

## 7. ICAEW: defence

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#### Key findings

- **The UK has enjoyed a substantial post-Cold-War peace dividend that has effectively been used to fund the growing welfare state.** The proportion of UK public spending going on defence and security has decreased from 15% fifty years ago to just over 5% today. Over the same period, spending on social security and health has increased from around a quarter to over half of the total.
- **Further cuts to the defence budget to fund other spending priorities are no longer possible if the UK is to meet its commitment as a member of NATO to spend 2% of national income on defence.** Defence and security spending in 2017–18 of 2.1% of GDP only marginally exceeded the 2% NATO threshold.
- **Changing perceptions of potential threats could lead to higher defence spending over the next few years, adding to the pressure on the public finances.** The UK's national security strategy is under review in response to increasing international tensions. The Defence Committee of the House of Commons believes the Armed Forces need to be larger and better equipped for the UK to maintain its leading position within NATO and has called for defence spending to rise by £20 billion a year, or an extra 1% of national income.
- **The UK needs to match its aspirations for a global military role to the amount it is willing to spend on defence.** UK defence spending of £36 billion in 2017–18 was higher as a fraction of national income than that of most G7 countries, though a smaller share than the US. And, in cash terms, it was less than 8% of the £470 billion spent by the US in 2017 and around a fifth of the amount spent by China.
- **There is a significant potential for cost overruns in the procurement budget.** The National Audit Office has identified risks that could lead to additional costs of between £5 billion and £21 billion in the 2017 to 2027 Equipment Plan.
- **The 10-year Equipment Plan would cost an extra £4.6 billion at an exchange rate of \$1.25 to £1 instead of the \$1.55 to £1 rate originally forecast.** This could adversely affect defence capabilities if additional funding is not found. Denominating a proportion of parliamentary funding for defence in dollars would reduce the risk of having to make cuts to personnel or equipment if sterling weakens, or the incentive to spend currency gains if sterling strengthens.

## 7.1 Introduction

The UK spent £36 billion or 1.8% of national income on defence in 2017–18, or £43 billion (2.1% of national income) on defence and security once spending on security services, counter-terrorism and military pensions is included.

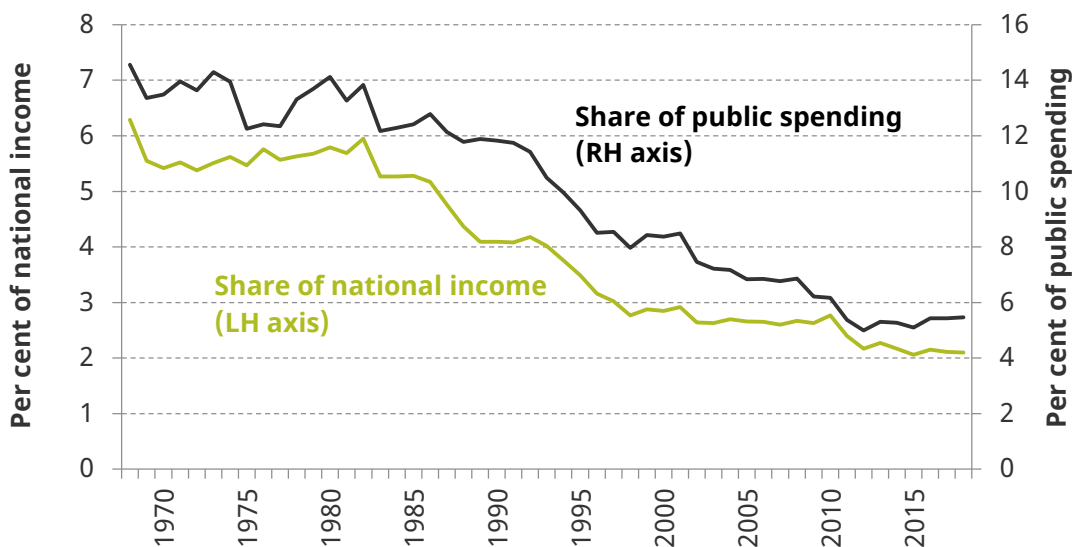
There are growing questions as to whether this level of spending is sufficient to provide for the defence of the UK. The Defence Committee of the House of Commons has argued that spending on defence and security may need to increase from 2% to 3% of national income, an additional £20 billion a year.

... if the UK wishes to maintain its leadership position in NATO and to continue such fruitful defence relations with the United States, then it will have to invest more in its Armed Forces. Analysis we commissioned has demonstrated that at current spending levels, the Ministry of Defence will not be able to maintain UK military capacity and capability. Diminished capacity reduces the UK’s usefulness to the US and our influence within NATO. The Government must not allow this to happen.<sup>1</sup>

In addition, Gavin Williamson, the Secretary of State for Defence, has reportedly lobbied for an additional £4 billion a year.<sup>2</sup> These questions reflect the UK’s changing strategic position amid greater international tensions, together with significant cost pressures on the defence budget that could mean cutting existing defence capabilities if not addressed.

Spending on defence and security has fallen significantly over the last 50 years, shrinking from 6.3% of national income or 15% of total managed expenditure in 1968 to 2.1% of

**Figure 7.1. UK defence and security spending over time**



Source: NATO; Office for Budget Responsibility.

<sup>1</sup> Defence Select Committee, *Indispensable Allies: US, NATO and UK Defence Relations*, Eighth Report of Session 2017–19, HC 387, 2018.

<sup>2</sup> ‘Billions more needed for defence, says Gavin Williamson’, *The Times*, 27 June 2018.

national income or just over 5% of overall public spending this year. Most of this decrease reflects a post-Cold-War peace dividend over the last 30 years, as illustrated in Figure 7.1.

The savings from reduced defence expenditure have effectively been used to fund increases in spending on social security and health, which has more than doubled as a share of public spending from 25% in 1967–68 to 54% in 2017–18.

Defence spending by both western European countries and central and eastern European nations that were formerly part of the Warsaw Pact has also decreased significantly. Even in the US, which continues to spend the most on defence in both absolute and proportional terms, defence spending has fallen by 45% since 1988 – from 5.7% to 3.1% of national income – a similar fall in share of national income to the UK, but a smaller proportion of the total.

This peace dividend has enabled countries to devote resources to other areas, such as the welfare state. Globally, defence spending has fallen from 5.9% of national income in 1968 to 2.2% in 2017.<sup>3</sup>

In recent years, however, there has been concern from within the NATO alliance that defence spending has fallen too far. The US has also indicated, under both the current and previous administrations, that its European allies should spend more on defence and be less reliant on the US's protective umbrella.<sup>4</sup> This culminated in a decision at the 2014 NATO summit to adopt a new approach, asking members to spend a minimum of 2% of their GDP on defence and security, with the aim of reaching this threshold by 2024.<sup>5</sup>

In 2017, just five NATO members (the US, the UK, Poland, Greece and Estonia) met the 2% commitment, although eight are expected to meet it in 2018. However, the UK's spending on defence and security – at 2.1% of national income – is only just above the threshold. This means that there is little scope to cut defence spending further without breaching this commitment.

Figure 7.2 illustrates that NATO members would have spent £83 billion more on defence and security in 2017 if all members had met the 2% threshold (and countries already exceeding it continued to spend at the same level). Spending by EU member states within NATO other than the UK would constitute £70 billion of this increase, an increase of 50% over their existing spending.

US President Donald Trump has called for NATO members to go further and spend 4% of GDP on defence.<sup>6</sup> Although other NATO members have not agreed with this proposal, if implemented it would result in additional spending by the US of £62 billion and by other NATO members of £288 billion, of which £38 billion would need to be spent by the UK.

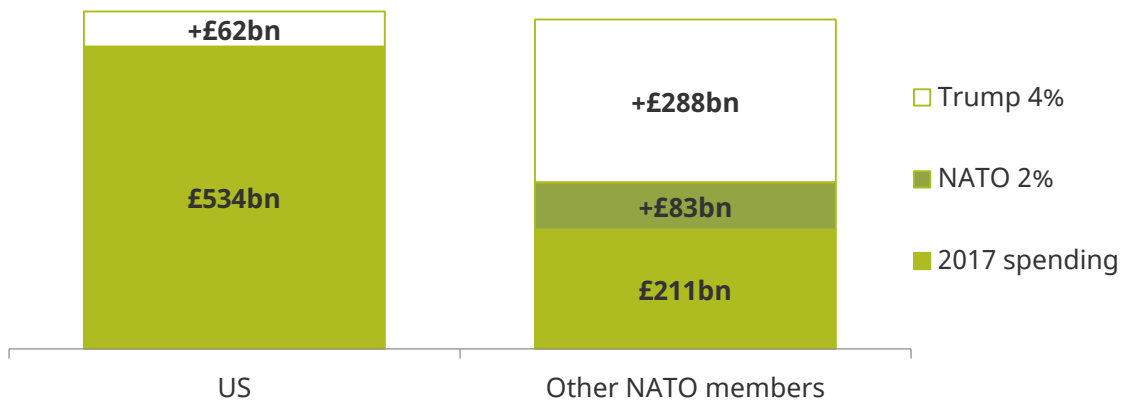
<sup>3</sup> World Bank / Stockholm International Peace Research Institute, 'Military expenditure 1961 to 2017'.

<sup>4</sup> Speech by President Obama, 'NATO needs to boost presence in eastern Europe', 26 March 2014.

<sup>5</sup> NATO, *Wales Summit Declaration*, 5 September 2014.

<sup>6</sup> White House, 'Remarks by President Trump at press conference after NATO Summit', 12 July 2018.

**Figure 7.2. Meeting the NATO 2% commitment / Trump’s 4% proposal**

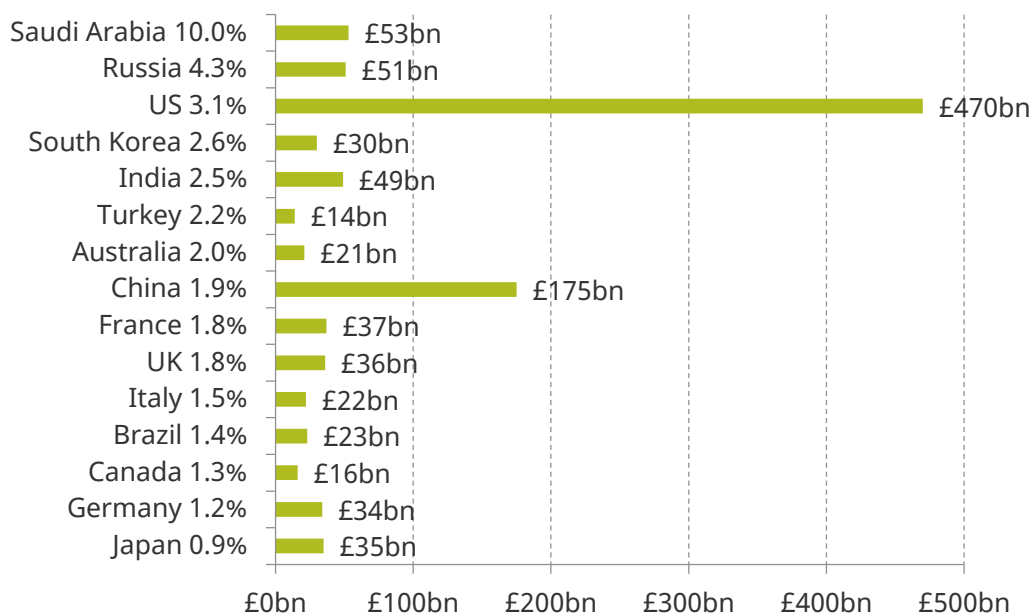


Note: ‘NATO 2%’ refers to the NATO target to spend 2% of national income on defence and security. ‘Trump 4%’ refers to US President Donald Trump’s call for NATO members to spend 4% of GDP on defence.

Source: NATO Annual Report 2017; ICAEW calculations.

The NATO 2% commitment, if met, would change the balance of defence and security spending within Europe. As it stands, the UK is the second-biggest spender in Europe on defence and security within the NATO alliance, and accounts for 24% of the £179 billion total for EU members of NATO in 2017. Had the 2% commitment been met across the board, the UK’s spending would have been 17% of the £243 billion spent by the 22 EU countries that are members of NATO. This could result in a re-ordering of the importance of the UK within NATO, with Germany in particular taking a more prominent role due to its larger economy.

**Figure 7.3. Defence spending by country in 2017**



Note: The % figures are percentages of GDP.

Source: National governments or Stockholm International Peace Research Institute.

Globally, the UK is currently the seventh-biggest spender on defence, after the US, China, Saudi Arabia, Russia, India and France and just ahead of Japan and Germany. Figure 7.3 highlights defence spending by country as a share of national income and in sterling terms.

This chapter considers how the evolving defence and security position may affect defence resources and spending, and the pressure that this could put on the public finances.

Section 7.2 provides an overview of the UK's defence arrangements and the international strategic situation. It also considers the ongoing update to the 2015 National Security Strategy and Strategic Defence & Security Review (the 2015 SDSR) and what that might mean for defence spending and for the public finances.

Section 7.3 looks in more detail at the finances of the Ministry of Defence (MoD) and the resources available to defend the UK, including military and civilian personnel, military bases, ships, tanks and aircraft, and military equipment and systems. This is followed by Section 7.4, which looks at financial management within the MoD, including the management of multi-year complex programmes to procure new equipment and currency and other risks of multi-year capital programmes.

Section 7.5 concludes.

## 7.2 The defence of the realm

One of the first duties of any government is to provide for the defence and security of its citizens, its territories and its interests. In the UK, this is primarily provided by the British Armed Forces, the UK's security services and by counter-terrorism police, as described in Box 7.1.

### Box 7.1. National security responsibilities in the UK

Responsibility for defence and security in the UK sits with the **National Security Council**, a Cabinet committee comprising the Prime Minister; the Minister for the Cabinet Office; the Foreign, Home, Defence, Business and International Development Secretaries of State; and the Attorney General. The National Security Council is supported by the Defence Council and the Joint Intelligence Committee.

The Queen is the Commander-in-Chief of the British Armed Forces, which comprise the Royal Navy (founded in 1546), the British Army (1660) and the Royal Air Force (1918). In practice, her role is exercised by the **Defence Council**, which is legally entrusted with the defence of the UK and its overseas territories. It consists of the Secretary of State for Defence, four other government ministers, two senior civil servants and the Defence Staff.

The **Defence Staff** comprises six of the eight most senior military officers in the UK: the Chief and Vice Chief of the Defence Staff, the heads of the Royal Navy, the British Army and the Royal Air Force, and the commander of Joint Forces.

The **Joint Intelligence Committee** is a Cabinet Office committee tasked with coordinating the actions of the UK's intelligence agencies. These include the Secret Intelligence Service (SIS or MI6) and the Government Communications Headquarters (GCHQ) within the Foreign and Commonwealth Office; the Security Service (MI5) within the Home Office; Defence Intelligence within the Ministry of Defence; and the Joint Intelligence Organisation (JIO) within the Cabinet Office.

Security resources also include the National Crime Agency and the Office for Security and Counter-Terrorism, together with the Counter Terrorism Command of the Metropolitan Police Service, and anti-terrorist and special branch (domestic security) units of other police forces around the UK.

The government has identified three principal national security objectives: to protect the UK, its citizens and its way of life; to project influence globally; and to use defence, security and diplomatic resources to promote UK prosperity.<sup>7</sup>

### The Strategic Defence and Security Review

The UK conducts frequent reviews of its defence and security capabilities, with the most recent major review being the 2015 National Security Strategy and Strategic Defence & Security Review (the 2015 SDSR). The key elements are summarised in Box 7.2.

According to the 2015 SDSR, the Armed Forces' primary missions are to defend the UK and overseas territories, to conduct military operations and to maintain the nuclear deterrent. They must deliver strategic intelligence, conduct rescue and peacekeeping operations, work with allies, reinforce international security and provide humanitarian assistance and disaster relief. The Armed Forces need to be ready for and capable of conducting major combat operations, including under NATO's Article 5 mutual defence clause. This is based around a 'Whole Force' approach, which seeks to combine regular forces with reserves, contractors and allies in order to deliver improved capability at a lower cost.<sup>8</sup>

The 2015 SDSR continued a path of reductions in the size of the Armed Forces, subject to a specific floor in the size of the Army of 82,000 regular forces (including trainees). There was a commitment to increase defence spending in real terms, but with spending on the security services expected to increase this could mean the defence element of defence and security spending falling below 1.8% of national income without breaching the NATO 2% commitment.

Although the 2015 SDSR was completed less than three years ago, the government has commissioned several updates to address developments in the international defence and security environment. The National Security Capability Review reported in early 2018. It concluded that the UK has entered a period of sharply increased complexity and risk and that strategic challenges identified in the 2015 National Security Strategy have intensified and combined at a greater pace than was foreseen.

<sup>7</sup> HM Government, *National Security Strategy and Strategic Defence and Security Review*, Cm 9161, 2015.

<sup>8</sup> J. Louth and T. Taylor, *Beyond the Whole Force: The Concept of the Defence Extended Enterprise and its Implications for the Ministry of Defence*, Royal United Services Institute, 2015, <https://rusi.org/publication/occasional-papers/beyond-whole-force-concept-defence-extended-enterprise-and-its>.

This has been followed by a further review, the Modernising Defence Programme (MDP), which is expected to feed into the 2019 Spending Review.

In the context of a global security situation characterised by sharply increased complexity and risk, the MDP has two headline goals: to strengthen our world-leading Armed Forces against the harder threats that we and our allies now face; and to put UK Defence on an enduringly affordable footing, so that our contribution to national security and prosperity is sustainable over the long term.<sup>9</sup>

### **Box 7.2. 2015 SDSR national security objectives and commitments (abridged)**

The 2015 Strategic Defence and Security Review delivered an assessment of the key threats facing the UK and outlined a 10-year defence strategy to meet these challenges. It identified 89 recommendations, including the following:

#### **Protect our people at home, in our overseas territories and abroad, and protect our territory, economic security, infrastructure and way of life.**

- Meet NATO 2% pledge. Increase defence budget each year in real terms. A Joint Security Fund growing to £1.5 billion by 2020. Protect counter-terrorism budget.
- Renew the UK's nuclear deterrent. Invest in globally deployable Armed Forces. Work with allies to respond to the re-emergence of state-based threats.
- Invest in security and intelligence agencies and cyber-warfare. Tackle terrorism, radicalisation and extremism, and organised crime.
- Increase resilience to threats and hazards. Improve crisis management.

#### **Project our influence globally, reducing the likelihood of threats materialising and affecting the UK, our interests, and those of our allies and partners.**

- Spend 0.7% of GNI on development, 50% in fragile states and regions.
- Expand soft power – diplomats, development funds, BBC and British Council.
- Strengthen alliances and build stability overseas. Reinforce the rules-based international order. Help others develop resilience to respond to conflict and crises.

#### **Promote prosperity by working innovatively and supporting UK industry.**

- Champion an open and rules-based international trading environment.
- Exploit economic opportunities from defence, security, diplomacy and development.
- Grow defence, resilience and security industries. Invest in skills and innovation.

<sup>9</sup> Ministry of Defence, *Modernising Defence Programme*, 2018, <https://www.gov.uk/government/consultations/modernising-defence-programme-public-consultation>.

This established four workstreams: (i) a refreshed and clearer operating model for the MoD; (ii) improving efficiency and cost-effectiveness; (iii) improving the MoD's commercial capability and supplier management; and (iv) analysing the global security context and its implications for defence policy and capabilities.

The government has indicated in each of these updates that it needs to strengthen and modernise the Armed Forces further. This might imply an increase in funding to deliver better military capability. But the government has yet to announce how much it plans to allocate, and clearly will have to balance these demands against other priorities.

### The international context

Globally, the UK is considered to be a medium-tier military power: on a par with France, India and Japan, and below regional powers Russia and China and the global military power, the US.<sup>10</sup>

The military forces of these countries are summarised in Table 7.1.

Numbers do not provide a full picture of comparative military strength. The more powerful equipment and weapons available to the US, Japan, France and the UK in particular, combined with better training and intelligence, make them more effective than militaries with larger numbers of armed personnel and less advanced ships, submarines, tanks, aircraft and helicopters.

The UK is part of the 'Western alliance', a network of international treaties and relationships that link a number of countries to the US. This involves multilateral treaties such as NATO and the Rio Pact (which covers many of the countries in North and South America), together with bilateral agreements between the US and a number of other nations. Several of these include mutual defence commitments.

**Table 7.1. Military forces of major powers**

|                         | US    | China | Russia | India | Japan | France | UK  |
|-------------------------|-------|-------|--------|-------|-------|--------|-----|
| Regular forces ('000)   | 1,350 | 2,180 | 1,010  | 1,400 | 250   | 200    | 150 |
| Aircraft carriers       | 11    | 1     | 1      | 2     | 0     | 1      | 1   |
| Warships                | 177   | 125   | 105    | 51    | 43    | 26     | 21  |
| Submarines <sup>a</sup> | 70    | 14    | 39     | 2     | 2     | 10     | 10  |
| Tanks                   | 8,850 | 9,151 | 15,398 | 6,464 | 688   | 200    | 227 |
| Aircraft                | 3,680 | 3,720 | 3,547  | 2,086 | 777   | 395    | 284 |
| Helicopters             | 1,830 | 579   | 1,438  | 809   | 207   | 293    | 295 |

<sup>a</sup> Nuclear-powered nuclear-armed ballistic missile submarines and nuclear-powered fleet submarines.

Source: Stockholm International Peace Research Institute; national governments.

<sup>10</sup> M. Chalmers, 'Tier one or bust?', Royal United Services Institute, 2018, [https://rusi.org/commentary/Tier\\_One\\_or\\_Bust](https://rusi.org/commentary/Tier_One_or_Bust).



The most comprehensive of the UK's alliances is NATO, a mutual defence alliance of 29 countries that commits members to come to the aid of any member that is attacked. NATO's military roles are to provide an integrated command structure and operational planning and to conduct support for military operations; to improve the capabilities of members' militaries; and to enable joint working – for example, through the interoperability of equipment. NATO had a direct budget of £1.3 billion in 2017, of which the UK contributed £0.2 billion. A senior UK officer is Deputy Supreme Allied Commander Europe, while the current Chair of the NATO Military Council is also a British officer.

NATO countries have 3.2 million active military personnel, of which the US and Canada have 1.4 million, European members 1.4 million and Turkey 0.4 million.

The UK is also a member of the EU's Common Security and Defence Policy, as well as having a number of bilateral agreements and close working relationships with other countries and their militaries. EU security cooperation dates back to 1975, when the TREVI anti-terrorism network was established, which in turn led to the creation of its police agency Europol and judicial instruments such as the European Arrest Warrant. This has since expanded to include defence as part of a Common Security and Defence Policy that continues to evolve. There is a substantial overlap between the EU and NATO, with 22 European countries, including the UK, belonging to both.

The EU does not have any military forces of its own beyond a small planning staff; instead, it draws on national or multinational forces as needed. Under the 2002 Berlin Plus agreement, the EU can use NATO facilities and command structures to conduct military operations. Multinational forces include Eurocorps, with its 5,000 strong Franco-German Brigade, and the European Maritime and European Rapid Operational Forces (composed of forces from France, Italy, Portugal and Spain). These forces also form part of the NATO command structure.

In addition to its defence alliances, the UK is a member of an intelligence-sharing treaty with the US, Canada, Australia and New Zealand known as the Five Eyes alliance. This started with the routine sharing of signals intelligence (intercepted communications) but has expanded to include wider intelligence sharing and security cooperation. Five Eyes members also exchange intelligence with European and other allies through a mixture of formal and informal mechanisms.

The international geopolitical landscape also includes major security alliances between other countries. The Collective Security Treaty Organisation (CSTO) is a mutual defence alliance comprising Russia, Armenia, Belarus, Kazakhstan, Kyrgyzstan and Tajikistan, with Afghanistan and Serbia as observers. Combined defence spending by the CSTO countries amounted to £61 billion in 2017, with total active military personnel of 1.2 million.

The Shanghai Cooperation Organisation is an alliance of eight countries in mainland Asia. It was established by China in 2001 and its members include Russia and four other members of the CSTO, India and Pakistan. Iran is an observer, while Turkey (a NATO member) is a 'dialogue partner'. The Shanghai Pact is not a mutual defence alliance, but its member nations conduct joint military exercises, as well as cooperating in other ways on defence and security matters.

Defence spending by China, India and Pakistan in 2017 respectively amounted to £175 billion, £49 billion and £7 billion, with total active military personnel of 2.2 million, 1.4 million and 0.7 million.

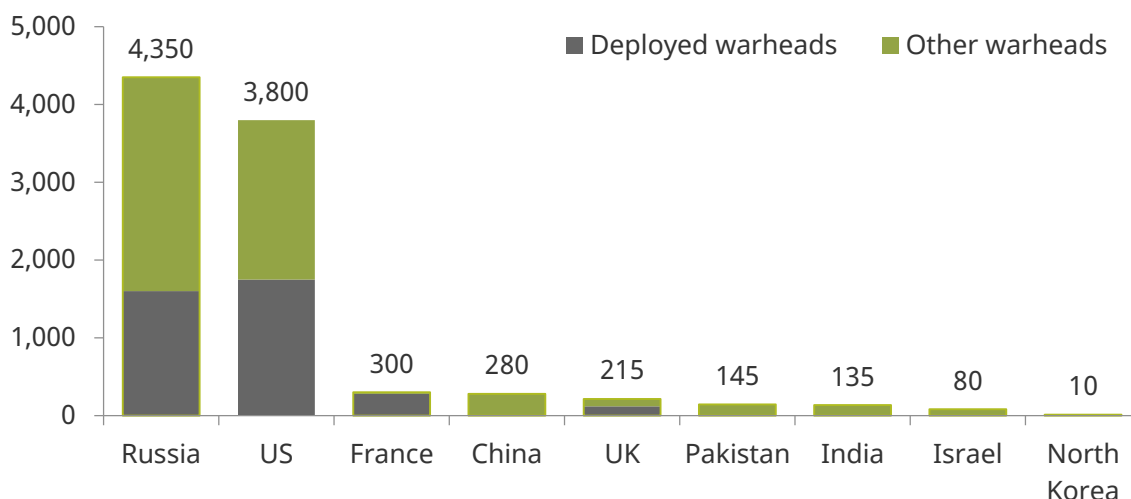
Defence alliances provide a key resource for many militaries, enabling them to utilise the military resources of other nations. This can range from the straightforward sharing of equipment through to joint operations with allies that multiply force strength, or the integrated command and control seen in a comprehensive military alliance.

Examples of the benefits of alliances in practice include the UK’s use of US heavy lift aircraft to transport troops and equipment to Iraq and Afghanistan, while the Royal Navy was able to train sailors and aircrew on US and French aircraft carriers while *HMS Queen Elizabeth* was under construction. Similarly, the UK supports other nations through the provision of training and technical expertise.

Military cooperation can reduce the amount of defence resources needed by an individual nation – for example, by sharing equipment, collaborating on the development of new military equipment, or enabling the stronger formations that joint forces or operations can provide. In mutual defence alliances, this sharing of resources can extend to the entire military. An armed attack on any one NATO nation should result in a response from all 29 members of NATO, including the use of armed force if necessary.

The corollary is that members of a defence alliance need to provide resources to that alliance, whether in the form of personnel, making equipment available or pooling forces and equipment with other nations – either temporarily as part of joint operations or more permanently as part of joint forces. There may be costs incurred in ensuring that equipment, weapons and ammunition are inter-operable – for example, in ensuring command and control systems can work together or in installing compatible equipment.

**Figure 7.4. Nuclear warheads by country**



Note: Excludes 2,500 Russian and 2,650 US retired warheads awaiting dismantlement.

Source: Stockholm International Peace Research Institute.

## Nuclear weapons

There are an estimated 9,315 nuclear warheads in the possession of the nine countries reported to have nuclear capabilities, not including retired warheads scheduled for dismantlement (see Figure 7.4). In practice, the number available for immediate use is much lower – the US has 1,750 nuclear weapons deployed on missiles or with operational forces, compared with Russia’s estimated 1,600 and the 280 and 120 deployed by France and the UK respectively. It is unclear how many other nuclear weapons are actively deployed, in particular those of China.

## Capabilities

Military effectiveness is determined not only by the number of personnel and the equipment available to military forces, but also by their capabilities in terms of logistical expertise, training, strategic and tactical abilities, and so on.

The combination of modern equipment and capabilities means that the British Armed Forces are more powerful than other, much larger forces. For example, the UK’s 147,000 regular forces are considered to be significantly stronger than those of South Sudan, which has 185,000 people in uniform.<sup>11</sup> This also helps explain why many defence resources are dedicated to support activities. A soldier with a gun is much less effective than a well-trained soldier with a gun, the ability to communicate and coordinate with fellow soldiers and to call on artillery and air support, with access to surveillance and reconnaissance, equipped with detailed intelligence, and with clear objectives and a comprehensive plan to achieve them. As a consequence, the cost of additional front-line combat troops will be many times higher than their individual salaries once the cost of additional support personnel, equipment and other support requirements are factored in.

Not reflected in the balance sheet is the right of the Armed Forces to pay for or (*in extremis*) commandeer privately owned resources, such as the merchant shipping fleet or commercial aircraft or helicopters. Although the official merchant fleet has reduced in recent years, with passenger and cargo ships increasingly sailing under the flags of other nations, many of these are still owned by companies based in the UK or allied nations.

Capabilities also include the ability to utilise diplomatic, economic and other non-military or ‘soft power’ means to deliver objectives – for example, in persuading a potential adversary not to use force in the first place.

Economic sanctions are an important tool available to the world’s largest economies, in particular the US, the EU, China and Japan. They can range from targeted sanctions aimed at specific individuals, through bans on arms sales or providing finance, to wider ranges of sanctions that seek to affect an entire country’s economy. For example, international sanctions on North Korea prevent it from taking part in most aspects of international trade. Conversely, the potential use of military force is an important element in supporting the diplomatic objectives of a civilian government – for example, in supporting peacekeeping operations to reduce tensions, in demonstrating support for allied nations, or through the threat of force.

<sup>11</sup> Global Firepower, *2018 Military Strength Ranking* – UK ranked 6 and South Sudan ranked 99.

### 7.3 UK defence finances

Table 7.2 reconciles the £36 billion spent on defence with the £43 billion spent on defence and security in 2017–18, once funding for the security services, counter-terrorism and pensions is added to spending on military capabilities.

The Ministry of Defence recorded net expenditure of £43.5 billion in 2017–18 in its financial statements, as summarised in Table 7.3. This included non-cash charges other than depreciation of £9.2 billion and war pensions of £0.7 billion in addition to the £33.6 billion of current spending reported in the fiscal numbers (Table 7.2). The vast majority of the non-cash charges – £8.3 billion – related to historic nuclear decommissioning provisions.

**Table 7.2. Defence and security spending, 2017–18**

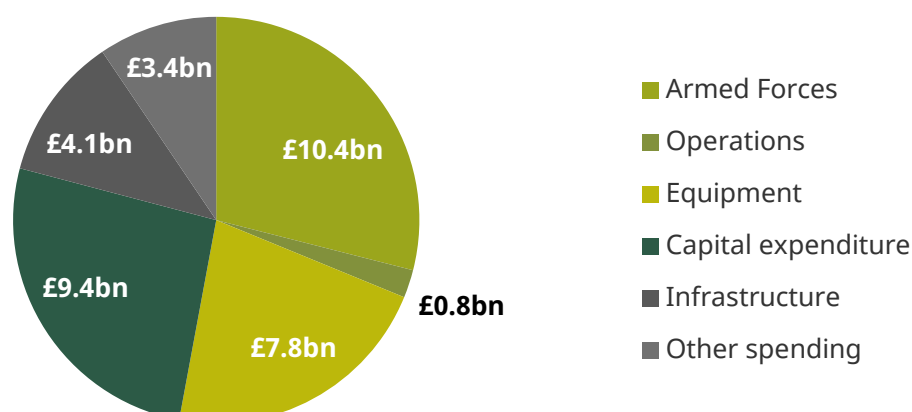
|                             | Current spending (£bn) | Net investment (£bn) | Managed expenditure (£bn) | Share of GDP (%) |
|-----------------------------|------------------------|----------------------|---------------------------|------------------|
| Defence                     | 33.6                   | 2.3                  | 35.9                      | 1.8%             |
| Security services           | 2.4                    | 0.2                  | 2.6                       | 0.3%             |
| Counter-terrorism           | 0.8                    | 0.1                  | 0.9                       |                  |
| Military pensions           | 1.6                    | -                    | 1.6                       |                  |
| War pensions                | 0.7                    | -                    | 0.7                       |                  |
| Other                       | 1.3                    | -                    | 1.3                       |                  |
| <b>Defence and security</b> | <b>40.4</b>            | <b>2.6</b>           | <b>43.0</b>               | <b>2.1%</b>      |

Source: Ministry of Defence; Cabinet Office; NATO.

**Table 7.3. Ministry of Defence financial statements 2017–18, £ billion**

| Balance sheet                  |              | Revenue and expenditure             |               |
|--------------------------------|--------------|-------------------------------------|---------------|
| Assets                         | 143.7        | Revenue                             | 1.4           |
| Liabilities                    | (37.3)       | Expenditure                         | (44.9)        |
| <b>Net assets</b>              | <b>106.4</b> | <b>Net expenditure for the year</b> | <b>(43.5)</b> |
| Cash flows                     |              | Change in financial position        |               |
| Operating cash outflows        | (27.8)       | Net expenditure for the year        | (43.5)        |
| Investing cash outflows        | (8.2)        | Asset revaluations                  | 3.0           |
| Financing cash outflows        | (0.1)        | Other movements                     | (0.5)         |
| Inflow from Consolidated Fund  | 36.4         | Parliamentary funding               | 36.4          |
| <b>Change in cash balances</b> | <b>0.3</b>   | <b>Change in financial position</b> | <b>(4.6)</b>  |

Source: Ministry of Defence, *Annual Report and Accounts 2017–18*. This report, and those for earlier years, are available from <https://www.gov.uk/government/collections/mod-annual-reports>.

**Figure 7.5. Defence spending of £35.9 billion in 2017–18**

Note: £35.9 billion = current spending £33.6 billion + capital expenditure £9.4 billion – depreciation £7.1 billion.

Source: Ministry of Defence, *Annual Report and Accounts 2017–18* (adjusted to exclude war pensions).

Ministry of Defence assets of £143.7 billion at 31 March 2018 comprised fixed assets of £134.4 billion and £9.4 billion of working capital assets and cash.

Capital expenditure during 2017–18 was £9.4 billion, of which £8.3 billion was paid in cash. This was partially offset by £0.1 billion from asset disposals to give an investing cash outflow of £8.2 billion. Fixed assets were revised up in value by £3.0 billion in accordance with the government’s accounting policy to record land at current value and other fixed assets at their depreciated replacement cost (see Chapter 6).

Defence spending of £35.9 billion (excluding non-cash expenditure and war pensions and including capital expenditure) can be analysed as shown in Figure 7.5.

Just under 30% (£10.4 billion) went on Armed Forces military and civilian personnel, while over half (£21.3 billion) was used to fund equipment support, the procurement of new equipment and infrastructure.

Like other departments, the Ministry of Defence is currently under significant financial pressure. The Army has returned to operations in Afghanistan and sent troops to NATO units in eastern Europe. The Royal Navy has launched one aircraft carrier, with a second under construction, and is conducting freedom of navigation operations in the South China Sea. Royal Marines are to be integrated with Norwegian forces in the Arctic and the RAF has squadrons operating in the Middle East. The MoD is also investing in cyber-warfare capabilities and developing responses to increases in perceived threat levels, in particular from Russia. These demands have been exacerbated by higher procurement costs as a consequence of a greater than 15% fall in the value of sterling from the \$1.55 to £1 rate used in the 2017 to 2027 Equipment Plan.

The ability to attract new talent is also an issue, with upward pressure on pay given the need to compete with civilian employers for technical specialists, especially those with transferable skills. The National Audit Office reported that there were 102 trades with

shortfalls in skilled personnel and a 24% shortfall in the number of regulars recruited in 2016–17 compared with annual targets.<sup>12</sup>

## Personnel

Personnel costs in 2017–18 amounted to £12.4 billion, of which £10.4 billion was on the Armed Forces and £2.0 billion was on civilian support functions. £9.8 billion was paid to an average of 159,000 military personnel and £2.6 billion to 59,000 civilian staff.<sup>13</sup>

At 1 April 2018, there were just under 239,000 personnel employed by the Ministry of Defence, as summarised in Table 7.4. Around 60% are regular forces on active duty, with a further 15% employed in a reserve capacity. The remainder of the MoD's employees provide civilian support, either working directly with one of the Armed Forces or working for one of the MoD's agencies or support organisations.

Of the total regular forces of 146,560, 6,850 are stationed elsewhere in Europe, 1,190 are based in North America, 830 in the Middle East and 1,110 are permanently stationed in other parts of the world.<sup>14</sup>

Only a small proportion of military personnel are likely to be directly involved in combat. For example, there are fewer than 2,000 pilots in the Royal Air Force, with the other 31,000 personnel there to provide that small group of people with the necessary support and protection in order to use force effectively. Similarly, less than a quarter of army personnel and less than a third of naval personnel are in direct combat roles.

**Table 7.4. Military and civilian personnel at 1 April 2018**

|                                  | <b>Regular forces</b> | <b>Reserve forces</b> | <b>Civilian staff</b> | <b>Total</b>   |
|----------------------------------|-----------------------|-----------------------|-----------------------|----------------|
| Royal Navy and Royal Marines     | 29,300                | 2,760                 | -                     | 32,060         |
| British Army                     | 77,120                | 26,960                | -                     | 104,080        |
| Royal Air Force                  | 30,350                | 2,510                 | -                     | 32,860         |
| <b>Total Armed Forces</b>        | <b>136,770</b>        | <b>32,220</b>         | <b>-</b>              | <b>169,000</b> |
| Trainees                         | 9,790                 | -                     | -                     | 9,790          |
| Gurkhas                          | -                     | 3,150                 | -                     | 3,150          |
| Civilian personnel               | -                     | -                     | 56,870                | 56,870         |
| <b>Total Ministry of Defence</b> | <b>146,560</b>        | <b>35,370</b>         | <b>56,870</b>         | <b>238,810</b> |

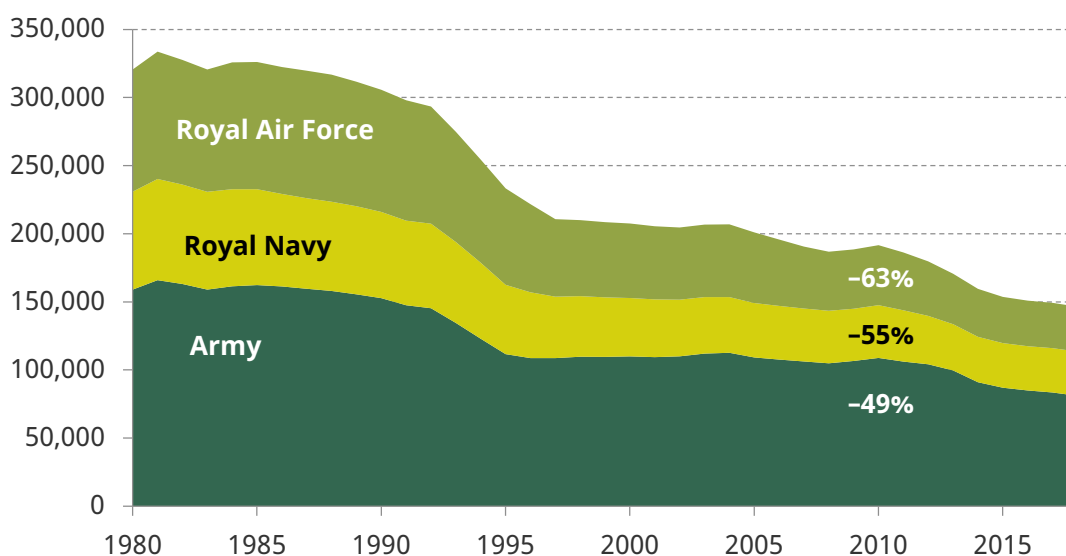
Note: Armed Forces Reserves include 5,010 on full-time service.

Source: Ministry of Defence, *Annual Report & Accounts 2017–18*; N. Dempsey, 'UK defence personnel statistics', House of Commons Library Briefing Paper CBP7930, 2018.

<sup>12</sup> National Audit Office, *Ensuring Sufficient Skilled Military Personnel*, HC 947, Session 2017–19, 2018.

<sup>13</sup> On a full-time-equivalent basis.

<sup>14</sup> This excludes forces that are deployed overseas on operations or for exercises.

**Figure 7.6. Military personnel, 1980 to 2018**

Source: N. Dempsey, 'UK defence personnel statistics', House of Commons Library Briefing Paper CBP7930, 2018.

As Figure 7.6 illustrates, military personnel numbers have fallen significantly since 1980, with regular forces (including cadets and trainees) declining by more than half from 320,700 in 1980 to 146,560 in 2018. Army numbers have fallen by 49%, while Royal Navy and Royal Air Force personnel have fallen by 55% and 63% respectively.

These falling numbers have been the result of successive defence reviews that have in turn concluded that smaller numbers of military personnel are necessary. Although technology and military efficiency have contributed to some of the fall of each Armed Force, most of the decline has been as a consequence of scaling back operational capacity, with fewer vessels, fewer brigades, fewer tanks and fewer aircraft. Originally, these reductions were presented as a 'peace dividend' following the end of the Cold War and the Good Friday Agreement in Northern Ireland, but more recent reductions have been as a consequence of budgetary pressures.

The reduction in Armed Forces personnel has had a disproportionate effect on the number of people in direct combat roles – although overall numbers have more than halved, it is estimated that there has been a disproportionately greater reduction in the number of deployable combat units. For example, the Royal Navy has reduced its combat vessels by 70% from 106 in 1981 to 32 today.<sup>15</sup> In a shorter period, the Royal Air Force fast jet fleet fell by three-quarters, from almost 750 aircraft in 1989 to 178 today.<sup>16</sup>

At the same time, in recent years, the Ministry of Defence has struggled to meet its targets for planned strength in the Armed Forces. Active duty forces of 136,770 are approximately 8,800 (6.0%) below the planned strength for 2018 and around 7,500 below the 2020 target of 144,260. With around 15,000 service personnel leaving active duty each year, this means that, to meet its target, the Armed Forces would need to recruit an average of 19,000 a year over the next two years, compared with 12,000 recruited in 2017–18. The Reserves

<sup>15</sup> J. Moore, *Jane's Fighting Ships 1981–82*, Jane's Publishing Company Ltd, 1981.

<sup>16</sup> 'World's air forces 1989', *Flight International*, 60–61, 29 November 1989.

face similar pressures: they are under strength based on assessed needs by 4,000 or so today, and by just under 3,000 compared with the 2020 target of 35,060.

The Ministry of Defence attributes the challenges experienced in recruitment to competition from the private sector and a reduction in the number of white men aged 16–24, the traditional demographic for Armed Forces recruits.

These challenges may lead to pressure to increase wages, in particular to attract the skilled graduates needed for an expanding range of technical roles, including engineering and weapons specialists, intelligence analysts, cyber-warfare technicians and drone pilots amongst others.

Despite the financial pressures, UK Armed Forces typically have a higher proportion of the general and flag officer ranks relative to the US and some other allies.

Table 7.5 analyses the UK regular forces by rank. The proportion of senior officers, at 3.2% of the total, is slightly higher than the US military, where 38,406 American senior officers comprise 2.9% of total US service personnel.<sup>17</sup> General and flag officers (the most senior ranks) comprise 0.3% of the total (30 for every 10,000 personnel), a much higher ratio than the US, where there are just 7 general or flag officers for every 10,000 personnel. Although the ideal ratio of general and flag officers to other ranks is likely to vary by country, there are some indications that the UK may have more very senior officers than is appropriate based on its current force structure.

For example, the Royal Navy has more than three-and-a-half times as many admirals and commodores as it has submarines and combat ships. This is particularly striking in comparison with the US Navy, where the equivalent ratio is close to 1:1.

The Ministry of Defence also has plans to reduce the number of civilian support workers that it employs. Under current plans, the number of civilian support personnel will fall by 16,000 (28%) over the next two years. This reduction is predicated on significant efficiency

**Table 7.5. UK regular forces by rank at 1 April 2018**

|                   | <b>General officers<br/>(OF 9–6)</b> | <b>Senior officers<br/>(OF 5–4)</b> | <b>Other officers<br/>(OF 3–1)</b> | <b>Senior enlisted<br/>(OR 9–6)</b> | <b>Other enlisted<br/>(OR 4–1)</b> | <b>Total regular forces</b> |
|-------------------|--------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|------------------------------------|-----------------------------|
| Royal Navy        | 121                                  | 1,281                               | 5,403                              | 8,034                               | 17,644                             | <b>32,483</b>               |
| British Army      | 207                                  | 2,207                               | 10,373                             | 18,379                              | 49,950                             | <b>81,116</b>               |
| Royal Air Force   | 112                                  | 1,262                               | 6,238                              | 8,072                               | 17,273                             | <b>32,957</b>               |
| <b>Total</b>      | <b>440</b>                           | <b>4,750</b>                        | <b>22,014</b>                      | <b>34,485</b>                       | <b>84,867</b>                      | <b>146,556</b>              |
| <b>% of total</b> | <b>0.3%</b>                          | <b>3.2%</b>                         | <b>15.0%</b>                       | <b>23.5%</b>                        | <b>57.9%</b>                       | <b>100.0%</b>               |

Note: General officers include 83 Commodores, 149 Brigadiers and 76 Air Commodores. Total officers by rank: 7 (OF 9), 29 (OF 8), 96 (OF 7), 308 (OF 6), 1,053 (OF 5), 3,697 (OF 4), 8,128 (OF 3), 9,196 (OF 2) and 4,690 (OF 1).

Source: Ministry of Defence, 'Quarterly service personnel statistics', 1 April 2018.

<sup>17</sup> US Department of Defense, 'Active duty military personnel by rank/grade', 31 March 2018.



savings being identified and realised on a tight timescale; otherwise, going ahead with the cuts will adversely affect the level of support provided.

If these savings are not possible, then there may be a need either for additional funding or for savings to be made in other areas. This might include further scaling back of the size of the Armed Forces or making cuts in defence procurement.

### Pension costs

Excluded from the Ministry of Defence financial statements was a £7.0 billion loss reported in the Armed Forces Pension Scheme accounts for 2017–18 together with associated liabilities of £198.3 billion. The loss reflected an increase of £9.9 billion in accrued pension entitlements less £2.9 billion received in departmental contributions for current military personnel.<sup>18</sup> These contributions were used to fund payments to pensioners of £4.5 billion, requiring additional public sector funding of £1.6 billion. The UK counts these payments towards its NATO 2% commitment even though they relate to former rather than current military personnel.

Pension payments of £4.5 billion are high compared with wages and salaries of £6.3 billion for current military employees. This reflects the much smaller size of the Armed Forces today compared with previous eras, as well as the more generous nature of the Armed Forces Pension Scheme compared with other public sector schemes.

### Equipment in service

Equipment in service at 31 March 2018 is summarised in Table 7.6.

Supporting this equipment cost £7.8 billion in 2017–18, including the £1.1 billion budget of Defence Equipment and Support, an arm's-length body with 12,000 staff within the MoD responsible for supporting equipment in addition to procuring most of the £9.4 billion incurred in capital expenditure.

Equipment includes both military equipment that is specific to defence purposes and general equipment such as transport vehicles and IT systems.<sup>19</sup> The former can be divided into mobile equipment and fixed equipment.

**Table 7.6. Equipment in service at 31 March 2018**

| Equipment                   | £ billion   |
|-----------------------------|-------------|
| Military equipment          | 49.5        |
| Transport equipment         | 14.9        |
| Other equipment and systems | 5.0         |
| <b>Equipment in service</b> | <b>69.4</b> |

Note: Equipment in service includes £3.3 billion under leases and PFI contracts.

Source: Ministry of Defence, *Annual Report and Accounts 2017–18*.

<sup>18</sup> This excludes £0.4 billion in employer pension contributions paid to pension schemes for civilian staff.

<sup>19</sup> In this chapter, we use the term 'military equipment' for single-use military equipment (SUME) and the term 'general equipment' for dual-use equipment that can be used for military or civilian purposes.

Mobile equipment ranges from British Army unmanned aerial vehicles (UAVs) used for reconnaissance and surveillance that each weigh 450kg, up to the 65,000 tonne *HMS Queen Elizabeth* aircraft carrier. Fixed equipment includes land-based radar, dedicated military fibre optic and microwave communications networks, and defensive weapons systems.

Military equipment also includes command and control systems, cyber-warfare tools and other intangibles – for example, software used to manage logistics and supply. Weapons range from handguns and rifles through to ballistic and nuclear missiles.

These are complemented by the Skynet military satellite communications network and dedicated surveillance satellites.

**Table 7.7. UK Armed Forces mobile equipment at 1 April 2018**

| <b>Royal Navy</b>                |   |  |
|----------------------------------|---|--|
| 10 nuclear submarines            | 4 nuclear-armed submarines  | 6 fleet submarines   |
| 22 combat ships                  | 1 aircraft carrier<br>6 destroyers  | 13 frigates<br>2 amphibious ships  |
| 52 support and auxiliary vessels | 13 minehunters<br>3 patrol ships<br>3 survey vessels<br>1 icebreaker<br>18 patrol boats | 3 fleet tankers<br>3 support ships<br>3 platform docks<br>4 sealift ships<br>1 training ship |
| 85 helicopters                   | 30 attack helicopters   | 55 transport helicopters   |
| 81 marine vessels                | 32 landing craft<br>38 raiding craft<br>4 fast assault craft                            | 3 mini-submarines<br>3 patrol vessels<br>1 fast insertion craft                              |
| <b>British Army</b>              |   |  |
| 2,187 combat vehicles            | 227 battle tanks  | 1,960 fighting vehicles  |
| 2,069 support vehicles           | 1,907 patrol vehicles   | 162 engineering vehicles   |
| 123 helicopters                  | 89 attack helicopters   | 34 patrol helicopters  |
| 236 aircraft                     | 15 patrol aircraft  | 221 short-range UAVs   |
| <b>Royal Air Force</b>           |   |  |
| 203 combat aircraft              | 137 Eurofighters<br>41 Tornados   | 15 F-35b Lightning IIs<br>10 long-range UAVs   |
| 126 support aircraft             | 6 early warning<br>3 signals intelligence<br>9 reconnaissance                           | 19 tankers<br>39 transports<br>50 reconnaissance UAVs  |
| 87 helicopters                   | 27 utility helicopters  | 60 transport helicopters   |

Note: Excludes 115 jets, 37 helicopters, 168 propeller aircraft and 75 gliders used for training.

Source: Ministry of Defence, 'UK Armed Forces equipment and formations 2018', 2018.

The principal items of mobile equipment in use by the UK Armed Forces are summarised in Table 7.7.

### Assets under construction and capital expenditure

Assets under construction represents the cumulative capital expenditure incurred on assets that are not yet in service, which at 31 March 2018 amounted to £33.1 billion, as summarised in Table 7.8. This includes a substantial proportion of the capital expenditure incurred during 2017–18 of £9.4 billion given the multi-year nature of most defence procurement.

Mobile equipment includes £7 billion for the aircraft carriers *HMS Queen Elizabeth* and *HMS Prince of Wales*. *HMS Queen Elizabeth* is undergoing sea trials and is expected to be fully operational in 2020, at which point it should have 24 F-35b fighters jointly operated by the RAF and the Royal Navy. *HMS Prince of Wales* is expected to be fully operational in 2022.

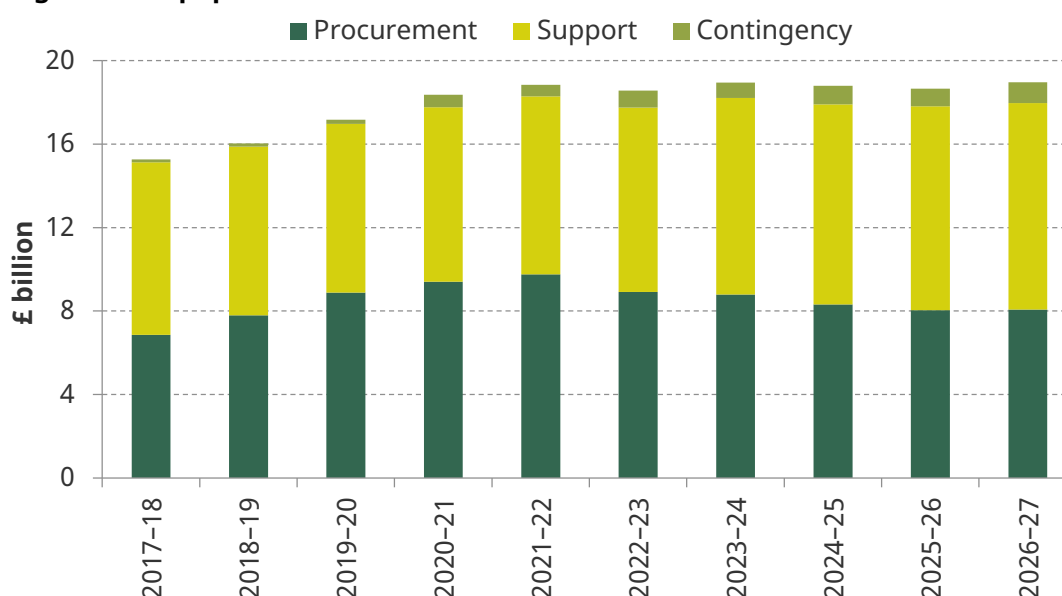
Capital expenditure in 2017–18 included £6.6 billion to construct or purchase military equipment and £2.8 billion for general equipment and other assets, including transport equipment, operating facilities and housing. The former included £1.2 billion for the

**Table 7.8. Assets under construction at 31 March 2018**

| Assets under construction                               | £ billion   |
|---|-------------|
| Military equipment                                      | 26.5        |
| Transport and other general equipment, and other assets | 6.6         |
| <b>Assets under construction</b>                        | <b>33.1</b> |

Source: Ministry of Defence.

**Figure 7.7. Equipment Plan**



Source: Ministry of Defence, 2017 to 2027 Equipment Plan.

**Table 7.9. Major procurement and support programmes, over 10 years**

| Programme                      | Significant purchases and associated support requirements   |   |
|--------------------------------|---|---|
| Submarines<br>£44 billion      | 4 nuclear-armed submarines<br>(to enter service from 2028)  | 7 fleet submarines  |
| Ships<br>£20 billion           | 2 aircraft carriers <sup>a</sup><br>8 combat frigates <sup>b</sup><br>5 general-purpose frigates <sup>c</sup> | 5 patrol vessels<br>1 tanker<br>Refit 6 existing destroyers |
| Land equipment<br>£20 billion  | Extend life of tanks to 2035 <sup>d</sup><br>Extend fighting vehicle lives                                    | New fighting vehicles<br>New patrol vehicles                |
| Combat aircraft<br>£18 billion | Additional Eurofighters<br>33 F-35b Lightning IIs <sup>e</sup>  | 90 F-35c Lightning IIs                                      |
| Support aircraft<br>£23bn      | 9 patrol aircraft<br>5 tactical support aircraft  | 7 transports <sup>f</sup><br>Upgrade early warning aircraft |
| Helicopters<br>£10 billion     | 50 Apache attack helicopters<br>Upgrade existing helicopters  | Develop rotary wing UAVs                                    |
| Other<br>£36 billion           | Skynet update<br>Cyber-warfare systems  | Weapons<br>IT and other                                     |

<sup>a</sup> HMS Queen Elizabeth launched in 2017–18.

<sup>b</sup> Type 26 frigates.

<sup>c</sup> Type 31e frigates.

<sup>d</sup> Challenger 2 tanks.

<sup>e</sup> Carrier capable.

<sup>f</sup> A400 transports.

Source: Ministry of Defence, *Equipment Plan 2017*.

development of the Dreadnought submarine programme being designed to replace the existing nuclear-weapon-equipped submarine fleet and £1.8 billion on the two aircraft carriers.

As illustrated by Figure 7.7, the Ministry of Defence's 2017 to 2027 Equipment Plan sets out a £180 billion budget over 10 years, procuring £85 billion of equipment and £89 billion of equipment support, with a central contingency of £6 billion. This is an average of £18 billion a year.

Most of the equipment to be procured will replace or upgrade existing equipment. For example, the Royal Navy is partway through replacing its fleet of seven Trafalgar-class attack submarines with new Astute-class submarines. The two new aircraft carriers replace three previous carriers that were decommissioned in 2005, 2011 and 2014.

One of the challenges for the Armed Forces is that they are involved in an arms race – literally. Military equipment needs to be continually updated or replaced as other countries improve or develop equipment and weapons. For example, unmanned aerial vehicles (UAVs) are increasingly important both for long-range surveillance and strike missions and for short-range battlefield intelligence activities.

Conducting an arms race also means investing in new technology to best an opponent's equipment and weapons. This can often result in resources being expended on developing military equipment that is not (yet) needed – for example, to counter military

technologies announced by a potential opponent that have not yet been deployed. In some cases, this can be a consequence of deliberate misinformation, highlighting the importance of good intelligence in deciding on equipment priorities.

There is pressure on the Ministry of Defence to increase its procurement budget in order to strengthen the Armed Forces to meet an increased level of threat. In addition, the UK's departure from the EU may affect its participation in the Galileo geo-positioning and surveillance satellite system, with £92 million already allocated to explore a UK alternative.<sup>20</sup> Given Galileo is projected to cost €10 billion (roughly £9 billion), to develop a UK system, even in conjunction with other potential partners such as Australia, could add substantially to the defence procurement budget over the next decade.

### Property and facilities

Property and facilities of £31.9 billion at 31 March 2018 are shown in Table 7.10.

**Table 7.10. Property and facilities at 31 March 2018**

| Property                        | £ billion   |
|---------------------------------|-------------|
| Land                            | 9.4         |
| Bases, buildings and facilities | 12.7        |
| Housing                         | 9.8         |
| <b>Property in use</b>          | <b>31.9</b> |

Note: Includes leased and PFI contract assets of £8.7 billion and donated assets of £0.5 billion.

Source: Ministry of Defence, *Annual Report and Accounts 2017–18*.

Property and facilities include military bases, operational structures, training schools and other buildings, as well as accommodation for military personnel and their families. The cost of maintaining bases, housing and other infrastructure amounted to £4.1 billion in 2017–18.

Housing includes leased assets under the Annington outsourcing deal for service accommodation. This estate was sold to private investors in 1996 and leased back to the Ministry of Defence under 200-year leases. Rents are due to be reviewed in 2021, which is likely to lead to a significant increase in future payments when a 58% discount no longer applies. The National Audit Office estimates that this arrangement has resulted in a loss in value to the taxpayer of up to £4.2 billion.<sup>21</sup>

### Other assets and liabilities

Other assets in the Ministry of Defence balance sheet comprise inventories of £4.4 billion, receivables of £2.8 billion and cash and financial assets of £2.2 billion. Inventories include £1.2 billion of munitions, £2.4 billion of engineering and technical stores, and £1.2 billion of other materials.

<sup>20</sup> <https://www.gov.uk/government/news/space-sector-to-benefit-from-multi-million-pound-work-on-uk-alternative-to-galileo>.

<sup>21</sup> National Audit Office, *The Ministry of Defence's Arrangement with Annington Property Limited*, HC 762, Session 2017–19, 2018.

Liabilities of £37.3 billion comprised £6.5 billion in lease and PFI contract obligations, £11.2 billion in creditors and other liabilities, and £19.6 billion in nuclear and other provisions. Leases and PFI contracts include £1.7 billion with respect to the Annington outsourcing deal (discussed above), £2.1 billion for the strategic tanker aircraft programme, £0.7 billion for the rebuild, refurbishment, management and operation of facilities for service accommodation, and £0.5 billion for the Skynet 5 satellite network.

The vast majority of provisions – £18.5 billion – has been set aside for the decommissioning of nuclear research facilities and nuclear-powered submarines, and the treatment, storage and disposal of their fuel and waste.

Pension and compensation scheme liabilities are reported in a separate set of accounts from those of the Ministry of Defence itself, comprising £195.5 billion in pension liabilities, £2.2 billion relating to the Armed Forces Compensation Scheme and £0.6 billion in other liabilities, partially offset by £0.3 billion in receivables and cash.

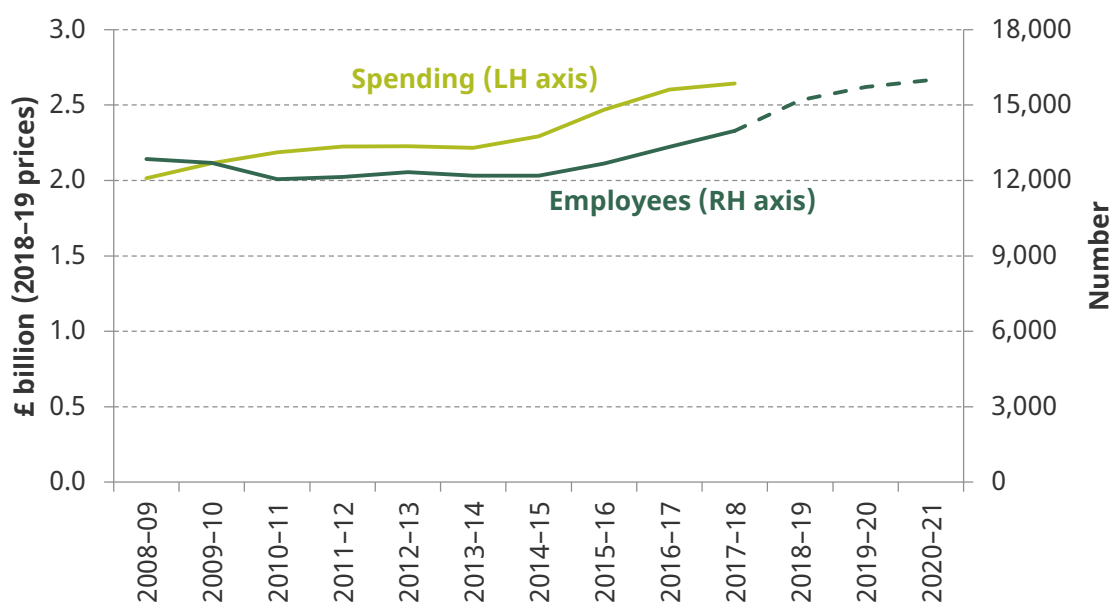
Combined liabilities of the Ministry of Defence and the Armed Forces Pension Scheme exceeded combined assets by £91.6 billion, reflecting the absence of any pension fund investments to support the payment of pensions to retired service personnel.

### Intelligence agencies

The intelligence agencies are funded collectively through the Single Intelligence Account, a separate budget heading from departmental budgets. They spent £2.6 billion in 2017–18, a 34% real-terms increase from the £1.7 billion spent in 2008–09.

Although this is a relatively small part of total defence and security spending, the Single Intelligence Account stands out as one of the few areas where spending has increased

**Figure 7.8. Single Intelligence Account: spending and staff numbers**



Note: Excludes the £300 million budget of Defence Intelligence and 3,700 military and civilian staff and the £950 million budget of the Office for Security and Anti-Terrorism and its 600 staff.

Source: Cabinet Office, *Single Intelligence Account Financial Statement 2017–18* and prior years.

significantly in the past decade, with most of the spending growth coming between 2013–14 and 2016–17.

Staff numbers fell by 6% from 12,858 at 31 March 2009 to 12,049 two years later, but have increased by 16% since then to 13,967 at 31 March 2018. This includes around 5,000 with MI5, 3,000 with SIS and 6,000 with GCHQ.

Staff numbers are projected to increase to 15,996 over the next three years, a further 15% increase, reflecting heightened risk assessments about the threats to the UK from terrorism and other sources.

Staff costs of £850 million made up just under one-third (32%) of intelligence spending, while capital expenditure amounted to £610 million (23%). The balance was predominately incurred on the purchase of goods and services, including a substantial number of IT and other contractors.

## 7.4 Financial management

To a greater extent than many other departments, the Ministry of Defence is exposed to risk. Unpredictable global events, the actions of other countries, currency movements, the risk of technological obsolescence and other factors outside of its control all make financial management a particular challenge.

This has been compounded by the departure of experienced civilian staff since 2011, which has reduced spending but at the expense of specialist policy, financial, personnel, technical and commercial expertise. For example, the National Audit Office has reported that there is a 21% shortage of trained and qualified staff within naval supply teams, while Sir John Parker's report on shipbuilding strategy reported that the MoD has lost expertise in both design and project contract management.<sup>22</sup>

The National Audit Office reported in 2017 that the MoD was short by 386 (24%) in commercial posts, which are particularly critical in negotiating billions of pounds worth of contracts.<sup>23</sup> There is a risk that further planned reductions in civilian staff could further diminish the expertise available to ensure that money is spent effectively.

Although the government routinely provides the Ministry of Defence with additional funds to pay for major military operations, such as in Iraq and Afghanistan, the Armed Forces otherwise still need to manage within their budgets.

### Managing procurement programmes

Procuring equipment presents a significant financial management challenge. The cost of platforms and associated hardware can rise significantly given its specialised nature and developments in technology. Only a small number of firms have the necessary expertise

<sup>22</sup> National Audit Office, *Investigation into Equipment Cannibalisation in the Royal Navy*, HC 525, Session 2017–19, 2017; Sir John Parker, *An Independent Report to Inform the UK National Shipbuilding Strategy*, 2016.

<sup>23</sup> National Audit Office, *Improving Value for Money in Non-Competitive Procurement of Defence Equipment*, HC 412, Session 2017–19, 2017.

and security approvals to supply military equipment, limiting the potential benefits of competition amongst suppliers.<sup>24</sup>

Cost is not the only significant factor in deciding on suppliers; security and strategic concerns have a major influence on procurement decisions. In addition, there are often domestic political concerns – for example, in the location of jobs – compounded by an institutional preference for national champions, even if they are less efficient than other options. Defence companies lobby hard to build and support this belief, utilising the experience of former senior military officers to help persuade ministers and procurement teams of their case.<sup>25</sup>

Managing multi-year complex procurement programmes is inherently challenging, especially for technologically advanced systems that are being implemented (in many cases) for the first time. Multiple risks have to be addressed, with a high likelihood of delays and cost overruns. Often these are not caused by suppliers, but by changing specification, deliberate delays (for example, to offset a cost overrun elsewhere) or problems in other programmes.

The National Audit Office reported in 2015 that, although the MoD had improved its management of procurement programmes since 2010, the Armed Forces need to develop their financial skills and project and programme management capability.<sup>26</sup>

In 2016, the Public Accounts Committee reported:

We remain concerned about project and contract management by the Department, particularly in relation to the Armed Forces who are now responsible for managing over 70% of the defence budget. Failure to improve its skills and capabilities in these areas and to put in place strong assurance mechanisms to identify any problems at the earliest opportunity could threaten the Department's ability to maintain the stability of its financial position.<sup>27</sup>

Management of these programmes is not helped by issues in evaluating risk, estimating costs and ensuring contractual flexibility to deal with changes, while regular rotation of key staff means that expertise is not built up, a disadvantage in negotiating with well-resourced and better-experienced sales teams at defence suppliers.

A small number of very expensive 'big-ticket' items make up a large proportion of the procurement budget, meaning that there is less available for smaller and therefore lower-profile but still important equipment. This puts pressure both on operational effectiveness today and on the procurement budget in later years, when a desired replacement or update turns into an essential and urgent requirement.

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<sup>24</sup> Defence Committee of the House of Commons, *Gambling on 'Efficiency': Defence Acquisition and Procurement*, HC 431, First Report of Session 2017–19, 2017.

<sup>25</sup> 'MoD staff and thousands of military officers join arms firms', *The Guardian*, 15 October 2012.

<sup>26</sup> National Audit Office, *Strategic Financial Management in the Ministry of Defence*, HC 268, Session 2015–16, 2015.

<sup>27</sup> Public Accounts Committee, *Strategic Financial Management of the Ministry of Defence and Military Flying Training*, HC 391 incorporating HC 392, Eleventh Report of Session 2015–16, 2015.



The National Audit Office concluded in early 2018 that the 2017 to 2027 Equipment Plan is not affordable even after taking account of the £6 billion contingency. It identified potential additional costs of between £4.9 billion and £20.8 billion, depending on whether the financial risks of cost growth materialise and whether the MoD achieves the procurement savings assumed in the plan.<sup>28</sup>

### Managing change and delivering efficiencies

The MoD's financial plans are dependent on delivering substantial cost savings while maintaining similar levels of military capability and delivery of the 2017 to 2027 Equipment Plan. This will require significant change in many areas of the MoD, in particular in civilian support functions where substantial reductions in headcount are planned.

The MoD is likely to find this especially challenging given the need to maintain the capacity of the Armed Forces to respond to threats at all times and the potential for events that could disrupt the delivery of efficiency programmes.

A series of National Audit Office reports have highlighted issues in delivering planned cost savings, with weaknesses identified in financial management and programme management amongst other concerns.<sup>29</sup>

For example, it took combat operations to expose shortcomings in systems for deployed inventory, leading to investment and improvements as a matter of necessity rather than because of planning or design, as reported by the National Audit Office in 2011.<sup>30</sup> Over the subsequent six years, the MoD has made progress to address these shortcomings – for example, by consolidating 270 legacy logistics systems supported by 50 separate contractors under 120 contracts into 160 systems, supported by a single contractor, with one other system supported by another supplier.<sup>31</sup> However, the fact that 160 different logistics systems remain in service provides an illustration of the challenges faced by the MoD as it seeks to streamline operations and improve efficiency.

### Management of the estate

The Ministry of Defence is responsible for housing military personnel either on or close to army bases so that they can be mobilised when needed.

Unfortunately, service accommodation is considered not to be in a good state, especially for the Army. In particular, the Annington sale and leaseback of service housing is reported to have lost the MoD billions of pounds of asset value,<sup>32</sup> with the MoD reportedly accepting that the deal was a 'catastrophic mistake', with former Defence Minister, Kevan Jones, and the former First Sea Lord, Lord West, describing it as 'incredibly bad' and

<sup>28</sup> National Audit Office, *The Equipment Plan 2017 to 2027*, HC 717, Session 2017–19, 2018.

<sup>29</sup> National Audit Office, 'Written evidence to the Defence Committee of the House of Commons', 24 October 2017.

<sup>30</sup> National Audit Office, *Ministry of Defence: The Use of Information to Manage the Logistics Supply Chain*, HC 827, Session 2010–11, 2011.

<sup>31</sup> Ministry of Defence, 'Response to freedom of information request on logistics supply chain', 16 October 2017, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/656827/2017-09477.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/656827/2017-09477.pdf).

<sup>32</sup> National Audit Office, *The Ministry of Defence's Arrangement with Annington Property Limited*, HC 762, Session 2017–19, 2018.

'causing major problems'.<sup>33</sup> Meanwhile, the final redeployment of service personnel from Germany back to the UK has required a further £1.8 billion to be spent on the estate, especially for family accommodation.<sup>34</sup>

Other estates-based PFI projects are considered to have delivered more reasonable service quality, but have reduced financial flexibility in maintenance and upkeep spending.<sup>35</sup> The move to 'super garrisons' where military units are concentrated in a region with less frequent unit moves (with the idea of improving family life) has required investment, diverting funds that might have been available for other maintenance projects elsewhere.

The National Audit Office criticised the MoD's estate strategy in 2016, stating that maintaining the estate will be a 'huge challenge' because of years of underinvestment, with only essential maintenance carried out since 2009. This has led to a steady decline in the overall condition of the estate with assets needing to be replaced rather than repaired, a more costly option in the longer term.<sup>36</sup>

The MoD has agreed to release surplus land with capacity for 55,000 housing units between 2015 and 2020.<sup>37</sup>

### Managing currency risk

One of the major causes of over- and under-spends in the procurement budget arises from currency movements. This is because a substantial proportion of equipment purchases is denominated in US dollars or, to a lesser extent, euros, meaning that changes in exchange rates can increase (or cut) costs significantly.

The Ministry of Defence does attempt to hedge in-year currency movements through advance purchases of US dollars to protect it against exceeding the parliamentary funds allocated each year. However, there is less in the way of medium- to long-term hedging to protect against currency movements over many years.

Over the last decade, the exchange rate between the dollar and the pound has ranged from over \$1.80 to £1.00 to as low as \$1.20 to £1.00, with the rate in recent months being close to \$1.30 to £1.00.

The Defence Committee of the House of Commons highlighted in January 2018 that planned equipment purchases over a 10-year period could be £4.6 billion more expensive if the exchange rate over that period were \$1.25 to £1 instead of the \$1.55 to £1 rate used in the 2017 to 2027 Equipment Plan for 2018–19 onwards. This is illustrated in Figure 7.9.

With the current US dollar exchange rate at around \$1.30 to £1, it is likely that there will be additional costs in excess of £200 million in the current financial year. This will need to be

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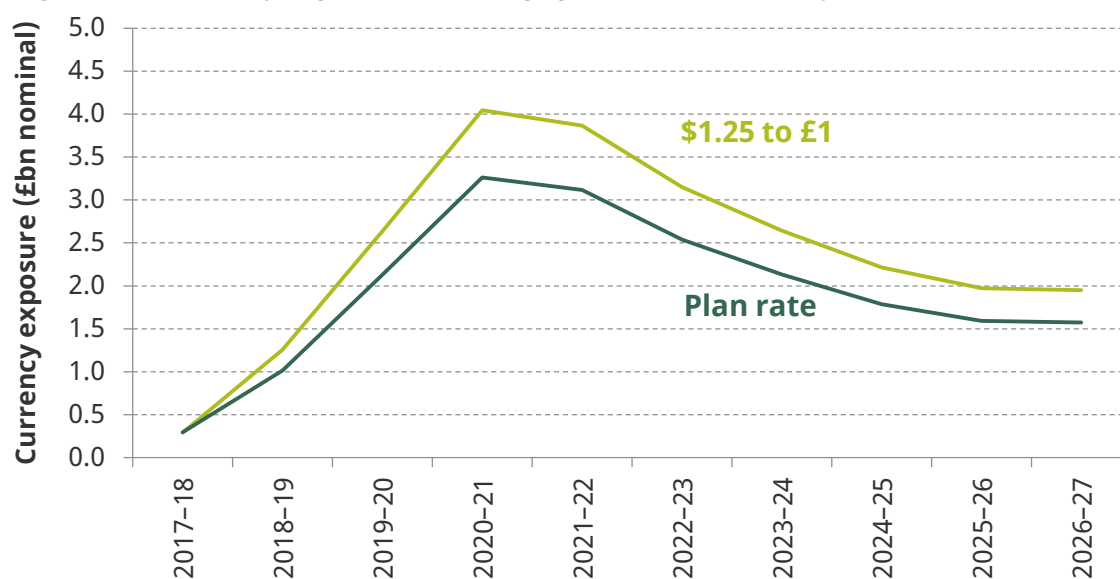
<sup>33</sup> 'How the MoD's plan to privatise military housing ended in disaster', *The Guardian*, 25 April 2017.

<sup>34</sup> <https://www.army.mod.uk/who-we-are/future-of-the-army/army-basing-programme>.

<sup>35</sup> MoD Private Finance Unit, *Review of MoD PFI Projects in Construction and Operation*, 2005.

<sup>36</sup> National Audit Office, *Delivering the Defence Estate*, HC 782, Session 2016–17, 2016.

<sup>37</sup> Ministry of Housing, Communities and Local Government, *Public Land for Housing Programme 2015–2020*, 2018.

**Figure 7.9. Currency exposure in the Equipment Plan over 10 years**

Source: Defence Select Committee, *Indispensable Allies: US, NATO and UK Defence Relations*, HC 387, Eighth Report of Session 2017-19, 2018 (National Audit Office analysis).

funded either through savings elsewhere within the MoD's budget or through additional funding through the supplementary estimates process.

There are several ways to address currency risk in the procurement budget, which could best be managed at a national rather than departmental level. The most straightforward approach would be to denominate a proportion of parliamentary funding for defence in dollars. This would remove a substantial proportion of the risk from the procurement budget, preventing both the need to offset sterling weakness with cuts in personnel, equipment or capabilities, and reducing the incentive from a stronger exchange rate to incur unplanned spending to absorb currency gains.

HM Treasury would still need to manage the risk that currency movements in the defence budget pose to the overall public finances. However, given its portfolio of foreign reserve assets and liabilities, it is much better placed than the Ministry of Defence to do so.

## 7.5 Conclusion

### Funding for defence needs to be better managed and made more secure

The National Audit Office and others have identified multiple issues in the management of the defence budget, ranging from the likelihood of overruns in the 2017 to 2027 Equipment Plan to the challenges in filling technical roles in the Armed Forces and in civilian support organisations in the MoD.

Equipment costs for each successive generation of equipment continue to increase well above inflation.<sup>38</sup> This makes strong project and programme management even more important if the MoD is to deliver military capabilities in an efficient and cost-effective way.

In particular, currency risks need to be better managed, which is more likely if done at the national rather than departmental level. This would avoid cuts to other parts of the defence budget when sterling weakens and reduce the incentive to increase spending when sterling strengthens.

Long-term procurement and strengthening homeland defence would be aided through longer-term certainty over budgets, ensuring adequate resources are devoted to training and development and to sufficient pay and conditions to attract skilled personnel. These areas need to be addressed as part of the Modernising Defence Programme and the 2019 Spending Review.

### **The long decline in defence spending is over**

Over the last 50 years, the UK has substantially reduced its spending on defence as the perceived threats to its security and interests have fallen. This has enabled public funds to be put to other uses, in particular expanding health and welfare provision domestically. That trend has come to an end.

The NATO 2% commitment provides a floor in spending on defence and security. The UK currently meets this target – unlike most other NATO countries – although only just. Additional cuts as a share of national income to free up funds for other priorities are unlikely to be possible without breaching promises made to allies and risking damage to the UK's stature as a leading member of NATO and the wider Western alliance.

Furthermore, there are calls from within government to increase defence capabilities in response to a higher level of perceived threat and in order to maintain or enhance the UK's strategic position as a major power. This includes from the cross-party Defence Committee of the House of Commons, who have argued that the UK should spend 3% rather than 2% of national income on defence, which would imply an increase in annual spending of £20 billion. It is clear there is pressure on the Chancellor to allocate additional funding to defence and security.

Of course, defence is just one of many areas with competing demands for greater public funding, driven both by concerns about the affordability of current plans and by the debate over what the UK's aspirations as a global military power should be.

The government needs to balance these demands and ensure that the public finances are sustainable over the longer term. Difficult choices will need to be made.

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<sup>38</sup> K. Hartley, 'UK defence inflation and cost escalation', *Defence and Peace Economics*, 2016, 27, 184–207.