

Trends in US defence spending: implications for Australia

by Mark Thomson

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16 March 2010

Since the start of the Pacific War in 1942, Australia has relied on the military capacity of the United States to underwrite its security. As the Prime Minister observed in late 2008, our alliance with the United States is 'our key strategic partnership and the central pillar of Australian national security policy'. It makes sense, therefore, to keep a close eye on developments in US defence policy. This *Policy Analysis* contributes to that broad task by examining trends in US defence spending.

What follows combines recent analysis from US sources with original analysis of historical US defence spending. A list of sources and suggested readings can be found at the end of this *Policy Analysis* for readers wanting more detail.

The big picture

Any useful discussion of US defence spending needs to begin by acknowledging two things. First, the United States spends an enormous amount on defence—more, in fact, than the next thirty-four highest spending countries combined. And it's not just because the United States is the world's largest economy. While the United States produces a quarter of global gross domestic product (GDP), it accounts for 45% of global defence spending. To put US defence spending in perspective; in FY2010 the United States plans to spend more than US\$700 billion on national defence—an amount equal to more than 60% of Australia's GDP.

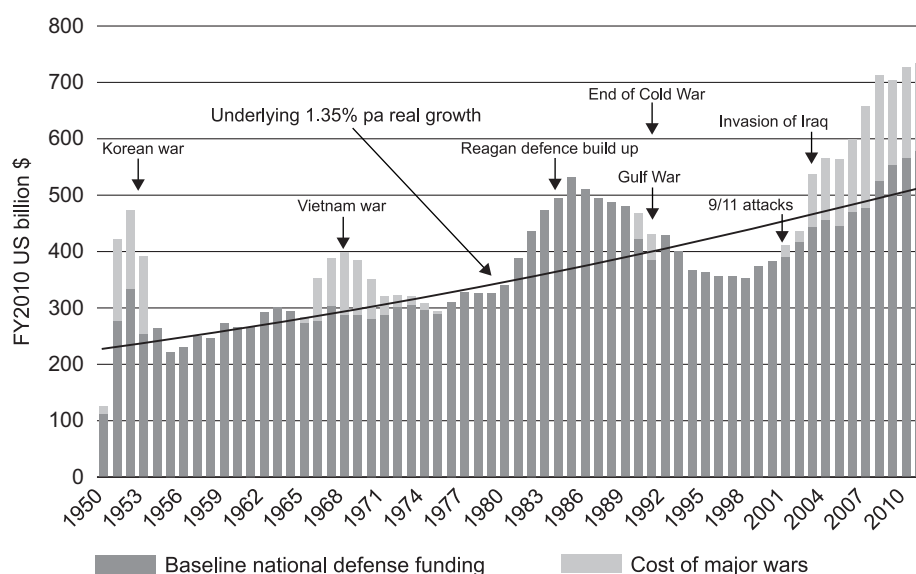
Second, the United States carries a vastly disproportionate share of the defence burden when compared with its allies in the developed world. For example, the US defence burden represented 4.9% of GDP in 2008, while NATO (exclusive of the United States) spent only 1.65%. The situation was little better in the Pacific where Korea spent 2.6%, Australia 1.9% and Japan a mere 1% of GDP. None of this is new; similar disparities have prevailed since the start of the Cold War (with the obvious exception of high spending by Korea and the Republic of Vietnam in the 1950s and 1960s respectively).

On one level this is hardly surprising; the United States is the only nation on earth with a global strategic aspiration and posture, while its allies have much more limited strategic horizons. Nonetheless, the hard reality is that US allies have been free-riding on the backs of US taxpayers for close to six decades.

Long-term trends

Figure 1 shows real US defence spending since 1950 with the cost of major operations identified separately. Of the four peaks in spending in the period, three are due to major wars; Korea, Vietnam and Afghanistan/Iraq. The fourth reflects the military build-up under Ronald Reagan in the 1980s. The latest upward swing began in earnest with the invasion of Afghanistan in 2001 following the attacks of 9/11. Since then, US defence spending has grown in real terms by 79%, comfortably exceeding the trough to peak increases due to the Vietnam conflict (41%) and Reagan expansion (56%). Not since the onset of the Cold War has US defence spending enjoyed such a sustained and aggressive increase.

Figure 1: Real US national defence spending 1950–2011



It would be a mistake, however, to conclude that US military power is undergoing a dramatic expansion. Aside from the fact that 21% of the current budget is directed to sustaining overseas deployments, the long-term trend in US defence funding is far from encouraging. For the past sixty years, the underlying growth in US defence spending (exclusive of the cost of operations) has been around 1.35% per annum in real terms. At the same time, the costs of basic inputs to military capability—such as personnel and equipment—have been growing more rapidly. Indicative figures include per capita personnel costs rising at around 2% a year, platform maintenance costs rising at around 2–3% a year and equipment unit costs rising at 3–4% or higher a year. Without compensating productivity gains in the use of these inputs, the inevitable result is that the US military has been slowly contracting in size.

Table 1 shows the reduction in size of key components of the US military over the past sixty years. What the table does not show is that the average age of equipment has also been steadily growing due to delayed modernisation. The average age of US aircraft, for example, has grown from around 12 years in the 1970s to around 25 years today.

With similar pressures acting on all advanced militaries, the reduction in scale of US forces is far from unique. Most countries have moved to having smaller but more sophisticated defence forces. As a result, the US has largely managed to maintain its relative military advantage, especially with many other countries constraining their defence outlays at the end of the Cold War. But there are exceptions; China, for example, has been substantially expanding and modernising

its space, air and maritime capabilities and thereby steadily closing the gap with the United States. Though it has a long way to go in absolute terms, China is quickly developing the ability to frustrate a US intervention close to its shores.

Table 1: The declining size of the US military

	Active Duty Personnel	Army Strength	Active Duty Ships	Active Duty Submarines	Active Duty Aircraft
1950s	2,884,200	1,155,400	896	107	18,200
1960s	2,928,500	1,144,000	749	130	13,200
1970s	2,289,800	871,400	481	125	8,650
1980s	2,173,700	778,300	428	120	7,100
1990s	1,710,000	583,500	321	102	5,400
2000s	1,465,500	504,400	226	70	4,260

More generally, the reduction in scale of US forces is important in its own right. The time has long passed when the United States could realistically contemplate a major land war on the Asian continent as it did in Korea in the 1950s or Vietnam in the 1960s. More recently, the United States only managed to subdue Iraq (a much more modest adversary than encountered in either Korea or Vietnam) because it reached a political accommodation with key militia elements. And nine years after the initial push into Afghanistan, the outcome still hangs in the balance—in large measure because the United States lacks capacity. Even in the air and maritime environment where US power has gone largely unchallenged since the demise of the Soviet Union, declining US platform numbers limit its capacity for concurrent operations and leave it vulnerable to asymmetric swarming tactics by large numbers of relatively less sophisticated but more numerous adversary platforms.

So while it might be comforting to think that the US technological edge makes up for declining numbers, this is not the case. All other things being equal; the smaller the US military becomes, the more limited the options are for the United States to exercise military power effectively.

Recent trends

In its two budgets since entering office, the Obama Administration has provided the funding necessary to continue overseas operations—an expansion in Afghanistan offset by a drawdown in Iraq—and slowed the rate of real growth of baseline defence funding to 2% per annum (compared with 5% and 10% in the preceding years). The overall result is continued real growth in total US defence spending of 2.3 % in FY2010 and 1% in FY2011.

In addition to moderating the growth of baseline defence spending, the Obama Administration has also modestly rebalanced priorities within the Pentagon budget. The 2010 US *Quadrennial Defense Review* (QDR) talks about rebalancing the US military to 'prevail in today's wars, while building the capabilities needed to deal with future threats.' The key changes in the FY2010 and FY2011 budgets include a slowing of the aircraft carrier replacement program which will force a long-term reduction in numbers from 11 to 10, abandoning the CG(X) next-generation cruiser program (which follows the truncation of the DD(X) next-generation destroyer program to three vessels), cancelling the EP(X) naval aircraft and air force next-generation bomber programs, and closing the production lines for the F-22 fighter and C-17 strategic transport aircraft. The Joint Strike Fighter program was also delayed by two years but this was a result of internal project problems.

These cuts do not represent a fundamental shift in US priorities. While the reductions are significant, they represent only marginal changes to the mammoth US military machine. Any suggestion that the US has moved away from preparing for high-tech interstate conflict is wrong. In fact, it is not uncommon for the United States to cancel defence projects. Every administration takes the opportunity to clear out poorly performing 'zombie' projects for which they have no responsibility. The Bush Administration, for example, moved quickly to cancel the Apache helicopter and Crusader artillery programs. Consistent with this pattern, the bulk of the cuts by the Obama Administration occurred last year in the FY2010 budget. More generally, the Pentagon systematically and persistently plans for more than it can afford—thereby making periodic delays and cancellations inevitable. Thus, despite rhetoric about a rebalancing of the US military, the recent cuts are largely a case of business as usual in the chaotic world of US defence planning and procurement.

Pressures and prospects

Despite the recent adjustments to the US defence budget, there is little doubt that pressures remain. The Washington-based *Center for Strategic and Budgetary Analysis* argues that rising personnel-related costs will require further cuts to planned acquisition programs unless the baseline defence budget continues to grow in the years ahead. A similar conclusion was reached by the US *Congressional Budget Office* which estimates current plans can only be delivered if the baseline defence budget grows by 10% above inflation over the five years to 2015. And the situation may even be worse still; the US *Center for Strategic and International Studies* points out that the Pentagon has been using emergency operational supplementation to fund baseline equipment programs. As an example, they note that in FY2007, 66% of army acquisitions were funded through operational supplementation—it being easier to secure operational supplementation than argue for a larger share of the baseline budget. The problem is that a substantial funding gap will emerge once operations cease and supplementation ends.

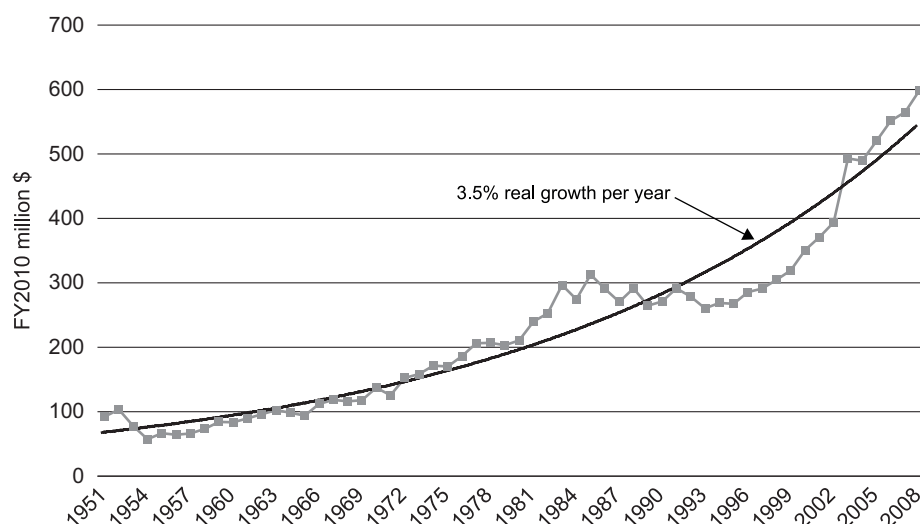
Looking to the longer term, it is possible to use historical data to estimate what it would cost for the US military to 'tread water' and maintain its present scale and range of capabilities. Specifically, by taking the historical budgets of the individual services and the detailed data underpinning Table 1, it is possible to calculate the rate at which the cost of soldiers, vessels and aircraft has been growing. Note that these costs include recurrent spending on personnel and maintenance as well as investment in future equipment; in effect, they represent the annual cost of operating current assets and investing in future ones. Figure 2 shows the result for the US Navy based on the cost per vessel including surface ships and submarines.

As shown in Figure 2, the average annual cost of the US Navy per vessel has been increasing by 3.5% per year over the past six decades. Similar analysis of the US Air Force shows that the cost per aircraft has grown in real terms by 3.5% per year over the same period. For the US Army, the cost per soldier has been rising in real terms at 3.1% per year (or 2.6% excluding the surge in army costs post-2001 due to the conflicts in Iraq and Afghanistan). At the same time, defence-wide spending not linked to any of the three services has been growing in real terms by 2.6% per annum.

Combining the rates of growth for the three services with that for defence-wide spending (weighted according to their present share of the budget) yields an overall figure of 3.1% (assuming the more conservative 2.6% figure for Army). This means that the US military will continue to shrink further unless US defence spending grows at an average rate of 3.1% in the decades ahead—a rate of growth more than twice that achieved in the past. Remembering that the average age of US

assets has been steadily growing and the size of fleets declining, the figure of 3.1% is in fact a conservative lower estimate on the funding growth required to maintain the force.

Figure 2: The rising annual cost of the US Navy per active duty vessel 1951–2008



Sources: US Defense Budget for FY2010, US Navy.

Just a couple of years ago, it was entirely conceivable that the Pentagon would get the money it needs to deliver its current plans and perhaps even to maintain the present force over the longer term. Overall real growth to the baseline defence budget over the last five years of the Bush Administration totalled over 21%. But that was during a period of economic optimism and strategic challenge. With the US commitment in Iraq drawing down and a 2011 target set for an Afghanistan drawdown, the priority of defence in the national agenda is likely to decline. Even if this turns out to not be the case, there is no question that the Global Financial Crisis (GFC) has left US public finances in a parlous state. The combination of stimulus spending and reduced revenues has forced the US Federal Government more deeply into deficit. The administration's budget proposal for FY2011 calls for a \$1.6 trillion dollar deficit, more than twice the size of the defence budget.

The latest projection from the US *Congressional Budget Office* shows US public debt increasing from 39% of GDP in 2007 to 65% in 2011. In the absence of policy action to contain spending or increase revenues, US public debt is projected to remain around this level for the remainder of the decade. At the same time, interest payments on public borrowings are projected to rise from 1.5% of GDP in 2010 to more than 3% in 2020. President Obama's commitment to a three year spending freeze will do little to correct the situation. The freeze applies only to discretionary spending and excludes defence and homeland security, leaving only 13% of the total budget constrained.

In the longer term, the US situation is even worse with medicare and social security spending set to rise steadily in the decades ahead. To put the matter in perspective, the gravely-delivered Australian Government *Intergenerational Report* projects the onset of a structural deficit around 2030, absent policy changes. The United States reached that point in 2003.

From a purely economic point of view, there is no reason why the United States could not take the tough measures necessary to balance the budget through a combination of higher taxes and reduced spending. Unfortunately, the gridlocked

US political system is polarised around proposals for lower taxes and higher spending (including through health reform) which will exacerbate the problem either way.

Given the near- and long-term fiscal situation faced by the United States, there will be growing pressures to contain defence spending in the future. It is difficult to escape the conclusion that the scene is set for a large downward swing in US defence spending like those which occurred in 1953, 1970 and 1984. And even if baseline defence spending is somehow held constant, internal pressures will force continuing cuts and delays to future capability. In the absence of a clear and present strategic imperative, the next decade will once again see a contraction of US military power—a contraction that is likely to accelerate in the decades that follow given the long-term fiscal outlook.

Consequences for Australia

A falling or tightly constrained US defence budget would affect Australia. Most immediately, delays in US defence acquisition programs will translate into delays to our purchases of US equipment. And as US programs contract in size, falling economies of scale will translate into higher unit costs. None of this should be unexpected to our defence planners given the pattern established over preceding decades in US weapons system programs, but the extent of delays and cost increases may be somewhat larger than anticipated a couple of years ago.

It may also be that the United States will become more demanding of its allies to share the burden of common defence. Indeed, that time may have already arrived. Although the 2010 QDR was restrained in its expectations of allied support, recent comments by US Defense Secretary Robert Gates about the ‘demilitarization of Europe’ demonstrated clear impatience with the low defence spending by NATO members. But US frustration with its allies has been around since the 1950s, and little has changed as a result.

In the final analysis, the United States maintains its global military posture because it serves its own national interests. Within broad bounds, it will continue to do so irrespective of what its allies choose to contribute. The grateful acceptance of Australia’s small and carefully risk-limited contributions to Iraq and Afghanistan by the United States is noteworthy in this regard. For their part, junior partners in US alliances have little motivation to contribute more because their security is not affected one way or another by a larger effort. Of course, the pressure on allies would change quickly if the United States let it be known that it was contemplating a retrenchment of its forward posture in Europe, Asia or the Middle East.

The slow decline of US military power will have a clear impact on Australia in the decades ahead. The dismal fiscal outlook in the United States brought on by the GFC will only accelerate the erosion of Washington’s ability to impose its will on others through armed force. It’s not that any nation is likely to exceed the scale and sophistication of US armed forces in the next twenty or thirty years—perhaps not even this century. But to think that this alleviates any concerns is to fundamentally misunderstand the nature of military power.

Long before any nation can hope to match the United States’ ability to project power—which is what US armed forces are designed to do—countries will be able to frustrate US power projection close to their territory. This is far from a distant threat; as mentioned earlier, China is actively modernising and expanding its armed forces with this goal. The emphasis in the QDR on prevailing in what it calls ‘anti-access environments’ shows that the Pentagon is well aware of the threat. But with the US scaling back its forces as others expand and modernise, it is only a question of time before anti-access environments become no-go zones.

What does this mean for Australia? To start with, we need to think carefully about how declining US military power will factor into the geopolitics of our broader region. For more than sixty years, a strong US presence has brought stability and security to our neighbourhood. We need to anticipate how things will change and adapt as best we can. In doing so, however, it will be important to remember that the US will remain the largest and most sophisticated military force on earth for the foreseeable future. In particular, it will long retain the ability to interdict the long-range projection of power by any other country. So while the US capacity to act decisively in some potential theatres of conflict will decline in the years ahead, its ability to assist us with our territorial defence will remain strong should it choose to do so.

But it's worth noting that the centre of gravity of US interests and military forces in our region lies far to our north. The critical question for us is how willing the United States will be to remain as a stabilising presence in the region as the risks to its forces grow and its relative power declines in the decades ahead. Perhaps this explains why the government's 2009 Defence White Paper put so much emphasis on boosting the strategic weight of our defence forces—not just as an encouragement for the United States to remain involved in our region, but as a hedge in case it decides not to.

Sources and further reading

Comparative defence spending figures are taken from [*The Military Balance 2010*](#) published by the International Institute of Strategic Studies. Historical and budgeted US defence spending has been taken from an [*Analysis of the FY2010 Defense Budget Request*](#) and [*Update on the FY2011 Defense Budget Request*](#) from the US Center for Strategic and Budgetary Analysis. Real dollars refer to nominal dollars adjusted relative to the implicit GDP deflator for the United States. The cost of conflicts has been taken from [*Costs of Major US Wars*](#) and [*The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11*](#) by the US Congressional Research Service (CRS). In Figure 1, the annual costs of the Korean, Vietnam and Gulf wars have been interpolated from aggregate CRS estimates.

Trends in the cost of inputs to defence capability are discussed in the ASPI report [*A Trillion Dollars and Counting*](#). The numbers of US Navy ships and submarines in Table 1 are taken from the US Navy's [*Naval Historical Centre*](#) and historical active duty personnel numbers are taken from the US [*National Defense Budget Estimates for FY2010*](#). US Air Force aircraft numbers for the 1950s to 1990s have been taken from a chart in a 2002 presentation by Franklin C. Spinney *The Defense Death Spiral* that employed historical Pentagon figures; the corresponding figure for the 2000s comes from data contained in the 2006 and 2009 [*Air Force Magazine Almanac*](#).

In depth analysis of the affordability of US defence plans appears in recent papers from the [*Center for Strategic and Budgetary Analysis*](#), [*Congressional Budget Office*](#) and [*Center for Strategic and International Studies*](#). The most recent analysis of the long-term US fiscal situation is [*The Long-Term Budget Outlook 2009*](#). Historical spending on the individual services and defence-wide is taken from the US [*National Defense Budget Estimates for FY2010*](#). Specifically, historical current-year figures from the Estimates have been converted to FY2010 dollars using the implicit GDP deflator for the United States.

There have been many recent discussions of the inability of the United States to address its fiscal challenges. One of the more readable is an [article](#) by James Fallows in the January/February 2010 edition of *The Atlantic* magazine.

The latest official statement of US defence policy is the 2010 [Quadrennial Defense Review](#). US Secretary of Defense Robert Gates made his [comments about burden sharing](#) on 23 February 2010 at the National Defense University. An [interesting perspective](#) on the dynamics of burden sharing (along with a link to the classic paper in the field) and Secretary Gate's comments was given by Stephen M. Walt in *Foreign Policy* magazine.

Those readers interested in how a numerical advantage can challenge technical superiority should explore the 2008 RAND Corporation analysis of a hypothetical conflict in the Taiwan Straits; [A Question of Balance](#). It turns out that quantity does have a quality all of its own.

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