

Budgets, the economy and the Defence Strategic Review

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Budgets and defence

Dominating current debate on defence capability development is a long list of expensive new weapons to buy. But there are two broader issues to consider: the likely cost of development far exceeding the department's planned appropriations, and a dearth of ideas¹ on how additional funding can be found against the backdrop² of Australia's high public debt³ and poor productivity performance.⁴

Affordability may ultimately determine the outcome of the current Defence Strategic Review⁵—remembering that 'strategic policy without money is not strategic policy'.⁶ Nonetheless, the government appears reluctant to extend defence expenditure much beyond 2% of GDP for an economy with uncertain growth prospects. That's a far cry from the 3% or even 4% commitments variously sought by national security pundits.

The obstacles to the Defence organisation securing additional resources are significant. To begin with, there's stiff competition from other public policy priorities ranging from health care to environmental protection. And it's unclear whether the Defence Department's existing budget is insulated fully from the effects of inflation and the real cost growth⁷ that accompanies an inexorable shift to more advanced weaponry.

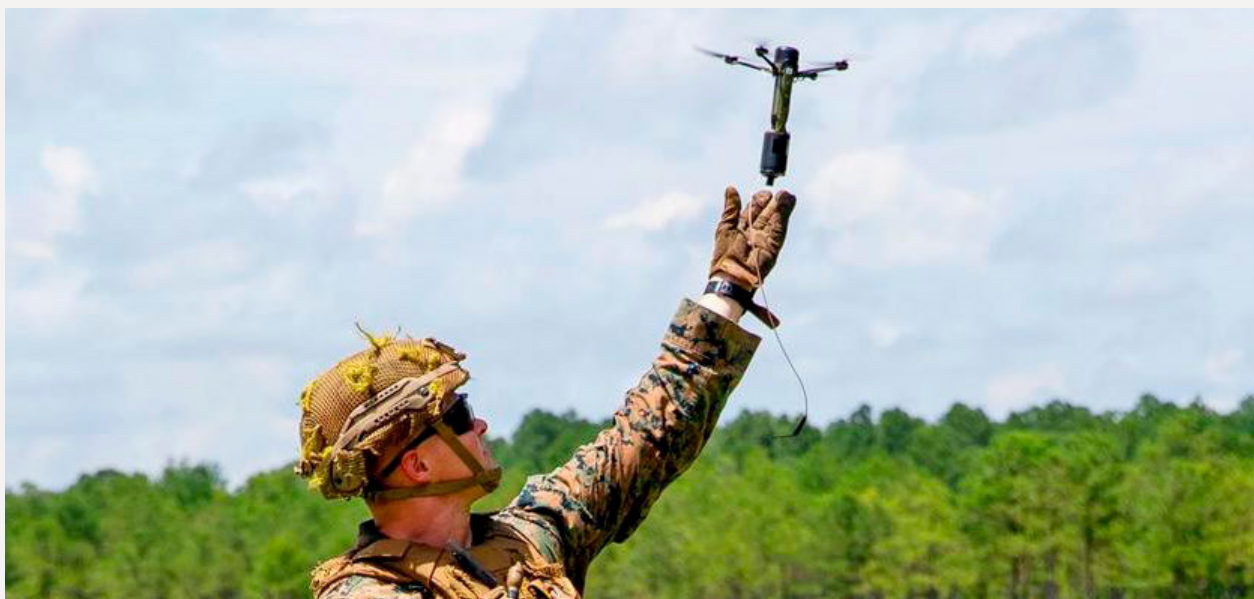


Image: DefendTex D40 drone, US Army.

Adding to the hurdle of attracting additional funding is the high cost of relevant weapons projects. Although estimates vary,⁸ the cost of acquiring a fleet of nuclear-powered submarines could substantially exceed the money saved from cancelling the Attack-class program.⁹ Part, if not all, of what's saved has already been absorbed elsewhere.¹⁰ The troubled Hunter-class frigate build seems destined to exceed an already extended budget.¹¹ Were they to eventuate, enhancing the firepower of offshore patrol vessels, providing the Navy with more air warfare or other destroyers,¹² and purchasing a bridging fleet of conventionally-powered submarines¹³ would add substantially to the financial pressures faced by Defence.

Beyond the naval arena, any attempt to add¹⁴ to the ADF's arsenal through purchasing B-21 bombers,¹⁵ long-range land-based missiles,¹⁶ drones and related materiel¹⁷ would also be expensive. The money set aside for the all-important manufacture of missiles in Australia¹⁸ seems little more than seed funding for a much more costly venture,¹⁹ if manufacture is to have an appreciable effect on defence self-reliance. Finally, the costs of sustaining existing and future materiel—including the costs of stockpiling and maintaining reserve industrial capacity to meet the demands of a more challenging strategic environment—give every impression of being underestimated.

There are few signs of a willingness to help offset outlays on a range of projects beyond Defence's current financial reach by altering procurement of the Hunter-class frigates,²⁰ which is now part of an enterprise approach to naval shipbuilding that's 'all at sea'.²¹ Nor are there signs of a change in direction for purchasing infantry fighting vehicles whose military benefits are keenly contested²² and economic advantages are difficult to fathom.²³ Even if those projects were cancelled (which seems unlikely, given that expectations of regional job creation for both have already been ignited), the dividend could fall well short of what's required to obtain a new cadre of weaponry.

None of that necessarily precludes a significant increase in funding for Defence. However, the obstacles to bolstering the department's budget make the pursuit of value for money in materiel procurement imperative. While it may be true that extra 'money will need to be found',²⁴ it's equally true that any new finds must translate into efficient forms of investment. At the very least, a higher level of resourcing for the department in response to the nation's more immediate strategic needs²⁵ should be accompanied by efforts to save money later. Ideally, what's saved and redirected should bolster national productivity to help offset the economic costs of a higher level of military expenditure.

Avoiding a significant price premium on whichever types and classes of new weaponry Australia obtains might be among the few options available to Defence to boost its purchasing power. Given the size of the projects involved, even modest percentage reductions in the price of preferring domestic over foreign supply could translate into significant dollar gains. Although any future supply may be years away, decisions made in the coming months will largely determine the outcome.

Savings appear possible through two avenues,²⁶ both of which may be needed to avoid overheating domestic defence markets exposed to chronic skills shortages. One is relying on overseas builds for at least some of what Defence requires, with conventionally-powered submarines, new destroyers and military vehicles being among the most obvious examples of where the department might usefully access whatever spare capacity overseas suppliers possess. There's little evidence to suggest that overseas builds would increase long-term sustainment costs.²⁷ The other is limiting local content for items assembled in-country to critical industrial capabilities (CICs)²⁸ essential to retain in-country for military-strategic reasons (some of which have yet to be identified publicly) and inputs for which Australian industry has a demonstrable competitive advantage.

If a conservative approach to domestic involvement in building new weaponry comes as a shock, it shouldn't. For example, the Collins-class submarine build struggled to achieve 40% local content²⁹ when Australia's manufacturing sector was stronger than it is today. Lowering local content allowed the cost of that project to be contained.

But what does paying only what's necessary for materiel in future mean for 'jobs and growth', especially in South Australia,³⁰ and are there better ways of developing our defence industry?

The economy and defence

Building a vast array of materiel in-country while keeping the defence budget at around 2% of GDP hinges on the often-implicit assumption that projects pay for themselves through the economic benefits they deliver. Available evidence, centring on data for submarines, paints a more complex picture.

Defence's own data made available only through freedom of information (FOI) requests,³¹ suggests there's little to be gained economically by pushing the limits of local supply in the quest for so-called sovereignty. The most recently released information captures the likely economic structure³² of any future submarine build(s) and should be applicable to most other potential materiel acquisitions. From that data, even domestic assembly with high Australian content emerges as a drain on GDP. Moreover, as the tables below indicate, a build of that kind can be an extraordinarily expensive way to create far fewer jobs than initial impressions suggest. That's consistent with an extensive range of additional analysis over the past decade.³³ Arguments and evidence to the contrary, extending beyond vague notions of 'nation building', have yet to emerge.³⁴

Table 1: Employment impact of a Collins equivalent domestic build with no overseas build option; comparison of 40% Australian content against aspirational 70% Australian content, with 30% price premium on the content differential — national and South Australia (average annual, full-time equivalent jobs)

Jobs	National		South Australia	
	40% Aus. content	70% Aus. content	40% Aus. content	70% Aus. content
Direct jobs (dockyard)	1,078	1,078	765	765
Indirect jobs (supply chain and beyond)	614 ^a	1,886	673 ^a	1,029
Total jobs (direct plus indirect)	1,692	2,964	1,438	1,794
Jobs lost in other parts of the economy from having to pay for and resource the project	1,273	2,404	0	12
Net jobs created after economic costs	419	560	1,438	1,782
Net jobs as % of manufacturing workforce	0.05%	0.07%	2.3%	2.9%
Net jobs as % of total workforce	0.003%	0.004%	0.16%	0.20%
Price premium paid annually per net job	\$0	\$602,393	\$0	\$70,263

a Derived by the author from Department of Defence (DoD), 'Sensitivity testing', *Building submarines in Australia: aspects of economic impact based on the Collins experience—Part 1*, Defence FOI 256/21/22, Australian Government, March 2016, 108, [online](#).

Notes: Based on an average annual level of output of approximately 1,000 surfaced tonnes and a build period of 16 years. Tax revenue effects are included. Tax distortion effects and knowledge spillover effects are excluded.

Sources: DoD, *Building submarines in Australia: aspects of economic impact: aspects of economic impact based on the Collins experience—Part 1*, Defence FOI 145/15/16, Australian Government, May 2015, [online](#); *Building submarines in Australia: aspects of economic impact*, Defence FOI 256/21/22, 108, [online](#); Australian Bureau of Statistics (ABS) manufacturing data, [online](#); ABS labour force data, [online](#).

Table 2: The difference in employment between a domestic and an overseas Collins equivalent build; 40% Australian content on domestic build, 20% Australian content on overseas build, and varying levels of price premium — national and South Australia (average annual, full-time equivalent jobs)

Jobs	Price premium for an Australian build			
	0%	10%	20%	30%
National				
Net jobs created after economic costs	261	191	82	15
Proportion of manufacturing workforce	0.03%	0.02%	0.009%	0.001%
Price premium paid each year to create one net job	\$0	\$494,000	\$2.3million	\$23.6million
South Australia				
Net jobs created after economic costs	322	395	470	531
Proportion of manufacturing workforce	0.52%	0.62%	0.73%	0.83%
Proportion of total workforce	0.04%	0.04%	0.05%	0.06%
Price premium paid each year to create one net job	\$0	\$150,000	\$253,000	\$336,000

Note: Based on an average annual level of output of approximately 1,000 surfaced tonnes and a 16-year build period. Tax revenue effects are included. Tax distortion effects and knowledge spillover effects are excluded. Australian content on an overseas build includes potential global supply-chain effects.

Sources: DoD, *Building submarines in Australia: aspects of economic impact: aspects of economic impact based on the Collins experience—Part 1*, Defence FOI 145/15/16, Australian Government, May 2015, [online](#); Building submarines in Australia: aspects of economic impact, Defence FOI 256/21/22, 108, [online](#); Australian Bureau of Statistics (ABS) manufacturing data, [online](#); ABS labour force data, [online](#).

Domestic builds of many types of advanced weaponry, including submarines, are unlikely to be self-funding for two reasons.³⁵ First, builds must ultimately be financed through raising taxes or reducing other forms of government expenditure and draw resource inputs that other projects and other industries could use. Both factors reduce activity across the broader economy. Second, as emphasised by the most prominent advocate for using defence projects as a pathway to economic growth,³⁶ the factor on which the impact of building weaponry is likely to hinge (new skills and technologies that spill over to boost productivity elsewhere) tend to be ‘minimal’³⁷ when materiel is built to an overseas design. With few exceptions, the enhanced capabilities earmarked for procurement by Defence are designed abroad. And there are other obstacles to spillovers achieving positive economic outcomes.³⁸

For all that to change, Australia would need to design much of the new weaponry it requires and, in many cases, meet the costs involved through exports. To this point, nobody has demonstrated how that can be achieved for anything other than selected components. Nor is it clear how an equivalent economic gain could be generated by relying on a global supply-chain program similar to that used for the Joint Strike Fighter, which has an inherently low spillover potential³⁹ and limited employment effects.⁴⁰ Consequently, domestic builds—even for something as sophisticated as submarines and missiles—might not be the factor that allows Australia to ‘climb the technology ladder’.⁴¹ Indeed, it might have the perverse effect of keeping us on the lower rungs.

However, available economic data also indicates that a lot can be achieved if at least part of what’s saved from avoiding a price premium on purchasing overseas-designed materiel can be channelled into other, homegrown capabilities. Those include CICs, technologies sponsored under AUKUS,⁴² and critical technologies in the national interest⁴³ many of which are oriented towards the defence effort. Even if most of what’s saved goes to the urgent procurement of overseas-made weapons, what remains should be sufficient to deliver a quantum leap in funding for each of those activities.

If properly administered,⁴⁴ redirected domestic investment has the potential to deliver the design-induced knowledge spillovers that drive economic expansion. It can add to spillovers by strengthening our participation in international strategic partnerships that are focused increasingly on trade in defence technologies⁴⁵—but dependent on reciprocity.⁴⁶ Most reinvestment can commence within years rather than decades and favours agile small to medium-sized enterprises. South Australia is well placed to attract much of the funding and the jobs it creates, to add to significant amounts of work that state receives from other defence projects including submarine sustainment.

More broadly, avoiding price premiums for materiel and using what's saved elsewhere should bolster the military preparedness and industrial productivity that jointly underpin Australia's long-term security—while allowing necessary commitments to in-country assembly to be honoured. It could facilitate an increase in military spending now by demonstrating to taxpayers the enduring importance placed by Defence on value for money. Australia should gain more jobs faster across a larger, more efficient, and increasingly diverse advanced manufacturing base.

The work of the Defence Strategic Review and Nuclear-Powered Submarine Taskforce provides a unique opportunity to reset a poorly structured defence industry policy designed for what are now distant memories: a benign strategic environment and a favourable fiscal climate. Linking an updated strategic review to an outdated industry policy is, at best, a high-risk venture. As two commentators have recently remarked, 'a strategic imperative to obtain new capabilities quickly means the days when the mere thought of building [things like] submarines overseas was anathema are long gone.'⁴⁷

A reset should be guided by the economic principles that productivity and industry protection rarely mix and that assembling weapons platforms designed abroad is neither the only, nor the most effective, path to boosting domestic employment, increasing industrial complexity and fostering innovation. Fortunately, there's an alternative investment strategy, described above, which avoids those problems and responds to the needs of most stakeholders.

Industry policy and defence

In charting a way forward, it's necessary to acknowledge and correct the industry policy shortcomings of the recent past. Those are perhaps most clearly illustrated with reference to the cancelled Attack class program and the government's subsequent AUKUS announcement last September,⁴⁸ which prompted calls from defence pundits and former public policymakers at the highest levels for a new approach to the industrial aspects of procuring nuclear-powered submarines.

The AUKUS agreement is about much more than that.⁴⁹ Nevertheless, for budgetary reasons alone, a broader focus may be difficult to achieve until the industrial dimensions of its centrepiece submarine build are clarified.⁵⁰ Although the construction of those submarines may be some way off,⁵¹ decisions made now could largely determine the outcome. The principles underpinning those decisions should be applicable across the defence spectrum.

Shortly after its cancellation the Attack-class program was described as 'embarrassing', partly by being based on 'faith and jingoistic claims'.⁵² Building those vessels in Australia 'in slow-motion' was described as a 'Dickensian idea' when alternative, more promising pathways to growing defence industry were available.⁵³ That resonated with an assessment of other recent naval build decisions as 'poor strategy, bad economics and weak politics' leading to a 'wasteful muddle'.⁵⁴

When it came to securing a fleet of nuclear-powered submarines, much was made of the need to 'counterbalance Australia's inclination to measure defence effectiveness in terms of jobs created in Adelaide'.⁵⁵ The purpose of investing was reiterated as 'defence, not local job creation'.⁵⁶ Such calls were echoed in the observation that 'speed is of the essence here, even more important than a local build'.⁵⁷ In that vein, demands arose to 'reject rent seeking'⁵⁸ and 'check our optimism at the door'⁵⁹ when next embarking on a submarine purchase. 'Separating defence policy from industry policy' and 'preventing domestic political considerations from compromising a national enterprise' were considered preconditions for success.⁶⁰

It's not yet clear whether sourcing additional submarines of any kind from overseas shipyards is a viable option.⁶¹ The same might be said for most other new defence capabilities. However, irrespective of the why, what, when or where of Australia's impending acquisition(s), a potted economic history of the government's recent approach to submarine acquisition helps to better understand concerned commentary and calls for policy reform.

Difficulties began when the strategy for acquiring French-designed conventionally-powered submarines largely mirrored the shortcomings of a 2015 enterprise plan for building naval surface combatants. The enterprise plan, which is now largely in disarray,⁶² lacked a clear definition of the industrial capabilities Australia must hold for security reasons. That included a lack of clarity about whether domestic assembly was necessary for vessel maintenance, repairs, modifications and especially upgrades.⁶³

Partly as a result, the approach stopped short of distinguishing Australian content sought for its military value from content pursued primarily for its perceived economic benefits. The size and scope of those benefits were poorly defined.

Under the enterprise plan, a commitment to build in Australia was based on a limited form of benchmarking to gauge Australian industry content and price premiums for preferring domestic over foreign supply.⁶⁴ Largely unexplained or even unexplored, at least publicly, were the path to improved project management,⁶⁵ constraints on domestic industrial capacity,⁶⁶ the indirect costs of slowing output to provide Australian industry with continuity of workload⁶⁷ and the effects of a domestic versus overseas build on the costs of in-country sustainment.⁶⁸ Left unresolved was the extent to which the economic viability of a domestic build, including establishing an Australian capacity for vessel design, relied on exports.

Shortly afterwards, the government designated as ‘sovereign’ the industrial capability to construct and sustain naval combatants of all kinds.⁶⁹ Unfortunately, it wasn’t long before the flaw in a preference for industrial self-sufficiency over a narrower, more carefully considered form of industrial self-reliance became apparent. For submarines, that occurred when 60% was accepted as the minimum average annual level of domestic content for building the Attack-class vessels in-country.⁷⁰

Under that target, any claim to sovereignty was questionable. Sixty per cent was lower than the level of domestic content sought for the Collins-class submarines in a much less threatening strategic environment.⁷¹ The new target implied that most of the Attack-class submarines’ systems and components would be imported and that inputs originating in Australia would be produced to foreign blueprints. Much of the Australian Government’s leverage to bargain with France for a higher level of local industry participation had already been forfeited when only one bidder was selected for the design phase of the program.

By 2019, uncertainty surrounded what proportion of a 60% average annual level of Australian content for the Attack-class submarines related to Defence’s newly created category of CICs. Those capabilities weren’t disclosed by the department for any form of naval construction, despite being published for most other areas of defence industry. Development and implementation plans for CICs are still incomplete.

Matters weren’t helped by an ineffectual approach to industrial capability monitoring⁷² and a ‘failure to align’⁷³ grants to industry with Defence’s goals and priorities. In a market ‘afflicted by almost all the pathologies that prevent efficient outcomes’,⁷⁴ there was little point to classifying a submarine build as sovereign—or even critical—if the department lacked the administrative wherewithal to gauge its availability in the short to medium terms and, based on those findings, intervene in the event of a capability shortfall.

Often acrimonious debate at Senate Estimates and elsewhere⁷⁵ on the industrial aspects of the Attack-class acquisition took a long time to resolve an issue as seemingly straightforward as how the cost of the program was measured. An initially publicised estimate of \$50 billion in out-turned dollars was later amended to \$50 billion in current dollars, meaning the cost of the submarines had been underrepresented to the public by nearly half for several years.⁷⁶ Parliamentary inquiry ultimately left unanswered:

- which elements of the project were covered by an agreed minimum percentage for domestic content
- the extent to which domestic content needed to increase over the course of the project to meet the targeted long-term average, and the additional price premium involved
- any requirement for increased stockpiling of imported and domestically produced inputs for the submarines, in response to Australia entering a period of profound strategic disruption⁷⁷
- where an appropriate balance lay between stockpiling and reserve industrial capacity⁷⁸ and whether that balance was reflected in relevant budget forecasts.

In the wake of evidence indicating that Defence’s estimate of the price premium⁷⁹ for the Attack-class submarines was understated⁸⁰ and that ‘jobs and growth’ from a submarine build in Australia were at best marginal,⁸¹ the government declined to release a comprehensive assessment of the economic impact of the program. When they eventually emerged, official estimates of job creation pertained solely to economic benefits—ignoring economic or opportunity costs. Those figures displayed additional errors⁸² before being withdrawn, only to be replaced by partial measures⁸³ providing an even less reliable employment profile.

A short economic history helps explain widespread scepticism about the government's ability to manage the industrial aspects of our next submarine or other capability builds based on generally accepted principles of public policy.⁸⁴ It points in part to a 'gutting of in-house expertise' within Defence,⁸⁵ no more so than in the fields of industry policy and analysis. Recent events illustrate why Defence acquisitions have attracted scathing criticism for a lack of transparency.⁸⁶ Perhaps above all, those events demonstrate how an errant⁸⁷ defence industry policy, based on vague notions of sovereignty, has the potential to bring defence capability planning to its knees, especially in a challenging security and fiscal environment. Little wonder industrial sovereignty has been described not only as 'another dreadful defence buzzword'⁸⁸ but as a 'dangerous myth'.⁸⁹ Nation building has similar connotations.

From all that, two sets of questions should sit at the top of the industrial agenda for the Defence Strategic Review and Nuclear-Powered Submarine Taskforce. Until both questions are answered, it's difficult to determine whether the government's current intention to build new weaponry in Australia is practical or how that might best proceed.

First and foremost, what are the relevant CICs, how are they selected, at what level of Australian content is industrial criticality likely to be achieved and how can the availability of critical capabilities be monitored effectively?⁹⁰ Second, how do the options for sourcing new weapons compare in their potential for job creation, after economic benefits and costs are considered?

Tight reporting timeframes may prevent a detailed response being prepared, especially by the Review team. Nonetheless, establishing a set of guiding principles for reform should be achievable.

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Acronyms and abbreviations

CIC	critical industrial capability
FOI	freedom of information
GDP	gross domestic product

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Rob Bourke is a former economic adviser in the Department of Defence.

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