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Looking into the Black Hole

Is the UK Defence Budget Crisis Really Over?

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Issue
Upon coming into office in May 2010, the government identified a large 'funding gap' in plans for defence. This briefing paper assesses whether this gap has now been closed.

Context
Out of a projected ten-year funding gap of £74 billion, almost two-thirds (£47 billion) is a result of cuts in the projected Ministry of Defence budget, including a real terms cut of 8.6 per cent between 2010/11 and 2014/15. The remainder (£27 billion) is a result of inherited commitments that were unaffordable even if the core budget had continued the rate of growth that it had enjoyed since 1999. Two rounds of cuts – the October 2010 SDSR and the July 2011 'Three Month Review' – have followed. As a result, numbers of regular service personnel are now set to fall by around 20 per cent by 2020, with MoD civilian personnel falling by almost 40 per cent.

Key Findings
The decision to reduce the size of the regular army, made more palatable by increased investment in reserve forces, has restored some credibility to the commitment to a balanced posture. While the MoD's books may be balanced on paper, the work needed to turn assumptions into detailed plans has only just begun.

In areas as diverse as equipment programmes, pay levels, service accommodation, boarding school allowances and regimental identities, hard battles remain to be fought in order to achieve projected levels of saving.

While the government is now planning for a 1 per cent annual real growth in the equipment budget after 2014/15, it cannot guarantee what its successor will decide in the 2015 Spending Review. The drawdown from Afghanistan could weaken the MoD's bargaining position, especially if current efforts to reduce the nation's fiscal deficit have not yet fully succeeded.

What is the Funding Gap?

Causes

When the Coalition Government came to power in May 2010, it identified a large 'unfunded liability' of inherited defence spending plans that was, it argued, 'completely unaffordable'.[1] This funding gap was a result of two distinct, yet interrelated, causes.

Firstly, it was a consequence of a forward defence programme that could not have been afforded even if the core defence budget had continued to rise at the rate (1.1 per cent annually in real terms) at which it had grown since 1999. Of an estimated ten-year funding gap of £74 billion, £27 billion resulted from over-commitment relative to this historic spending trend.

Secondly, and even more importantly, it resulted from the decision to require the Ministry of Defence (MoD) to contribute to the cuts in public spending that were needed in order to eliminate the country's massive fiscal deficit. The MoD was told to take a cut in its core budget by 2014/15 equivalent to a real-terms reduction of 8.6 per cent, and it is now planning for annual real growth of only around 0.4 per cent after that date. Almost two-thirds of the funding gap (£47 billion out of £74 billion) which the MoD was required to close resulted from cuts in projected MoD budgets below the annual 1.1 per cent growth which, before the financial crisis, it could reasonably have anticipated.

Consequences

In order to close this funding gap – part inherited, part resulting from spending cuts – the Government made changes on two main fronts. First, it announced significant reductions in planned defence capabilities, starting with the announcements made in the October 2010 SDSR. The latest instalment of this process came with Defence Secretary Liam Fox's policy announcements in late July 2011. Reductions announced so far include the withdrawal of maritime reconnaissance and carrier air capabilities, significant reductions in other numerical front-line capabilities (ships, squadrons and ground formations), a reduction in regular service personnel numbers by around 20 per cent over the next decade, a reduction of MoD civilian numbers by almost 40 per cent over the same period, and ambitious targets for efficiency savings in support, estate spending and IT provision.

Second, it identified the need for fundamental changes in how the MoD works. Shortly after it came to office, in August 2010, the Government

1. Her Majesty's Government, *Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review* (SDSR), Cm 7948 (London: The Stationery Office, 2010), p. 15.

announced the establishment of a Defence Reform Review, led by Lord Levene. The consequent Report on Defence Reform, published in June 2011, pulled no punches. It identified a structural 'inability to take tough, timely decisions in the Defence interest, particularly those necessary to ensure financial control and an affordable Defence programme'. The causes of this problem, it argued, included 'the political pain of taking such decisions and the lack of immediate consequences of deferring them', 'the 'conspiracy of optimism' between industry, the military, officials and Ministers', and 'an institutional focus on short-term affordability at the expense of longer-term planning'.[2] The report made fifty-three recommendations for change, many of them focusing on the need to strengthen financial management. These included greater delegation of budgetary responsibility to service chiefs, allowing Head Office to focus on high-level issues and strategic direction. The Government has made clear that it accepts all the recommendations of the Levene Review, and will be implementing them over the coming years.

Claims

As a result of the changes announced on these two fronts – reductions in programmed spending and plans for improved resource management – the MoD has become increasingly confident in asserting that it has brought its future capability plans and projected future budget broadly into balance. If this does prove to be the case, it would be a considerable achievement. This paper assesses what this claim means, how justified it is, and what further challenges will have to be met in order to guard against slippage in coming years.

How Big Was the 'Black Hole'?

The existence of a 'black hole' in the MoD's finances proved to be a powerful narrative device in the defence debate for the new government that came to power in May 2010, helping it to make the point that the status quo was not an option. In the 2010 Strategic Defence and Security Review (SDSR), it argued that the defence spending plans that it had inherited were 'completely unaffordable', with an 'unfunded liability' of around £38 billion over the next ten years. This estimate was later further increased to take account of an additional £8 billion to pay for the inherited costs of renewing the nuclear deterrent, which had not been taken into account in the previous estimate. A further £5.5 billion was added as a result of a re-costing of the equipment programme ordered by the new Chief of Defence Materiel, Bernard Gray. Together, these brought the total 'funding gap' for the ten years from 2011/12 to 2020/21 to £51 billion (or an average of just over £5 billion per year).

2. *Defence Reform: An Independent Report into the Structure and Management of the Ministry of Defence* (London: The Stationery Office, June 2011), p. 13.

This estimate was based on the assumption that the defence budget would otherwise have remained level in real terms throughout this ten year period. The money needed to finance MoD forward plans, including the maintenance of personnel and force levels, was then compared with the resources available at level funding, and the 'funding gap' calculated as the difference between them.

Yet the assumption that the MoD budget would be maintained in real terms proved to be unrealistic, given the extent of spending cuts that the new government required in order to meet its ambitious overall targets for deficit reduction. The real cuts in the defence budget that followed (an 8.6 per cent reduction by 2014/15, only partially reversed in subsequent years) increased the baseline funding gap to around £74 billion over ten years.

Table 1: The Size of the 2010–20 Funding Gap before the SDSR, on Different Budget Assumptions

Continuing the pre-financial-crisis spending trend under Labour[3]	£27 billion
Budgets maintained at 2010/11 level in real terms	£51 billion
Defence budgets set by coalition government[4]	£74 billion

The exact size of any projected funding gap depends on the assumptions made. Relatively small adjustments in assumptions on, for example, service pay increases, pension contributions, fuel prices or exchange rates can change the total ten-year gap by several billion in either direction. Whichever detailed assumptions are made, however, there was no doubt that the funding gap was large and real. It would take considerable energy, and political cost, in order to escape from its consequences. It was, in a very real sense, a black hole.

Labour's Funding Record

Another way to summarise the funding gap is to estimate the growth in defence spending that would have been needed in order to pay for inherited plans. On this basis, the MoD would have needed real growth in its core budget of around 2.2 per cent per annum between 2010 and 2020 in order to close an estimated £51 billion gap.[5] This is roughly comparable to trend growth in unit capability costs, estimated by previous RUSI reports

3. This assumes a core budget that grows at 1.1 per cent per annum (trend growth from 1999 to 2010).
4. This assumes a 8.6 per cent real reduction in defence spending between 2010/11 and 2014/15, followed by 0.4 per cent annual real growth until 2020/21.
5. Annual growth in the defence budget of 2.2 per cent in real terms would have generated additional funds of £51 billion during the ten years from 2011/12 to 2020/21. Own calculations.

to have averaged 1.7 per cent per annum over the two decades from 1990 to 2010.[6]

No government since the mid 1980s has been prepared to increase defence spending at this rate. The last Labour government, in the aftermath of the 1998 Strategic Defence Review, came closest. Total defence spending increased by 29 per cent in real terms between 1999/2000 and 2010/11.[7] But, if operational spending is excluded, resources available increased by only 13 per cent between 1999/2000 and 2010/11, equivalent to annual growth of 1.1 per cent.

This growth allowed the government to maintain regular Army personnel numbers, and also (through the Treasury reserve) to fund substantial investments in urgent operational requirements. The increased core budget also helped to fund some of the UK's most ambitious (and expensive) investments, including nuclear-powered *Astute*-class submarines, new amphibious ships, Type-45 air defence destroyers, a major modernisation programme for the nuclear weapons infrastructure, Typhoon combat aircraft, new transport and tanker aircraft, Apache and Merlin helicopters, and the first years of construction for two new aircraft carriers. But economies had to be found elsewhere, primarily in the numerical strength of the Royal Navy and Royal Air Force. Numbers of personnel in these two services fell substantially over this period, as did numbers of submarines, frigates and destroyers, as well as RAF combat aircraft and squadrons.

The MoD could have managed this shift in spending priorities more systematically, and less wastefully, if it had been prepared to subject itself to regular post-election defence reviews. And indeed some effort was made in this respect with the 'New Chapter' review of 2002, set up to assess the defence implications of 9/11 and its aftermath. As the strain on the armed forces from operational commitments to Iraq and then Afghanistan grew, however, senior military officers became more resistant to calls for an immediate defence review, even while they accepted that it was increasingly necessary in order to close the funding gap. Their caution was reinforced by government ministers, some of whom also believed that any substantial review of the defence programme would have been seen as an attempt to rethink decisions which they had already made. In

6. Malcolm Chalmers, 'Capability Cost Trends: Implications for the Defence Review', *Future Defence Review Working Paper Number 5*, RUSI, January 2010.
7. Actual cash spending, converted into 2010/11 prices. *UK Defence Statistics*, various editions; HM Treasury, *Public Expenditure Statistical Analyses 2011*, July 2011. NATO statistics show a similar picture, with real defence spending increasing by 28 per cent between 2000 and 2010. NATO Public Diplomacy Division, *Financial and Economic Data Relating to NATO Defence*, 10 March 2011, Table 1.

subsequent years, as a result, the MoD found it increasingly difficult to fit an ambitious forward programme within a much less ambitious – albeit still slowly growing – budget.

But what really changed the landscape for defence planners was the global financial crisis, which reached its peak in autumn 2008. As GDP fell, and the government deficit ballooned to more than 10 per cent of national income, it soon became clear that the boom years for state spending were over. Well before the 2010 election, therefore, the MoD began planning for what was bound to be a tough post-election defence review, whichever party, or coalition of parties, was left holding the keys of office.

The Hole Gets Deeper

Given the severity of the overall spending cuts announced by the new Conservative-Liberal Democrat coalition government, defence did not do quite as badly as some had anticipated. RUSI analysis published before the General Election, for example, estimated that the MoD could face real cuts of between 10 per cent and 15 per cent between 2010 and 2016, as well as a 19 per cent reduction in armed forces personnel from 175,000 to 142,000 over the same period.[8] But the actual outcome of the Spending Review – a cut in the core budget in real terms of 8.6 per cent between 2010/11 and 2014/15,[9] together with a 13 per cent projected reduction in military personnel to 153,000 by 2015 – was still a shock to many in the MoD and the armed forces.

The added impact of this cut on the size of the funding gap is summarised in Table 1. By making real cuts in defence spending during 2010–14, and then allowing only modest increases thereafter, the MoD has been left to find a further £23 billion in savings by 2020/21, on top of the £51 billion that would have been required if spending had been kept level in real terms.

By contrast, if the MoD had been able to continue increasing its core budget at the same rate as it had enjoyed between 1999 and 2010 (a plausible pre-financial-crisis assumption), the 2010 SDSR would have had to find only around £27 billion in savings. The cuts that would have been required to close this gap would still have been considerable. But they would have been only just over a third of the £74 billion that (after budget cuts are included) the SDSR was asked to find. Around two-thirds of the savings being made in the SDSR, therefore, are a result of reductions in projected spending below inherited trends.

8. Malcolm Chalmers, 'Preparing for the Lean Years', *Future Defence Review Working Paper Number 1*, RUSI, July 2009; Malcolm Chalmers, 'Capability Cost Trends: Implications for the Defence Review', *Future Defence Review Working Paper Number 5*, January 2010.
9. This takes into account more recent estimates of GDP deflator inflation. HM Treasury, *Public Expenditure Statistical Analyses 2011*, July 2011, Table F.2.

Glitches in the SDSR

Given the size of the task that it faced, it was understandable that the government was not able to make all the decisions that, in the short period of time available for the SDSR, would be necessary to bridge the funding gap. The size of the problem was made worse by three further developments.

First, until a few days before the end of the Spending Review (publication of which was timed to coincide with the SDSR), the MoD had only drawn up plans for a reduction of 3 per cent in its real budget by 2014/15. At the start of the Spending Review, in June 2011, the new Cabinet had agreed that the MoD needed to produce detailed plans for how it would cope with reductions of 10 per cent and 20 per cent in real terms over four years. But the MoD, in part because its proposed force structure plans were not being strongly challenged, believed – or at least hoped – that the Treasury was bluffing, and presented no detailed plan for how to make steeper reductions. It was only in the last two to three weeks that it became clear to the MoD that it would have to find savings that were closer to 10 per cent by 2014/15, and only in the last days of the Spending Review that agreement was made on a reduction of some 7.5 per cent over four years, with a large part of the reduction having to be made by 2013/14.[10] This went far beyond the 3 per cent reduction for which the MoD had been preparing, and had the effect of increasing total ten-year required savings by £17 billion.[11] This not only required much deeper savings in 2013/14 and 2014/15, a challenge which the MoD has still not fully been able to meet.[12] As importantly, it reduced the baseline for spending levels for the rest of the decade.

In part, the MoD's failure to develop a fall-back plan may have resulted from the mixed political messages they believed they were receiving. But there was also a strong perception, both inside Main Building and elsewhere in Whitehall, that the MoD was incapable of the necessary prioritisation. This perception was to shape the subsequent recommendations of the Levene Report on Defence Reform.

10. Based on then current assumptions on GDP deflator inflation. As a result of increased levels of inflation, this reduction – which was agreed in cash not real terms – has now become one of 8.6 per cent.
11. Assuming zero real growth after 2014/15. The subsequent announcement of 1 per cent annual growth in equipment spending after 2014/15 reduced this projected funding gap by £3 billion, to £74 billion.
12. The decision to suspend major improvements to service accommodation for three years from April 2013 is one of the recently-announced consequences of efforts to close this gap. Josie Ensor. 'MoD comes under fire for scrapping barracks upgrade,' *The Telegraph*, 11 September 2011.

Second, while the chancellor's announcement that public sector pay was to be frozen for two years (for all but the lowest paid) has helped the MoD, 40 per cent of whose spending is on personnel, these savings will be largely offset, in the case of armed forces, by a sharp increase in the level of employer's pension contributions, from 27.58 per cent of pensionable pay in 2009/10 to 33.88 per cent in 2011/12 and 35 per cent by 2014/15. The silver lining for defence planners may be that, by taking this additional cost up-front, it is less likely that the Armed Forces Pay Review Body (AFPRB) will recommend significant – and difficult to afford – catch-up increases in military salaries when the pay freeze is removed in 2013 or 2014. Beyond 2014/15, much will depend on how far the AFPRB will be prepared to recommend – and military personnel will be prepared to accept – lower increases in salaries in recognition of the comparatively generous pension benefits that they will be enjoying, in relation to the erosion of schemes in both the private sector and the civil service.

Third, the prime minister made clear that he was not willing to accept the recommendation that the SDSR should announce a reduction in the regular army to around 82,000 by 2020, from 102,000 in 2010. The new Defence Planning Assumptions, set out in the SDSR, stated that operational requirements for ground forces would be reduced significantly, both for enduring stabilisation operations (such as Afghanistan after 2006) and for one-off interventions (such as Iraq in 2003). The announced plans for withdrawal of 20,000 army personnel from Germany by 2020, moreover, were dependent on a large reduction in total army numbers by that date, without which new investment in UK infrastructure would have proven prohibitively expensive. Not least, the MoD's plans for a 3 per cent reduction in the defence budget by 2014/15 were dependent on the assumption of an army of 82,000 by 2020. In the last stages of the SDSR discussion, however, ministers decided that steep army cuts were too difficult politically, not least because of the pressures of Afghanistan operations. As a result, the SDSR announced that army personnel numbers would be reduced by only 7 per cent by 2015, to 95,000. The Royal Navy and RAF, in contrast, were asked to take cuts of 14 per cent and 17 per cent respectively in personnel numbers, along with the controversial withdrawal (without immediate replacement) of maritime reconnaissance and carrier capabilities.

The Making of a New Deal

Despite the many economies announced in the October 2010 SDSR, they did not go far enough to close the funding gap, and ministers were open in admitting that this was the case. After a difficult annual Planning Round (PR11), therefore, the MoD was asked to undertake a 'three month review', in order to analyse options for further steps. Some of the resulting decisions were announced by Defence Secretary Liam Fox on 18 July 2011. Others are likely to become apparent over coming months.

Two decisions were central to the July statement, and together constitute what is effectively an additional stage in the SDSR. First, the MoD was given greater certainty about the level of resources it can expect after the end of the spending review period in 2014/15. Second, in return, it has agreed to make further difficult decisions on capability reductions, notably in Army personnel numbers. More details remain to be agreed and/or announced. But the MoD now appears to be well on the way to closing its £74 billion funding gap.

Long-Term Budgets

During the House of Commons debate on the SDSR in October 2010, Prime Minister David Cameron gave his personal commitment to support year-on-year real spending increases for defence after 2014. The size of such increases was initially left unspecified; and it was made clear that this commitment had been made on behalf of the Conservative Party, rather than for the government as a whole. In July 2011, however, the MoD announced that it had succeeded in obtaining agreement that it can plan on the basis of real growth in the equipment and equipment support budgets of 1 per cent per annum after 2014/15. The MoD is also planning on the basis that the rest of the defence budget will remain at least level in real terms during this period. But this is far from being an ironclad commitment. A final decision on post-2014/15 budgets will not be taken until the next long-term Spending Review, due in 2015. Given the extent of likely catch-up pressure from domestic departments, the MoD is likely to have to fight hard to defend itself against future real cuts.

The government has not given an end-date for the commitment to 1 per cent equipment spending growth. As a result, it is reasonable to anticipate that the 1 per cent assumption (and the accompanying assumption of level real growth for non-equipment spending) can also be used for defence planning beyond 2020, unless and until it is decided otherwise. Indeed, the greatest financial value of the commitment comes in the years after 2020, when it will be worth more than £1 billion per annum in additional resources.

New Reserves

The Three Month Review resulted in additional reductions in spending commitments, over and above those announced in the SDSR. Not all of these have been announced publicly so far. While the October SDSR had focused primarily on savings that could be made by 2014/15 and sustained thereafter, the Three Month Review focused on generating a programme of further savings that could be made between 2015 and 2020. It has been reported that there will be a further reduction of 7,000 in MoD civilian personnel numbers by 2020, over and above the 25,000 reduction between

2010 and 2015. The Defence Secretary has also made clear that there will be further cuts in a range of minor equipment programmes, as well as further substantial efficiency savings in support, estate spending and IT provision.

By far the most important change announced in the July statement, however, was the decision that the size of the Regular Army would be cut to no more than 84,000 by 2020, as was already envisaged in the MoD's preparations for the SDSR in 2010. This decision was made more acceptable, both politically and militarily, by the conclusions of the Independent Commission to Review the UK's Reserve Forces, also published in July. The Commission argued that, with targeted additional investment and a commitment to a Whole Force Concept, much greater use could be made of the Territorial Army, both in overseas and domestic deployments. The government has accepted these recommendations, and has committed itself to an additional investment of £1.5 billion over ten years to enhance Reserve capability. This should allow a progressive shift over the same period in the composition of the army from (more expensive) regular forces to (less expensive) reservists. In addition to direct savings on personnel costs, it will also allow further savings in infrastructure and equipment costs, and help to ensure that the commitment to return the army from Germany can be met on time.

Wider Economies

So far, the government has provided little information on whether the Three Month Review has resulted in decisions to make further cuts in Royal Navy and RAF personnel numbers, and the front-line capabilities they support, after 2015. The 2010 SDSR stated that 'for now' it was assuming that total regular navy and RAF personnel numbers would only fall from around 63,000 in 2015 to 60,500 in 2020. But it is difficult to see how this latter figure can be afforded, given continuing growth in real average earnings and a personnel budget that is due to remain unchanged in real terms. More plausibly, one could be looking at a reduction to around 58,000.[13]

The government has rejected some of the more radical ideas for further cuts in the Royal Navy and RAF being floated during the Three Month Review – such as reducing the number of fast jets to less than half the current level, or reducing frigate and destroyer numbers from nineteen to twelve. By comparison, an additional, and relatively modest, reduction in personnel numbers by a further 2,000 or so would be much less damaging. But it will still not be easy, not least because of the 600 additional personnel that will be required to crew the new carrier that is due to enter service in 2020.

13. This assumes that military earnings increase at 1.7 per cent per annum above the GDP deflator.

In light of the recommendations of the Commission on Reserve Forces, further work on the use of reserves in both air and naval roles could form part of the answer to this conundrum. The prospect of further deep cuts in their front-line capabilities – a real, and feared, prospect before the cut in regular army personnel was announced – now appears to have receded. This will be welcomed by those who believe that a credible 'Adaptable Posture' requires a wide spectrum of capabilities across all three operating environments.

Projects at Risk

There continues to be a risk that the MoD's plans could be blown off course if the cost of major programmes increases more sharply than planned. The government has given itself some flexibility in this regard, notably by building in greater levels of contingency than in the past into the budget, and by making more realistic assumptions on projected costs more generally.

As a result, MoD planners now believe that the armed forces should have significantly more confidence that approved new equipment can be delivered as planned, without the level of delay and renegotiation that had become a central, and costly, feature of defence planning in recent years.

As in the past, however, much will depend on the MoD's ability to control the costs of its largest programmes, which have historically been the most technologically challenging and the most subject to cost increases. Three key projects, any one of which could pose substantial financial risks to the MoD, will be particularly important in this regard. These are the successor nuclear deterrent, the Joint Strike Fighter, and the Type-26 frigate. Of those projects still in the pre-Main Gate stage (i.e. without production contracts having been signed), these are the three with the largest projected budgets over the next decade.

The largest, and politically most difficult, procurement programme over the next two decades will be the construction of a successor to the Trident nuclear deterrent submarines. The MoD is due to spend £7 billion over the decade to 2020 on the initial concept, design and development phases of this project, equivalent to around 11 per cent of the new equipment budget over the decade from 2011/12 to 2020/21.[14] But the bulk of spending on the successor submarines, total costs of which are projected at £25 billion, is due to occur during the decade after 2020/21. The Main Gate decision, which gives permission for the Demonstration and Manufacture phase to begin, is due to be made in 2016. If this schedule remains, spending on the

14. This assumes that: (a) as a result of the SDSR, spending on the successor submarine is reduced to £7 billion over the next decade, of which £3 billion is pre-Main Gate; (b) the new equipment budget for the same period is now around £63 billion.

successor programme will rise sharply, probably reaching a peak of around 30 per cent of the new equipment budget by 2021/22 or 2022/23, when the first-of-class begins production. It is likely to remain close to this level until after the planned delivery of the first submarine in 2028.[15]

If the order is restricted to three boats, the end-date for the programme could be somewhat earlier. This may even make it easier to build the successor to the current generation of SSN attack submarines, given that HMS *Astute* is due to reach the end of its twenty-five-year lifetime around 2035, and construction of a new submarine to replace it may therefore have to commence in or around 2030. Precisely because of the requirement for a continuing 'drumbeat' of submarine work at Barrow, however, there may be less relief than might have been hoped for the rest of the defence budget, even after Trident procurement spending ends in the early 2030s.

Unless there is a substantial shift of resources into the new equipment budget, beyond the recently-announced 1 per cent real increments, non-deterrent new equipment spending will therefore have to fall back sharply after 2020. This will increase pressure on the MoD to complete as many other major procurement programmes as possible before 2021/22, in order to be able to create space in the budget for the successor programmes. Two programmes will be especially important: first, the Joint Strike Fighters (JSFs), due for deployment on the new aircraft carriers; and, second, the new generation of surface combatants, due to replace the existing Type-23 frigates.

The SDSR criticised the £20 billion carrier plan that it had inherited for two new carriers and around 150 JSFs as 'crowding out other important investment in the Armed Forces'. But it has since committed itself to a further investment of around £1 billion in converting one of the two new carriers to operate in a catapult and arrestor gear configuration. No decision has yet been announced on how many JSFs, UAVs and/or helicopters will be purchased for deployment on the new carrier.

The government has confirmed that it now envisages routinely deploying only twelve JSF aircraft on the carrier for operations, compared to the original thirty-six. And the requirement for daily sortie generation has been

15. This assumes that successor deterrent spending peaks at around £2.3 billion per annum. This includes (a) an estimated £1.8 billion annual spending on the new submarines, based on the total planned cost of £25 billion; and (b) an estimated £0.5 billion of annual new equipment spending on work related to warhead renewal. It does not include (c) the costs of the *Astute* SSN programme. The latter is closely linked operationally to the deterrent submarine, as well being essential to efforts to maintain domestic capability to produce nuclear-powered submarines. Were *Astute* costs also to be included, the capital costs of the deterrent programme over the next two decades are significantly higher.

reduced from seventy-two to twenty.[16] This suggests that the government could now be envisaging a total JSF buy of no more than fifty aircraft. But this could still mean procurement costs amounting to around £5 billion, in addition to more than £2 billion already spent or committed for the development and demonstration phases.[17]

Plans for initial deployment of the new *Queen Elizabeth*-class aircraft carrier in 2020 suggest that the first tranche of JSF aircraft will have to enter service on, or around, the same date. It is far from clear, however, whether the MoD will be able to afford to buy as many as fifty aircraft by that date. Because the F-35 is not being produced domestically (like new submarines), or through a rigid collaborative structure (like Typhoon), the MoD has greater flexibility to vary the size and pace of procurement as unit costs, operational requirements and availability of funds alter. The projected sharp increase in deterrent production spending from 2021, together with the costs involved in bringing a new and sophisticated capability (the aircraft carrier) into service around the same time, could mean that there simply are not the funds to buy even the fifty or so JSF aircraft that at present seem realistic. A reduction in the number is especially likely if the price that the UK is asked to pay for the F-35C continues to rise.

In parallel, the latter part of this decade will also see substantial spending on the Type-26 frigate, due to replace 13 existing Type-23 frigates 'as soon as possible after 2020'. Even if the MoD is successful in its reported efforts to limit the average unit production cost at £300 million, the total cost could still reach £5 billion at outturn prices. In order to keep to this target for average cost, the Royal Navy will come under pressure to consider a two-tier model for Type-23 replacement, involving the introduction of less well-equipped ships for constabulary roles (such as embargo operations and counter-piracy). Such a model, however, may have considerable implications for operational flexibility, even as reduced numbers make such flexibility even more important.

Scheduled workload on the Type-26 is due to rise sharply after 2016 under the Terms of Business Agreement with BAe, in order to compensate for

16. National Audit Office, 'Ministry of Defence: Carrier Strike', Report by the Comptroller and Auditor General, July 2011, p. 29.
17. The final dollar price has not yet been agreed, and costs to the MoD will depend on exchange rates at the time of purchase. A recent US General Accounting Office (GAO), report suggests an average unit procurement cost across the US F-35 programme of $133 million in then-year (or current) prices. GAO, *Joint Strike Fighter: Restructuring Places Program on Firmer Footing, But Progress Still Lags*, April 2011, p. 5. Unit costs for the F-35C are around $30 million higher than for the more common conventional F-35A variant, i.e. around $155 million. This suggests a unit cost to the UK of around £100 million, including support equipment, additional UK adaptation costs and initial spares.

the end of construction work on the two carriers.[18] On the assumption that thirteen new frigates are ordered, construction work could be expected to continue well into the 2020s. But growing spending on Trident successor from 2021/22 onwards may oblige the Government – perhaps in the 2015 SDSR – to accept a substantial reduction in the total Type-26 order, especially if aspirations for a low-cost Type-26b variant prove to be unrealistic.

In all three cases outlined above, it has been assumed that costs can be contained at levels anticipated in government plans, which in turn assume that unit procurement costs are roughly comparable, on average, to those of previous generations of comparable systems.[19] If the MoD were to be successful in constraining costs at these levels, there would have to be a radical revision to the preponderant academic view that the real unit costs of procuring major items of defence equipment are continuing to escalate rapidly, at rates of between 3 per cent and 6 per cent annually.[20] If historic trends in unit costs do continue, however, it would be impossible to afford current equipment plans for the 2020s without politically implausible levels of real spending increases.

While effective management of these three large projects will be vital to the MoD's plans for meeting its objectives for 2020 and beyond, more

18. 'Ministry of Defence: Carrier Strike', *op. cit.*, p. 18. There remains a gap between the two programmes, and there have been suggestions that this could be filled by orders for Military Afloat Reach and Sustainability fleet tanker ships.
19. The comparator systems for the successor submarine (*Vanguard* class) and Type-26 (Type-23) are self-evident. In the case of JSF, a comparison with the most recently-procured combat aircraft (Typhoon) may be most relevant. The total cost of this project is currently estimated at £20 billion at current prices, including £13.5 billion in production costs. National Audit Office, 'Ministry of Defence: Management of the Typhoon Project', Report by the Comptroller and Auditor General, March 2011, p. 7. This equates to a unit production cost (i.e. excluding development costs) of around £85 million (more than £100 million at 2011/12 prices) for each of 160 aircraft. Another possible (albeit very old) comparator could be the Tornado GR aircraft, which was developed in the 1970s and first entered service in 1982. An internal MoD estimate based on the National Asset Register suggests that Tornado GR unit costs were £24.58 million in current prices, equivalent to £60 million at 2011/12 prices. But another independent estimate, based on internal MoD work at the time, reports 1979 Tornado GR unit cost to be £37 million, equivalent to £140 million at 2011/12 prices. Admiral Sandy Woodward, Commodore Steve Jermy and 'Sharkey' Ward, 'Land-Based Air versus Carrier-Borne Air: Real Costs and Achievements over Forty Years', Phoenix Think Tank, October 2010. The projected F-35C unit cost of £100 million (equivalent to around £80 million at 2011/12 prices) therefore seems to be broadly comparable, at least for now, to that of previous generations of RAF fast jets.
20. For a critical perspective on this literature, see Malcolm Chalmers, 'Defence Inflation: Myth or Reality?', *RUSI Defence Systems* (Vol. 12, No. 1, June 2009). For a detailed MoD survey of the literature and evidence, see Ministry of Defence, 'Intergenerational Unit Cost Escalation of MoD Defence Equipment Platforms', forthcoming, 2011.

effective management of the army's programmes for procuring new armoured vehicles will also be crucial. The defence secretary's July 2011 statement said relatively little on this subject, except to announce a review of requirements in the light of the Reserves Review, and to make clear that financial savings in spending on armoured vehicles will be required. Some of these savings may be made by making more use of the more than 2,000 vehicles bought under Urgent Operational Requirements for Afghanistan. But substantial investment in new army equipment will also be needed over the next decade. The success of this investment programme will depend critically on whether the MoD can learn the lessons of the procurement failures of recent years (such as the ill-fated and much-delayed Future Rapid Effect System (FRES) programme). It will also need to ensure that resources are available for timely responses to new and developing threats.

Balanced At Last?

Since the publication of the SDSR in October 2010, the defence community has been waiting for the other shoe to drop. Despite significant cuts in capability, especially in maritime and air assets, government statements made clear that the overhang in the ten-year defence budget had not been completely closed. Concern grew that, having gone some considerable way towards bringing the MoD's commitments into line with its resources, the government was unwilling to take the further steps that would be needed to balance the defence books.

The further decisions made in July 2011, however, appear to have substantially narrowed – and perhaps even eliminated – the remaining funding gap. They have brought a welcome injection of additional, albeit not entirely guaranteed, resources into the department. The decision to reduce numbers of regular army personnel, made more palatable by a programme of increased investment in reserve forces, has restored a measure of credibility to the commitment to a balanced and adaptable posture, at risk as a result of the land-centric decisions announced in the SDSR itself. And there is reason to believe that the government is now strongly committed to avoiding a repetition of the 'management by funding crisis' that has been such a prominent feature of the MoD in recent years.

Although the books now appear to be balanced on paper, however, the detailed work required in order to keep them that way – while still meeting the government's force requirements for 2020 and beyond – has only just begun. At least three main risks remain that could derail these plans.

First, the government could fail to deliver the additional resources anticipated for after 2014/15. The MoD has been allowed to plan on the basis of 1 per cent annual real growth in equipment spending after 2014/15. But the current government cannot guarantee what its successor will decide to do in the 2015 Spending Review. The chancellor's targets for reducing the nation's fiscal deficit depend critically on sustained economic growth over the next five years. Were the country to enter a period of economic stagnation, however, the pressures on government spending, across the board, could intensify.

The government has also announced that, by the end of 2014, the armed forces will no longer have a combat role in Afghanistan. Unless new and challenging operational commitments are taken on – which is certainly a possibility – this cannot but weaken the MoD's bargaining position in Whitehall. Providing that the economy performs well, and aggregate public spending is able to recover, the MoD will probably be able to maintain its current ten-year budgetary plans. If there were to be further MoD budget cuts as a result of wider stringency measures, however, they would have to be matched with further difficult decisions on military capabilities.

Secondly, ministers will have to be robust in sticking to the plans now set out in the ten-year spending plan. The achievement of 'balance' in budget projections has depended on a series of assumptions about where cuts are going to have to be made, most of which have not yet been tested in the white heat of parliamentary and media scrutiny. In areas as diverse as pay levels (due to fall behind private comparators), boarding school allowances and regimental identities, hard battles remain to be fought in order to achieve projected levels of saving. Ministers and senior officials will also need to exercise continuing vigilance in managing the new demands on resources that will inevitably arise as a result of technological opportunities and operational surprises.

Third, as discussed above, the costs of the procurement programme could escalate beyond currently forecast levels. The government argues that there is now sufficient contingency built into the programme to allow for levels of overspend comparable to recent historical experience. But there is no doubt that this remains a significant risk.

Precisely because of these risks, implementation of the recommendations of the Levene Review play a critical role in assuring sceptics within Whitehall (of whom there are many) that the MoD will make efficient use of the extra post-2014 resources it has been given. A particularly important role is due to be played by the planned delegation of budget authority to the three service chiefs. This should allow them greater flexibility to transfer spending between different types of personnel (regular, reserve, civilian and contractor), and between personnel, new equipment and running costs. In principle, therefore, it should moderate the extent to which Head Office needs to micro-manage, a task that often involves a degree of inter-service arbitration on issues that it is ill-equipped to provide.

The government believes that, as a result of the measures it has taken to bring the budget into balance, it will be able to avoid many of the frictional costs that poor budgetary management has incurred in the past. Where past attempts to make short-term budget savings have taken the form of last-minute decisions to reschedule and scale down major programmes, the result has typically been increases in long-term costs.[21] If the MoD is now able to move beyond such practices, the resultant savings could substantially mitigate the effects of the loss of budgetary resources.

As a result of what has effectively been a two-stage SDSR, the likely shape of the armed forces in 2020 is now clearer than it was in early 2011. Numbers of regular service and MoD civilian personnel are set to fall up to 20 per cent and 40 per cent respectively, but numbers of useable reservists should grow considerably. Numbers of front-line aircraft, ships and regular ground formations will fall, but their quality will continue to improve, with significant resources still being spent on new systems and technologies.

Implementing this transformation will not be easy. But it is important not to overstate the extent to which long-term military capability has been damaged. Philip Stephens has recently suggested that, if the Libyan uprising had taken place after the defence cuts had taken place, Britain 'would be obliged to sit on the sidelines'.[22] But this is to overstate the extent to which the UK's military capability will be damaged by current plans. The Libya operation has revealed capability gaps, the repair of which will be made more difficult by the spending squeeze. But, on current plans, the UK should still be able to maintain a wide spectrum of capability, albeit at a reduced scale than in the past.

The Libya operation also underlined the UK's continuing position as one of NATO-Europe's two leading military powers. Without the joint initiative of France and the UK, no international coalition would have been created. Their air forces provided the core of the NATO strike effort against Libya. And both countries also played a key role in the provision of other assets, both military and developmental. Reliance on US assets was very considerable, and the campaign would have had to have been fought very differently, and much less effectively if at all, without US support. Yet, unlike Afghanistan and Iraq, where the UK was not much more than a supporting actor in a

21. Bernard Gray, 'Review of Acquisition for the Secretary of State for Defence: An Independent Report by Bernard Gray', October 2009.
22. Philip Stephens, 'A last hurrah for Britain's global pretensions', *Financial Times*, 5 September 2011.

US-dominated campaign, the UK has made a real difference – for good, it is to be hoped – in Libya.

It has also done so at relatively modest cost. The total additional cost of the Libya operation to the UK has been estimated to amount to around £260 million for a six-month operation, including up to £140 million for the cost of replenishing munitions.[23] This still seems a reasonable estimate, provided the operation is substantially completed by end-September. By comparison, UK military operations in Afghanistan during 2010/11 cost the Treasury an additional £4.5 billion, and a similar amount is likely to be needed in 2011/12. The cost of the Libya operation therefore amounted to only 12 per cent of that of Afghanistan operations over the same (6-month) period, and just 1.6 per cent of the £16 billion total additional cost of UK Afghanistan operations since they began in 2002. The demands of economic austerity, combined with the harsh lessons being drawn from a decade of large-scale interventions in Iraq and Afghanistan, mean that political leaders are likely to be much more reluctant to deploy large ground forces in combat roles into conflict-torn countries. By contrast, one lesson from Libya may be that there will still be some considerable value in having a range of options for more limited forms of military action, acting in support of local allies rather than seeking to dominate whole societies.[24] Even after planned cuts over the next decade, the UK will retain significant capabilities that can make a real difference in such scenarios.

The UK will never again be a member of the select club of global superpowers. Indeed it has not been one for decades. But currently planned levels of defence spending should be enough for it to maintain its position as one of the world's five second-rank military powers (with only the US in the first rank), as well as being (with France) one of NATO-Europe's two leading military powers. Its edge – not least its qualitative edge – in relation to rising Asian powers seems set to erode, but will remain significant well into the 2020's, and possibly beyond.

The UK is now one of only five NATO countries which meet the Alliance's target for member states to spend more than 2 per cent of their national income on defence. And, even after planned spending cuts have been fully implemented, it is still on course to be spending 2.15 per cent of GDP on defence in 2014/15. Indeed, given likely reductions elsewhere, the UK could be the only European country that will still be meeting the target by

23. House of Commons Debates, Written Statement by the Secretary of State for Defence, 23 June 2011.
24. For a wider discussion of this theme, see Malcolm Chalmers, 'Keeping Our Powder Dry? UK Defence Policy Beyond Afghanistan', *RUSI Journal* (Vol. 156, No. 1, February/March 2011), pp. 20–28.

that date. If operational spending falls sharply after the withdrawal from Afghan combat roles in 2014, it could fall below the NATO target in 2016 or 2017. If further expensive operations are under way, however – or if the economy performs less well than currently forecast – it may not fall below the target until around 2020.

Conclusion

The government now claims, with more credibility than it has been able to do for many years, that it has restored defence finances onto a reasonably sound footing. It will require continued efforts to keep them there. Especially hard decisions are likely to have to be made to balance the budgets for 2013/14 and 2014/15, given the weight of contractual commitments and the continuing pressures from Afghanistan. And, by 2013 or 2014, the government will need to begin turning its mind to identifying the key issues for the 2015 SDSR.

The costs of major projects remain a major source of potential instability, with particular concerns over the looming costs of Trident renewal. Pressures to bear down on unit costs will continue to be difficult to reconcile with a diminishing number of front-line capabilities, each of which involves significant overhead expenditure. International partnership, for all its travails, will become even more central to the defence business than it has been up to now.

At the top of defence's agenda, however, are likely to be events. The prospect of a 'double-dip' recession in the developed world is a very real one, with all that this could mean for UK public finances in the years ahead. For all the precise timetables for drawdown, no one can predict the course of events in Afghanistan over the next three years, or how Ministers in 2014 will react to the hard choices that could be presented to them in the later stages of 'transition'. Nor can we foresee what further challenges for our armed forces will be thrown up by events in the Middle East or Pakistan or Eastern Europe. What we do know is that none of these events can be relied upon to fit neatly into the five-year SDSR planning cycle, or into the Defence Planning Assumptions generated by that cycle.

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BRIEFING PAPER

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