National Audit Office

REPORT

The Equipment Plan 2022 to 2032

Ministry of Defence

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The Equipment Plan 2022 to 2032

Ministry of Defence

Report by the Comptroller and Auditor General

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Gareth Davies
Comptroller and Auditor General
National Audit Office

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Key facts

£242.3bn

the Ministry of Defence's (the Department's) equipment procurement and support budget for the period 2022–2032

£2.6bn

the Department's assessment of the Equipment Plan's (the Plan's) surplus of budget over forecast costs (equivalent to 1% of the equipment budget) – based on financial data at 31 March 2022

Work in progress

the Department is working to quantify the impact of inflation on the affordability of its Plan

The Department considers a range of factors that affect the Plan's affordability, estimating best-case and worst-case scenarios:

£7.3 billion the Department's estimated budget **deficit** for 2022–2032 if all identified risks materialise

£7.0 billion the Department's estimated budget **surplus** for 2022–2032 if all opportunities materialise

The Department retains central contingency:

£4.3 billion centrally-held contingency for equipment projects – equivalent to 2% of the Plan's budget – to help fund new capabilities and absorb any unexpected cost increases

The Plan is based on assumptions that all savings will be delivered and new savings will be found:

£30.4 billion adjustments the Department has made to gross project costs, to produce its estimate of the Plan's forecast costs. These reflect planned savings and its ability to deliver equipment projects

£3.4 billion low-confidence efficiency savings, where delivery plans are still in development, but that the Department will need to find on equipment projects between 2022–2032

£1.6 billion additional cost reductions on equipment projects that the Department will need to find, but does not yet have credible plans to achieve

Summary

1 The Ministry of Defence (the Department) publishes its Equipment Plan (the Plan) report each year, setting out its spending plans on equipment procurement and support projects over the next 10 years.[1] The Department introduced the Equipment Plan in 2012. Its aim was – and remains – to produce a reliable assessment of the affordability of its equipment programme. By doing so, it seeks to demonstrate to Parliament how it intends to manage its equipment funding. Each year the National Audit Office has published a report examining the Department's assessment of the Plan's affordability and its response to the financial challenges it faces.[2]

2 The latest Plan covers the period from 2022 to 2032. The Department has allocated a budget of £242.3 billion to equipment procurement and support projects, 46% of its entire forecast budget. This includes the projects it has chosen to fund in response to the 2021 Integrated Review of security, defence, development and foreign policy.[3] In total, the Plan includes forecast costs of some 1,800 equipment projects. This includes equipment in early-stage development, equipment that is already in use and budgets to support and maintain military capabilities.

3 The Department must manage expenditure effectively to ensure the Armed Forces get the equipment they need to meet their military objectives. It makes choices about the funding available for equipment projects and assesses which capabilities it should fund. The latest Plan is based on financial data at 31 March 2022. The Plan does not therefore reflect the current pressures and uncertainty facing the Department, most notably the Ukraine conflict and external economic environment, which will affect future spending plans. However, it is working to understand and manage these pressures alongside delivering its equipment programme within current budgetary limits.

Our report

4 This report therefore examines:

- the Department's assessment of affordability in its 2022–2032 Plan (Part One); and
- how the Department has reflected and is managing the risks to the affordability of its equipment programme (Part Two).

1 The Plan summarises the Department's investment programme over a 10-year period because of the long-term nature of large, complex defence projects.
2 In 2012 the Secretary of State for Defence invited the Comptroller and Auditor General to examine the robustness of the Equipment Plan's underlying assumptions. We have provided assurance each year since.
3 HM Government, *Global Britain in a competitive age: The Integrated Review of Security, Defence, Development and Foreign Policy*, CP 403, March 2021; Ministry of Defence, *Defence in a competitive age*, CP 411, March 2021.

5 We do not consider in this report the value for money of the Department's equipment expenditure or the specific projects mentioned. Nor do we comment on the policy choices that the Department makes to develop an affordable Plan which meets its future needs. Our review examines the Department's approach to producing the Plan. We focus on its approach to cost forecasting and the reasonableness of the assumptions underpinning its assessment of affordability. We also examine its quality assurance arrangements for testing the consistency and reliability of data in the Plan. Our methodology is shown in Appendix One.

Key findings

6 The Department has assessed that its 2022–2032 Plan is affordable but recognises that cost pressures are growing. It has assessed that its 10-year equipment budget of £242.3 billion exceeds forecast costs by £2.6 billion (1% of budget). The estimated surplus has fallen from £4.3 billion (2%) in last year's Plan. The Department has strengthened its appraisal of forecast costs and established a more reliable basis to compare affordability with previous years. The Department acknowledges that it faces other cost pressures. These include needing to smooth the 10-year profile of equipment expenditure; funding large programmes such as the nuclear enterprise and future combat air system; and its response to Ukraine and inflationary cost pressures. It intends to reflect its consideration of these pressures in the next financial planning round (paragraphs 1.5, 1.6, 2.12, 2.15, 2.18 and Figure 14).

7 The Department believes it can manage the affordability pressures on the Plan, but our assessment shows this will be challenging. It has assessed that the Plan has a deficit of £2.6 billion across the first seven years (2022-23 to 2028-29) and a surplus of £5.2 billion in the final three years. The Department believes that this level of overprogramming across the first seven years is a manageable approach because it expects that some projects will be delivered more slowly than planned. It also holds contingency of £4.3 billion for equipment projects that it can draw upon to help fund new capabilities or address unexpected cost pressures. However, our assessment shows that the Department faces significant pressures to keep the Plan affordable, which affect its ability to deliver equipment projects as planned, including:

- the Department assumes that it will achieve its full efficiency savings of £13.5 billion over 10 years, a similar figure to last year. However, the Top Level Budgets (TLBs)[4] are still developing plans to deliver £3.4 billion (25%) of these efficiencies. This is an increase of £0.5 billion on last year. They will also need to find additional efficiency savings of £1.9 billion over the next 10 years but do not yet know how to achieve these.[5] The Department has not assessed whether the Plan's efficiency savings, which are based largely on renegotiating commercial contracts, remain realistic in the current economic climate (paragraphs 1.24 to 1.27);

4 The Top Level Budgets are the Front Line Commands (Navy, Army, Air and Strategic Command), the Defence Nuclear Organisation (DNO) and the Strategic Programmes Directorate. They are responsible for delivering their agreed defence outcomes within delegated budgets.

5 Head Office has devolved responsibility for achieving Defence Transformation savings to TLBs and reduced their budgets over 10 years on the expectation they would achieve these efficiencies.

- TLBs need to find further cost reductions of £3.7 billion over 10 years. These include choices between project options or reductions in project requirements. This has reduced from £7 billion last year, largely because the Department removed £2.8 billion of funding shown as 'cost reductions' in last year's Plan. The Department made these reductions following disinvestment decisions in the Spending Review and Integrated Review. However, TLBs do not yet have credible plans to achieve £1.6 billion of the required reductions, with Navy and Air commands facing the greatest pressures (paragraphs 1.22 and 1.23);
- project costs could increase. An independent assessment of a sample of projects indicated that costs on those projects could be £5.2 billion higher than stated in the Plan, although there is separate contingency for the Dreadnought programme which accounts for £1.6 billion of this potential increase.[6] The Department is facing increasing risks in delivering equipment projects to budget and schedule, including constraints relating to the capacity of contractors and available skills (paragraphs 2.4 and 2.7);
- not all of the Department's general contingency funding will be available for equipment projects. For example, in 2021-22, the Department allocated £5.3 billion (36%) of its total contingency to live within its budget, £1.4 billion of which addressed cost pressures relating to its workforce and estate. It will continue to face wider cost pressures – its overall budget from 2022-23 to 2031-32 shows a deficit of £4.3 billion – which could affect the funding available for equipment projects (paragraphs 2.8 and 2.11); and
- the Department's assessment shows the largest deficits in the middle years of the Plan. However, it also faces significant cost pressures in the next three years as TLBs do not yet have plans to achieve savings of £2.1 billion and it has contingency of just £0.5 billion over this period (paragraphs 1.12, 1.23 and 1.25).

The Department considers a range of factors that affect the Plan's affordability and estimates a deficit of £7.3 billion if all identified risks materialise.[7] However, in our view, this assessment does not fully reflect the uncertainty it faces and should be based on a more detailed assessment of the risks (paragraphs 2.2 and 2.3).

6 The Department's Cost Assurance and Analysis Service (CAAS) provides independent assurance on cost forecasts on a sample of projects. It examined 61 projects this year, which account for around 53% of the Plan's cost.

7 The Department's assessment of the factors that affect the Plan's affordability includes the CAAS assessment of project costs, movements on foreign currency and sensitivity analysis on some key assumptions.

8 **The Department has a good understanding of operational capability risks and continually reassesses which equipment projects to fund.** The 2021 Integrated Review set out the government's revised assessment of security risks and the capabilities that the Armed Forces need. However, the Department cannot afford to develop all these capabilities, and part-funded or unfunded projects are not fully included in the Plan. It is also seeking to develop new military capabilities, setting aside £6.6 billion for research and development from 2021-22 to 2024-25, and £4.4 billion from 2025-26 to exploit this investment. The TLBs make prioritisation decisions about which projects to include in the Plan, agreeing these judgements with Head Office. These assessments are based on the military capabilities needed to counter threats and meet the TLBs' defence objectives, while remaining within budgetary limits. However, given the pressures on delivering the existing Plan within budget, the cost of introducing new equipment projects is likely to exceed the level of contingency funding. If so, the Department will need to replace existing projects, reduce their scope, or accept later delivery of the capability (paragraphs 1.12 to 1.17).

9 **The Department has not reflected the impact of growing external cost pressures, such as inflation and the Ukraine conflict, on the Plan's affordability.** Rising inflation, higher utility costs and adverse exchange rate movements will affect the Plan's affordability. The Department seeks to manage these risks using a range of measures, such as forward purchasing foreign currency and using firm-price contracts. However, it has not reflected inflationary cost pressures in the Plan's affordability as its assessment is based on financial data at 31 March 2022 and it did not fully understand the impacts at that point. The Department acknowledged in its own report that project costs could be up to £2.1 billion higher, referencing the inflation forecast published by the Office of Budgetary Responsibility in March 2022, but it did not reflect these pressures in its assessment. Further, forecast inflation has increased since March 2022 and the impact on defence projects may be higher than the headline inflation rate. The rapidly changing economic environment means that the affordability position reported by the Department is out of date, despite it publishing the Plan earlier than in previous years. The Department is quantifying the scale of inflationary cost pressure and will reflect this – and the level of uncertainty surrounding it – in the next financial planning round. It is also assessing the implications of the Ukraine conflict, considering the capabilities, stockpiles and level of resilience needed to respond to changing threats (paragraphs 2.12 to 2.14, Figure 14).

10 The Department's financial planning and reporting process is not responsive to a more volatile external environment. The Department monitored expenditure closely during 2021-22 to remain within its annual budgetary limit, avoiding the need for central in-year savings measures on its equipment programme. It also exploited opportunities to bring forward expenditure on some equipment projects. However, our assessment of the supporting processes that underpin production of the Plan has raised questions over the extent to which they enable the Department to respond to the growing external pressures it faces:

- The Department's annual financial planning cycle is well-established and understood but has not enabled it to report a timely or full assessment of external cost pressures in the Plan. The Department is working to quantify the impact of inflationary cost pressures and understand how these affect the affordability of equipment projects. It will reflect these in next year's Plan.
- The Department could reflect project risks more fully in the assessment of the Plan's affordability and deliverability. For example, the Department does not reflect independent project costings in its cost forecasts. It is developing new dashboards, drawing management information together, to provide a clearer view on project risks. This will be particularly important as growing supply chain pressures have the potential to delay projects and increase cost pressures.
- The Department's ability to reflect changing capability requirements promptly is constrained. For example, the Department will only complete its annual capability audit in January 2023. Until then, it must rely on working with TLBs on the military capabilities they need without a central assessment since the Integrated Review almost two years ago. Further, the Department has limited headroom in the Plan to reshape its equipment programme to respond promptly to new threats. TLBs have over-programmed against their budgets, equipment contingency is less than 2% of the Plan's budget and exploitation funding for research and development investment is not available until 2025-26 (paragraphs 1.11 to 1.13, 2.7, 2.12 to 2.14 and 2.20).

Conclusion

11 The Department has assessed that the Plan is affordable over the period 2022-2032. This is based on financial data from 31 March 2022 and reflects ongoing improvements to its affordability assessment. However, its assessment continues to be based on optimistic assumptions that it will achieve all planned savings. It will also take some important decisions that affect the Plan's costs in the next financial planning round. While the Plan continues to serve a useful purpose in reporting to Parliament on planned expenditure, the volatile external environment means this year's Plan is already out of date.

12 The Department faces significant and growing cost pressures which will have an immediate impact on its spending plans. The Department believes it can manage these pressures but has left itself limited flexibility to absorb any cost increases on equipment projects. It needs to address the financial challenges promptly to avoid falling back into old habits of short-term cost management, which do not support longer-term value for money. The cost pressures are also likely to undermine the pace at which it can modernise the Armed Forces. The Department will need to make difficult prioritisation decisions to live within its means and retain enough flexibility in its Plan to respond promptly to changing threats.

Recommendations

13 We have assessed the Department's progress in implementing the recommendations from our previous reports (Appendix Two). This shows that the Department is taking action to make further improvements to its approach and the reliability of its assessment. This year we recommend that the Department assesses whether its planning processes are responsive and flexible enough for the rapidly changing context in which the Department is now operating. This includes:

- assessing how to provide a timelier assessment of affordability – including bringing forward publication of the Plan – and capture uncertainty more realistically to understand the full extent of cost pressures and any 'real-time' mitigations that might be needed; and
- ensuring that it has sufficient flexibility to adapt its equipment programme to respond to changing threats. For example, it should consider how to better integrate its departmental assessment of capability risks and consider its ability to respond promptly to new demands.

Part One

The affordability of the Equipment Plan 2022–2032

1.1 This Part sets out the results of our examination of the Ministry of Defence's (the Department's) approach to assessing the affordability of its 2022–2032 Equipment Plan (the Plan).

The purpose of the Equipment Plan

1.2 The Plan provides an estimate of the Department's planned expenditure over the next 10 years to develop and support the equipment needed by the Armed Forces. These projects span the full range of the Department's military capability needs and reflect decisions made in the 2021 Integrated Review.[8] The Plan contains approximately 1,800 projects, including the future nuclear deterrent, Lightning II jets and new information and communication technologies.

1.3 In producing the Plan, the Department's aim is to produce a reliable assessment of the affordability of its equipment programme. By doing so, it seeks to demonstrate to Parliament how it will manage its funding to deliver equipment projects. The Department's assessment of the Plan's affordability reflects the position at the end of the 2021-22 financial year. The Plan does not therefore reflect the current pressures and uncertainty facing the Department, most notably the Ukraine conflict and external economic environment, which will affect future spending plans. The Comptroller and Auditor General's role is to examine the Department's assessment, including the robustness of underlying assumptions. We have produced an accompanying report each year since 2012 to assist Parliament in examining the Department's assessment and its response to the financial challenges it faces.

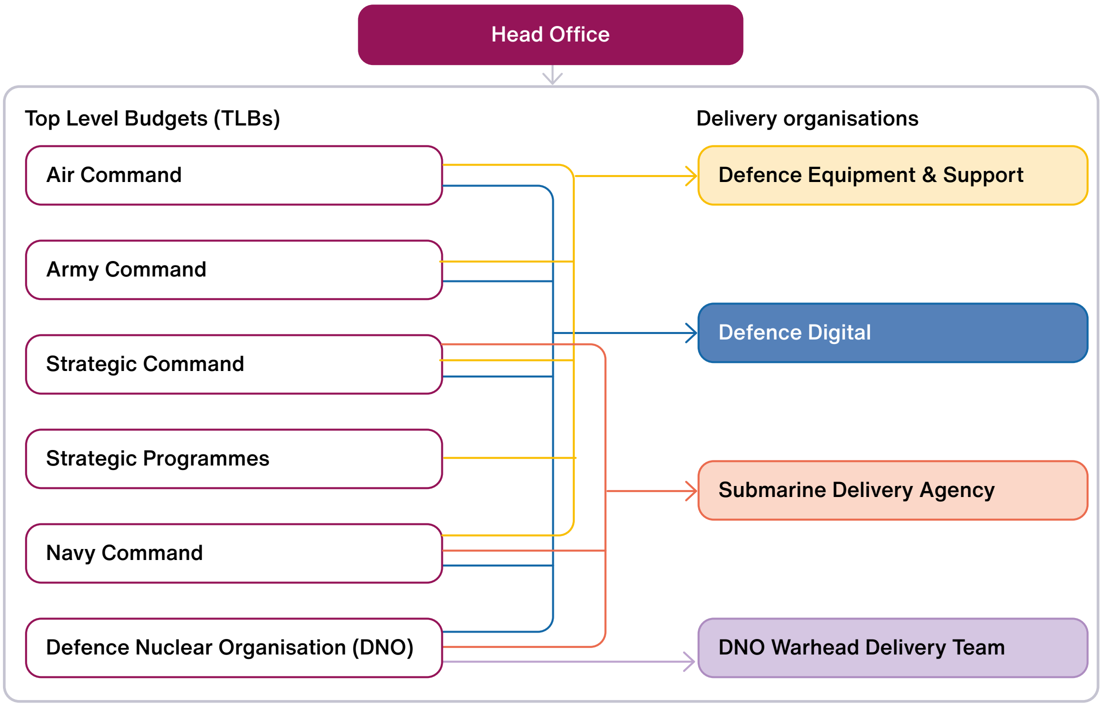
1.4 The Department delegates responsibility for managing equipment projects to the Front Line Commands (Navy, Army, Air and Strategic Command), the Defence Nuclear Organisation (DNO) and the Strategic Programmes Directorate (**Figure 1** overleaf). These organisations are known as Top Level Budgets (TLBs) and are responsible for delivering their agreed defence outcomes within delegated budgets. The delivery organisations – such as Defence Equipment & Support (DE&S), the Submarine Delivery Agency and Defence Digital – manage and deliver the equipment and support projects on behalf of the TLBs.

8 The Integrated Review set out government's assessment of threats the country is facing. HM Government, *Global Britain in a competitive age: The Integrated Review of Security, Defence, Development and Foreign Policy*, CP 403, March 2021.

Figure 1

Responsibilities for preparing and managing the Ministry of Defence's (the Department's) Equipment Plan 2022 to 2032

The Department has delegated roles and responsibilities to Top Level Budgets and delivery organisations



Responsibilities

Head Office

Approves project funding.

Sets and allocates budgets.

Provides accountability and oversight over TLBs and delivery organisations.

TLBs

Provide fiscal responsibility.

Set detailed equipment and support requirements.

Manage equipment portfolio.

Hold delivery organisations to account, acting as their customer.

Delivery organisations

Deliver programmes on behalf of TLBs, including managing commercial relations.

Consider risks across their projects.

Provide TLBs with commercial and technical advice.

TLBs · → Defence Digital · → Defence Equipment & Support · → Submarine Delivery Agency · → DNO Warhead Delivery Team

Notes

1 Head Office is the Department's central financial and resource function that oversees TLBs and delivery organisations.

2 The Strategic Programmes directorate is responsible for the procurement, support, testing and evaluation of complex and novel weapons.

3 Strategic Command ensures that joint capabilities, such as medical services, training and education, intelligence and information systems are developed and managed. It also manages overseas joint operations and the permanent joint operating bases.

4 The Defence Nuclear Organisation oversees all defence nuclear business, including providing the nuclear deterrent.

5 The Department also contains other TLBs, including the Defence Infrastructure Organisation, which do not manage equipment portfolios.

Source: National Audit Office analysis of Ministry of Defence data

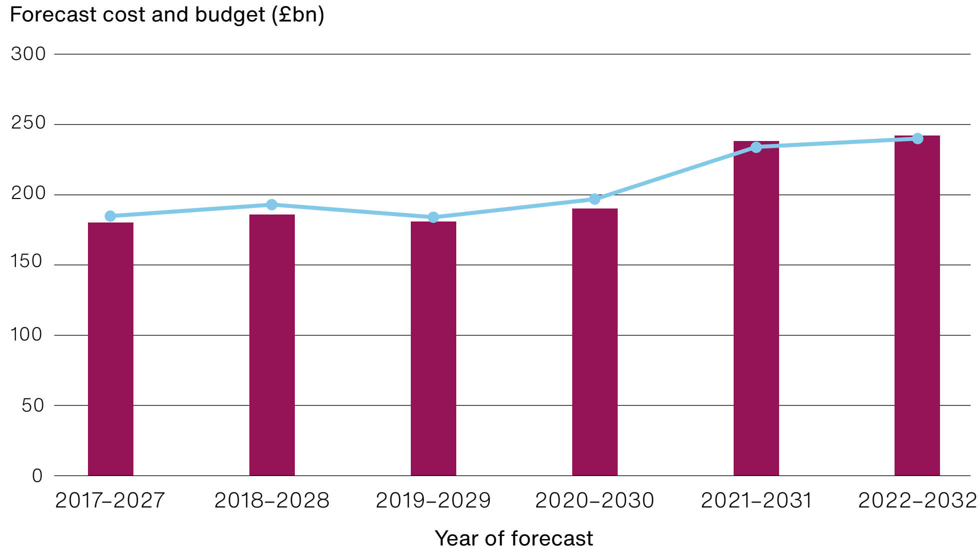
The Department's assessment of the Plan's affordability

1.5 The Department has assessed that the 2022–2032 Plan is affordable, with its equipment budget of £242.3 billion exceeding forecast costs by £2.6 billion (1% of budget). This surplus has fallen from £4.3 billion (2%) in last year's Plan (**Figure 2**). The Department's assessment is based on financial information available at 31 March 2022.

Figure 2

The Ministry of Defence's (the Department's) Equipment Plan budget and forecast costs, 2017 to 2022

For the second year running, the Department has assessed that its Equipment Plan is affordable over the next 10 years



	2017–2027	2018–2028	2019–2029	2020–2030	2021–2031	2022–2032
Equipment Plan budget (£bn)	180	186	181	190	238	242
Forecast cost of equipment projects (£bn)	185	193	184	197	234	240

Notes

1 Budgets and forecasts are published annually, with each covering a 10-year period.

2 Figures are given in cash terms.

3 The Department received additional funding of £16.5 billion following the 2020 Spending Review.

Source: National Audit Office analysis of Ministry of Defence data

1.6 The Department's assessment shows financial pressure over the first seven years of the Plan (**Figure 3**). This shows a surplus in 2022-23 but deficits in the following six years, with an aggregate £2.6 billion shortfall across the first seven years.[9] The deficits are largest from 2025-26 to 2028-29. The surplus of £5.2 billion in the final three years of the Plan (2029-30 to 2031-32) makes it affordable over 10 years. This is because forecast costs fall in the last three years of the Plan – from a high in 2028-29 – as TLBs have not developed their equipment programmes this far in advance, but the equipment budget continues to rise.

1.7 Compared with last year, the Department is facing larger deficits from 2023-24 to 2028-29. The Department believes these deficits are manageable because some equipment projects will be delayed and, as a result, TLBs will not spend as much as planned. The Department's approach is justifiable based on its past performance. For example, in 2020-21, the Department spent £250 million less on equipment projects than originally expected. It monitors expenditure and manages the portfolio of projects to live within its annual budget, and then reassesses the deliverability of the funding profile in the following year's Plan.

1.8 Four of six TLBs have deficits on their 10-year plans, with an aggregate shortfall of £5.0 billion (**Figure 4** on page 16). The profiles show that the TLBs have adopted different approaches to managing their equipment programmes:

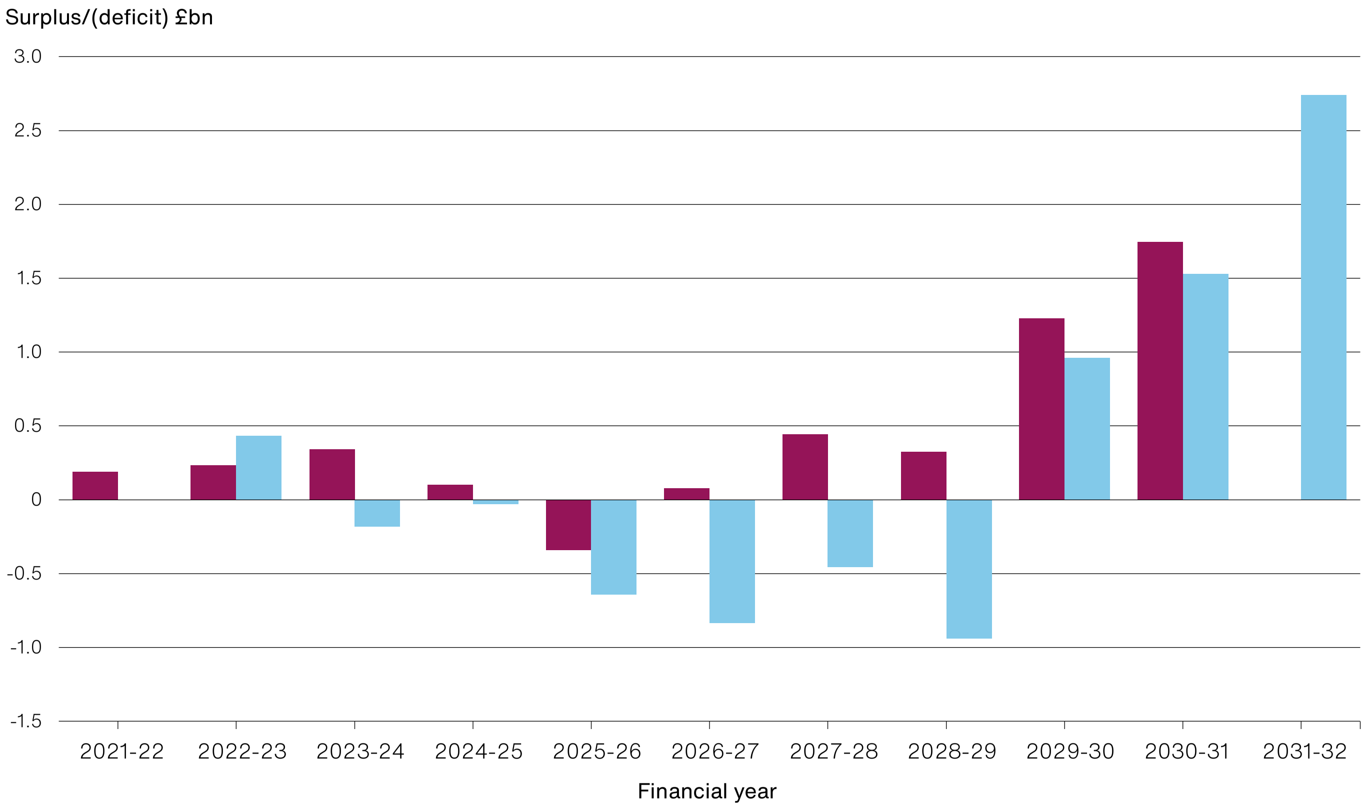
- Four TLBs – Air, Army, Defence Nuclear Organisation and Strategic Programmes – have overprogrammed their 10-year budgets and will reassess the deliverability of their equipment projects each year to live within annual budgetary limits.
- Navy has balanced its budget in the first seven years but has several important projects either not included or partly funded (see paragraph 1.16).
- Strategic Command assessed that it has surplus funding (£2.8 billion) which it plans to use to bring capabilities in their concept phase into its programme. It will need to agree these revisions with Head Office. Strategic Command also faces significant financial pressures across its workforce and estates budgets, with a total shortfall of £1.2 billion, and told us it had not ruled out drawing on its equipment budget to help address these deficits.

1.9 The rest of this Part examines the assumptions made by the Department in reaching its affordability assessment.

9 In contrast, last year's Equipment Plan, which covered 2021 to 2031, had a surplus of £1 billion during its first seven years.

Figure 3
Comparison of annual funding surpluses and deficits in the 2021 to 2031 and 2022 to 2032 Equipment Plans

The Ministry of Defence forecasts deficits in six of the first seven years of the 2022 to 2032 Equipment Plan, in contrast to the 2021 to 2031 Plan which had a deficit in only one year



	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Equipment Plan 2021–2031	0.2	0.2	0.3	0.1	-0.3	0.1	0.4	0.3	1.2	1.7	-
Equipment Plan 2022–2032	-	0.4	-0.2	-0.0	-0.6	-0.8	-0.5	-0.9	1.0	1.5	2.7

Notes

1 Equipment Plan forecasts are published annually with each publication covering the following 10 years.

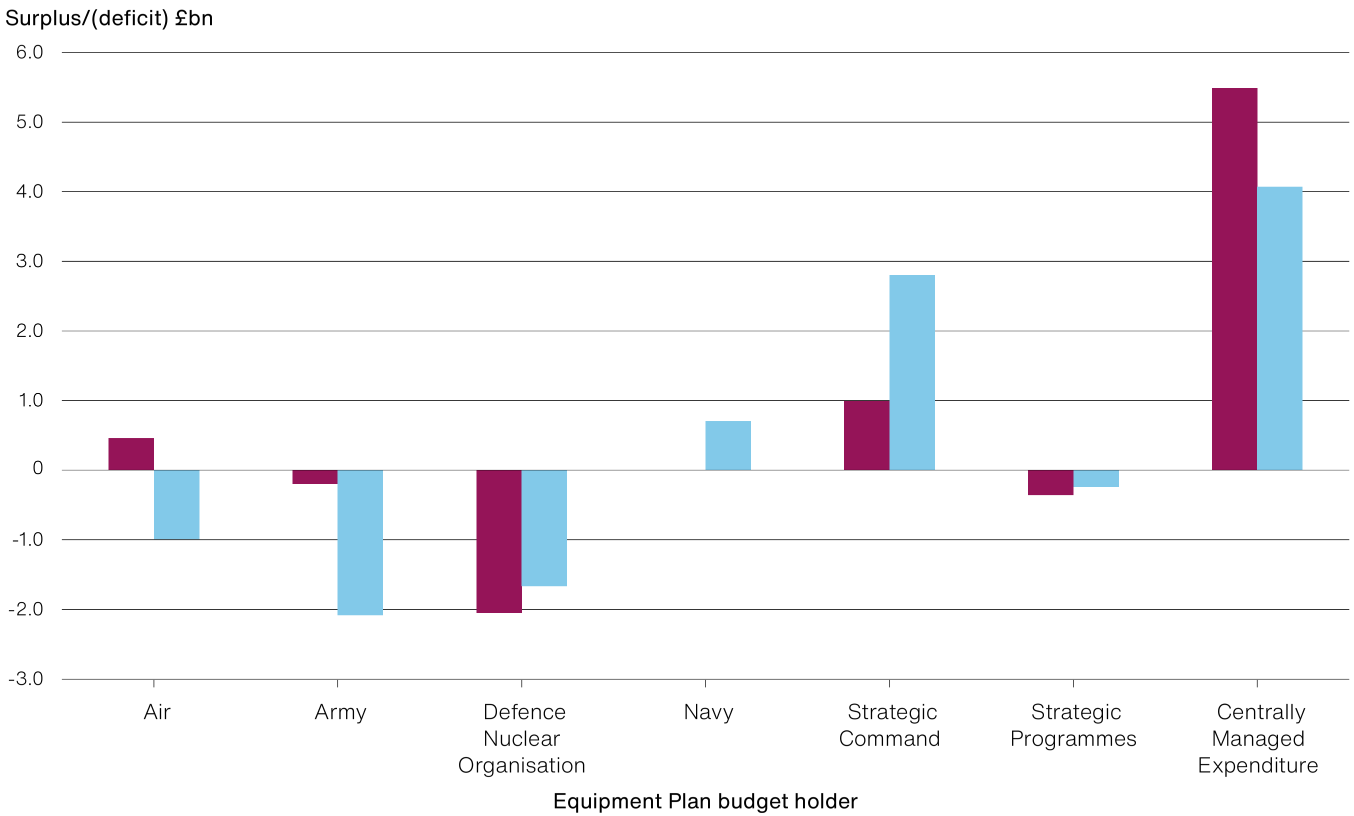
2 Figures are given in cash terms.

Source: National Audit Office analysis of Ministry of Defence data

Figure 4

Comparison of Top Level Budgets (TLBs) total surpluses and deficits in the 2021 to 2031 and 2022 to 2032 Equipment Plans

Four of the six TLBs have deficits in the 2022 to 2032 Equipment Plan, offset by centrally managed expenditure including contingency



	Air	Army	Defence Nuclear Organisation	Navy	Strategic Command	Strategic Programmes	Centrally Managed Expenditure
Equipment Plan 2021–2031	0.5	-0.2	-2.1	0.0	1.0	-0.4	5.5
Equipment Plan 2022–2032	-1.0	-2.1	-1.7	0.7	2.8	-0.2	4.1

Notes

1 Equipment Plan forecasts cover the Ministry of Defence's (the Department's) equipment needs for the 10 years from when they are published.

2 Figures are given in cash terms.

3 Centrally managed expenditure is money held centrally by the Department to be provided to TLBs as required.

4 Surplus for Strategic Command is held in the later years of the Plan due to it not including some programmes for which the technological requirement is not yet clear. This surplus is likely to be needed for these new programmes.

Source: National Audit Office analysis of Ministry of Defence data

What the Plan's budget is based on

The headline position

1.10 The Department has allocated an equipment budget of £242.3 billion from 2022 to 2032, 46% of its overall budget for this period.[10] It includes £117.2 billion for new projects and £119.3 billion to support and maintain military capabilities.[11] The 10-year budget in the 2022–2032 Plan is £4.4 billion higher than last year because the annual budget for 2031-32 is £6.4 billion higher than the annual budget for 2021-22 (which was in last year's Plan but is no longer included).

The flexibility to develop new capabilities

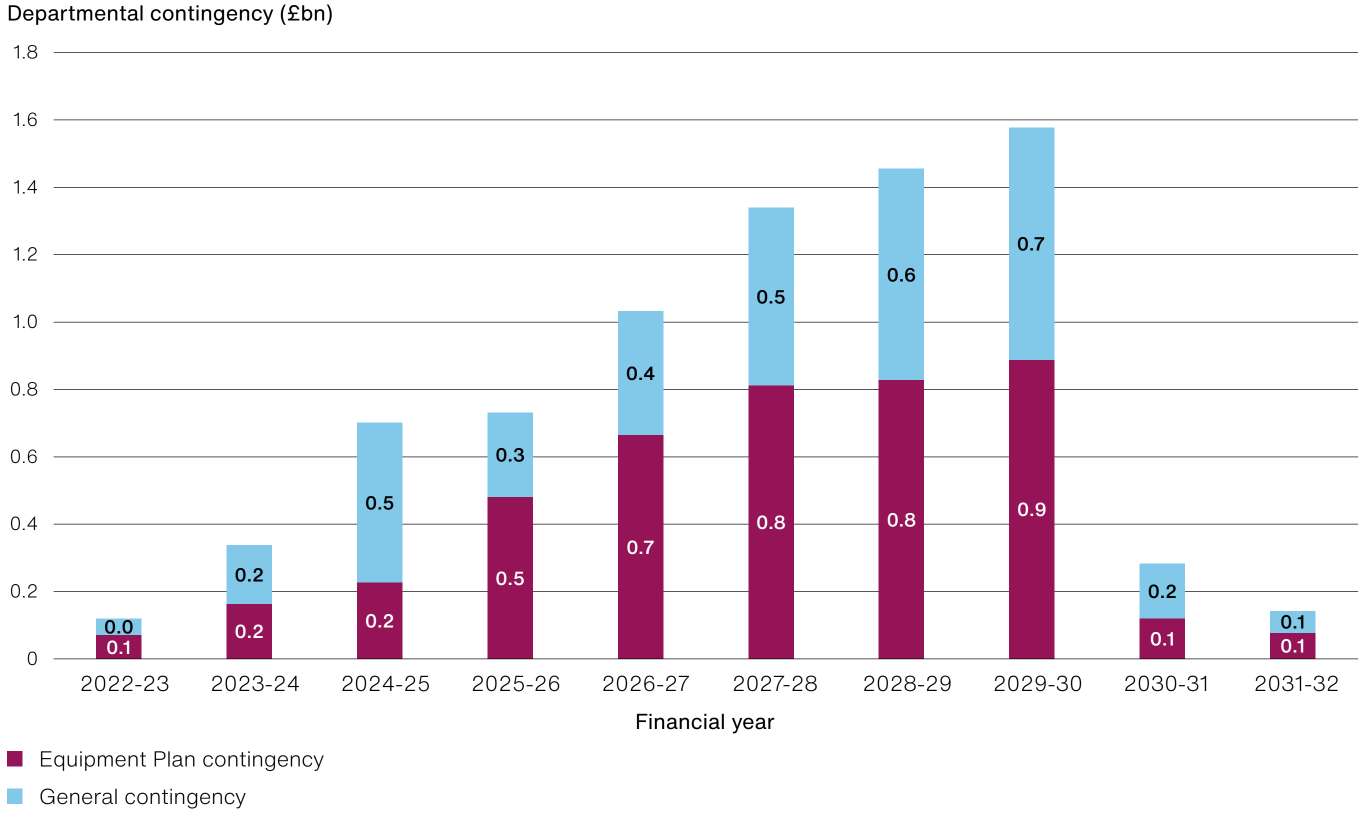
1.11 Within the Plan's budget, the Department has set aside contingency of £4.3 billion to help fund new equipment projects or absorb any unexpected cost increases. This is less than 2% of the Plan's budget. The Department has reduced the level of contingency from £5.9 billion last year to offset cost pressures and risks in TLB programmes.[12] In addition, Head Office holds central contingency of £3.4 billion that is not allocated specifically to equipment, including £1.6 billion for specific risks. However, there is no guarantee that central contingency will be spent on equipment as the Department also faces cost pressures across its workforce and estate budgets (paragraph 2.9).

1.12 The Department expects TLBs to deal with unexpected demands or cost increases by reprioritising expenditure from their existing budgets. If gaps cannot be addressed, TLBs can seek additional funding from Head Office. However, the Department has no capital contingency for 2022-23 and 2023-24, and its equipment contingency over the next three years is just £0.5 billion, which is 0.7% of the equipment budget over this period (**Figure 5** overleaf).[13] This means the Department has limited flexibility to absorb unexpected cost increases or bring new capabilities into the Plan without replacing, deferring or descoping existing projects. It believes it has sufficient flexibility to introduce new capabilities and, where appropriate, reallocates funding between TLBs to reflect changing priorities. There were no reallocations in 2021-22. The Department told us that this was because TLB budgets had been adjusted to reflect investment decisions in the Integrated Review.

10 The Department assumes it will receive a 0.5% above inflation increase to the defence-wide budget each year for seven years after the current Spending Review period ends in 2024-25.
11 The remaining £5.8 billion is funding held centrally by Ministry of Defence Head Office.
12 The Department has established different arrangements for the Dreadnought submarine programme due to its size and complexity. HM Treasury holds a separate £10 billion contingency fund (paragraph 2.5).
13 This is because Head Office allocated contingency for 2022-23 at the start of the year to address funding shortfalls in TLB equipment programmes, resulting from decisions to bring forward funding for some equipment projects (paragraph 2.16).

Figure 5
Contingency in the Ministry of Defence's (the Department's) budget, 2022-23 to 2031-32

The Department has set aside contingency of £4.3 billion for the Equipment Plan and £3.4 billion for general contingency over 10 years



Notes
1 Figures are given in cash terms.
2 General contingency is not allocated specifically to equipment and could be used for other departmental budgets such as workforce or infrastructure.
3 Because of the scale, complexity and length of time required for the Dreadnought programme, HM Treasury holds a separate £10 billion contingency which the Department can call on.
4 Numbers do not sum because of rounding.

Source: National Audit Office analysis of Ministry of Defence data

1.13 In 2021, the Department committed to spend at least £6.6 billion on research and development from 2021-22 to 2024-25. It has set aside an additional £4.4 billion from 2025-26 to exploit this research and fund new projects to develop military capabilities.[14] In 2021-22, it spent £2.1 billion on research and development. However, the unallocated funding to exploit new capabilities is equivalent to 1.8% of the Plan's budget, which means TLBs will continue to face difficult prioritisation decisions to bring new projects into their programmes.

14 This funding is part of Defence's programme but has not been categorised as equipment spend and is not reflect in the assessment of the Plan's affordability.

Incorporating Integrated Review commitments in the Plan

What's included

1.14 In November 2020, the government announced a four-year Spending Review settlement, which increased the defence budget by £16.5 billion between April 2021 and March 2025. In March 2021, the government published its foreign, security and defence policy intentions (the Integrated Review) and Defence Command Paper, setting out a revised assessment of threats, and of the capabilities needed to deliver defence objectives.[15] The Command paper details the capabilities that the Department will continue, stop or defer investment in, as well as new commitments. The main impact was seen in last year's Plan when the budget increased by 25% to £238 billion. Our last report set out the Department's main additions and disinvestment decisions.[16]

1.15 The Department has now reflected the main commitments from the Integrated Review in the Plan. Since last year, it has included funding for:

- the shipbuilding programme (the Plan's forecast cost is £9.9 billion), including funding for Type 26 and Type 31 frigates;
- purchasing more F-35 multi-role stealth aircraft as part of planned growth of the Lightning Force (the Plan's forecast cost for F-35s is £6.5 billion);
- extensions to Warrior and Challenger 2 armoured vehicles as the Army transitions to Boxer and Challenger 3; and
- increased investment in digital and cyber capabilities.

What's not included

1.16 TLBs assess the capabilities they need to meet their objectives, making prioritisation decisions on which projects to fund and agreeing any revisions to their plans with Head Office. Some capability risks are still held: for example, Army assessed that it would cost an additional £6 billion to fully address its capability risks. The Plan includes most, but not all, capabilities set out in the Integrated Review (**Figure 6** overleaf):

- Some capabilities are included in the Plan but only partially funded. For example, Navy faces significant underfunding on its shipbuilding programme, development of mine hunting and amphibious littoral strike capabilities.
- The Enabling Landing Ship Dock Auxiliary has been cancelled, in favour of extending the existing capability, which the Navy deemed more cost-effective with greater utility.
- TLBs are developing new capabilities which are at concept phase, including the Type 83 destroyer. These will need to be included in the Plan before 2032, increasing costs in later years.

15 HM Government, *Global Britain in a competitive age: The Integrated Review of Security, Defence, Development and Foreign Policy*, CP 403, March 2021. Ministry of Defence, *Defence in a competitive age*, CP 411, March 2021.
16 Comptroller and Auditor General, *The Equipment Plan 2021 to 2031*, Session 2021-22, HC 1105, National Audit Office, February 2022.

Figure 6
Integrated Review capabilities and the Equipment Plan 2022 to 2032

Several capabilities included in the Integrated Review are partly or fully excluded from this year's Equipment Plan (the Plan)

Capabilities not included in the 2022–2032 Plan	Explanation
Programmes not included	
Type 32 frigates and Multi Role Support Ships (MRSS)	In July 2022 Navy Command withdrew its plans for Type 32 frigates and MRSS because of concerns about unaffordability. The revised costing profile is likely to be significantly higher.
Enabling Landing Ship Dock Auxiliary	The enhancement option funded by the Integrated Review has been cancelled. The Ministry of Defence (the Department) decided to extend *RFA Argus*, based on the Navy deeming it cost-effective and offering greater utility.
Concept phase	
Type 83 destroyer	Given that the Department needs to replace the Type 45 destroyer between 2035 and 2038, it is unlikely that it will not need funding before 2032. The Plan does not include allocated funding as the project is in concept phase, meaning that detailed cost estimates and profiles are not yet available.
Part-funded	
Boxer armoured fighting vehicle M270 Multiple Launch Rocket System (MLRS)	Boxer and MLRS are included in the Plan but available funding does not enable the current Land Fleet Requirement that Army needs to fulfil Integrated Review capability requirements, although the Department is reviewing the Land Fleet Requirement: • Boxer: funding for 1,016 vehicles out of a requirement for 1,305. • MLRS: funding for 61 launchers out of a requirement of 75, and funding for eight recovery vehicles out of a requirement of 10.
A400M transport aircraft additional purchases	An option to purchase additional A400M aircraft was assessed as unaffordable. Air Command is developing an affordable choice to improve A400M availability. Some funding is held centrally.
Mine Hunting Capability Block 1 and Block 2	Mine Hunting Capability equipment support remains unfunded.
Future Commando	Significant sections of Blocks 2 and 3 remain unfunded, creating additional risks in the delivery of a commando force.

Source: National Audit Office analysis of Ministry of Defence data

1.17 The Department's last strategic assessment of military capabilities was set out in the Integrated Review, published in March 2021.[17] Head Office usually conducts annual capability audits, assessing changing priorities, to reassess what equipment will be needed in the future.[18] However, this was not carried out in 2021 because of the Integrated Review and this year's audit will not be completed until January 2023. The Department told us that this year's capability audit had limited impact on the Plan, in part because it was carried out too late to impact the process. This reduces the link between the assessment of affordability in the Plan and the assessment of capability in these audits. The Department is also reviewing the implications of the Ukraine conflict, including its capability priorities, assumptions on stockpiles and the levels of resilience that it needs. Since this review took place after 31 March 2022, the Department will start to reflect the impact of any changes to priorities, stockpiles and resilience on the Plan's affordability in next year's Plan.

Reflecting the risk of increases in cost forecasts

1.18 The cost estimates in the Plan are inherently uncertain because of the considerable challenges in forecasting the costs of complex, long-term programmes. In total, the Department has included £13.2 billion (5% of forecast costs) in the Plan's cost forecast to reflect risks it judges will probably occur. This is a reduction from £14.7 billion in the 2021 Plan (6% of forecast cost). The Department attributes this reduction to the greater maturity of cost forecasts on projects introduced following the Integrated Review.

1.19 The risk of cost increases also reflects the complexity of projects. We found that Strategic Command and Strategic Programmes – which are responsible for digital programmes and complex weapons – had included higher levels of risk on projects than other TLBs. The Department has an established methodology for estimating the risk of project cost increases but only adopts a more prudent approach on the Dreadnought programme.[19] On most projects, the Department estimates the risk of cost increases on the basis that the project is as likely to cost more as cost less. On the Dreadnought programme, due to the increased risk, the Department applies its forecast costs at the level at which there is only a 30% possibility of cost increases. This results in a higher forecast cost in the Plan to reflect the higher risk. The Department's Head Office plans further work next year to explore the risk process and better understand changes to forecasts. The approach could be strengthened by applying more prudent assumptions on some other newer and more complex projects, drawing on a more detailed analysis of risks, including assessments by the Department's independent costing team (paragraph 2.4).

17 This superseded the government's 2015 Strategic Defence and Security Review. In the past, the government reset defence priorities every five years.

18 The Department's Defence Capability Assessment Register (DCAR) is based on a set of scenarios linked to the tasks the Armed Forces are expected to prepare for, and which vary considerably in scale (from short, small-scale operations, up to a major war alongside NATO partners).

19 The Department estimates most project costs at the 50th percentile, which means that the project is as likely to cost more than the estimate as it is to cost less. Forecasting project costs at the 50th percentile, irrespective of complexity and the level of project maturity, may not always be appropriate.

1.20 The Department has not included in forecast costs another £25 billion of possible increases, related to other project risks, that it is tracking but it judges will probably not occur. Overall, potential risks not included in cost forecasts increased by £1.85 billion (9%) in the nine years common to last year's Plan (2022-23 to 2030-31). This is due to a £4.5 billion (54%) increase in risks not included in costs on the Defence Nuclear Organisation (DNO). As nuclear programmes have become more mature, DNO has identified new risks during development that could increase costs, but which it judges are not certain enough to include in cost forecasts.

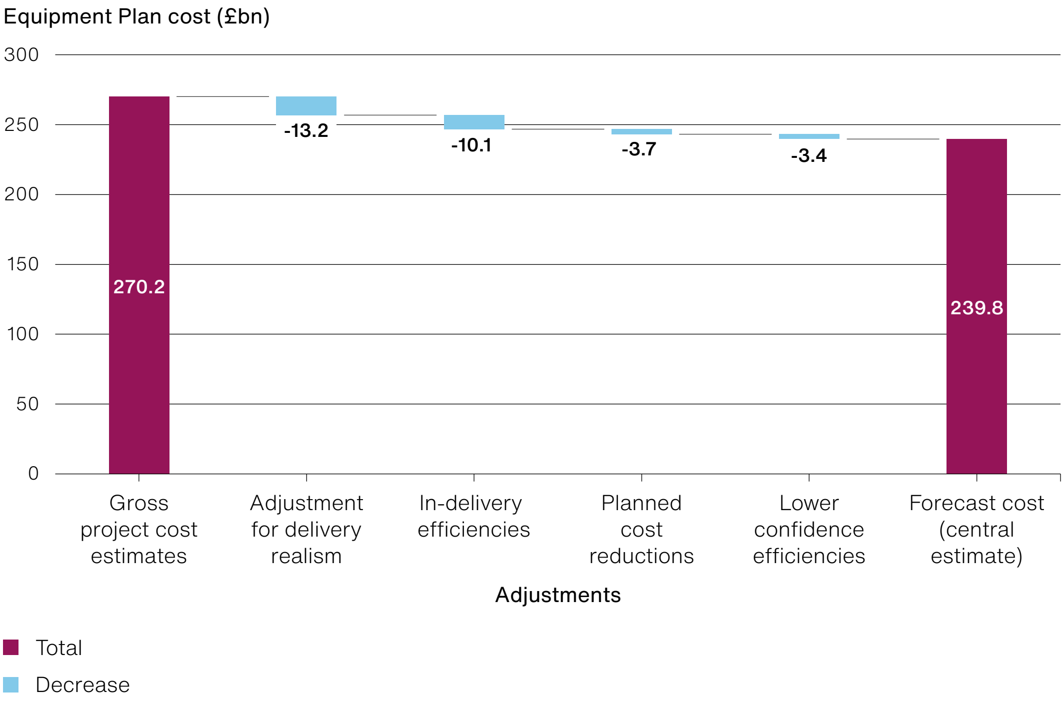
The assumptions underpinning the Department's affordability assessment

1.21 After forecasting project costs the Department makes adjustments to reflect the savings it expects to make, and its assessment of its ability to deliver equipment projects as planned. The Department reduced gross project costs of £270.2 billion by £30.4 billion to a forecast cost of £239.8 billion in this year's Plan (**Figure 7**). The failure to identify and deliver all these savings would create additional financial pressures, with TLBs needing to make equivalent reductions in planned project expenditure.

Figure 7

The adjustments that reduce project costs to the forecast costs in the Equipment Plan 2022 to 2032

The Ministry of Defence has reduced gross project cost estimates from £270.2 billion to the Equipment Plan's forecast cost of £239.8 billion



Source: National Audit Office analysis of Ministry of Defence data

Planned cost reductions

1.22 The Department has reduced the Plan's forecast cost by £3.7 billion, to reflect 'planned cost reductions'. These represent reductions in planned deliveries, such as choices between project options or reductions in project requirements, which TLBs have not yet reflected in project cost forecasts. These planned reductions are £3.3 billion lower than in last year's Plan, primarily as the Department has removed £2.8 billion of funding for projects shown as 'cost reductions' in last year's Plan. It made these reductions in response to disinvestment decisions in the Spending Review and Integrated Review. TLBs need to find £2.0 billion of these savings (54%) in the next three years.

1.23 We found that TLBs have not yet identified how they will deliver £1.6 billion (42%) of these cost reductions, with £1.4 billion of this pressure in the next three years. This means TLBs are holding cost pressures in their plans without identifying how they will be addressed. Air and Navy commands face the greatest pressure as they are responsible for 84% of the savings without plans. However, TLBs have less flexibility to reduce costs in the early years of the Plan, as a higher proportion of their equipment expenditure is contractually committed.

Efficiency savings

1.24 The Department defines efficiencies as cost reductions which will not lead to a reduction in outputs or capabilities. It has reduced the Plan's forecast costs by £10.1 billion to reflect planned efficiency savings that are currently in delivery.[20] The level of in-delivery efficiency savings has remained static, having been £10.3 billion last year. The Department has high confidence in implementing these efficiencies as it has plans in place. It therefore deducts these from project cost forecasts rather than recording them as adjustments.[21]

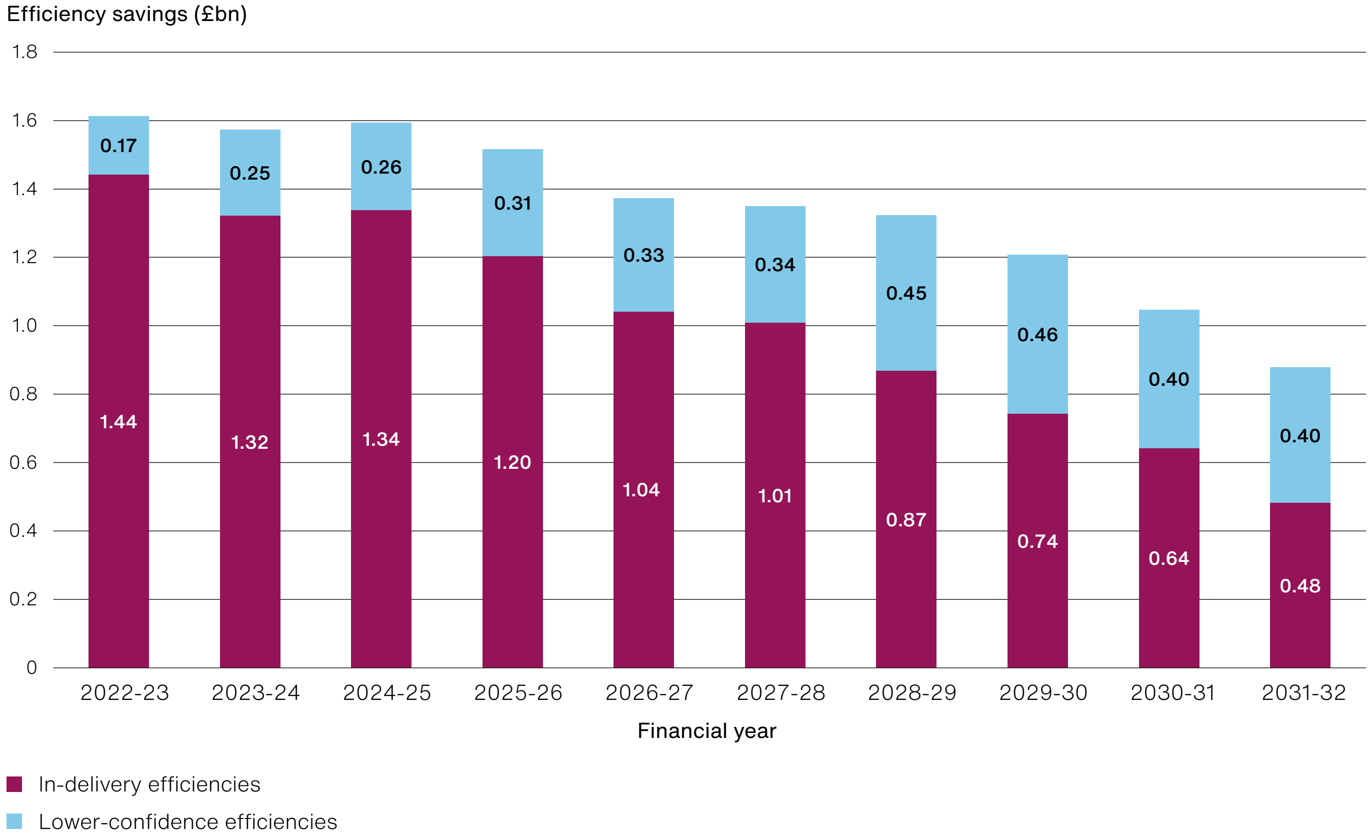
1.25 The Department also identifies other potential efficiencies but has not deducted these from project cost forecasts as they have lower confidence of TLBs achieving these savings. Despite this, the Department has assumed it will achieve £3.4 billion of lower-confidence efficiencies, compared with £2.8 billion last year, and has reduced the Plan's forecast cost to reflect this.[22] These lower-confidence efficiencies represent 25% of total efficiency savings and have increased by £0.5 billion since last year.[23] The Department views this as a positive sign that it has a growing pipeline of efficiencies that it is seeking to develop. However, of these lower-confidence efficiencies, TLBs need to identify and deliver savings of £0.7 billion in the next three years (**Figure 8** overleaf).

20 Delivery organisations reduce project cost estimates when they are confident that the project will deliver an efficiency saving.
21 Forecast efficiency savings included in project costs are not part of adjustments because they are already accounted for under project costs. They still contribute to reducing gross costs as described in paragraph 1.22 and Figure 7. These have reduced by £0.2 billion (2%) compared with last year.
22 The delivery organisations identify other potential efficiencies but do not deduct these from project cost estimates as they are less confident of achieving them.
23 The calculation of the increase is subject to rounding.

Figure 8

Profile of efficiency savings in the Ministry of Defence's (the Department's) Equipment Plan 2022 to 2032

The Department must find almost £0.7 billion of 'lower-confidence efficiencies' in the Equipment Plan's first three years



Notes

1 Efficiencies are savings which do not affect the outputs produced.

2 Lower-confidence efficiencies are part of adjustments – reductions from the gross cost reflecting savings and expectations around project delivery – whereas in-delivery efficiencies are removed directly from project costs.

3 The Department has more advanced plans for achieving in-delivery efficiencies than for lower-confidence efficiencies.

Source: National Audit Office analysis of Ministry of Defence data

1.26 In addition to the in-delivery and lower-confidence efficiencies on equipment projects, the Department is seeking to achieve further efficiencies of £4 billion from its Transformation Programme. Its latest estimate is that it will achieve £2.1 billion of savings, compared with £3.3 billion last year. Head Office devolved responsibility for achieving the remaining savings to TLBs and reduced their budgets on the expectation they would achieve all of these. This means that TLBs will need to find further savings of £1.9 billion. Failure to achieve these will increase pressure on TLB budgets, including future Equipment Plans.

1.27 The Department assumes that all efficiencies will be achieved in full, including those which TLBs do not have plans to deliver. However, the Department has not yet tested whether planned efficiencies remain realistic in a period of high inflation. Many efficiencies are based on improving supplier management: for example, they represent almost 60% of efficiencies for the Ships Domain within Navy Command. TLBs told us that efficiencies based on improved supplier performance may be more difficult to achieve in the current economic environment as suppliers are struggling to achieve efficiencies against a background of rising inflation and a lack of skilled staff. The Department told us that TLBs will need to find new efficiencies if existing plans to find savings cannot be achieved in full.

Management adjustments for 'realism'

1.28 TLBs make assumptions about their ability to deliver equipment projects, taking account of factors such as suppliers' capacity to deliver. They reduce cost forecasts to reflect that some projects will be delivered slower than expected, and therefore, not spend as much as planned. These adjustments are known as 'realism' adjustments. The adjustment has increased from £12.0 billion in the 2021 Plan to £13.2 billion this year (10% increase), compared with a 3% increase in costs.

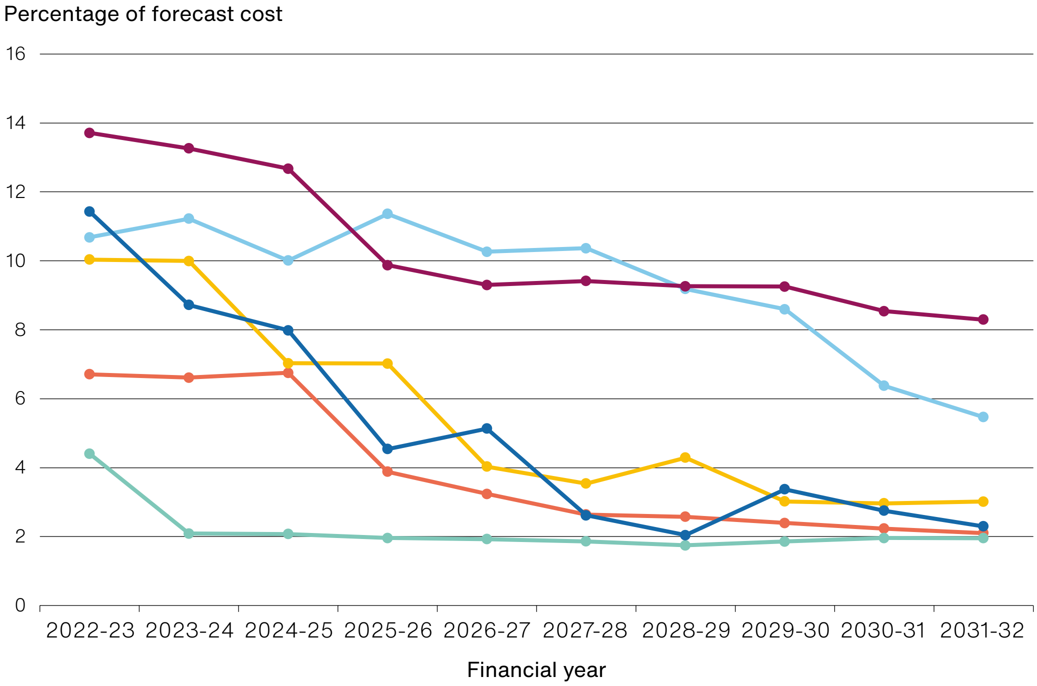
1.29 Deductions for realism are highest as a percentage of costs in the early years of the Plan, indicating that TLBs have higher levels of overprogramming in these years (**Figure 9** overleaf). This reflects the increased risks in delivering a larger programme, resulting from investment decisions in the Integrated Review. Strategic Command has made proportionally larger deductions to reflect the increasing delivery challenge. It told us that it is challenging to get the right people in place to deliver technologically complex digital programmes on time.

1.30 The Department is improving how it makes realism adjustments. It issued instructions to TLBs and, increasingly, they are basing these judgements on management information on their historical performance in delivering equipment projects. This has provided a clearer basis for these adjustments, although TLBs have continued to adopt differing assumptions on the level of risk they are willing to hold on their equipment programmes. For example, Navy has a proportionally higher adjustment than Air, Army or Defence Nuclear Organisation. Navy told us that its judgement reflected information on outturn against forecasts from previous years. By contrast Army calculates realism based on slippages to programmes that it identifies in-year. Head Office plans to work with TLBs to explore the basis of judgements and ensure these are proportionate and evidence-based.

Figure 9

Management adjustment for realism as a percentage of total forecast cost in the Equipment Plan (the Plan) 2022 to 2032

Management adjustments for realism are highest in the Plan's early years



	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Air Command	7	7	7	4	3	3	3	2	2	2
Army Command	10	10	7	7	4	4	4	3	3	3
Defence Nuclear Organisation	4	2	2	2	2	2	2	2	2	2
Navy Command	11	11	10	11	10	10	9	9	6	5
Strategic Command	14	13	13	10	9	9	9	9	9	8
Strategic Programmes	11	9	8	5	5	3	2	3	3	2

Note

1 Management adjustment for realism reflects that some projects will be delivered slower than expected, and therefore not spend as much as planned.

Source: National Audit Office analysis of Ministry of Defence data

Part Two

Cost pressures affecting the Ministry of Defence

2.1 In this Part we examine wider cost pressures affecting the Ministry of Defence (the Department) and the implications of these for the Equipment Plan (the Plan). We consider factors which could significantly affect the Plan's affordability and set out how the Department is managing these pressures as it delivers its equipment programme.

The Department's assessment of the affordability range

2.2 The Department's central estimate of the Plan's affordability – a surplus of £2.6 billion (paragraph 1.5) – is based on several assumptions, including full delivery of efficiency targets. It recognises, however, that delivering complex, long-term projects is uncertain and produces a range of outcomes using best-case and worst-case estimates for some adjustments. These include programme costs being larger or smaller than the central estimate and foreign exchange rate movements (**Figure 10** overleaf).[24] It estimated a worst-case scenario – if all identified risks materialise – of costs increasing by £9.9 billion, which would make the plan unaffordable by £7.3 billion. In the best-case scenario, costs would decrease by £4.4 billion, increasing the Plan's estimated surplus to £7.0 billion.

2.3 In our opinion, the Department's approach to assessing the potential affordability range does not fully reflect the uncertainty in delivering a programme of this size and complexity. For example, it does not include:

- the additional cost pressure created by new capabilities in concept phase that will come into the Plan in later years;
- a full analysis of the risk of project cost increases. It includes the Department's Cost Assurance and Analysis Service's (CAAS's) estimate of potential cost increases.[25] There is scope for a fuller consideration of the range of CAAS's cost estimates, including extrapolating from CAAS's sample. The Department could also draw on wider information on project risks, including consideration of risks that have not been included in project cost forecasts (paragraph 1.20);

24 Head Office issued revised guidance to Top Level Budgets (TLBs) to provide supporting evidence for their cost adjustments, and based upper and lower bounds for foreign exchange rates on a more detailed review of historic rates.

25 CAAS examined 61 projects this year, which account for around 53% of the Plan's cost. As in previous years, CAAS specifically chose a high proportion of less mature and other higher-risk projects to examine. It estimates the realistic outturn, which is its independent comparator view on the likely outturn cost of the project, and compares this with delivery team forecasts.

- the impact of a wider range of foreign exchange rate movements to reflect volatility. For example, since June 2022 actual rates have been consistently lower than the Department's average worst-case scenario exchange rate of $1.26 to £1;
- external factors – such as inflation – to reflect the current economic environment and future uncertainty; and
- an assessment of the probability of risks arising.

Figure 10

The Ministry of Defence's (the Department's) assessment of the range within which the costs lie for the Equipment Plan 2022 to 2032

The Department assesses that in the worst-case scenario costs in the Equipment Plan (the Plan) would increase by £9.9 billion and in the best-case scenario costs would decrease by £4.4 billion

Uncertainty	Worst-case cost increase	Best-case cost decrease	Description
	(£bn)	(£bn)	
Cost understatement on projects	5.2	–	Difference to the Cost Assurance and Analysis Service's (CAAS's) central estimate of project costs. CAAS considers that a worst-case cost for the Plan would be between £5.2 billion and £14.2 billion more than project team costs.
Foreign currency exchange rates	2.8	-2.3	Calculates the impact of a 10% increase and decrease in foreign exchange rates for US dollar and euro.
Adjustment for realism	1.5	-1.5	Calculates a 25% increase and decrease in the Top Level Budgets' estimate of realism.
Feasible level of efficiency delivery	0.5	-0.7	Calculates a 50% increase and decrease in the value of less mature efficiency savings and savings commitments.
Total	**9.9**	**-4.4**	

Notes

1 Each year CAAS independently assesses a sample of equipment project costs, this year covering 53% of Plan value. It estimates the realistic outturn, which is its independent comparator view on the likely outturn cost of the project and compares this with delivery team forecasts. CAAS also calculates a worst-case scenario for each project in its sample. It found the total of these worse-case costs would be £14.2 billion higher than project team estimates but believes that this level of cost increase is very unlikely, as it assumes issues occur in all projects in the sample.

2 The Department's Equipment Plan report separates CAAS's assessment of likely cost growth on the Dreadnought programme (£1.6 billion) from other anticipated cost growth (£3.6 billion) to reflect the different governance arrangements for Dreadnought.

3 For the US dollar, the average central estimate over the 10-year Plan is $1.40 per £1, with an average worst case of $1.26 and average best case of $1.54.

4 For the euro, the average central estimate over the 10-year Plan is €1.10 per £1, with an average worse case of €0.99 and average best case of €1.21.

5 Numbers do not sum because of rounding.

Source: National Audit Office analysis of Ministry of Defence data

The cost pressures facing the Department

The risk of cost increases on equipment projects

2.4 CAAS provides independent assurance on cost forecasts on a sample of projects, which this year covers around 53% of the Plan's cost. CAAS specifically chooses to sample higher risk and less mature projects. It concluded that these projects could cost £5.2 billion more than the costs included in the Plan. This includes £1.6 billion of costs on Dreadnought, which has its own contingency separate from the Plan (paragraph 2.5). The remaining £3.6 billion of potential cost increases is larger than the Department's central estimate of the Plan's £2.6 billion surplus. As the surplus includes a £4.3 billion contingency, CAAS concluded that the potential cost increases would appear manageable.[26] CAAS's assessment of project variances has reduced from £7.6 billion last year, although this partly reflects some changes to the projects included in the sample.[27] For example, in last year's assessment, CAAS found that an element of the Warhead project was likely to cost £1.3 billion more than the amount included in the Plan, but it did not include the same element in this year's assessment. This was because the Defence Nuclear Organisation's estimate was not mature enough to use as a reasonable comparison, so CAAS scoped its work to focus on what it deemed was most relevant for the Defence Nuclear Organisation's decision-making needs.

2.5 The largest project variances are shown in **Figure 11** overleaf. CAAS found that the Dreadnought programme is likely to cost £1.6 billion more than the amount included in the Plan, although this is £1 billion less than the estimated variance last year.[28] Because of the scale, complexity and length of time required for the Dreadnought programme, HM Treasury holds a separate £10 billion contingency which the Department can call on. The Department is continuing to work with HM Treasury on wider reforms to the way defence nuclear projects are funded, including the appropriate levels of contingency and where that is held.

26 The Department's Equipment Plan report separates CAAS's assessment of likely cost growth on the Dreadnought programme (£1.6 billion) from other anticipated cost growth (£3.6 billion) to reflect the different governance arrangements for Dreadnought. The CAAS report notes: "The £3.6 billion excess would appear to be manageable within the centrally-held equipment contingency of £4.3 billion, but the CAAS estimates raise the potential for funding to be stressed in certain years if it is to maintain planned project progress and equipment availability."

27 Last year CAAS examined 80 projects, accounting for around 58% of that Plan's cost.

28 In 2021 CAAS estimated a variance of £2.6 billion on the Dreadnought programme. CAAS also estimated an element of Warhead with a variance of £1.3 billion not included in this year's CAAS report.

Figure 11
Largest variances between Cost Assurance and Analysis Service (CAAS) forecasts and Equipment Plan forecasts, 2022 to 2032

CAAS forecasts that several of the Ministry of Defence's major programmes will cost more than forecast over the Equipment Plan's (the Plan's) 10 years

Programme	Top Level Budget	Increase/(decrease) between CAAS and the Plan (£bn)
Dreadnought nuclear submarine	Defence Nuclear Organisation	1.6
Type 26 frigate	Navy	0.6
Next Generation Communications Network	Strategic Command	0.6
F-35 Lightning aircraft	Air	0.5
Future Cruise/Anti-Ship Weapon	Strategic Programmes	0.4
Typhoon aircraft	Air	0.3
Type 31 frigate	Navy	0.2
In-service submarines	Navy	(0.4)

Notes

1 CAAS provides independent assurance to the Ministry of Defence on cost forecasts on a sample of projects.

2 A positive variance is where CAAS estimates that project costs will be higher than in the Plan, negative variances where CAAS estimates that projects costs will be lower than in the Plan.

3 These are all programmes assessed with a variance greater than £200 million.

4 CAAS reported its findings in October 2022.

Source: National Audit Office analysis of Ministry of Defence data

2.6 The Department has 52 programmes in the Government Major Project Portfolio (GMPP), with a total budgeted whole-life cost of £194.7 billion. Both the number and cost are the most of any government department, which illustrates the scale and complexity of its projects, and the risks it manages.[29] Forty-three of the Department's GMPP programmes are in the Plan. The Infrastructure and Projects Authority has rated:[30]

- eight equipment programmes as red, meaning that successful delivery appears to be unachievable.[31] These include Lightning, Future Cruise/Anti-Ship Weapon, Ajax, and Core Production Capability for nuclear submarine reactors;

29 Infrastructure and Projects Authority, *Annual Report on Major Projects 2021-22*, July 2022.

30 Of the remaining nine non-equipment programmes, one is rated red, four amber, one green. The GMPP does not disclose the rating of three non-equipment programmes for security reasons.

31 The full definition is: "Successful delivery of the project appears to be unachievable. There are major issues with project definition, schedule, budget, quality and/or benefits delivery, which at this stage do not appear to be manageable or resolvable. The project may need re-scoping and/or its overall viability reassessed."

- twenty-nine equipment programmes as amber, which means delivery appears feasible but there exist significant issues requiring management attention.[32] The Department believes these are resolvable with the right intervention and support; and
- two equipment programmes as green, which means successful delivery on time, budget and quality appears highly likely.[33]

2.7 In addition to overall delivery concerns, programmes have specific concerns over accessing a skilled workforce and maintaining their supply chain. For example, the Department's management information identified that Land ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) was rated red for skills and it had concerns over suppliers. The failure to deliver these projects within budget or schedule will increase the pressure on the affordability of the Plan, especially over the next seven years when Top Level Budgets (TLBs) have deficits on their programmes (paragraph 1.6). The Department is improving its management information to provide a more complete real-time picture of risks and trends on equipment projects.

Increasing cost pressures across wider TLB budgets

2.8 The financial pressure on the Department has increased since last year. Its total forecast costs exceed the overall defence budget by £4.3 billion from 2022-23 to 2031-32, up from £1.5 billion last year. As with all departments, HM Treasury sets the Department separate annual budgets for resource (day-to-day) spending and capital (investment) spending. The Department's budget allocations for the period 2022-23 to 2031-32 show that resource spending is forecast to exceed its budget in six out of 10 years, and that capital spending is forecast to exceed budget in seven of the first eight years (**Figure 12** overleaf). Overall, the Department's total forecast costs exceed budget by £8.2 billion during the next eight years, offset by a surplus of £4.0 billion in 2030-31 and 2031-32.

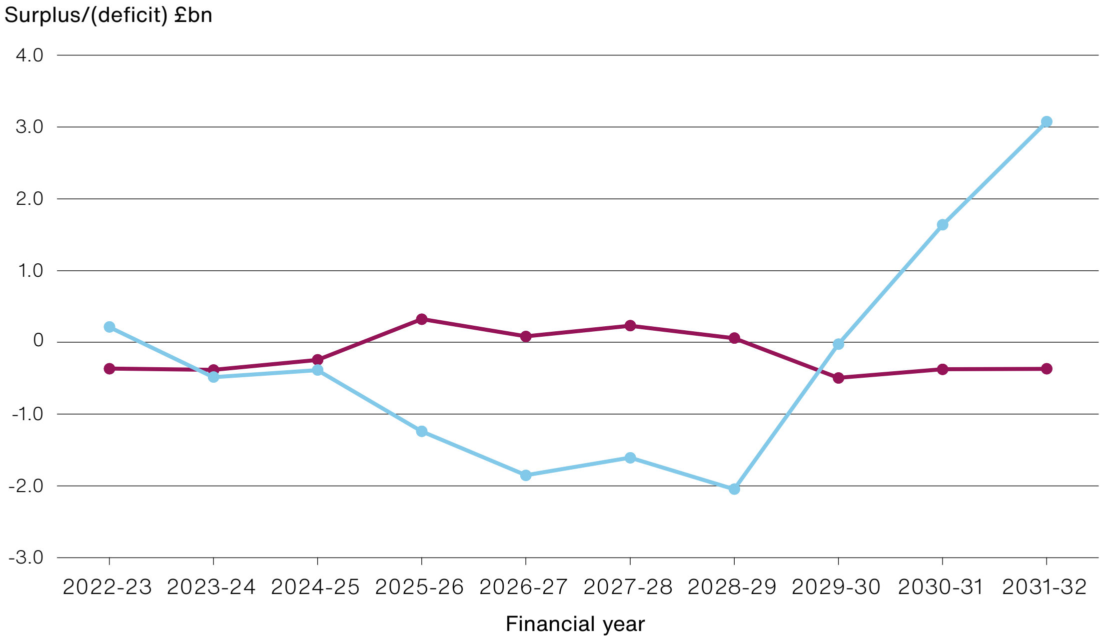
2.9 The Department's overall budget is made up of the Equipment Plan, the Infrastructure Plan and TLB Plan, which covers operating costs (including workforce, training and other costs).[34] **Figure 13** on page 33 shows that the TLBs face significant pressures in managing these budgets, leaving little flexibility to manage any additional cost pressures on equipment projects. Five TLBs have budget deficits, with the Army facing the largest aggregate deficit of £5.7 billion. Only the Navy has programmed activity to live within its budget.

32 The full definition is: "Successful delivery appears feasible but significant issues already exist, requiring management attention. These appear resolvable at this stage and, if addressed promptly, should not present a cost/schedule overrun."
33 These are the Chinook Capability Sustainment Programme and the Mechanised Infantry Programme. The GMPP does not disclose the rating of four equipment programmes for security reasons.
34 Head Office generally delegates responsibility for managing the budgets to TLBs, although it retains direct responsibility for some spending.

Figure 12

Forecast shortfalls in the overall defence budget between 2022-23 and 2031-32

The Ministry of Defence's (the Department's) current 10-year plan forecasts that resource spending will exceed annual budgets in six years, and capital spending will exceed budgets in seven years



	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
Resource spending	-0.4	-0.4	-0.2	0.3	0.1	0.2	0.1	-0.5	-0.4	-0.4
Capital spending	0.2	-0.5	-0.4	-1.2	-1.9	-1.6	-2.0	-0.0	1.6	3.1

Note

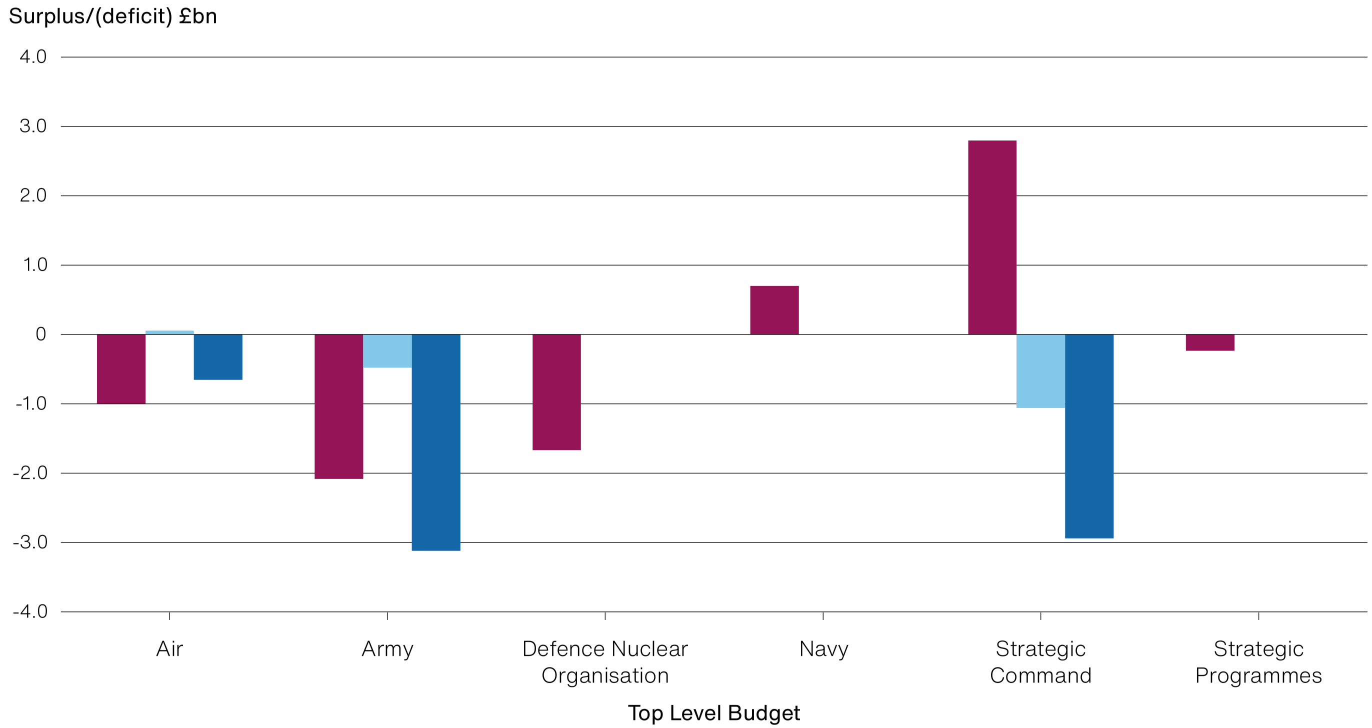
1 The Department's overall defence budget is made up of the Equipment Plan, the Infrastructure Plan, and operating costs, including workforce and training.

Source: National Audit Office analysis of Ministry of Defence data

Figure 13

Variance between total forecast costs and budgets for Top Level Budget (TLB) holders, 2022-23 to 2031-32

Five of the six TLBs have total forecast costs that exceed their budgets for equipment, infrastructure and operations, with Navy the only exception



	Air	Army	Defence Nuclear Organisation	Navy	Strategic Command	Strategic Programmes
Equipment Plan	-1.0	-2.1	-1.7	0.7	2.8	-0.2
Infrastructure Plan	0.1	-0.5	0.0	0.0	-1.1	0.0
TLB Plan	-0.7	-3.1	0.0	0.0	-2.9	0.0

Notes

1 The TLB Plan covers operating costs, including workforce, training, and other costs.

2 0.0 means that forecast matches the budget.

Source: National Audit Office analysis of Ministry of Defence data

2.10 Further, the Department is facing increasing financial pressures:

- **Workforce savings targets:** the Department's spending plans are based on achieving workforce savings through substantial reductions in the size of the workforce over the next decade.[35] Head Office reserved £250 million for pressures in 2022-23 and estimates that it faces a pressure of £1.4 billion over the next 10 years. In addition, the Department's current spending plans assume further workforce savings of £2.5 billion by March 2031.

- **Pay assumptions:** HM Treasury provided additional funding to cover revised pay assumptions for 2022-23. However, this did not cover the final military pay award of 3.75%. The Department has not received additional funding to cover pay awards from 2023-24, and its existing plans, which are based on very limited pay awards over the next 10 years, are likely to come under increasing pressure due to rising inflation. We reported last year that an additional 1% pay rise in 2022-23 over and above what was planned would cost approximately £1.4 billion more over the following nine years.

- **Fewer estates disposals:** the Department will now retain some sites previously earmarked for disposal, meaning planned reductions in maintenance expenditure will be lower than expected.[36] The programme also has a £223 million funding shortfall in 2025-26. Further, inflationary pressures and thinking on net zero targets have not been reflected.[37] In 2021, we reported that the effect of uplifting all assets to comply with plans to achieve net zero by 2050 could increase estimated building costs by more than £1 billion.[38]

- **Increasing inflation**: in May 2022 the Department estimated that during the remaining three years of the 2020 Spending Review period, ending in 2024-25, the impact of inflation on defence costs could increase resource spending by £2.0 billion, and capital spending by £0.8 billion. Over 10 years to 2031-32, it estimated that the total residual inflation increase could be £3.1 billion after all mitigation.[39]

Head Office has not yet included some significant risks in cost forecasts, such as rising utility costs and meeting carbon emissions and sustainability targets.

35 The 2020 Spending Review settlement expects the Department to make workforce savings by: reducing the Army's target strength from 82,000 to 73,000 by 2024-25 (this includes around 500 soldiers working on Integrated Review priorities such as the National Cyber Force); other TLBs making savings equivalent to reducing their trained military workforce by 6,350, and their untrained workforce by 1,450, by 2030; and making a 10% further reduction in the cost of the civilian workforce by 2024-25.

36 The forecast value of the new 25-year plan is £417 million, compared with the previous plan's £585 million.

37 Cost data are at December 2021.

38 Comptroller and Auditor General, *Optimising the defence estate*, Session 2021–22, HC 293, National Audit Office, June 2021.

39 The Department cautioned that there was a high degree of uncertainty in these estimates because the analysis had been calculated at pace during a constantly evolving situation.

2.11 The failure to achieve planned workforce savings or complete estate disposals will increase the financial pressure faced by TLBs and may mean they have to reduce spending on equipment procurement and support. TLBs told us that, as they have very limited ability to flex other workforce or estate expenditure, they would consider reallocating planned equipment expenditure. The pressure facing TLBs on other budgets is illustrated by the Department's use of contingency in 2021-22. It allocated £5.3 billion (36%) of its £14.7 billion central contingency to reduce cost pressures, including:

- additional funding of £3.5 billion to help TLBs live within annual budgets;
- £0.6 billion of funding for three equipment projects;
- £0.4 billion of relief for the impact of additional operational requirements on Strategic Command; and
- £0.6 billion of relief to offset workforce costs in three TLBs.

In total, the Department allocated £1.4 billion to address cost pressures relating to its workforce and estate.

The Department is facing significant external pressures

2.12 The Department recognises that it is facing a challenging external environment, including high levels of inflation, rising energy costs and the Ukraine conflict, which will impact spending plans. **Figure 14** overleaf summarises these pressures and the Department's approach to managing them. It has started to assess the level of protection provided by these mechanisms, including current hedging arrangements and the use of fixed- and firm-price contracts, and intends to reflect this in future Equipment Plan reports. However, it is not yet able to judge whether its assumptions on absorbing additional costs from existing budgets and contingency remain valid.

2.13 All six TLBs told us they are beginning to witness supply chain risks and industry capacity constraints, including skills gaps and, more recently, an increased demand for defence equipment in other countries. They expect this will make delivering projects within existing schedules and budgets more difficult due to labour shortages, supply chain bottlenecks and shortages of materials. TLBs and the Department also noted a risk that suppliers might be unable or unwilling to continue delivering firm-price contracts given the current rate of inflation, although this risk had not yet materialised.

Figure 14

External cost pressures faced by the Ministry of Defence (the Department), 2022

The Equipment Plan 2022 to 2032 (the Plan) does not fully reflect cost pressures which the Department faces. It intends to include these in future Equipment Plan reports

Cost pressure	In the Plan?	The Department's approach to managing the pressure
Inflation: the Department has assessed that high inflation is likely to persist and will remain volatile	No	The Department is assessing financial impacts, including on commercial contracts. Head Office has asked Top Level Budgets to report impacts and develop strategies for managing pressures. At present, the Department expects to absorb additional costs from existing budgets and contingency.
Utilities: impact of increases in wholesale prices for gas and electricity	Partly	The Department forward purchases utilities through the Crown Commercial Service's gas and electricity contracts. It allocated £600 million from central contingency to absorb these additional costs in 2022-23. It has also requested an uplift of £352 million to address price rises affecting the UK estate. It continues to hold central contingency to address risks.
Fuel: the Department pays £8.5 billion each year in fuel costs	Partly	Adverse movements in fuel and foreign exchange created an additional cost of £332 million, which was absorbed using central contingency. The Department has hedging/buy forward arrangements in the Plan's first three years to advance purchase its fuel needs for that period. These are expected to offset cost changes for around 80% of demand.
Foreign exchange: the Department pays £33 billion in US dollars and £13 billion in euros on equipment projects over the life of the Plan	Partly	Changes in exchange rates can significantly increase or decrease costs. As at the start of October 2022, sterling was at a lower value against the dollar than the Department's worst-case scenario in the 2022 Equipment Plan. Mitigations are based on buy forward arrangements.
Cost of living: likely to lead to pressure on existing assumptions for future pay increases	No	Existing assumptions on pay increases will come under pressure due to wider cost of living pressures. The Department will cover cost pressure from central contingency but pressure for higher pay awards will be challenging given existing skills gaps in the Department and its need to adhere to government pay policy.
Ukraine conflict: revised capability and stockpile implications	No	Since the start of the conflict, the Department has been reviewing the implications, considering additional new capability requirements and judgements on stockpiles and the level of resilience that it needs. The Department will then need to assess cost increases from any proposed changes and impacts on affordability.

Notes

1 Foreign exchange and fuel movements have the largest impact on Air Command.

2 Additional costs of operations and assets granted in kind to Ukraine will be covered by HM Treasury through the Reserve. In June 2022 the government announced £1 billion of military support to Ukraine in addition to the previously committed £1.3 billion of funding for military aid.

Source: National Audit Office analysis of Ministry of Defence data

2.14 The Department is working to understand the scale of cost pressures but does not yet know how these affect its spending plans or its ability to achieve efficiency savings. It reported that inflation may add up to £2.1 billion of cost pressure, based on March 2022 forecasts, but acknowledged that this might not accurately reflect the cost pressure caused by rising inflation. In May, the Department estimated that inflation might increase the Plan's costs by £3.1 billion by 2031-32. This inflationary increase is not reflected in its assessment of the Plan's affordability, but alone would absorb all the estimated £2.6 billion surplus. Inflation has continued to increase, and inflationary pressures on defence projects may exceed the general rate of inflation. This is illustrated by the Defence Nuclear Organisation, which told us that project costs – even based on outdated inflation assumptions – could increase by between £5 billion and £9 billion out of a programme of £59.7 billion.

What this means for the Plan

The Department's approach to producing the Plan

2.15 The Department has improved its processes for producing the Plan and approach to estimating some adjustments in its affordability assessment, including:

- issuing revised guidance to improve how realism judgements are made, with TLBs making greater use of financial data to understand the accuracy of previous forecasts and a more evidence-based approach to adjustments, although there remains scope for greater consistency between delivery organisations;
- asking TLBs to provide supporting evidence for the ranges within their assumptions, making judgements comparable to last year;
- strengthening its assessment of the maturity of potential efficiencies, although some TLBs told us there remains scope for greater consistency between delivery organisations; and
- closer engagement between TLBs and Head Office on finance and capability risks.

Appendix Two sets out the Department's progress against recommendations from our previous reports. It shows that the Department is making progress and strengthening its approach, although there is further to go before it has addressed these in full.

2.16 The Department also monitored expenditure closely during 2021-22 to remain within its annual budgetary limit, avoiding the need for central in-year savings measures. It spent 99.7% of its capital budget in 2021-22, with TLBs managing large portfolios of projects and exploiting opportunities to bring forward planned expenditure in response to delays on some projects. In total, the Department brought forward £450 million to reprofile capability risk and exchanged £490 million into future years due to delivery issues, including on the Ajax programme.

The Department's affordability assessment

2.17 The Department has not fully reflected inflationary cost pressures in the 2022–2032 Plan, despite the Office for Budgetary Responsibility predicting sharp rises in inflation at the time it was produced.[40] The Department was aware of these pressures, acknowledging them in its report. However, the Plan is based on data at 31 March 2022, so its approach to cost forecasting does not yet capture subsequent inflation in project costings. The Department is assessing the impact of inflation on the affordability and deliverability of the Plan in its 2022-23 planning cycle and intends to incorporate these effects in Equipment Plan 2023–2033.

2.18 Head Office also decided to resolve several other issues that affect the Plan's affordability in the next financial year, including the balance of capability and financial risk across the next 10 years, levels of contingency, and decisions on some major projects. These include whether to draw on central funding to buy more A400M transport aircraft and the funding approach for an additional submarine floating dock. It will also undertake further work to review delivery schedules and smooth funding profiles (paragraph 1.6), considering the potential to draw on other budgets or, if needed, cut costs. In March 2022, Head Office reported to the Defence Board that it would deal with five main priorities in the next planning round: increasing productivity from capabilities; the nuclear enterprise; future combat air system; readiness and deployability; and inflation.

2.19 The internal and external pressures facing the Department mean that the affordability assessment in this year's Plan is now out of date. Our review shows that there is a risk that growing financial pressures or failure to achieve planned savings will exceed the Department's estimate of the Plan's surplus and central contingency. As a result, the Department will face significant decisions on budgetary priorities as it reassesses the capabilities it requires and can afford.

2.20 The Department is now facing a volatile external environment but its processes for producing the Plan means there is a lag between what its annual Equipment Plan report includes and current cost pressures and deliverability risks. It faces challenges:

- **Timeliness:** the process to agree budgets and cost estimates typically takes many months and involves lengthy negotiation between TLBs and Head Office. Appendix Three shows that the Department will produce this year's Equipment Plan report some eight months after the end of the annual budgeting cycle. Last year we also reported on weaknesses in the Department's annual budgeting process, including the disconnect between strategic priorities.

40 In March 2022 the Office for Budgetary Responsibility predicted inflation could rise to 8.7% in the final three months of 2022.

- **Flexibility:** the Plan contains 1,800 costed projects which are managed by TLBs. While the Department does retain some flexibility to adjust programmes to deliver new capabilities, Head Office has not considered whether its existing processes and level of 'headroom' in the Plan provide sufficient flexibility to respond promptly to changing threats. In addition, since 2021 the Department's annual audit of capability risks – which assesses the changing threats and capability requirements – has been decoupled from the annual planning process. It was not carried out in 2021 because of the Integrated Review and this year's will not be completed until January 2023, by which time the Department will have completed much of the process for producing next year's Equipment Plan (paragraph 1.17).

The Department's progress in improving financial skills

2.21 Increasing financial capability is crucial to accurate cost forecasting and the wider financial management of the Plan. The Department is continuing to implement its Finance Functional Leadership programme. It has started to roll out a service delivery model, which seeks to provide greater consistency and quality in financial outputs and continues to develop a management information suite for forecasting.

2.22 Despite this, financial capability remains lower overall than it needs to be. Since 2018 the Department has been seeking to increase the number of finance staff with a professional qualification to 60%. At June 2022, the proportion of qualified finance staff was 42%, a slight fall from 43% in December 2021. A further 529 staff are studying for professional qualifications, of whom 172 are on apprenticeship programmes, an increase from 396 studying and 119 on apprenticeships in March 2021. Qualifications at more middle and senior management are higher: in June 2022 86% of senior civil servants in finance roles were qualified, as were 72% of staff at the grade 7/6 (down from 75% last year). TLBs also told us that they are acting to address vacancies in their finance teams and that a lack of resources restricts their ability to better understand forecast project costs and engage with delivery agents.

Appendix One

Our audit approach

1 We reached our conclusions based on our analysis of evidence collected during fieldwork between April and October 2022. We also drew on findings from our previous Equipment Plan reports.

2 We reviewed spending on equipment and the key assumptions underpinning it. In considering the adequacy of the funding available, we:

- reviewed the Ministry of Defence's (the Department's) 10-year forecast of the defence budget, and the assumptions underpinning it;
- reviewed the basis for the Department's apportionment of the overall budget between the Equipment Plan and other areas of spending. This included consideration of assumptions underpinning other areas of spending;
- evaluated how the Department treated shortfalls between its anticipated budget and its spending plans (including how this has changed from previous years);
- drew on the National Audit Office's best-practice toolkits on managing portfolios and accountability; and
- held discussions with departmental and HM Treasury officials, including representatives of relevant departmental Top Level Budgets (TLBs).

Document Review

3 To examine whether forecast costs within the Plan are realistic we:

- evaluated the detailed forecast cost data which feeds into the Equipment Plan, performing sense checks and tests of data integrity, and reviewed any significant movements;
- analysed detailed project cost forecasts to identify what types of projects are in the Equipment Plan 2022–2032 and their cost profiles, which we compared with data from the Equipment Plan 2021–2031;
- reviewed several project business cases submitted in 2021-22 and identified projects where the costs included in the Equipment Plan differed from the project teams' assessment of the most likely cost; and
- reviewed the report prepared by the Department's Cost Assurance and Analysis Service (CAAS) with its authors, which provides an independent estimate of the cost of Equipment Plan projects (this year covering 61 projects, accounting for 53% of the Plan's value).

4 To assess the Department's assumptions about its ability to reduce costs, we:

- reviewed the Department's process for setting the TLBs cost reduction targets;
- reviewed plans to deliver 'in-delivery efficiencies' and 'further efficiencies';
- reviewed plans to deliver 'planned cost reductions', and how this varies between the TLBs;
- reviewed the Department's and TLBs' assessment of management adjustment for realism, and how this varied between the TLBs; and
- reviewed the Department's own assessment of the assurance arrangements it has in place to validate savings from transformation initiatives.

5 To assess the Equipment Plan's underlying processes and the adequacy of the Equipment Plan document, we:

- reviewed management information the Department produced to monitor its 2021-22 spending, and the minutes of departmental committees which discussed it;
- reviewed departmental audits of its budgeting processes; and
- evaluated data on financial capability and skills.

6 To assess the relationship between the Plan and military capability requirements, we:

- reviewed projects' reports sent to various departmental assurance processes;
- reviewed assessments of projects by departmental committees; and
- reviewed TLB assessments to the Department of the impact of their budgets on military capability.

Interviews

7 To understand the budget-setting process, and spending plans, we:

- interviewed departmental officials and representatives of TLBs responsible for the information in the Equipment Plan. We discussed issues across the full breadth of our report, focusing closely on the budget-setting process and resulting spending plans, as well as consideration of pressures such as inflation and supply chain risks on the Plan;
- interviewed departmental officials about the relationship between the Plan and assessments of military capability; and
- discussed the report prepared by CAAS with its authors.

Appendix Two

The Ministry of Defence's progress in addressing previous National Audit Office recommendations

1 We have assessed the Ministry of Defence's (the Department's) progress in implementing the recommendations from our previous reports (**Figure 15**).

Figure 15

National Audit Office assessment of the Ministry of Defence's (the Department's) progress implementing recommendations in Equipment Plan reports from 2019 to 2021

The National Audit Office has assessed that the Department has now implemented nine of 18 remaining recommendations from previous reports

	Ministry of Defence assessment		National Audit Office assessment	
Year of Report	Implemented	In progress	Implemented	In progress
2021	5	2	4	3
2020	3	5	3	5
2019	2	1	2	1

Source: National Audit Office assessment of Ministry of Defence data

2 Overall, we generally agree with the Department's assessment of its progress. Of the 18 live recommendations that the National Audit Office has made since 2019, we agree that the Department has implemented nine and is making progress implementing the remainder. For example, the Department has strengthened the role of Head Office, which now more robustly reviews submissions from Top Level Budgets (TLBs). However, for one recommendation that the Department judges it has implemented, we acknowledge that it has made good progress but there remains more to do:

- **Recommendation 2021-a**: The Department has not yet fixed its long-standing problems in managing the Plan. It will struggle to do so unless its Head Office, working with the TLBs, makes a fundamental change to the way it builds, and reports on, the Plan. In particular, the Department should: ensure all components of the Plan's budgets and costs are prepared on a consistent basis between TLBs and across years, including for example on contingency, apportionment of defence budget shortfalls, and the basis for calculating the range which expresses affordability. This would provide comparability and enable stakeholders to track progress and variability of performance.
- We consider that this remains in progress. In this year's report we highlight some ongoing inconsistencies and there is scope for the Department to produce a better assessment of the affordability range of its Equipment Plan (paragraphs 2.3 and 2.15). We acknowledge that comparability is improving but believe that the Department needs to address better consistency issues to fully implement this recommendation.

Appendix Three

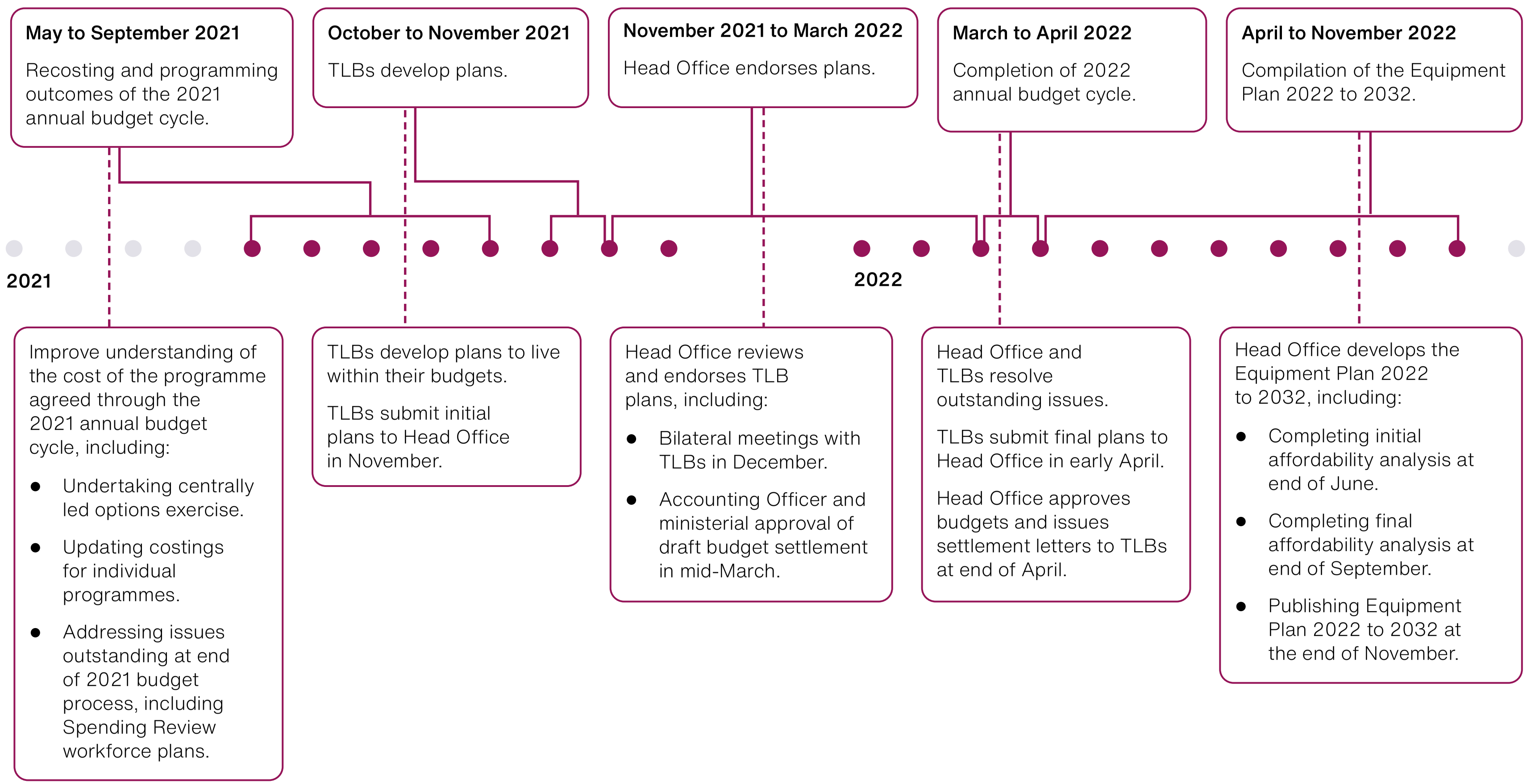
The Ministry of Defence's timetable for producing the Equipment Plan 2022–2032

1 **Figure 16** sets out the Ministry of Defence's (the Department's) process for producing the Equipment Plan. It shows the annual financial planning round, leading to Head Office approving Top Level Budgets funding and plans, and the work that it subsequently undertook to produce the Equipment Plan (the Plan). This shows that, in total, it took the Department eight months following the end of the annual budget cycle to finalise its affordability assessment of the Plan and publish its report. This includes the engagement with the National Audit Office and the publication of this report.

Figure 16

The Ministry of Defence's (the Department's) timetable for producing the Equipment Plan 2022 to 2032

The process for the Department's Head Office and Top Level Budgets (TLBs) to produce the Equipment Plan took eight months from the completion of the 2022 annual budget cycle



Source: National Audit Office analysis of Ministry of Defence data

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