Guest essay:

Aggressive Militarism or Security: The opportunity cost of Trident replacement and the aircraft carrier programme

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In the post Cold War world a popular game amongst some academics is guessing where the UK's Trident missiles are targeted and why the navy still need to maintain continuous submarine patrols with nuclear weapons. They certainly didn't prevent terrorists bombing the mainland. What seems to be a hangover from the cold war suddenly remerged in 2006 as a major target for defence spending, when the Labour government stated the intention of procuring a replacement for Britain's Trident nuclear weapons system ("Trident replacement").[2] They also promised a public debate which seems to have passed most of the public by and the decision has now been backed by Parliament, despite a sizeable Labour rebellion.

In fact the Government has touted Trident as the 'ultimate deterrent' necessary for the continued defence of these islands[3], but the reality is that the UK's nuclear forces are being made increasingly 'usable', with Trident submarines routinely carrying both large 'strategic' warheads and much smaller warheads that could be used in a 'sub-strategic' role. What is more, the UK's nuclear doctrine sets out a variety of scenarios for the use of nuclear weapons, most of which involve 'first use' in situations where national survival is not at stake. (Rogers, 2006).[4] At the same time and with less scrutiny, the UK is engaged in a large-scale conventional rearmament programme, central to which is the procurement two very large aircraft carriers (at 65,000 tonnes

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[1] The authors are at the School of Economics, Bristol Business School, University of the West of England. This essay is a summarised version of a report prepared by the authors for Greenpeace, Dunne & Perlo-Freeman (2007), *The opportunity cost of Trident replacement and the aircraft carriers*, available at http://carecon.org.uk/Users/paul/Greenpeace%20draft.pdf . The views expressed are those of the authors, and not of Greenpeace.

[2] UK MoD, *The Future of the United Kingdom's Nuclear Deterrent*, Cm6994, December 2006. Specifically, this means a replacement for the *Vanguard*-class nuclear submarines that will act as a new platform for upgraded Trident D5 missiles, armed with new warheads (see section 3). This new system is typically referred to as "Trident replacement", and we shall also use this phrase as a shorthand although it is not, technically, the Trident missiles that are being replaced.

[3] Though it not clear who is being deterred. A classic episode of the BBC comedy *Yes Prime Minister* considered the possibility of unilateral disarmament and ended up with senior civil servants suggesting that the Foreign Office has a long memory and it was never about the USSR but the 'old enemy', France! If France has nuclear weapons then so does the UK. While not suggesting this is the case we are still unclear against what these weapons are defending the UK.

[4] This argument is supported by recent confirmation that the Atomic Weapons Establishment (AWE) at Aldermaston is developing a new generation of nuclear warheads. Richard Norton-Taylor, "Trident upgrade under way, MoD admits", *The Guardian*, 14th March 2007, http://politics.guardian.co.uk/homeaffairs/story/0,,2033401,00.html.

displacement by far the biggest ships to be built in Britain) equipped with up to 150 new Joint Combat Aircraft[5]. Together, these programmes represent a massive expansion of Britain's offensive military capability in a form that seems to have little value for national defence or for peace support operations. Instead it provides capabilities for attacks on nation states as part of US-led coalitions. Something the most recent Defence White Paper treats as a very serious possibility.[6]

So what we are talking about is a dangerous resurgence of British militarism in which the principle purpose of Britain's military forces is global power projection, involving pre-emptive strikes – not excluding nuclear strikes – on so-called 'rogue' nations. A dangerous reliance on security based on military might, and indeed on aggressive power projection rather than more targeted defence. The new aircraft carriers and the Trident replacement are major pillars of this policy.

This is not only a dangerous strategy; it is also an exceptionally costly strategy, with official estimates of Trident replacement running at £15-20bn.[7] We consider this to be highly over-optimistic, assuming as it does that the replacement system will cost little or no more in real terms than Trident itself, despite to the almost universal pattern of rapid acceleration in unit costs of major weapons systems, which roughly speaking sees each new generation doubling in cost compared to the previous.[8] We estimate the likely procurement costs of Trident replacement to be a little over £26 billion[9]. Adding in Government figures for the expected operations and maintenance costs over the service life of the programme are taken into account as well as an allowance towards the cost of conventional naval vessels allocated to protect and support the submarines, we arrive at a total cost of £75.5 billion up to 2042[10][11]

Looking at what these commitments imply over time we have estimated the combined Net Present Value (NPV), based on some reasonably generous assumptions regarding the timing of spending and using the Government's recommended discount rate of 3.5% per annum for evaluating public projects, at £57 billion. That is to say, given the

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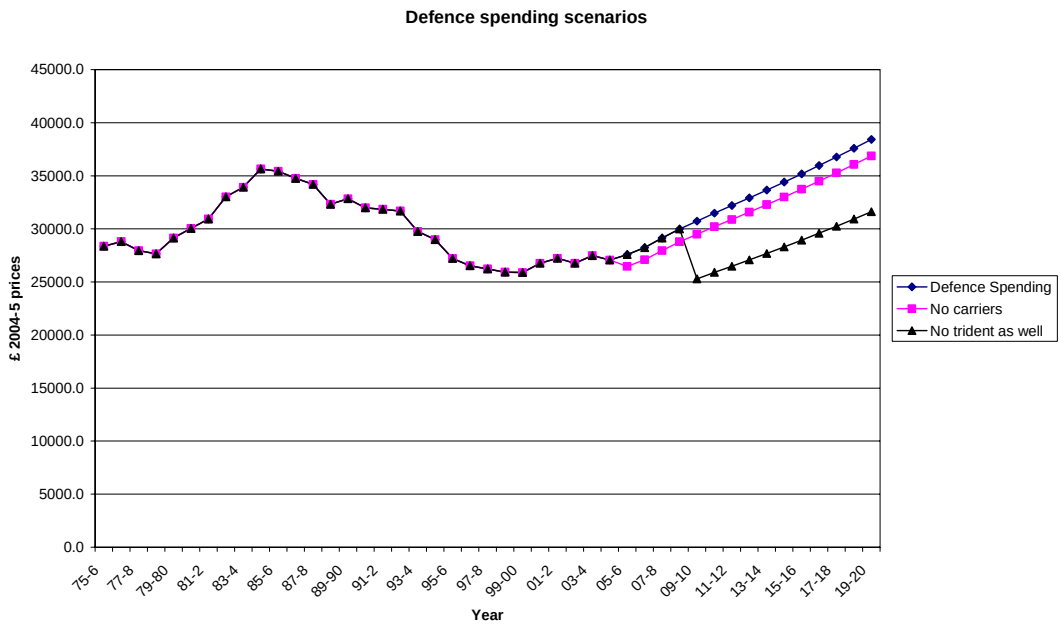
[5] These are being developed by the US with some British involvement.
[6] MoD, *Delivering Security in a Changing World*, Defence White Paper, December 2003.
[7] MoD, *The Future of the United Kingdom's Nuclear Deterrent*, ibid.
[8] This pattern has not changed in recent years, and has been true of US and UK nuclear submarine programmes, the best available comparators to Trident. See Dunne & Perlo-Freeman, 2007 for more details.
[9] This allows for the fact that replacing the Trident missiles themselves (as opposed to the warheads and the submarines that carry them) will be cheaper as Britain can participate in a US Service Life Extension Programme (SLEP) for the existing missiles.
[10] Operations and maintenance costs are about 5-6% of the defence budget, according to the White Paper on Trident replacement. See MoD, *The Future of the United Kingdom's Nuclear Deterrent*, and Ainslie (1998), http://www.banthebomb.org/archives/magazine/nfs992l.htm. Assuming that the first new submarine is launched in 2020, the new submarines would last a few years longer than this, but 2042 is when the SLEP for the missiles will expire, so any further extension of the overall system would involve further costs.
[11] The Government has published figures of £31 billion for the procurement and operational cost of the aircraft carrier programme, including the Joint Combat Aircraft over their roughly 30-year life, and we don't see any strong reason to propose a substantially different figure at this stage, although there remains a tendency for MOD procurement costs to spiral for major weapons systems. House of Commons Defence Select Committee, "Future Carrier and Joint Combat Aircraft Programmes", Second Report of Session 2005/06, HC554, December 13, 2005, http://www.sbac.co.uk/community/news/files/3566/Future%20Carrier%20and%20Joint%20Combat%20Aurcraft%20Programmes.pdf

principle that future costs and benefits are to be 'discounted' compared to the present, the projects cost the equivalent of handing over £57 billion in one lump today. An alternative to look at this is to ask how much could be spent each year for the service life of the projects and give the same NPV. This gives a total of £5.3 billion per year.

To get some idea of the likely impact of cancelling the two programmes it is useful to develop some future scenarios. Using the Treasury's forecast for GDP and the GDP deflator[12], from 29th March 2006 until 2010-11, and assuming a constant average growth rate thereafter, we compare a baseline scenario where military spending remains roughly constant as a share of GDP (at 2.6%), with scenarios involving the cancellation of the aircraft carriers and Trident[13][14]. As Figure 1 shows, even with the savings from cancellation, defence spending in real terms is around the same level as in the early 1990s and not far below its mid 1980s peak.

Figure 1



[12] The GDP Deflator measures the level of prices across the whole of the economy (as opposed to the usual inflation measure, the Consumer Price Index, which only measures prices for consumers.) The nominal (money) level of GDP must be divided by the GDP Deflator index to obtain a value for real GDP that is adjusted for inflation.

[13] For the aircraft carriers take an estimate of annual cost of £1.1bn as a proportion of the 2004-5 total defence spending, around 4%, and reduce the projected defence expenditure by this proportion each year. Of course without aircraft carriers the UK might buy some JSFs to replace its land based Harriers, but for simplicity we do not consider this option here.

[14] For the Trident replacement take the estimate of annual cost of £4.2bn and take this from defence spending starting in 2010, 14.4% of the total defence spending minus the carrier estimate In fact these assume that a cancellation would save money from the defence budget. There has yet to be a bun-fight over whether the cost of trident replacement will come from the defence budget or the general exchequer. This could make a difference.

When arguments are made that the UK needs to reduce its military spending the first defensive response is normally to point to the economic costs of disarmament, but research suggests this is not a concern[15]. Indeed, the sustained decline in defence spending with the end of the Cold War, from the mid 1980s to the end of the 90s, was much greater than any likely reduction that would result from the cancellation of the Trident replacement. The fact that the UK economy managed to weather this decline in defence spending without any particular economic problems and in fact saw relatively good economic performance, does suggest that there is no overall economic reason that Trident replacement and the carriers could not be cut from the budget. It is true that certain local economies would undoubtedly be hit by cancelling Trident replacement, in particular the Barrow shipyards, but the research shows that if spending was redirected towards more productive and job-creating areas of activity, the impact would be positive[16].

To consider the true costs of programmes it is necessary to consider the alternatives to which the money could be put. Aside from simply reallocating to other categories of spending, it is worth noting if the two programmes were to be cancelled the savings are estimated to be equivalent to:

- 1.25p off the basic rate of income tax
- The capital and running costs of around 200 new hospitals
- The capital and running costs of around 1130 new secondary schools in moderate/high cost areas, with 1,000 pupils each
- A real increase in the basic state pension of £11 per week

In addition, there are also plenty of other security threats we should be dealing with[17]. Taking a more general definition of security than the Strategic Review and thinking outside of the box, suggests a range of alternative security threats. In particular the use of funds to deal with threats to environmental security and the security threats presented by the heavy reliance on Middle Eastern Oil. Giving the same support to research on renewable energy sources as nuclear energy has received in the past, would have great benefits to environment and security and could make the UK a world leader in such technologies.

In addition, the UK government has shown a creditable concern for international development and has made important contributions to peacekeeping and an increasing awareness of the importance of conflict prevention. Aside for their role in Iraq, the forces do have important roles to play in conflict prevention and peace keeping that

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[15] During the Cold War there was considerable debate over the economic impact of military spending. It ended up with relatively inconclusive results, but with some suggestions that military expenditure could have a negative effect on growth, through its impact on investment. This suggested that reductions in military spending would not have a negative impact on growth and indeed could produce a peace dividend if the expenditures were reallocated to other forms of expenditure (Dunne, 1996).

[16] See Schofield (2007) "Oceans of Work: Arms Conversion Revisited", BASIC http://www.basicint.org/nuclear/beyondtrident/oceans.pdf

[17] Taking a more general definition of security than the Strategic Review and thinking outside of the box, suggests a range of alternative security threats. In particular the use of funds to deal with threats to environmental security and the security threats presented by the heavy reliance on Middle Eastern Oil. Giving the same support to research on renewable energy sources as nuclear energy has received in the past, would have great benefits to environment and security and could make the UK a world leader in such technologies.

require different capabilities that their usual roles. Allocating funds to development assistance initiatives and to conflict prevention activities would be an important contributor to improved international security and welfare. Recognition is needed of the importance of the concept of human and environmental security rather than simply military security and the important international. If the UK really wants to be secure it needs to improve wider security for all and to put money into development initiatives. The report has also suggested what an alternative budget might look like, one that uses the money saved from the programmes in other ways.

- Peacekeeping: Based on a study by Chalmers et. al. (2004), we estimate that £900m could fund a large-scale peacekeeping mission for the Sudan, aimed at ensuring the success of the peace accord between the government and southern rebels. (This does not address the conflict in Darfur.) This would not last 25 years, but a similar level of spending could then be maintained to address other conflicts.

- Military 'overstretch': While vast sums of money are being spent on new generations of major military systems, the British armed forces are severely short of many items of basic equipment, as well as certain types of key skilled personnel, who tend to be required in all operations (such as logistics and medical personnel.) We suggest spending £500m a year to tackle this.

- Tackling climate change and oil dependency: Climate change is widely regarded as the most urgent threat to humanity, Britain included. Related to this is Britain's dependency on oil, much of which is imported from unstable regions – one of the driving forces behind the current militarisation. We identify three areas for funding to tackle these related problems: £218m a year to raise research & development in renewable energy technology to the level that was devoted to nuclear energy research at its height in the 1980s; £800m in capital and fiscal measures to support the development and marketisation of renewable energy; and £654m to fund measures to reduce dependency on oil in transportation: a cycle-friendly road network, increased funding for public transport especially in rural areas, purchase incentives for smaller, cleaner vehicles, and grants for rail freight. [18]

- Conflict prevention: £134m per year to double Britain's annual spending on the Conflict Prevention Pools, cross-departmental initiatives to promote conflict prevention efforts worldwide, especially in Africa, and which have received favourable evaluations. [19] This would be more than enough to fund, for example, a substantial conflict-prevention package for Sudan, as designed and costed by Chalmers et al. (2004).

- Overseas aid: A 10% increase in Britain's overseas aid budget for £430m per year, to promote development that would tackle the root causes of conflict.

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[18] These were taken from a 2004 manifesto by "Way to Go", a coalition of 25 environmental, transport and social justice organisations. See the Way to Go Campaign Report, "Paying for better transport", May 2004, http://www.foe.co.uk/resource/reports/paying_for_better_transport.pdf

[19] http://www.fco.gov.uk/Files/kfile/ACPP%20Information%20Doc%20-%20final.pdf

- Non-proliferation: A £60m per year increase in Britain's contribution to the Global Partnership on counter-proliferation, which has been working well but which could do with efforts to kick-start it. [20]

Between them, these measures add up to just under £3.7bn per year and provide a clear illustration of the opportunity costs of the programmes[21].

If these types of measures where combined with moves towards Non Offensive defence structures as outlined in Schofield (2004) the proposed reallocation of Trident replacement and carrier funds, could be combined with decreased military budgets and increased security. The UK government has a real opportunity to improve domestic and international security and to improve the quality of life of millions of people in the world. This would represent a radical change in direction of UK foreign and security policy, but one that offers a pathway towards genuine collective security, human, environmental and where necessary military, to the benefits of both the UK and the world.

References

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[20] HC573, ibid.

[21] We estimated an annual equivalent sum of £5.3bn, but this is based on that sum being spent for each year of the actual future service life of these systems (£1.1bn for each year of the carriers, £4.2bn for Trident replacement.) We thus consider the annual amount that would be available to spend over the coming 25 years were these programmes cancelled; this comes to the somewhat lesser sum of £3.7bn. For more details of all of these, see Dunne & Perlo-Freeman (2007).