, it is possible that – as happened with projects in certain Asian countries in 1998 – such adverse economic conditions may cause government to consider the cancellation of the packages at some time in the future.

Because the arms procurements involve long-term commitments, they cannot be curtailed or reduced without significant cancellation costs, far higher than with most "normal" government procurements. First, the standard cost of cancelling any package is the sum of all payments already made, all additional costs incurred by the supplier to the date of cancellation, and five per cent of the contract amount outstanding. Because the package contract sizes are much larger than for most other government procurements, the actual Rand amounts payable on cancellation of any single contract would be particularly large.

Second, the contracts will run concurrently. If economic conditions were such that government had to consider contract cancellation, it is likely that more than one contract would be cancelled, and the total amount payable would escalate accordingly.

Third, most of the contracts run over a period of between six and eight years - much longer than procurement contracts in other areas. This extends the time span over which government runs the risk of adverse developments on the economic front forcing cancellation decisions.

Fiscal assessment of procurement expenditure levels

The impacts of the three procurement expenditure levels on one important fiscal indicator, namely the fiscal deficit, were addressed in chapter 3. In this section, two further fiscal indicators are considered:

- the impacts on overall government expenditure, and
- the impact on other departmental expenditure.

Both of these impacts are a function of the 'additionality approach, and the figures below take into account the assumptions (in Table 7) regarding amounts shifted from other departments' budgets within the overall MTEF envelope, and those amounts which will be over and above that level.

Impacts on overall government expenditure

As the economy grows, so will the amount available to government to spend, subject to its revenue collection and deficit targets. Consequently, it is possible to express the additional spending required for the packages under each spending scenario, as a percentage of the additional funds available to government for this expenditure. These amounts are shown in Table 9 below.

For purposes of this analysis, government expenditure has been taken from the MTEF for 2000/01 and 2001/02. For 2002/03 it has been assumed that expenditure will increase in nominal terms by 7%.

Table 9: Impact of packages on overall government expenditure envelope (Rm 1999 real)

	2000/01	2001/02	2002/03
Increase in govt expenditure	3 100	5 000	4 900
R25 bn level			
Net additional claim on fiscus	3 603	3 333	2 973
As % of increase in govt exp	*116%*	*67%*	*61%*
R21 bn level			
Net additional claim on fiscus	2 974	2 560	2 115
As % of increase in govt exp	*96%*	*51%*	*43%*
R16.5 bn level			
Net additional claim on fiscus	2 264	1 687	1 148
as % of increase in govt exp	*73%*	*34%*	*23%*

DIP

It is evident from the table that the additional expenditure implied by the three packages (after taking account of the expenditure accommodated within the budget) represents a significant portion of the additional resources available to government under its current fiscal policy regime. This effect is largest in 2000/01 because the amount assumed to be available from other government departments is smallest in that year (R300 million in nominal Rands).

4.27.1.1.1.1.2 Impacts on other departmental expenditure

It is also important to place the package expenditure in the context of government's other spending programmes. In Table 10 below, the additional package expenditure (net of amounts accommodated within the budget) over the next MTEF period is shown in relation to selected departmental or programme expenditure within the existing MTEF budget. In addition, the table shows some of the additional spending bids being made by departments in their current MTEF submissions.

Table 10: Package expenditure in relation to other departmental expenditure (Rm 1999 real)

	2000/01	2001/02	2002/03
Additional claim on fiscus for arms packages			
R25 bn level	3 603	3 333	2 973
R21 bn level	2 974	2 560	2 115
R16.5 bn level	2 264	1 687	1 148
Current spending levels per MTEF			
Housing	3 160	3 250	3 330
Municipal infrastructure (CMIP &	2 030	2 080	2 140

water)			
Education	7 110	7 190	7 330
Additional spending bids (2000/01)			
Defence	980	1 130	950
Integrated Justice Sector	3 400	3 850	4 640
DTI (taxi industry)	983	962	1 024

It is evident that the amounts required for the arms packages are significant in relation to current and desired spending levels of the departments shown. Under the R25 billion scenario, for instance, the additional arms spending is about the same as the current budget of the Department of Housing, about 50% more than the current investment in municipal infrastructure, and is roughly a third to half the budget of the Department of Education. These ratios are proportionately lower for the R21 billion and R16.5 billion expenditure levels.

The third category of figures in the table above provide some indication of the additional pressures currently facing the fiscus. These are merely the amounts requested by the departments shown, and are therefore likely to be greater than the amounts eventually allocated, but they indicate the scale of the trade-offs involved in proceeding with the arms procurements at the various levels.

It is important to highlight the approximately R1 billion per annum being sought by the Department of Defence to supplement its existing MTEF allocation. This is in addition to the funds it is seeking for the strategic packages. According to the DoD, this amount is required to fulfil the additional responsibilities carried by the department, such as border control, participation in the National Crime Prevention Strategy, VIP transport, and so on.

4.28 Chapter 5: FINANCIAL ISSUES

Overview

An analysis of the potential implications of the armaments procurements on the financial condition of the Republic was commissioned from the Sovereign Advisory division of Warburg Dillon Read (London). Their report is attached as Appendix G. This chapter focuses on the impact of different procurement expenditure levels on South Africa's future borrowing capacity (see Part 3 of Appendix G.)

The WDR assessment examines two key issues: the impact on market capacity and the impact on debt service capacity. These are dealt with in general terms here. The latter issue is quantified and dealt with in detail as part of the scenario analysis given later.

Impact on market capacity

The impact of the procurements on the capacity of three markets to fund SA risk is assessed: the domestic debt market; the officially supported export credit (ECA) market; and international debt markets.

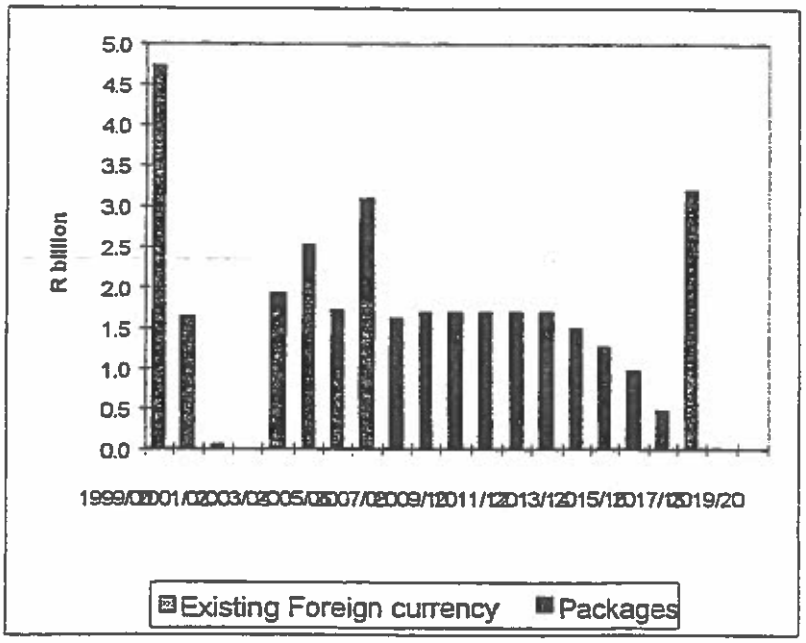
With respect to the *domestic debt market*, the total ZAR sum required for the R25bn expenditure level is about R8.4bn to be funded over a period of 8 years. The maximum figure for a single year is R1.8bn to be funded in 2005/06, amounting to less than 3% of the total budgetary financing requirement projected for that year. While a number of variables may influence the exact character of that impact, the WDR analysis suggests that the defence procurement requirements, even at the R25bn level, are unlikely to have a significant impact on the capacity of the domestic market.

As regards the impact on *officially supported export credits*, WDR conclude that, although those ECAs that have country limits have indicated that the defence deals will not be considered as part of SA's limits, in reality it is likely that the levels of exposure being contemplated for the defence procurements will have some impact on decision-making about capacity in future. It is not possible to quantify the magnitude of this.

With respect to the *international debt markets*, the funding of the defence procurement programme increases the absolute levels and proportion of foreign currency debt of SA. As Figure 20 indicates, assuming the current stock of SA's foreign debt, a R25bn expenditure scenario will constitute virtually all of government's foreign currency debt service from 2007/08 onwards. This significantly increases SA's exposure to a serious forex shock.

While commercial credit lines made available by private sector financial institutions to South Africa could be formally unaffected if the package were to be financed by officially supported export credits, there is likely to be an informal influence by banks to sanction large drawdowns within existing credit lines over the short-term (up to 6 months). Banks may want to monitor how the government manages its finances in the immediate aftermath such a large international financing. If the country's financial position deteriorates, existing limits would be reduced.

Figure 20: South Africa's foreign currency debt repayment profile, with R25 bn defence procurement package



Such a response is a real risk in current market conditions, in which there has been a considerable reduction in the capacity of the commercial bank market for South African credits over the past 18 months. This is due principally to the withdrawal of a large number of banks from the market for emerging market credits and the consolidation of existing lenders through mergers (e.g. Societe Generale/Paribas, Deutsche Bank/Bankers Trust, etc.), while the crises in East Asia and Russia have led to a limited capacity for loan maturities of more than three years for most emerging market countries.

The international bond markets are also likely to adopt a 'wait and see' approach to the impact of the new borrowing for the Strategic Packages, with some investors becoming reluctant to purchase South African paper for a short period while the Government's fiscal policies are assessed. This could complicate the Government's ability to raise significant amounts in the international bond markets in 1999/2000 at a time of investor nervousness resulting from developments elsewhere in the emerging markets, such as Argentina and Brazil.

Impact on debt servicing capacity

The potential impact of the procurements on the capacity of SA to service its current and future debt obligations is obviously crucial. The Warburg report (Appendix G, Section 3.C) extends the macroeconomic modelling results to quantify the impact of the three different expenditure levels on debt servicing capacity.

As in Chapter 3, the baseline scenario starts from SA's existing debt situation and projects the country's future borrowing requirements without any provision for the defence procurement programme. Future Government financing requirements, including medium

term loan redemptions, are based on projections of the national budget. It is assumed that short term debt is refinanced on maturity. Future borrowing requirements of state-owned enterprises and the private sector are assumed to grow in line with the projected economic growth.

A number of key financial indicators are used by the investors and credit agencies to assess a government's creditworthiness. Changes in these indicators over time are used by the rating agencies to adjust a country's rating, according to whether its financial condition is improving or deteriorating. Investors use the credit agencies' ratings to fix the premium over US Treasury Bond rates to be paid by a sovereign borrower, to compensate the investor for the additional risk of holding the debt. As a result, any improvement or deterioration in a sovereign borrower's rating will be reflected in the government's borrowing costs (i.e. the premium it pays investors to hold, for example, SA bonds)

The most important creditworthiness indicator is the fiscal deficit, which has already been extensively discussed in Chapter 3, and is not further dealt with here. Two further key indicators of a country's financial condition are:

- interest as a percentage of government revenue, reflecting the public sector's ability to meet its debt servicing obligations without impairing its ability to maintain its operating and capital expenditure commitments

- the public sector's debt stock as a percentage of GDP, reflecting its overall level of indebtedness

DIP

Together these ratios measure the burden of public sector indebtedness, and whether the public sector is generating sufficient revenues to service its debt payments. Obviously, the higher these ratios the more difficulty government will have in servicing its debt obligations, both under normal circumstances and if, for whatever reason, economic conditions worsen severely.

In other words, these ratios give an indication of (i) the ability of the SAG to pay its financing costs; (ii) the trend in these costs, ie will the risk premium (the SAG's borrowing rate relative to the US Treasury rate) rise or decline over time; and (iii) the ability of government to adapt to an economic or fiscal shock, while continuing to meet its debt service obligations.

It is important to understand that the SAG is already extensively indebted. Figures given below indicate that SA is already edging toward the levels of borrowing and of debt service obligations which the international markets regard as the maximum acceptable, even without the defence procurements. The financial ratio analysis below indicates the impact of different levels of package expenditure in exacerbating this trend and pushing up the price of SA country risk.

The financial analysis follows the same approach as the macroeconomic. The impact on the two financial indicators of the same three alternative defence procurement expenditure levels was assessed, viz. levels of R25 bn, R21 bn and R16.5 bn. For each expenditure level, the same three risk scenarios were used as in the macroeconomic analysis:

- Scenario I: low interest rate shock, full NIPs
- Scenario II: adverse interest rates, full NIPs

- Scenario IV: adverse interest rates, adverse NIPs

To anticipate the analysis below, the main point emerging from the financial analysis is similar to that evident in the macroeconomic analysis: the higher the expenditure levels, the worse the country's position. And as the costs associated with risk rise, raising the expenditure level, leads to a greater deterioration in the position. On the two indicators used here, only the lowest expenditure level of R16.5bn allows SA to stay within internationally recognised safety levels on Scenario IV, combining the two risks.

Impact on government's interest burden

DIP

The following three graphs indicate the potential impact on government's interest burden of different expenditure levels.

Figure 21: Interest as % of government revenue,
All expenditure levels, Scenario I

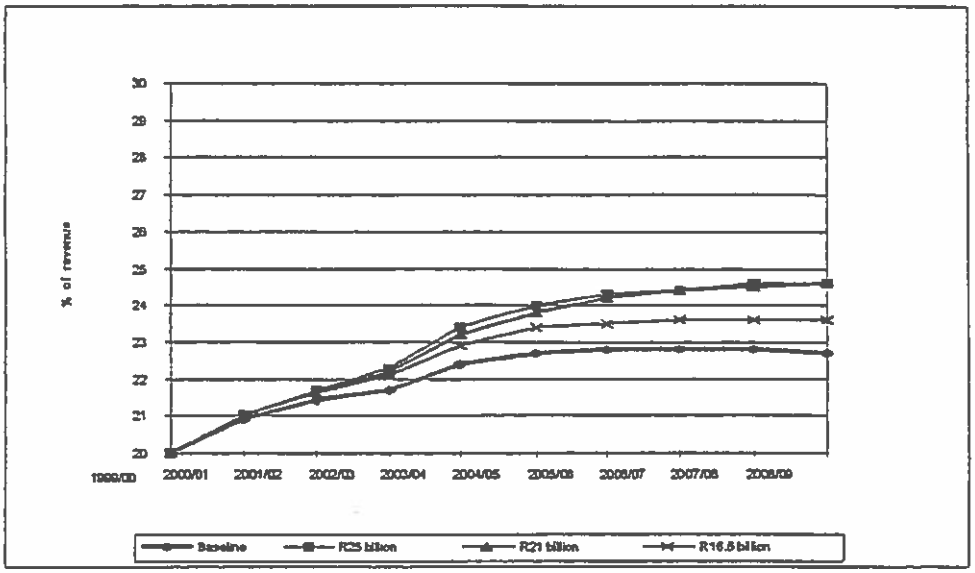


Figure 22: Interest as % of government revenue,
All expenditure levels, Scenario II

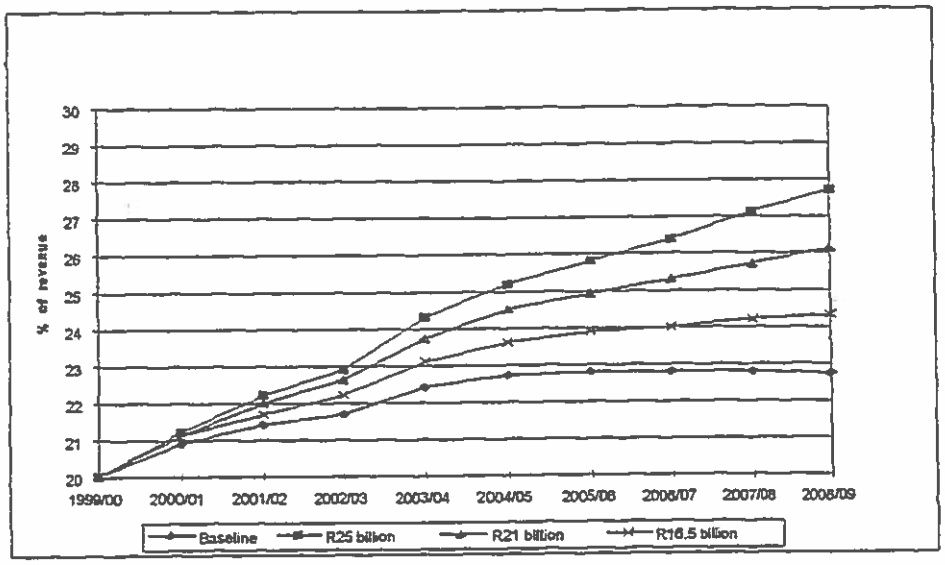
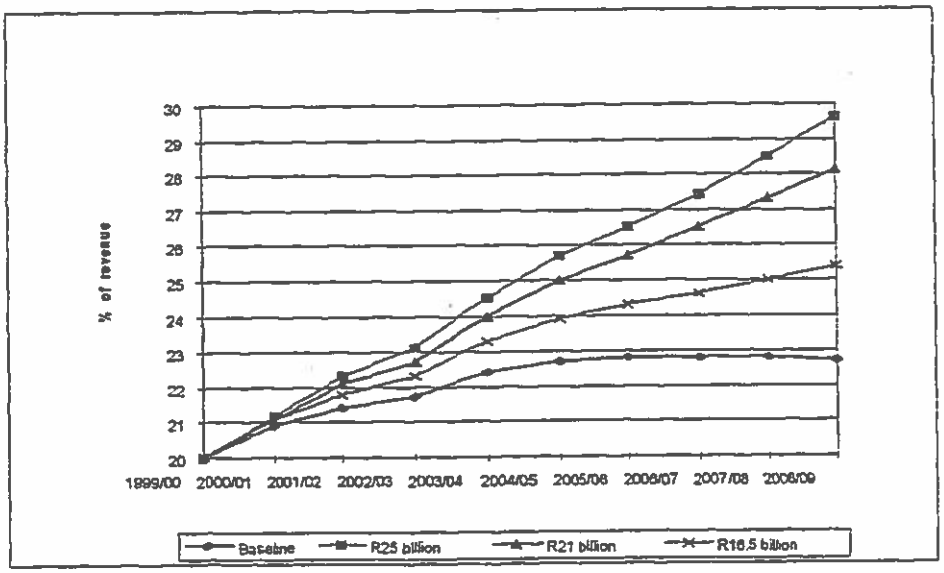


Figure 23: Interest as % of government revenue,
All expenditure levels, Scenario IV



The baseline indicates that without the arms programme, interest grows as a proportion of government revenue from 20% to about 23% by 2008/09. This is primarily due to the increased cost (depreciation of the Rand's exchange rate) of foreign currency-denominated debt, whose interest cost is forecast to expand from approximately R1.3 billion to more than R 9 billion over this period.

In Scenario I (Figure 21), interest on the Government's debt is projected to rise to between 23.6% and 24.6% by 2008/09, depending on the expenditure level. While there is no figure which unambiguously indicates an excessive level of Government's interest costs, an interest burden steadily increasing towards a level of 25% of revenue – characteristic of both the R21bn and R25bn expenditure levels – would imply that government has increasingly less flexibility to adjust its spending on goods and services.

An interest obligation around 27% of Government's revenues by 2008/09 is approximated in the R21bn and R25bn expenditure levels in Scenario II. This could be a cause for increased concern as the Government's budgetary position could be exposed, for example, in the event of lower than expected GDP growth or a failure to increase revenues in line with GDP growth, necessitating a significant adjustment in non-interest expenditure.

Of more concern is Scenario IV, which projects interest as a percentage of Government revenue rising to almost 30% in 2008/09 at the R25 bn expenditure level. This level could be seen by the market as an indicator of an unsustainable debt burden, with potentially damaging consequences for the government's creditworthiness and its ability to refinance its principal obligations, which would be equivalent to almost 14% of revenues under this scenario. Under this pessimistic scenario only the R16.5 bn expenditure level keeps the interest burden under 25% of total government revenue by 2008/09.

Debt stock ratio

While the absolute level of a country's debt is typically a less important constraint than the projected levels of short and medium term debt service, at a certain point the markets may find the absolute level of debt difficult to ignore. The market's perception would of course be tempered by the pace at which the public sector increases its total debt stock.

The extent of the public sector's indebtedness is reflected in the ratio of the stock of debt to GDP. To assess the future level of indebtedness, the total debt stock of Government and state-owned enterprises has been projected for the three different expenditure levels as indicated in the graphs below.

Figure 24: Public sector debt as % of GDP,
All expenditure levels, Scenario I

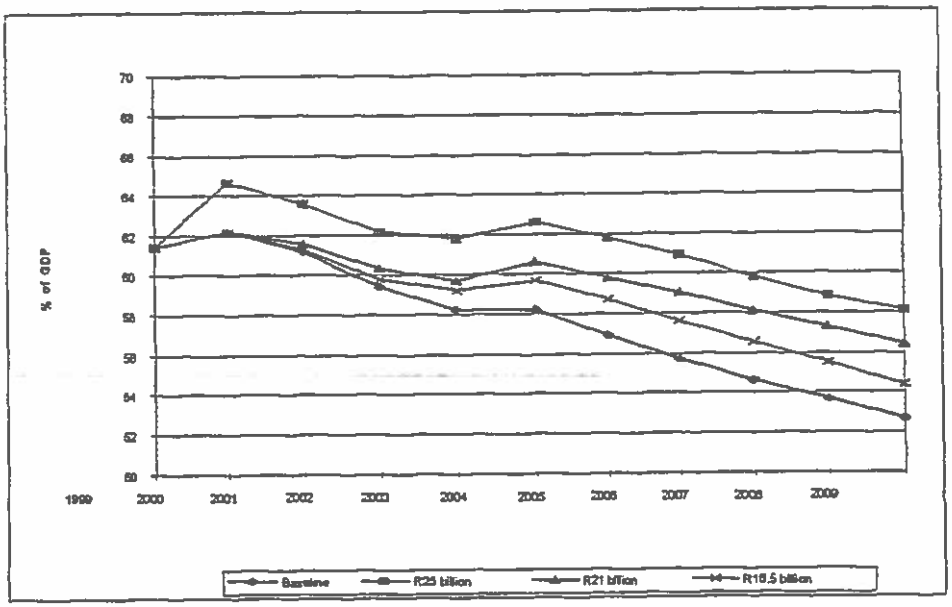


Figure 25: Public sector debt as % of GDP,
All expenditure levels, Scenario II

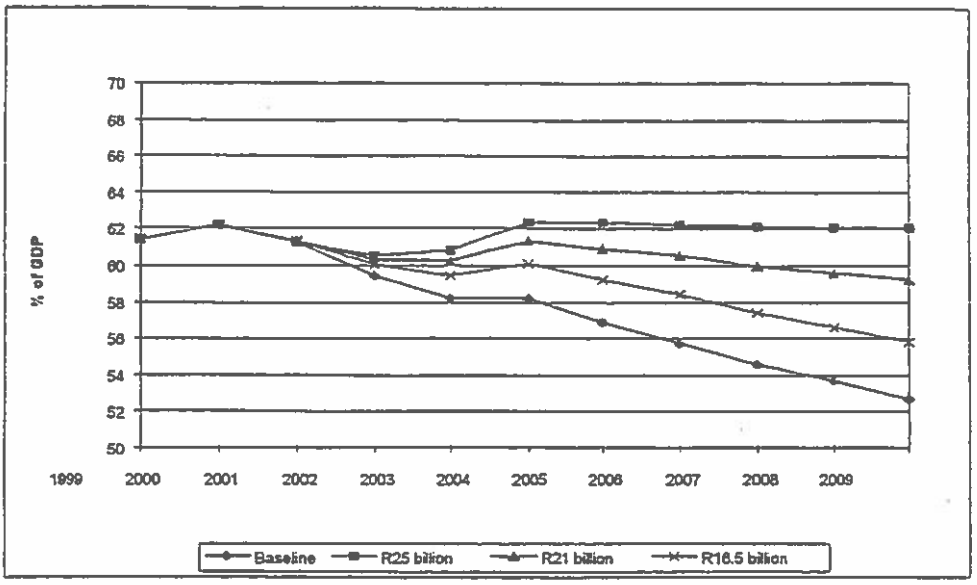
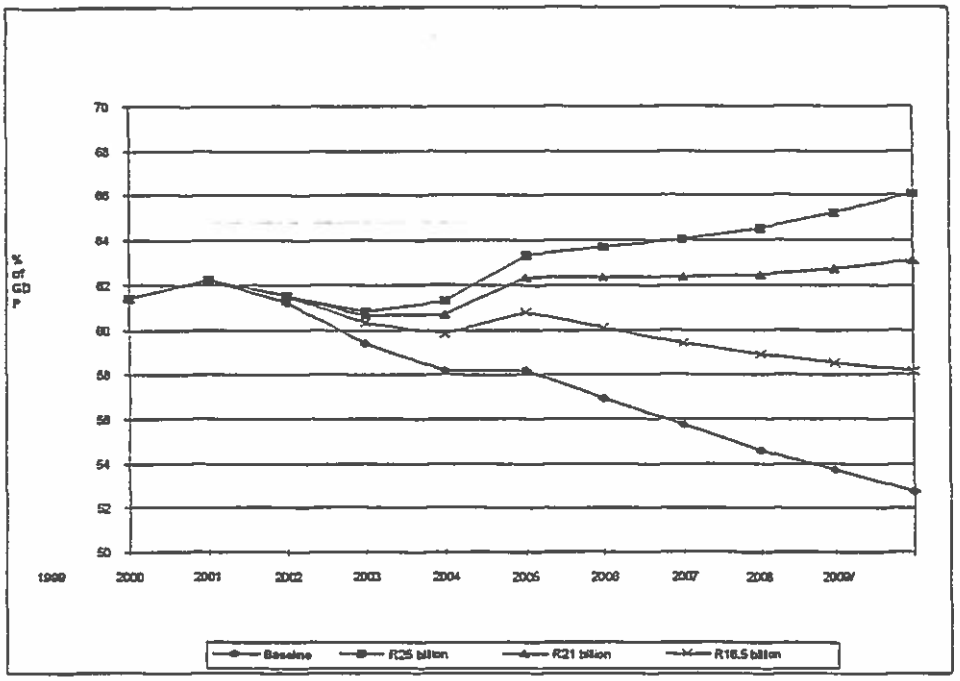


Figure 26: Public sector debt as % of GDP,
All expenditure levels, Scenario IV



DIP

Under the baseline scenario, the stock of public sector debt is projected to decline to approximately 53% of (revised) GDP by 2009 from a current estimated level of more than 60%, which is the ceiling set on public sector indebtedness under the Maastricht Treaty for member countries of the European Union.

After inclusion of the defence procurement programme, the level of public sector indebtedness under Scenario I declines from the current estimated level to between 54% and 58% of GDP by 2009. This would indicate limited capacity for the public sector to incur additional debt, unless the economy expands at a higher than projected rate.

Under Scenario IV, the situation is much worse. Public sector indebtedness would increase steadily to around 66% of nominal GDP at the R25 bn expenditure level, and to approximately 63% of nominal GDP in the case of a R21 billion programme. In both cases, the stock of public sector debt would be in excess of the 60% criterion throughout the projection period. Even under Scenario II, only the R16.5 bn expenditure level allows public sector indebtedness to drop clearly below the 60% level.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Unique characteristics of package procurements

5.1.1 In fiscal, financial and economic terms, the defence procurements are distinguished from other government procurements by a number of factors. First, they are very large. No other procurement decision that the SAG has ever made - or is ever likely to make – involves anything like the aggregate sums under discussion in this case, even on the more limited expenditure levels. Expenditures of this order will inevitably involve both a move away from government's existing fiscal targets and a significant restructuring of the national budget towards defence expenditure.

5.1.2 Second, the procurements will entail fixed, contractual commitments extending over a number of years, with high breakage costs. If economic conditions worsen, government's ability to readjust military expenditure in order to respond accordingly will be constrained by the costs attendant on contract cancellation.

5.1.3 Third, they are heavily import-biased. Unlike most other procurements, the defence packages involve the accumulation of extensive liabilities in hard currency - and the forex exposure contingent upon these – in order to fund what is essentially a large order of imported equipment.

5.1.4 Fourth, the costs of the procurements are largely mitigated by a set of associated activities (the industrial participation programmes) whose performance cannot be guaranteed. Put differently, the benefits related to the acquisitions are not nearly as certain as their costs.

Risk assessment

5.1.5 These characteristics imply a set of significant and unique risks for government. The analysis given in sections 3 and **Error! Reference source not found.** is intended to capture the potential implications of the most important of these. Two sorts of "intrinsic" risk – related to interest rate movements and under-performance in respect of NIP – have been captured as part of the economic and financial modelling exercise.

5.1.6 It is important to note that a probability factor has not been attached to these risk scenarios. It is not possible to specify with any degree of certainty that there is, say, a 50 or 60 percent chance of any of these scenarios materialising either fully or to some limited extent. However, these scenarios have been defined and chosen because there is some identifiable prospect of conditions tending in this direction. The reasons for this are discussed in detail in section 3.5 of the document.

5.1.7 In the case of the risk of NIP under-performance they relate essentially to the possibility that the NIP implementation mechanism is not sufficiently able to manage and enforce the suppliers NIP obligations, that the cost of forfeiting the performance guarantees is not high enough to compel the suppliers to fulfil their NIP obligations, and that the major investments being planned fail to come up to expectations.

5.1.8 In the case of the interest rate increases, the factors relate mainly to the centrality of government's positive record on its fiscal targets in establishing credibility in local and international markets, and the potential impact of a sustained breach of these targets to fund non-productive expenditure.

5.1.9 An assessment of these dynamics must clearly be an important part of the Cabinet decision-making process. It should not be forgotten here that in addition to the "intrinsic risks" which are assessed and discussed above, a number of other "extrinsic" risks – such as those of Rand:Dollar depreciation, worsening economic conditions and so on – could create conditions which exacerbate the effects described in scenarios as modelled.

5.1.10 The most fundamental point that emerges from the risk analysis is that as expenditure increases the risks of the procurements escalate significantly. To the extent that conditions do develop adversely government will be confronted by mounting difficulties. These difficulties grow as the expenditure level rises.

5.1.11 To some extent some of these risks can be managed. For example, the perception of the financial markets can be enhanced through an effective and timely communications programme. The risk of NIP under-performance can be reduced by an effective implementation mechanism.

5.1.12 Ultimately, then, the decision about how much to spend on the arms packages really constitutes a decision about government's assessment of the risks, its ability to manage the risks adequately, and its assessment of the needs and benefits driving the procurement decision.

DIP

5.2 Recommendations

5.2.1 The AT has refrained from recommending any specific procurement scenario to the Ministers' Committee. The purpose of the report and analysis presented above is to fully inform the MC on the work done thus far and to demonstrate the potential impacts and implications of different expenditure levels. It is for the MC to choose which level is appropriate.

5.2.2 Notwithstanding, the AT does have certain process recommendations to make:

- Ministers should decide on an expenditure ceiling and leave the negotiation of a specific procurement combination to the Chief Negotiator and the Department of Defence to finalise, subject to final MC ratification. There are two chief reasons for this. First, a wide variety and combination of equipment purchases is possible at any expenditure level. Deciding on the best possible combination will require a detailed exploration and negotiation of various options. Second, the DoD should have a particularly strong voice in this decision: it is, after all, the DoD budget which is funding these acquisitions and the Department is best placed to decide on the optimum combination of Defence equipment at any given expenditure level. The presence of the Chief Negotiator will allow the non-defence aspects of the procurements to be taken sufficiently into account, and Ministers will need to take the final decision at political level.

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- Notwithstanding, simultaneous with the expenditure ceiling decision, the Ministers' Committee should decide on the basic question of whether to accept the combination of Hawk and Gripen offered by BAe through the "tranche option".

- The character, announcement, timing and "packaging" of the procurement decision will be of utmost importance in determining reaction to it across a wide variety of fronts: local and international markets; various local constituencies and interest groups; foreign governments; and so on. Effective communications will impact positively while poor communication could lead to adverse perception and in turn to a possible interest rate or forex shock. The GCIS has developed a draft communication strategy in this regard. The MC should assign top priority status to the implementation of an effective communications strategy and mandate the NT and GCIS to mobilise sufficient financial and human resources as is needed in order to successfully manage the process.

5 Appendices which follow the main document

Appendix A: Macroeconomic modelling exercise: model description and methodology

Appendix B: Summary of outputs form macroeconomic model

Appendix C: Risk weighting methodology for Industrial Participation (IP) projects

Appendix D: Summary of input values for arms costs and NIP projects for macroeconomic modelling exercise

Appendix E: Accounting for the Defence strategic arms packages in the national accounts

Appendix F: Potential financial impact of the arms procurements

Appendix G: Outcome of negotiations on loans to fund arms packages

Appendix H: Reports by independent analysts on three NIP steel projects

- Warburg Dillon Read (London)
- Locker & Associates (New York)