



Ministry  
of Defence



# Defence Inflation Estimates Statistical Notice 2011/12

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# Executive Summary

The defence inflation statistic measures the average change in pay, and prices of goods and services, making up the defence budget, with quality and quantity held constant.

This statistical notice presents estimates of defence inflation for financial years 2005/06 to 2011/12.

Defence Analytical Services and Advice (DASA) at the Ministry of Defence (MOD) welcome feedback on all statistical products. If you have comments on this, or any other DASA statistical product, please visit the DASA website ([www.dasa.mod.uk](http://www.dasa.mod.uk)) and complete the feedback form.

## Key Findings

- Defence inflation was 3.4% in 2011/12.
- Defence inflation averaged 3.7% over the period 2005/06 to 2011/12.
- In 2011/12, inflation in the GDP deflator was 2.4% and inflation in RPIX (a widely accepted proxy for UK general inflation) was 4.9%. Defence inflation has been higher than the GDP deflator and RPIX for five out of the seven years between 2005/06 and 2011/12. In 2010/11 and 2011/12 defence inflation was higher than the GDP deflator, but lower than RPIX.
- Inflation in defence contract expenditure was 3.4% in 2011/12.
- Inflation in defence labour cost expenditure was 3.4% in 2011/12 – inflation in civilian labour costs was 1.3%, and inflation in military labour costs was 3.9% in 2011/12.
- Inflation in Cash Offices was 1.7%, driven by the inflation rates affecting US Dollar and Euro payments, and movements in the exchange rates of these currencies against Sterling.

**Table 1: Defence Inflation, 2005/06 to 2011/12**

| <i>Weights</i> <sup>1</sup> | <b>Defence Contracts</b> <sup>2</sup> | <b>Labour Costs</b> <sup>2</sup> | <b>Cash Offices</b> <sup>2</sup> | <b>All Defence (UK)</b> |
|-----------------------------|---------------------------------------|----------------------------------|----------------------------------|-------------------------|
|                             | 636                                   | 348                              | 15                               | 1000                    |
| <b>Financial Year</b>       | <b>Growth Rate</b> <sup>3</sup>       |                                  |                                  |                         |
| 2005/06                     | 3.4%                                  | 5.6%                             | 0.9%                             | 4.1%                    |
| 2006/07                     | 3.4%                                  | 3.5%                             | 1.4%                             | 3.4%                    |
| 2007/08                     | 3.7%                                  | 4.3%                             | 2.4%                             | 3.9%                    |
| 2008/09                     | 4.2%                                  | 3.6%                             | 9.3%                             | 4.2%                    |
| 2009/10                     | 2.5%                                  | 4.0%                             | 8.2%                             | 3.2%                    |
| 2010/11 <sup>4</sup>        | 3.8%                                  | 4.7%                             | 9.7%                             | 4.2%                    |
| 2011/12 <sup>5</sup>        | 3.4%                                  | 3.4%                             | 1.7%                             | 3.4%                    |

[1] These weights apply to the 2011/12 measure. Due to chain-linking, weights reflect the expenditure pattern within the base year not the reference year e.g. for the 2011/12 inflation measure weights reflect expenditure in 2010/11. Due to rounding the weights may not sum to 1000.

[2] For the definitions of 'Defence Contracts', 'Labour Costs', and 'Cash Offices' used for the defence inflation estimates, refer to the **Glossary**.

[3] Growth rates are year-on-year and calculated from unrounded data.

[4] From 2010/11, the methodology for estimating inflation in military labour costs was reviewed and improved following availability of new data sources. The change in methodology means comparisons of 2010/11 and 2011/12 military labour cost inflation rates with historical estimates are not possible. For further details refer to [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

[5] From 2011/12, the methodology for estimating the adjustment to contract inflation as a result of foreign exchange was reviewed and improved following availability of a new data source. The change in methodology means comparisons of 2011/12 contract inflation rates with historical estimates are hindered. For further details refer to **Chapter 5: Methodology**.

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# 1 Defence Inflation: Summary Results

The defence inflation estimates capture inflation in the inputs to Defence. They reflect the mix of goods, labour and services bought each year, and do not take account of productivity or efficiency improvements.

## Headline Results

In 2011/12, defence inflation was 3.4%. Defence inflation averaged 3.7% over the period 2005/06 to 2011/12 (**Figure 1**). However, a change in methodology for calculating inflation in military labour costs between 2009/10 and 2010/11 hinders direct comparisons with earlier years. For further information refer to [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#). An additional change in methodology to calculate contract inflation adjustments as a result of foreign exchange, between 2010/11 and 2011/12, also hinders direct comparisons with earlier years. Further details on the methodology improvements can be found in **Chapter 5: Methodology**.

**Figure 1: Defence Inflation, 2005/06 to 2011/12**



**Table 2** presents chain-linked Laspeyres price index numbers and equivalent year-on-year growth rates for the three main components of defence – defence contracts, labour costs and cash offices – as well as overall defence expenditure. The weights are expressed as values out of 1000 and reflect the contribution each component makes to the overall measure of defence inflation. For further details on the methodology refer to **Chapter 5: Methodology**, [Defence Inflation Statistical Bulletin No. 10](#) and [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

**Table 2: Defence Inflation, 2005/06 to 2011/12**

|                            | Defence Contracts <sup>2</sup>   |      | Labour Costs <sup>2</sup> |      | Cash Offices <sup>2</sup> |      | All Defence (UK) |      |
|----------------------------|----------------------------------|------|---------------------------|------|---------------------------|------|------------------|------|
| <i>Weights<sup>1</sup></i> | 636                              |      | 348                       |      | 15                        |      | 1000             |      |
| Financial Year             | Index & Growth Rate <sup>3</sup> |      |                           |      |                           |      |                  |      |
| 2004/05                    | 100.0                            | -    | 100.0                     | -    | 100.0                     | -    | 100.0            | -    |
| 2005/06                    | 103.4                            | 3.4% | 105.6                     | 5.6% | 100.9                     | 0.9% | 104.1            | 4.1% |
| 2006/07                    | 106.9                            | 3.4% | 109.2                     | 3.5% | 102.2                     | 1.4% | 107.6            | 3.4% |
| 2007/08                    | 110.9                            | 3.7% | 113.9                     | 4.3% | 104.7                     | 2.4% | 111.8            | 3.9% |
| 2008/09                    | 115.5                            | 4.2% | 118.0                     | 3.6% | 114.4                     | 9.3% | 116.5            | 4.2% |
| 2009/10                    | 118.4                            | 2.5% | 122.6                     | 4.0% | 123.8                     | 8.2% | 120.2            | 3.2% |
| 2010/11 <sup>4</sup>       | 122.9                            | 3.8% | 128.3                     | 4.7% | 135.8                     | 9.7% | 125.2            | 4.2% |
| 2011/12 <sup>5</sup>       | 127.1                            | 3.4% | 132.6                     | 3.4% | 138.2                     | 1.7% | 129.4            | 3.4% |

[1] These weights apply to the 2011/12 measure. Due to chain-linking, weights reflect the expenditure pattern within the base year not the reference year e.g. for the 2011/12 inflation measure weights reflect expenditure in 2010/11. Due to rounding the weights may not sum to 1000.

[2] For the definitions of 'Defence Contracts', 'Labour Costs', and 'Cash Offices' used for the defence inflation estimates, refer to the **Glossary**.

[3] Growth rates are year-on-year and calculated from unrounded data.

[4] From 2010/11, the methodology for estimating inflation in military labour costs was reviewed and improved following availability of new data sources. The change in methodology means comparisons of 2010/11 and 2011/12 military labour cost inflation rates with historical estimates are not possible. For further details refer to [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

[5] From 2011/12, the methodology for estimating the adjustment to contract inflation as a result of foreign exchange was reviewed and improved following availability of a new data source. The change in methodology means comparisons of 2011/12 contract inflation rates with historical estimates are hindered. For further details refer to **Chapter 5: Methodology**.

## Comparison with General Inflation

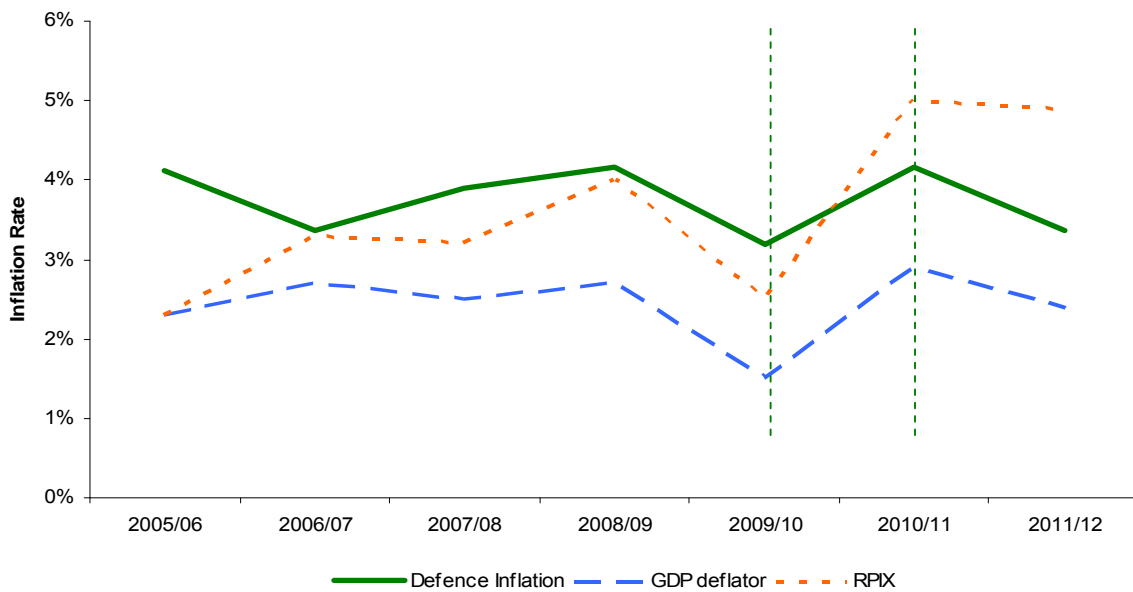
Input measures of inflation (such as defence inflation) do not take account of productivity or efficiency improvements. Consequently, input measures generally have higher growth than comparative output measures. Therefore, the overall measure of defence inflation (an input measure) is not directly comparable to output measures of general inflation such as the Gross Domestic Product (GDP) deflator or the Retail Price Index excluding mortgage interest payments (RPIX).

In 2011/12, inflation in the GDP deflator was 2.4% and inflation in RPIX (a widely accepted proxy for UK general inflation) was 4.9%. Defence inflation was 1.0 percentage points higher than the GDP deflator, but 1.5 percentage points lower than RPIX in 2011/12.

Defence inflation has been higher than the GDP deflator and RPIX for five out of the seven years between 2005/06 and 2011/12. In 2010/11 and 2011/12 defence inflation was higher than the GDP deflator, but lower than RPIX (**Figure 2**).

Defence inflation averaged 1.3 percentage points higher than the GDP deflator between 2005/06 and 2011/12, compared to an average of 0.1 percentage points higher than RPIX over the same period.

However, inflation in defence contract expenditure has, on average, been around 0.1 percentage points lower than RPIX over the period 2005/06 to 2011/12. In 2011/12 inflation within contract expenditure was 3.4%, significantly lower than the RPIX growth rate of 4.9%.

**Figure 2: Defence Inflation and General Inflation, 2005/06 to 2011/12**

Source: Annual inflation rates for RPIX and the GDP deflator from the Office for National Statistics.

### Cost Growth, Optimism Bias, and Intergenerational Effects

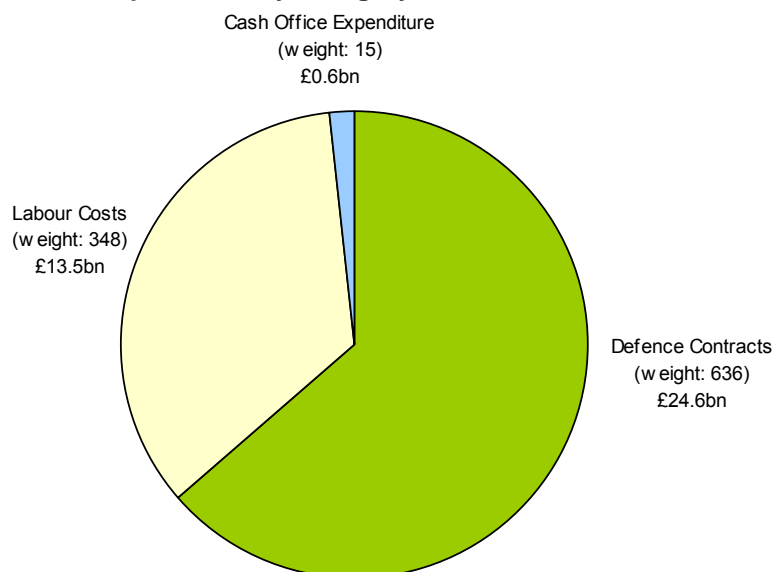
Cost growth, optimism bias and intergenerational effects make it difficult to determine the underlying impact of external economic conditions on defence expenditure.

**Cost growth** is when a MOD project suffers cost or schedule over run. This apparent cost growth is often an “accounting problem” or a failure to specify needs accurately, rather than the result of external economic conditions flowing into defence. Additionally, the Department may be over-optimistic in its initial estimates of equipment and support contracts; known as **optimism bias**. The subsequent changes in price merely reflect realism.

As the Department moves to new platforms there are usually step increases in unit costs, known as **intergenerational effects**. Intergenerational effects result from the Department choosing to buy more expensive platforms as they adapt to changing threats, rather than as a result of economic conditions flowing into defence. DASA estimate that the average real intergenerational cost growth is between 3.5% and 6%, varying by platform type.

### Expenditure and Weights

The 2011/12 defence inflation estimates utilise expenditure figures for the base year 2010/11 (**Figure 3**). For further details refer to **Chapter 5: Methodology**.

**Figure 3: Defence Inflation Expenditure by Category, 2010/11**

Expenditure in 2010/11 – used within the 2011/12 defence inflation measure – was £38.6bn, a decrease of £41M (0.1%) compared to 2009/10 (**Table 3**). This was the first year in seven years that annual expenditure has fallen; the decrease was driven by a fall in contract expenditure of £306M (1.2%) compared to 2009/10.

**Table 3: Defence Inflation Expenditure by Category, 2004/05 to 2010/11**

|                                | <i>£ million</i> |         |         |         |         |         |         |
|--------------------------------|------------------|---------|---------|---------|---------|---------|---------|
|                                | 2004/05          | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 |
| <b>All Defence (UK)</b>        | 29,386           | 30,879  | 31,387  | 34,361  | 37,438  | 38,652  | 38,611  |
| <b>Defence Contracts</b>       | 17,065           | 18,085  | 18,352  | 20,795  | 23,653  | 24,873  | 24,567  |
| <b>Labour Costs</b>            | 11,313           | 11,703  | 11,896  | 12,166  | 12,598  | 13,193  | 13,453  |
| <b>Cash Office Expenditure</b> | 1,008            | 1,091   | 1,139   | 1,399   | 1,186   | 586     | 592     |

## Contracts

Expenditure on contracts accounts for nearly two-thirds of the total expenditure captured within the 2011/12 defence inflation measure.

In 2011/12, inflation in defence contract expenditure was 3.4% (**Table 2**). Between 2005/06 and 2011/12 inflation in contract expenditure averaged 3.5% year-on-year growth, ranging from 2.5% in 2009/10 to 4.2% in 2008/09.

The methodology for estimating inflation in defence contracts is dependent on price indices published by the Office for National Statistics (ONS). **Chapter 2: Contracts** presents further information on inflation within different types of contracts and further details on the key drivers.

## Labour Costs

Expenditure on labour costs accounts for just over one third of the total expenditure captured within the 2011/12 defence inflation measure.

A new methodology for calculating inflation in military labour costs was developed for 2010/11. This new method produces a chain-linked Laspeyres index for military labour cost inflation and is now directly comparable with inflation in civilian labour costs. For further details on the methodology developments refer to the [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

In 2011/12, inflation in labour cost expenditure was 3.4% (**Table 2**). The rate of inflation for military labour cost expenditure was 3.9% in 2011/12, whilst the inflation rate for civilian labour cost expenditure was 1.3% (**Table 5**). Between 2005/06 and 2011/12 inflation in labour costs averaged 4.1% year-on-year growth.

**Chapter 3: Labour Costs** presents further information on the inflation rates within the components of labour costs for military and civilian personnel. This includes inflation rates within pay, employer National Insurance contributions (ERNIC), employer pension contributions (SCAPE), travel and subsistence, and allowances.

**NOTE:** Since the publication of 2011/12 defence inflation estimates in September 2012, revisions have been made to the civilian and military labour cost inflation estimates. Further details on the revisions can be found in **Chapter 5: Methodology**.

### Cash Office Expenditure

Cash office expenditure accounts for about one and a half per cent of the total expenditure captured within the 2011/12 defence inflation measure.

The inflation rates within cash offices represent inflation due to: expenditure on foreign currency by MOD cash offices; and domestic inflation within those countries.

In 2011/12, inflation in cash office expenditure was 1.7%. Broadly speaking the rate of inflation for cash offices is driven by the inflation rates affecting US Dollar and Euro purchases – the two currencies which contribute most to the total level of foreign currency spend – and movements in the exchange rates of these currencies against Sterling. For further details refer to **Chapter 4: Cash Office Expenditure**.

### Contract Payments in Foreign Currencies

There is an additional inflationary pressure when contracts are paid in foreign currency. To account for this, in 2011/12 an adjustment of -0.1 percentage points, based broadly upon exchange rates the Ministry of Defence (MOD) achieved in its currency purchases, has been added to the estimates of inflation within contract expenditure.

The overall measure of contract inflation, and thus the overall defence inflation estimate, captures the inflationary effect of paying for contracts in foreign currencies. It is assumed that the impact is the same across all contract types. The breakdowns of inflation by contract type, presented in **Chapter 2: Contracts** also capture this effect. However, more detailed estimates of inflation for contracts (such as contract inflation by industry group) exclude this adjustment.

In 2011/12 the methodology for estimating overall expenditure for contract payments in US Dollars, Euros and other foreign currencies was reviewed and improved. However, as a result, comparisons of 2011/12 contract inflation rates with historical estimates are hindered. Further details on the methodology and historical adjustments are provided in **Chapter 5: Methodology**.

### Provisional Estimates and Revisions

On 10 December MOD released final accounts data for 2011/12. As forewarned in the September statistical notice, DASA have subsequently reviewed and finalised the provisional defence inflation estimates. This publication presents the finalised 2011/12 defence inflation estimates.

The elements of the MOD's accounts data used to estimate defence inflation have not changed. Therefore, defence inflation estimates have not been revised due to final release of the accounts.

However, as part of this review, DASA identified the need to revise estimates of civilian gross pay and Royal Fleet Auxiliary pay. These revisions impacted on estimates of civilian labour costs inflation, overall labour cost inflation and defence inflation. Further details on the revisions can be found in **Chapter 5: Methodology**.



# 2 Contracts

## Key Findings

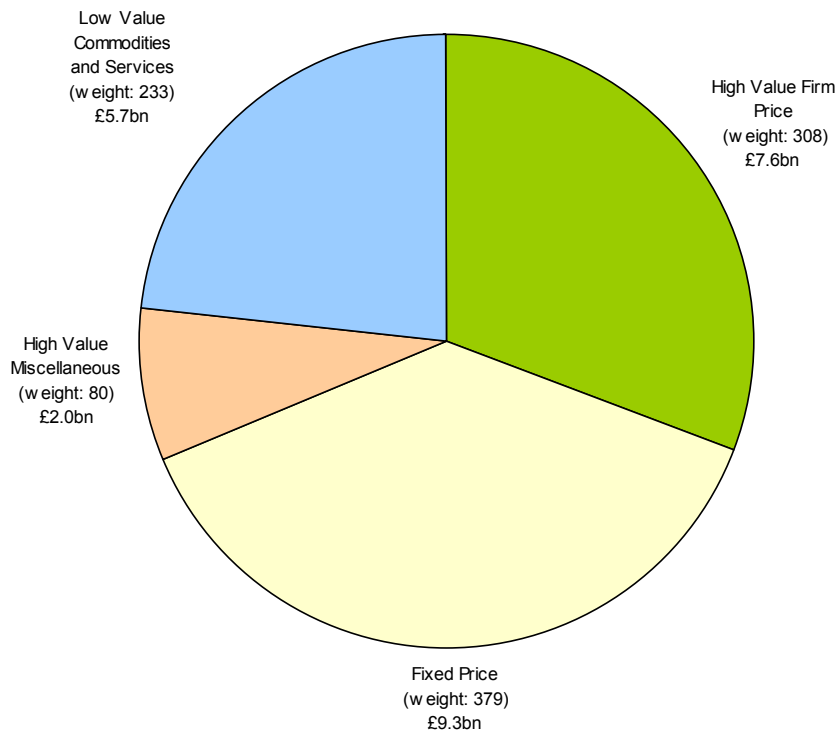
- Inflation in contract expenditure was 3.4% in 2011/12.
- Between 2005/06 and 2011/12, inflation in contracts averaged 3.5% year-on-year growth.
- Almost one fifth of contract expenditure (18%) was associated with the aircraft and spacecraft industry group. The inflation rate for these contracts was 2.6%, compared with the overall contract inflation rate of 3.4%.
- Inflation in equipment contracts was 2.8% in 2011/12; inflation in non-equipment contracts was higher in 2011/12 (4.3%).

## Expenditure and Weights

In 2010/11 the Ministry of Defence (MOD) had over 32,000 contracts with payments against them, accounting for £25bn (almost two thirds) of the Department's annual expenditure. Some of these contracts are for the provision of complex defence equipment and support, and can last for decades; some are for off-the-shelf goods and services; and some are miscellaneous payments, such as those to local authorities and international collaborative projects.

Defence Analytical Services and Advice (DASA) have defined four sub-groups of contracts (see **Glossary** for definitions). **Figure 4** presents the proportion of total contract expenditure spent on each sub-group.

**Figure 4: Contract Inflation Expenditure by Contract Type, 2010/11**



## Inflation Rates across Defence Contracts

In 2011/12, inflation in expenditure on contracts was 3.4% (**Table 4**), 0.1 percentage points lower than the average year-on-year growth rate (3.5%) between 2005/06 and 2011/12. However, a change in methodology for calculating the contract inflation adjustment as a result of foreign exchange hinders direct comparisons with historical estimates. See [Methodology Development](#) below.

**Table 4: Defence Inflation – Defence Contracts, 2005/06 to 2011/12**

| Contract Type              | High Value Firm Price <sup>2</sup> |      | Fixed Price <sup>2,3</sup> |      | Low Value Commodities and Services <sup>2</sup> |      | High Value Miscellaneous <sup>2</sup> |      | Defence Contracts |      |
|----------------------------|------------------------------------|------|----------------------------|------|---|------|---------------------------------------|------|-------------------|------|
| <i>Weights<sup>1</sup></i> | 308                                |      | 379                        |      | 233   |      | 80                                    |      | 1000              |      |
| Financial Year             | Index and Growth Rate <sup>4</sup> |      |                            |      |   |      |                                       |      |                   |      |
| 2004/05                    | 100.0                              | -    | 100.0                      | -    | 100.0   | -    | 100.0                                 | -    | 100.0             | -    |
| 2005/06                    | 102.9                              | 2.9% | 104.2                      | 4.2% | 103.2   | 3.2% | 103.3                                 | 3.3% | 103.4             | 3.4% |
| 2006/07                    | 106.2                              | 3.2% | 108.2                      | 3.8% | 106.8   | 3.4% | 106.6                                 | 3.2% | 106.9             | 3.4% |
| 2007/08                    | 109.7                              | 3.3% | 113.1                      | 4.5% | 110.7   | 3.7% | 109.7                                 | 2.9% | 110.9             | 3.7% |
| 2008/09                    | 114.0                              | 4.0% | 117.8                      | 4.2% | 115.5   | 4.3% | 114.7                                 | 4.5% | 115.5             | 4.2% |
| 2009/10                    | 119.2                              | 4.5% | 119.4                      | 1.3% | 117.6   | 1.8% | 116.9                                 | 2.0% | 118.4             | 2.5% |
| 2010/11                    | 124.2                              | 4.2% | 123.9                      | 3.8% | 121.2   | 3.1% | 121.4                                 | 3.8% | 122.9             | 3.8% |
| 2011/12 <sup>5</sup>       | 128.4                              | 3.3% | 128.5                      | 3.7% | 124.7   | 2.9% | 125.8                                 | 3.6% | 127.1             | 3.4% |

[1] These weights apply to the 2011/12 measure. Due to chain-linking, weights reflect the expenditure pattern within the base year not the reference year e.g. for the 2011/12 inflation measure weights reflect expenditure in 2010/11. Due to rounding weights may not sum to 1000.

[2] For the definitions of 'Contract Types' used for the defence inflation estimates, refer to the **Glossary**.

[3] Includes defence fuel contracts.

[4] Growth rates are year-on-year and calculated from unrounded data.

[5] From 2011/12, the methodology for estimating the adjustment to contract inflation as a result of foreign exchange was reviewed and improved following availability of a new data source. The change in methodology means comparisons of 2011/12 contract inflation rates with historical estimates are hindered. For further details refer to **Chapter 5: Methodology**.

## Methodology Development: Contract Inflation Adjustment for Foreign Exchange

Following the availability of a new data source for 2010/11 contract payments, it is now possible to determine annual total contract expenditure in pound sterling, US Dollars, Euros and other foreign currencies. A revised methodology using this new data source has enabled a more straightforward and comprehensive analysis of contract expenditure in foreign currencies. It has also highlighted far higher expenditure on contracts in foreign currencies during 2010/11 than identified in previous years.

Whilst a different source is used to determine total annual expenditure in 2010/11, the currency weightings for 2010/11 contract payments remained broadly similar to previous years. The overall weighted inflation rate, as a result of foreign exchange, was low in 2011/12, resulting in a contract inflation adjustment for 2011/12 of only -0.1 percentage points. Since the contract inflation adjustment was small, the impact of the methodology development on 2011/12 estimates is minimal. However, should the weighted inflation rate be higher in future years, the impact of the new method will be more evident. Further details on the methodology improvements can be found in **Chapter 5: Methodology**.

## High Value Firm Price Contracts

Expenditure on high value firm price contracts accounts for 31% of the 2011/12 defence inflation measure for contracts. The inflation rate for these contracts was 3.3% in 2011/12, 0.3 percentage points lower than the average year-on-year growth rate (3.6%) for high value firm price contracts between 2005/06 and 2011/12.

Estimates of high value firm price contract inflation are based either on corporate knowledge provided by project teams or by linking them to suitable price indices produced by the ONS.

The key driver for the lower inflation rate in 2011/12 was the contract inflation adjustment, made as a result of expenditure on contracts in foreign currencies. The contract inflation adjustment in 2011/12 was -0.1 percentage points compared with an adjustment of 0.5 percentage points in 2010/11. See **Chapter 5: Methodology** for further details on the contract inflation adjustment methodology.

## Fixed Price Contracts

Expenditure on fixed price contracts accounts for 38% of the 2011/12 defence inflation measure for contracts. The inflation rate for these contracts was 3.7% in 2011/12, slightly lower than the 2010/11 inflation rate (3.8%), and 0.1 percentage points higher than the average year-on-year growth rate between 2005/06 and 2011/12 for fixed price contracts.

Estimates of fixed price contract inflation are based on specific ONS price indices, as defined in the corresponding Variation of Price (VoP) clauses. Around 30% of expenditure on fixed price contracts was linked to the Retail Price Index excluding mortgage interest payments (RPIX), which was broadly similar in 2010/11 and 2011/12 (5.0% and 4.9% respectively).

## Low Value Commodities and Service Contracts

Expenditure on low value commodities and service contracts accounts for 23% of the 2011/12 defence inflation measure for contracts. The inflation rate for these contracts was 2.9% in 2011/12, 0.2 percentage points lower than the average year-on-year growth rate between 2005/06 and 2011/12.

## High Value Miscellaneous Contracts

Expenditure on high value miscellaneous contracts accounts for 8% of the 2011/12 defence inflation measure for contracts. The inflation rate for these contracts was 3.6% in 2011/12, 0.3 percentage points higher than the average year-on-year rate between 2005/06 and 2011/12.

## Inflation by Industry Group

**Figure 5** presents inflation in contract expenditure broken down by industry group. The five industry groups (out of a possible 52 industry groups) with the highest expenditure in 2011/12 are presented along with their associated inflation rates. For comparison, the 2010/11 inflation rates are also presented.

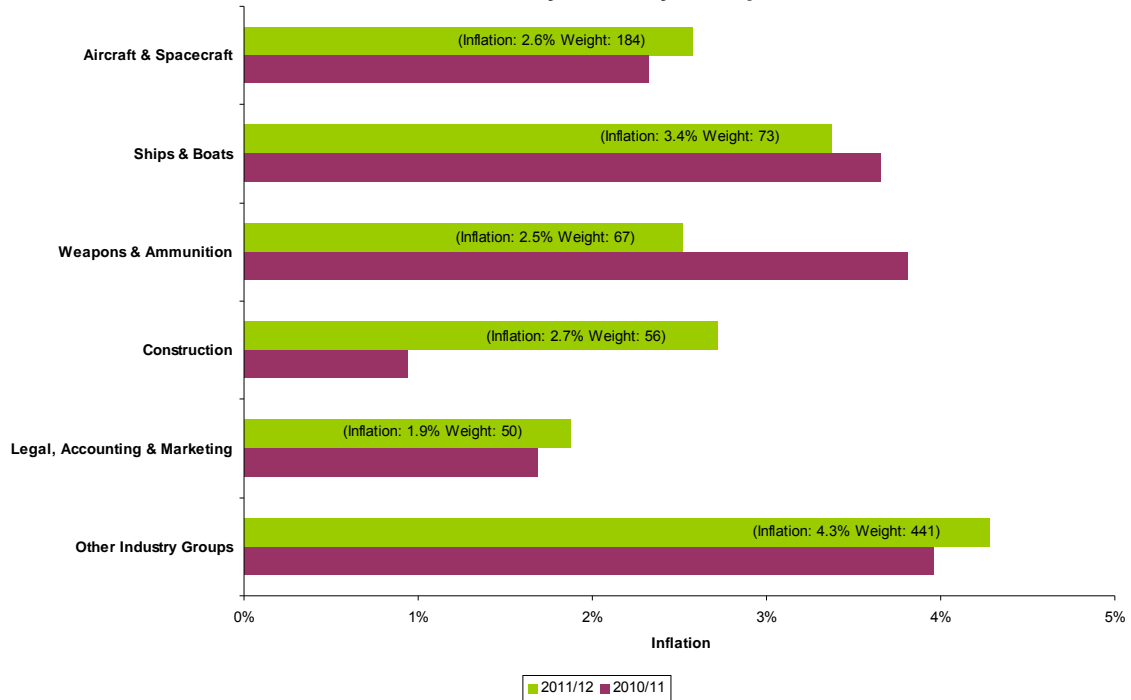
The method of estimating inflation often relies upon the Standard Industrial Classification (SIC) assigned to the contract. DASA allocates contracts into homogeneous groups, based upon the SIC code which reflects the good or service being procured. These 52 groups provide a useful tool for identifying relevant price indices for contracts, where information about inflation is not explicitly available. For further details see [Defence Inflation Statistical Bulletin No. 10 \(Appendix 1\)](#).

Contracts associated with the aircraft and spacecraft industry group accounted for almost one fifth of expenditure on contracts (18%) and had an inflation rate of 2.6% in 2011/12. Of the five most significant industry groups by proportion of contract expenditure, the industry group with the highest inflation rate in 2011/12 was ships and boats (3.4%). These inflation rates by industry group exclude the foreign exchange adjustment – see **Chapter 5: Methodology** for further details.

There are notable differences between the 2010/11 and 2011/12 inflation rates for the construction industry group (increasing from 0.9% to 2.7%), and for the weapons and ammunition industry group (decreasing from 3.8% to 2.5%).

- The higher inflation rate in 2011/12 for the construction industry group is primarily driven by the volatile primary output index for public non-housing construction.
- The lower inflation rate in 2011/12 for the weapons and ammunition industry group is driven by lower inflation rates in the input and output indices for the industry sector.

**Figure 5: Defence Inflation – Defence Contracts by Industry Group<sup>1,2</sup>, 2011/12**

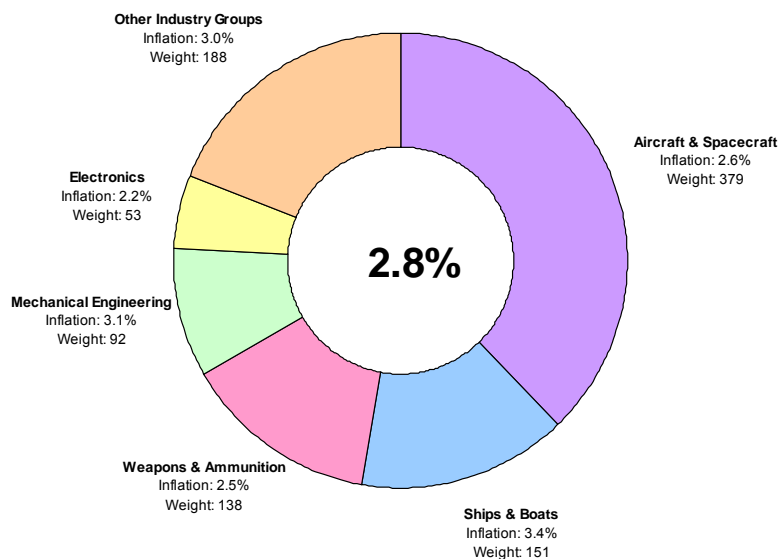


[1] This analysis is based on high value firm price, fixed price and low value commodities and service contracts. It excludes high value miscellaneous contracts and a small subset of low value contracts due to insufficient SIC information. Therefore, weights do not sum to 1000 due to a weight of 128 being associated with contracts with no SIC information.

[2] All inflation rates are before any adjustments due to paying for contracts in foreign currencies. In 2011/12 all contract inflation was adjusted by -0.1 percentage point. See **Chapter 5: Methodology** for further details.

A contract’s SIC group can also be used to indicate whether the contract relates to equipment or non-equipment acquisitions. Of the 52 SIC groups, 31 relate to equipment acquisitions and 21 relate to non-equipment acquisitions. **Figure 6** and **Figure 7** present inflation in contract expenditure broken down by equipment or non-equipment contracts, and the five most significant industry groups by proportion of contract expenditure.

**Figure 6: Defence Inflation – Defence Contracts: Equipment<sup>1,2</sup>, 2011/12**



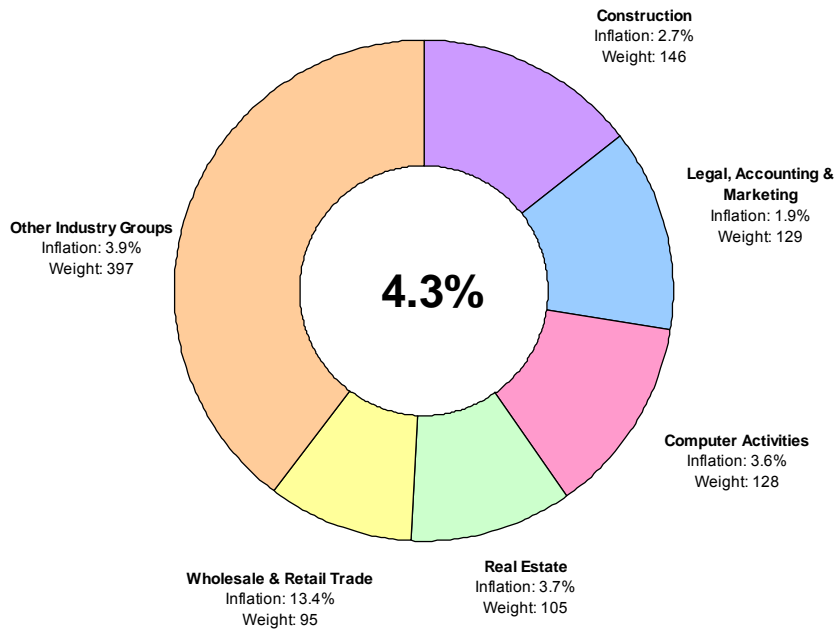
[1] This analysis is based on high value firm price, fixed price and low value commodities and service contracts. It excludes high value miscellaneous contracts and a small subset of low value contracts due to insufficient SIC information. Weights are based on expenditure relative to known equipment contracts.

[2] All inflation rates are before any adjustments due to paying for contracts in foreign currencies. In 2011/12 all contract inflation was adjusted by -0.1 percentage point. See **Chapter 5: Methodology** for further details.

In 2011/12, equipment contracts accounted for around half of all contract expenditure, with an inflation rate of 2.8%.

Within equipment contracts, over one third of expenditure (38%) was associated with the aircraft and spacecraft industry group. Of the five most significant industry groups by proportion of contract expenditure, the industry group with the highest inflation rate in 2011/12 was ships and boats (3.4%).

**Figure 7: Defence Inflation – Defence Contracts: Non-Equipment<sup>1,2</sup>, 2011/12**



[1] This analysis is based on high value firm price, fixed price and low value commodities and service contracts. It excludes high value miscellaneous contracts and a small subset of low value contracts due to insufficient SIC information. Weights are based on expenditure relative to known equipment contracts.

[2] All inflation rates are before any adjustments due to paying for contracts in foreign currencies. In 2011/12 all contract inflation was adjusted by -0.1 percentage point. See **Chapter 5: Methodology** for further details.

In 2011/12, non-equipment contracts accounted for over a third of all contract expenditure, with an inflation rate of 4.3%.

Of the five most significant industry groups by proportion of contract expenditure, the wholesale and retail trade industry group had the highest inflation rate in 2011/12 (13.4%). The high inflation rate for the wholesale and retail trade industry group is primarily driven by high inflation in fuel prices during 2011/12.

# 3 Labour Costs

## Key Findings

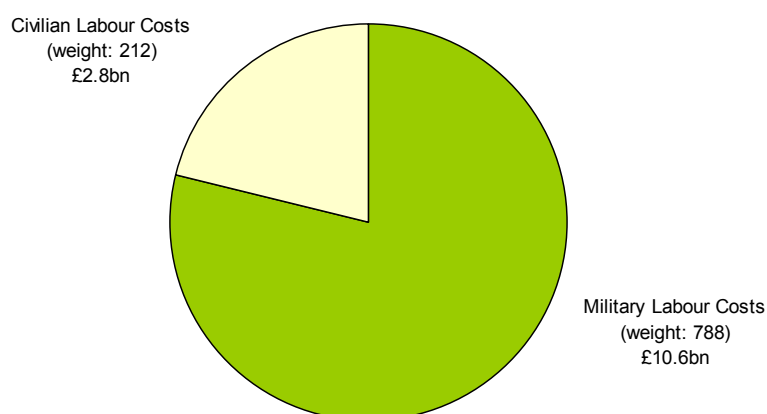
- Inflation in labour cost expenditure was 3.4% in 2011/12.
- Inflation in civilian labour costs was 1.3% and inflation in military labour costs was 3.9% in 2011/12.
- Between 2005/06 and 2011/12 inflation within labour costs averaged 4.1% per year. However a change in methodology for calculating inflation in military labour costs between 2009/10 and 2010/11 hinders direct comparisons with earlier years, but improves comparability between military and civilian labour cost inflation rates in 2010/11 and 2011/12. For further details refer to [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).
- In 2011/12 inflation in civilian gross pay (0.6%) was slightly lower than inflation in military basic and specialist pay (0.7%). However, inflation in civilian pay and allowances (1.1%) was slightly higher than inflation in military pay and allowances (0.9%), caused by the relatively high inflation in locally engaged civilian pay.

**NOTE:** Since the publication of 2011/12 defence inflation estimates in September 2012, revisions have been made to civilian labour cost inflation estimates. Further details on the revisions can be found in **Chapter 5: Methodology**.

## Expenditure and Weights

Expenditure on labour costs accounts for just over one third (35%) of the Department's expenditure during 2010/11. For the 2011/12 estimates, 79% of this expenditure was on military labour costs and 21% was on civilian labour costs (**Figure 8**).

**Figure 8: Labour Cost Inflation Expenditure by Personnel Type, 2010/11**



For both military and civilian personnel, the inflation rate captures the growth in average labour costs, which includes gross pay, employer's National Insurance contributions (ERNIC), Travel and Subsistence (T&S) and pension contributions (SCAPE). It implicitly includes all paid sickness, paternity or maternity leave. The inclusion of all these costs captures the total inflationary impact of employing the Department's labour, over and above changes in their pay.

## Labour Costs

Inflation in labour cost expenditure was 3.4% in 2011/12 (**Table 5**), 1.3 percentage points lower than in 2010/11. The key driver behind the reduced inflation rate in 2011/12 is the lower inflation rate for both

military and civilian pay: inflation in military basic and specialist pay was 0.7% in 2011/12 compared with 2.8% in 2010/11 (**Table 6**); inflation in civilian gross pay was 0.6% in 2011/12 compared with 3.9% in 2010/11 (**Table 7**). Lower inflation in both military and civilian pay was driven by the two year pay freeze starting in 2011/12, experienced by all public sector workers, following the Government's emergency Budget in 2010.

A change in methodology for calculating military labour costs inflation in 2010/11 and 2011/12 hinders direct comparisons with historical estimates. For further details refer to [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

**Table 5: Defence Inflation – Labour Costs, 2005/06 to 2011/12**

| Personnel Type              | Military Labour Costs              |      | Civilian Labour Costs |      | Defence Labour Costs |      |
|-----------------------------|------------------------------------|------|-----------------------|------|----------------------|------|
| <i>Weights</i> <sup>1</sup> | 788                                |      | 212                   |      | 1000                 |      |
| Financial Year              | Index and Growth Rate <sup>2</sup> |      |                       |      |                      |      |
| 2004/05                     | 100.0                              | -    | 100.0                 | -    | 100.0                | -    |
| 2005/06                     | 105.0                              | 5.0% | 107.4                 | 7.4% | 105.6                | 5.6% |
| 2006/07                     | 108.5                              | 3.3% | 111.6                 | 3.9% | 109.2                | 3.5% |
| 2007/08                     | 113.4                              | 4.5% | 115.5                 | 3.5% | 113.9                | 4.3% |
| 2008/09                     | 117.1                              | 3.3% | 120.7                 | 4.5% | 118.0                | 3.6% |
| 2009/10                     | 122.2                              | 4.3% | 124.0                 | 2.7% | 122.6                | 4.0% |
| 2010/11 <sup>3</sup>        | 128.2                              | 4.9% | 128.5                 | 3.6% | 128.3                | 4.7% |
| 2011/12                     | 133.2                              | 3.9% | 130.1                 | 1.3% | 132.6                | 3.4% |

[1] These weights apply to the 2011/12 measure. Due to chain-linking, weights reflect the expenditure pattern within the base year not the reference year e.g. for the 2011/12 inflation measure weights reflect expenditure in 2010/11. Due to rounding the weights may not sum to 1000.

[2] Growth rates are year-on-year and calculated from unrounded data.

[3] From 2010/11, the methodology for estimating inflation in military labour costs was reviewed and improved following availability of new data sources. The change in methodology means it is not possible to compare military labour cost inflation rates from 2010/11 and 2011/12 with historical estimates. For further details refer to [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

## Military Labour Costs

Inflation in military labour cost expenditure was 3.9% in 2011/12 (**Table 6**), 1.0 percentage point lower than the 2010/11 inflation rate of 4.9%.

A change in methodology for calculating inflation in military labour costs in 2010/11 hinders direct comparisons with historical estimates. For further details refer to [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

**Table 6: Defence Inflation – Military Labour Costs, 2005/06 to 2011/12**

| Military Labour Costs                         | Weights <sup>1</sup> | Growth Rate <sup>2</sup> |             |             |             |             | 2010/11     | 2011/12     |
|---|----------------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|   |                      | 2005/06                  | 2006/07     | 2007/08     | 2008/09     | 2009/10     |             |             |
| Basic Pay and Specialist Pay <sup>3,4</sup>   | 622                  | 3.0%                     | 3.1%        | 3.6%        | 3.7%        | 2.8%        | 2.8%        | 0.7%        |
| Non-Activity Allowance                        | 31                   | -2.7%                    | 9.2%        | 36.2%       | -11.4%      | 12.1%       | 17.7%       | -1.7%       |
| Activity Allowance <sup>3</sup>               | 23                   | 5.0%                     | 7.5%        | 14.2%       | 2.6%        | 1.8%        | 32.4%       | 8.7%        |
| <b>Pay and Allowances<sup>3</sup></b>         | <b>675</b>           | <b>2.9%</b>              | <b>3.3%</b> | <b>4.9%</b> | <b>3.0%</b> | <b>3.1%</b> | <b>4.2%</b> | <b>0.9%</b> |
| Pension Contributions <sup>3</sup>            | 175                  | 18.1%                    | 3.1%        | 3.6%        | 3.8%        | 10.7%       | 9.4%        | 15.4%       |
| National Insurance Contributions <sup>3</sup> | 51                   | 2.6%                     | 5.4%        | 4.0%        | 1.5%        | 2.5%        | 3.9%        | 4.3%        |
| Travel and Subsistence                        | 99                   | 2.4%                     | 2.7%        | 3.2%        | 5.4%        | 3.7%        | 3.6%        | 4.3%        |
| <b>Military Labour Costs<sup>3</sup></b>      | <b>1000</b>          | <b>5.0%</b>              | <b>3.3%</b> | <b>4.5%</b> | <b>3.3%</b> | <b>4.3%</b> | <b>4.9%</b> | <b>3.9%</b> |

[1] These weights apply to the 2011/12 measure. Due to chain-linking, weights reflect the expenditure pattern within the base year not the reference year e.g. for the 2011/12 inflation measure weights reflect expenditure in 2010/11. Due to rounding the weights may not sum to 1000.

[2] Growth rates are year-on-year and calculated from unrounded data.

[3] From 2010/11, the methodology for estimating inflation in military labour costs was reviewed and improved following availability of new data sources. The change in methodology means it is not possible to compare military labour cost inflation rates from 2010/11 with historical estimates. For further details refer to [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

[4] Includes reservists and cadets pay.

The key drivers behind the lower rate of inflation in military labour costs in 2011/12 (3.9%) compared with 2010/11 (4.9%) are:

- ↓ Inflation within basic pay and specialist pay for military personnel (the element with largest individual weighting - 62%) was 0.7% in 2011/12, compared with 2.8% in 2010/11 (where there was a 2% pay increase across all military pay bands). The lower 2011/12 inflation rate reflects the pay freeze across the board for all military personnel with the exception of personnel earning £21,000 or less. The effect of the pay freeze was slightly offset, since all military personnel still progressed up their pay scales.
- ↓ Activity allowances had an inflation rate of 8.7% in 2011/12, compared with an inflation rate of 32.4% in 2010/11. The allowance that most heavily contributed to this change was operational allowance. The daily rate of pay for operational allowance doubled in 2010/11. The inflationary impact of this change in daily rate was principally experienced in 2010/11 (inflation in operational allowance was 86.5%), but still impacted on the 2011/12 inflation rate to a much lesser extent (where inflation in operational allowance was 18.2%).
- ↓ Non-activity allowances had an inflation rate of -1.7% in 2011/12, compared with 17.7% in 2010/11. This is as a result of lower committal and retention payments in 2011/12 across all Services.
- ↑ The higher inflation within employer pension contributions in 2011/12 (15.4%) was driven in part by inflation in military pay. However, the key driver was the considerable increase in SCAPE contribution rates for both officers and ranks.



## Civilian Labour Costs

Inflation in civilian labour cost expenditure was 1.3% in 2011/12 (**Table 7**), 2.4 percentage points lower than the 2010/11 inflation rate of 3.6%, and considerably lower than the average year-on-year growth rate (3.8%) between 2005/06 and 2011/12.

**Table 7: Defence Inflation – Civilian Labour Costs, 2005/06 to 2011/12**

| Civilian Labour Costs            | Weights <sup>1</sup> | Growth Rate <sup>2</sup> |             |             |             |             |             |             |
|----------------------------------|----------------------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                                  |                      | 2005/06                  | 2006/07     | 2007/08     | 2008/09     | 2009/10     | 2010/11     | 2011/12     |
| Gross Pay <sup>3</sup>           | 664                  | 4.0%                     | 3.3%        | 3.7%        | 4.0%        | 2.8%        | 3.9%        | 0.6% r      |
| Locally Engaged Civilian Pay     | 97                   | 5.3%                     | 4.8%        | 4.3%        | 11.0%       | 7.8%        | 0.6%        | 4.5%        |
| Royal Fleet Auxiliary Pay        | 30                   | 2.5%                     | 3.0%        | 2.6%        | 2.6%        | 3.2%        | 1.9%        | 1.0%        |
| <b>Pay and Allowances</b>        | <b>790</b>           | <b>4.1%</b>              | <b>3.5%</b> | <b>3.7%</b> | <b>4.8%</b> | <b>3.4%</b> | <b>3.4%</b> | <b>1.1%</b> |
| Pension Contributions            | 115                  | 43.4%                    | 7.3%        | 3.6%        | 3.6%        | -0.8%       | 3.8%        | 0.4%        |
| National Insurance Contributions | 49                   | 3.6%                     | 4.0%        | 0.7%        | 2.9%        | -0.9%       | 5.6%        | 2.7%        |
| Travel & Subsistence             | 46                   | 2.1%                     | 2.7%        | 3.9%        | 5.0%        | 3.0%        | 4.6%        | 5.0%        |
| <b>Civilian Labour Costs</b>     | <b>1000</b>          | <b>7.4%</b>              | <b>3.9%</b> | <b>3.5%</b> | <b>4.5%</b> | <b>2.7%</b> | <b>3.6%</b> | <b>1.3%</b> |

[1] These weights apply to the 2011/12 measure. Due to chain-linking, weights reflect the expenditure pattern within the base year not the reference year e.g. for the 2011/12 inflation measure weights reflect expenditure in 2010/11. Due to rounding weights may not sum to 1000.

[2] Growth rates are year-on-year and calculated from unrounded data.

[3] Gross pay includes overtime, allowances and non-consolidated performance related pay award inflation.

[r] Indicates a change to figures previously published in the provisional 2011/12 Statistical Notice.

The key drivers behind the lower rate of inflation in civilian labour costs in 2011/12 (1.3%) compared with 2010/11 (3.6%) are:

- ↓ Inflation in gross pay (the element with largest individual weighting - 66%) was 0.6% in 2011/12, compared with 3.9% in 2010/11 (where there was a 2% increase in all civilian pay bands). The lower 2011/12 inflation rate reflects the pay freeze for all civilian staff, with the exception of personnel earning £21,000 or less, and a subset of civilians on the minimum pay scale for their grade<sup>1</sup> that were progressed to the next pay spine point.
- ↓ In 2011/12, there were no changes made to pension contribution rates, whilst changes to National Insurance (NI) contributions were limited to rises in the Lower Earning Level and Rebate Level. This, coupled with the lower gross pay inflation, resulted in pension and NI contributions being lower than in 2010/11.
- ↑ Inflation in Locally Engaged Civilian (LEC) pay was higher in 2011/12 (4.5%) than in 2010/11 (0.6%). This was driven by higher rates of inflation in countries where LECs are employed, including Germany, Cyprus and Gibraltar, reflected in higher Average Earnings Indices' rates.

<sup>1</sup> Includes the following civilians: Band E2, Band E1 and associated Retained Grades, Skill Zone 1, Skill Zone 2, Skill Zone 3, 20 Squadron A Troop and Apprentices.

# 4 Cash Office Expenditure

## Key findings

- Inflation in cash office expenditure was 1.7% in 2011/12.
- Between 2005/06 and 2011/12, inflation in cash office expenditure averaged 4.8% year-on-year growth, but has been volatile over this period.
- Inflation within cash offices for US Dollars was 0.4% and for Euros was 4.3% in 2011/12.

## Cash Offices

Cash office expenditure accounts for 1.5 per cent of the total expenditure captured within the defence inflation measure in 2011/12. The inflation rates within cash offices capture both: the inflation due to changes in currency exchange rates; and domestic inflation in the relevant country.

**Table 8** presents inflation in cash office expenditure over the period 2005/06 to 2011/12. In 2011/12, inflation within cash office expenditure was 1.7%. Over the seven year period inflation averaged 4.8%, ranging from 0.9% in 2005/06 to 9.7% in 2010/11.

Broadly speaking the rate of inflation for cash offices is driven by the inflation rates within countries where US Dollars and Euros are spent - the two currencies which contribute most to the total level of foreign currency spend - and movements in the exchange rates of these currencies against Sterling.

Exchange rates for US Dollars and Euros used to estimate defence inflation in cash offices are based upon the actual rates achieved by the MOD for currency deliveries through spot buys and the forward buy programmes. For all other currencies, exchange rates are based on spot prices only.

**Table 8: Defence Inflation – Cash Office Expenditure, 2005/06 to 2011/12**

| Currency                    | Cash Offices - US Dollar <sup>2</sup> |       | Cash Offices - Euro <sup>2</sup> |       | Cash Offices - Other <sup>2</sup> |       | Cash Offices <sup>2</sup> |      |
|-----------------------------|---------------------------------------|-------|----------------------------------|-------|-----------------------------------|-------|---------------------------|------|
| <i>Weights</i> <sup>1</sup> | 579                                   |       | 257                              |       | 164                               |       | 1000                      |      |
| Financial Year              | Index and Growth Rate <sup>3</sup>    |       |                                  |       |                                   |       |                           |      |
| 2004/05                     | 100.0                                 | -     | 100.0                            | -     | 100.0                             | -     | 100.0                     | -    |
| 2005/06                     | 95.9                                  | -4.1% | 101.5                            | 1.5%  | 105.5                             | 5.5%  | 100.9                     | 0.9% |
| 2006/07                     | 94.1                                  | -1.9% | 106.2                            | 4.6%  | 106.8                             | 1.2%  | 102.2                     | 1.4% |
| 2007/08                     | 96.4                                  | 2.5%  | 107.4                            | 1.0%  | 110.9                             | 3.9%  | 104.7                     | 2.4% |
| 2008/09                     | 102.8                                 | 6.7%  | 113.5                            | 5.7%  | 133.4                             | 20.3% | 114.4                     | 9.3% |
| 2009/10                     | 111.4                                 | 8.3%  | 121.2                            | 6.8%  | 147.1                             | 10.3% | 123.8                     | 8.2% |
| 2010/11                     | 121.7                                 | 9.2%  | 136.7                            | 12.7% | 158.0                             | 7.4%  | 135.8                     | 9.7% |
| 2011/12                     | 122.1                                 | 0.4%  | 142.6                            | 4.3%  | 161.9                             | 2.5%  | 138.2                     | 1.7% |

[1] These weights apply to the 2011/12 measure. Due to chain-linking, weights reflect the expenditure pattern within the base year not the reference year e.g. for the 2011/12 inflation measure weights reflect expenditure in 2010/11. Due to rounding the weights may not sum to 1000.

[2] For the definition of 'Cash Offices' used within the defence inflation measure, refer to the **Glossary**.

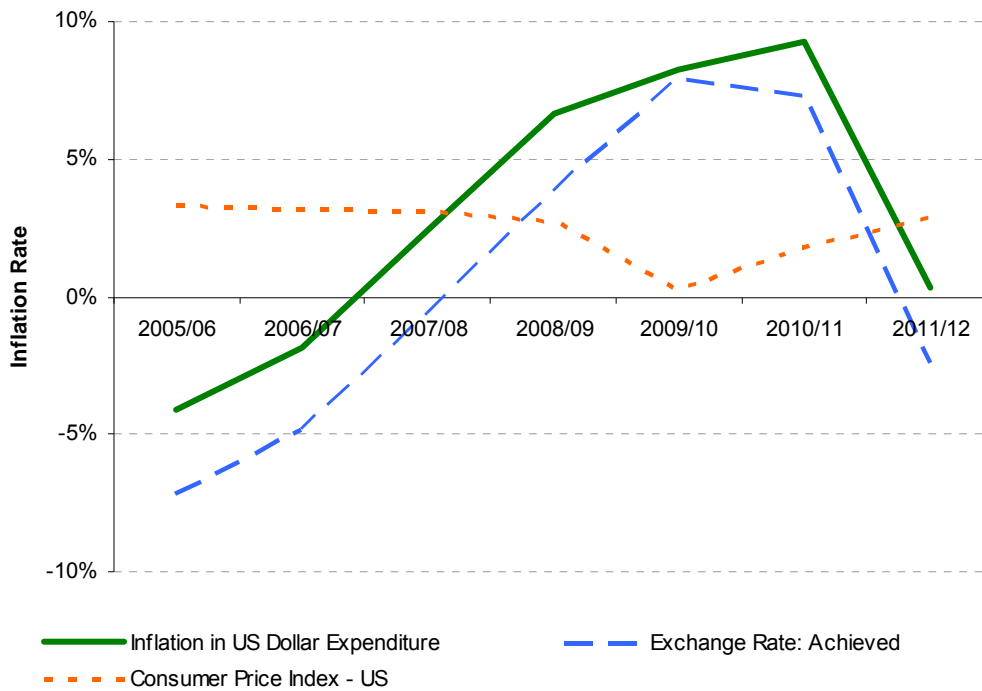
[3] Growth rates are year-on-year and calculated from unrounded data.

## Cash Offices – US Dollars and Euros

Nearly three fifths of the expenditure through cash offices in 2010/11 (base year for the 2011/12 inflation measure) was spent on US Dollars and about a quarter was spent on Euros. In 2011/12, the inflation rate for cash office expenditure on US Dollars and Euros was 0.4% and 4.3%, respectively.

**Figure 9** presents the relationship between the exchange rate for US Dollar (based on the Department’s spot purchases and forward buys), and the US Consumer Price Index (CPI). Between 2005/06 and 2009/10 there was a steady increase in US Dollar expenditure inflation. This increase slowed in 2009/10 because of the fall in US CPI inflation between 2008/09 and 2009/10. It was further slowed in 2010/11 due to a slight fall in the US Dollar achieved exchange rate. There was a considerable decrease in US Dollar expenditure inflation in 2011/12, driven by the appreciation of sterling against the US Dollar.

**Figure 9: Inflation in Cash Offices on US Dollars, 2005/06 to 2011/12**



Source: Annual inflation rates for CPI US from the International Monetary Fund, sourced from Bureau of Labor Statistics.

# 5 Methodology

## Summary

Defence inflation estimates were published for the first time in March 2010. These measure the average change in pay and prices of goods and services, making up the defence budget, with quality and quantity held constant.

The estimate of defence inflation is a chain-linked Laspeyres price index. For each pair of consecutive years pure price growth is estimated by holding the quality and quantity of goods, services and personnel constant, and either directly measuring their change in price or making reference to relevant price indices. The year-on-year price growths are multiplied together to produce the chain-linked Laspeyres index with the reference period being the financial year 2004/05.

## Process

Each component (contract, labour cost and cash office expenditure) of defence inflation is estimated using a bespoke method reflecting the different data sources. These estimates are averaged, using the expenditures for individual components (from the Department's accounting data) as weights, to produce an overall measure of defence inflation. For a detailed overview of the methodology used to estimate defence inflation, refer to the [Defence Inflation Statistical Bulletin No. 10](#).

The components of defence inflation are listed below, with percentages indicating the average breakdown of MOD expenditure in the last seven years (rounded to nearest five per cent).

### **Expenditure on Contracts (60%)**

1. Fixed price contracts with explicit indexation clauses (20%)
2. High value firm price contracts (20%)
3. High value miscellaneous payments (5%)
4. Low value contracts and miscellaneous payments (15%)

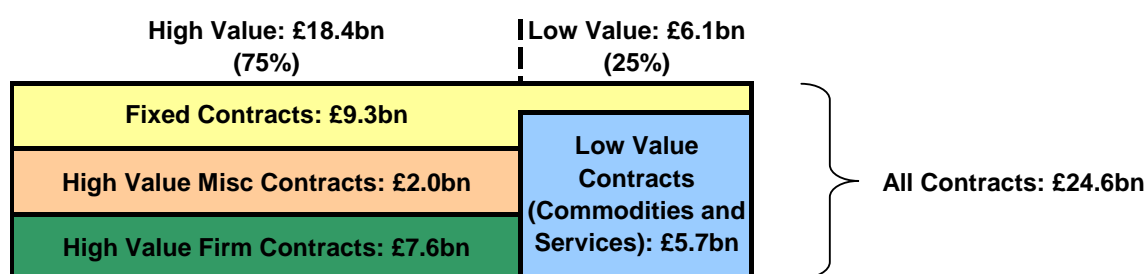
### **Expenditure on Labour (35%)**

5. Military labour costs (30%)
6. Civilian labour costs (10%)

### **Cash Office Expenditure (5%)**

## Contracts

In 2010/11 the MOD had over 32,000 contracts with payments against them, accounting for £25bn (almost two thirds) of the Department's annual expenditure. The method developed for estimating inflation in contracts reflects the skewed distribution of payments. There are three categories of high value (ranked in the top 75% of annual expenditure) contracts each with a method of estimation tailored to their particular characteristics and one category for low value contracts with its own estimation method. **Figure 10** provides an indicative illustration of the split by contract type and high value / low value.

**Figure 10: Contract Inflation Expenditure by Contract Type, 2011/12**

The method of estimating inflation often relies upon the Standard Industrial Classification (SIC) assigned to the contract. DASA places contracts into groups, based upon the SIC code which reflects the good or service being procured. These groups provide a useful tool for identifying relevant price indices for contracts.

There is insufficient data to facilitate mapping between contracts which have reached their conclusion, and their replacement. Moreover, most new contracts incorporate changes in both quality and quantity. Therefore, the method focuses on estimating inflation embedded within contracts, assuming any residual price change is driven by changes in specification. In this way, the inter-generational effect of moving to new platforms is excluded from the measure of defence inflation. For further details see the [Defence Inflation Statistical Bulletin No. 10](#).

## Labour Costs

Expenditure on labour costs accounts for around one third of the Department's expenditure. For both military and civilian personnel, the inflation rate captures the growth in average labour costs, which includes gross pay, employer's National Insurance contributions (ERNIC), Travel and Subsistence (T&S) and pension contributions (SCAPE). It implicitly includes all paid sickness, paternity or maternity leave.

The SCAPE rates are determined by the Government's Actuary Department, reflecting their expectations of future pension provision rather than changes to economic conditions. However, changes in SCAPE rates result in the Department experiencing a change in the cost of employing an individual without a change in output.

In 2010/11 a new methodology was developed for estimating inflation in military labour costs, and as such the estimates of inflation in civilian and military pay and labour costs are now directly comparable. For further information on the new methodology for military labour cost inflation, see [Defence Inflation: Military Labour Costs – Statistical Bulletin No. 12](#).

## Cash Office Expenditure

Foreign currencies are purchased by the Department for a range of purposes: to meet personnel expenditure requirements; to make payments on contracts denominated in foreign currencies; and to make payments through cash offices.

The Department's Cash and Banking Services (CaBS) records transfers of Euros and US Dollars from the forward and spot buy programme to cash offices around the World, and also purchase many other quoted and non-quoted currencies. Data on volumes and achieved rates for Euros and US Dollar deliveries are used to estimate the inflation in the actual achieved exchange rates by the Department in this category of expenditure. For all other currencies spot rates are used.

Expenditure on personnel is removed from the expenditure through cash offices, as the inflationary impact of overseas expenditure on personnel is captured within the labour costs element. An estimate of the inflation for cash office expenditure is then estimated as a product of local inflation, as measured by the change in the country's Consumer Price Index, and the average change in the exchange rates.

## Contract Payments in Foreign Currencies

Exchange rate variation can have an inflationary impact on contracts in two ways: (i) the contract has a formal exchange rate variation clause that adjusts the price/cost, in pounds sterling, to reflect movements in exchange rates; or (ii) part, or all, of the contract is paid in a foreign currency.

Details of contracts with an exchange rate variation mechanism were collected as part of the work on fixed price contracts. Inflation due to foreign exchange movement is therefore captured explicitly for these contracts.

In 2011/12 the methodology for estimating the total contract expenditure for payments in US Dollars, Euros and other foreign currencies was reviewed, following the availability of a new data source which enables DASA to determine annual total contract expenditure in each currency. In contrast, in previous years, total currency purchases were calculated indirectly from the Department's CaBS records for Euros and US Dollars.

The methodology development has enabled a more straightforward and comprehensive analysis of contract expenditure in foreign currencies. It has also highlighted far higher expenditure on contracts in foreign currencies during 2010/11 than identified in previous years (£4.0 billion in 2010/11 compared with £1.5 billion in 2009/10) (**Table 9**).

The overall inflation rate for contract payments in foreign currencies is estimated using weighted inflation rates for US Dollars, Euros and local currencies. Whilst the overall expenditure is much higher in 2010/11 than in previous years, the weightings of each currency in 2010/11 remain broadly similar to the weightings in 2009/10. **Table 9** presents total contract expenditure in foreign currencies since 2004/05, and the annual weightings of US Dollars, Euros and local currencies.

**Table 9: Contract Expenditure in Foreign Currency and Currency Weights, 2004/05 to 2010/11**

|                                | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 <sup>1</sup> |
|--------------------------------|---------|---------|---------|---------|---------|---------|----------------------|
| <b>Expenditure (£ million)</b> | £1,439  | £1,609  | £1,887  | £2,036  | £2,600  | £1,527  | £4,044               |
| <i>Weights<sup>2</sup></i>     |         |         |         |         |         |         |                      |
| US Dollars                     | 578     | 560     | 617     | 664     | 591     | 497     | 513                  |
| Euros                          | 370     | 397     | 335     | 310     | 387     | 473     | 446                  |
| Local Currencies               | 52      | 43      | 49      | 26      | 23      | 30      | 42                   |

[1] From 2011/12, the methodology for estimating the adjustment to contract inflation as a result of foreign exchange was reviewed and improved following availability of a new data source. The change in methodology means comparisons of 2011/12 contract inflation rates with historical estimates are hindered.

[2] Due to rounding weights may not sum to 1000.

When adjusting the contract inflation rate, it is not possible to identify which contracts are paid in foreign currencies. Instead the value of contracts purchased in foreign currencies and the weighted inflation rate are used to estimate the overall inflationary pressure of paying some contracts in foreign currency; this is assumed to be spread equally across all contracts. The greater the proportion of contracts purchased in foreign currencies and the higher the weighted inflation rate, the higher the contract adjustment will be. **Table 10** provides the inflationary adjustments to contracts between 2005/06 and 2011/12 as a result of paying for some contracts in foreign currency; in 2011/12 this adjustment was -0.1 percentage points.

**Table 10: Impact of Paying Contracts in Foreign Currencies, 2005/06 to 2011/12**

|                            | Percentage Points |         |         |         |         |         |                      |
|----------------------------|-------------------|---------|---------|---------|---------|---------|----------------------|
|                            | 2005/06           | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 <sup>1</sup> |
| <b>Contract Adjustment</b> | -0.4              | -0.2    | -0.1    | 0.4     | 0.8     | 0.5     | -0.1                 |

[1] From 2011/12, the methodology for estimating the adjustment to contract inflation as a result of foreign exchange was reviewed and improved following availability of a new data source. The change in methodology means comparisons of 2011/12 contract inflation rates with historical estimates are hindered.

Since the weighted inflation rate was very low in 2010/11, despite the large increase in the proportion of contract expenditure identified as spent in foreign currency, the contract inflation adjustment was very low (-0.1%). Hence, the impact of the methodology development on 2011/12 estimates is minimal. However, should the weighted inflation rate be higher in future years, the impact of the new method will be more evident.

## Revisions

Revisions will be made to the defence inflation measure to improve the usability and relevance when necessary. Reasons for revising figures include:

- (i) Acquiring new information relating to already published results;
- (ii) Improvements to methodology and selection of data sources;
- (iii) Identification of significant errors.

Throughout the publication, where revisions occur, they will be indicated by table footnotes.

### **Revisions to the previously published provisional 2011/12 Statistical Notice**

On 10 December MOD released final accounts data for 2011/12. As forewarned in the September statistical notice, DASA have subsequently reviewed and finalised the provisional defence inflation estimates. This publication presents the finalised 2011/12 defence inflation estimates.

The elements of the MOD's accounts data used to estimate defence inflation have not changed. Therefore, defence inflation estimates have not been revised due to final release of the accounts.

However, as part of this review, DASA identified the need to revise estimates of inflation in civilian gross pay (revised from 0.1% to 0.6%) and Royal Fleet Auxiliary pay (revised from 0.0% to 1.0%).

These revisions impacted on the civilian labour costs inflation rate (revised from 0.9% to 1.3%), the overall labour costs inflation rate (revised from 3.3% to 3.4%) and the overall defence inflation rate (revised from 3.3% to 3.4%).

Whilst several revisions have been made to these inflation rates there was no significant impact to the overall findings or trends.

## Quality

A Background Quality Statement providing an assessment of the defence inflation statistics can be accessed at the following link on [www.dasa.mod.uk](http://www.dasa.mod.uk):

<http://www.dasa.mod.uk/applications/newWeb/www/index.php?page=48&pubType=3&thiscontent=900&PublishTime=09:30:00&date=2012-09-26&displayText=Single%20Report&from=listing&topDate=2012-09-26>

# Glossary

**Activity Related Allowances** Allowances awarded to individuals being asked to perform activities different from their standard duties, such as operations or training.

**Cash Offices** Operate in British embassies and MOD bases around the world and are responsible for maintaining imprest accounts. Imprest accounts are used to make payments in local currency or Great British Pounds to personnel, which cannot be made by other means. These include payments to overseas units with non-sterling bank accounts, payments to operational units overseas and payments to HM Ships and RFAs afloat. Contractors should not normally be paid through imprest accounts.

**Chain-Linked Price Index** An index which relates the price of a basket of goods and services to the prices of a similar basket in a previous period, not a fixed base period. Chain-linking an index enables the basket of goods to be regularly updated without introducing a break in the series.

**Commodities and Service Contracts** Any **low value contract** which does not have an indexation arrangement (e.g. **fixed price**). Commodity and service contracts are therefore made up of low value **firm price** and low value **miscellaneous** contracts.

**DASA** see **Defence Analytical Services and Advice**.

**Defence Analytical Services and Advice** DASA was created in July 1992 and provides National Statistics on Defence and other corporate information, forecasting and planning and consultancy, advice and research services to the MOD. It ceased to be an Agency on 1 April 2008 and was renamed Defence Analytical Service and Advice.

**Defence Contracts** All contracts have been grouped by **DASA** into four categories: high value **firm price**; **fixed price**; high value **miscellaneous**; and low value **commodities and services**. See also: **high value contracts** and **low value contracts**.

**Defence Inflation** Defence inflation is the average rate of increase in pay, and prices of all goods and services, making up the Defence budget, after allowing for changes in quality and quantity.

**Earnings Related National Insurance Contributions (ERNIC)** National Insurance payments made by the Department to HM Revenue & Customs, on earnings paid to the employee. These payments (secondary contributions) are in addition to those National Insurance contributions made by the individual themselves.

**ERNIC** see **Earnings Related National Insurance Contribution**.

**Firm Price Contracts** DASA defined sub-group of **defence contracts** which captures contracts with a non-variable inflation rate imbedded in the contract price.

**Fixed Price Contracts** DASA defined sub-group of **defence contracts** which captures contracts which contain an indexation adjustment, typically a variation of price clause. The indexation component of a contract links the contract payments to changes in price indices, in order to reflect inflation in related industries.

**GDP Deflator** see **Gross Domestic Product Deflator**.

**Gross Domestic Product Deflator** This is an implicit price deflator for the Gross Domestic Product and is derived by dividing the estimate of GDP at current prices by the estimate of GDP at constant prices. The GDP Deflator can be viewed, and is commonly used, as a measure of inflation in the economy for the country to which it refers.

**Gross Pay** This represents an individual's total pay before deductions (such as tax and pension contributions) have been removed. Gross pay also includes allowances, overtime and non-consolidated performance related pay awards.



**High Value Contracts** Defence Contracts having an annual payment which fall in the top 75% of all ranked contract expenditure.

**Labour Costs** The total expenditure on labour for both military and civilian personnel. Labour costs capture expenditure on: pay, allowances, employer national insurance contributions (**ERNIC**), employer pension contributions (**SCAPE**), and travel and subsistence.

**Laspeyres Price Index** This is a measure of the change in the price of a basket of goods. The quantities of the items within the basket of goods are fixed to allow a measure of pure price change. Prices are aggregated in a Laspeyres index by using weights from the base period.

**LEC** Locally engaged civilian, see **Locally Engaged Personnel**.

**Locally Engaged Personnel** A civilian employee recruited overseas exclusively for employment in support of the UK Armed Forces deployed in a particular overseas theatre (or in support of the Sovereign Base Areas Administration in Cyprus) and on terms and conditions of service applicable only to that overseas theatre or Administration, including the dependents of UK military personnel or UK-based civilian staff employed in that overseas theatre (who are sometimes separately identified as UK Dependents). LECs are not civil servants.

**Low Value Contracts** Defence Contracts having an annual payment which fall in the bottom 25% of ranked contract expenditure.

**Ministry of Defence** The Ministry of Defence (MOD) is the United Kingdom government department responsible for implementation of government defence policy and is the headquarters of the British Armed Forces.

**Miscellaneous Contracts** The payment method employed by the MOD Financial Management Shared Service Centre (the MOD's primary bill paying authority) for running service items such as the provision of utilities. Such items are covered by "miscellaneous" transactions where no 'MOD HQ Contract' exists. These agreements for goods or services will have been set up locally between the MOD Branch and the Supplier and are legally binding.

**MOD** see **Ministry of Defence**.

**MOD Accounts (Departmental Resource Accounts)** The Department is required to prepare resource accounts for each financial year detailing the resources acquired, held, or disposed of during the year, and the way it has used them during the year.

**Non-Activity Related Allowances** are essentially benefits paid to individuals such as education allowances, and committal and retention allowances.

**Office for National Statistics (ONS)** A non-ministerial Department responsible for the production of a wide range of independent economic and social statistics. The ONS is the executive office of the UK Statistics Authority which reports directly to Parliament. The ONS is the UK Government's single largest statistical producer.

**Officers** Member of the Armed Forces holding the Queen's Commission. This includes ranks from Sub-Lt/2 and Lt/Pilot Officer up to Admiral of the Fleet/Field Marshal/Marshal of the Royal Air Force, but excludes Non-commissioned officers.

**ONS** see **Office for National Statistics**.

**Other Ranks** Members of the Royal Marines, Army and Royal Air Force who are not officers. The equivalent group in the Royal Navy is known as "Ratings".

**Retail Price Index excluding mortgage interest payments (RPIX)** is a **chain-linked price index** which measures the price change in the goods and services consumed by a typical household (excluding the change in price of mortgage interest payments). RPIX is a well known and commonly used indicator of inflation in the UK general economy.

**RFA** see **Royal Fleet Auxiliary Service**.

**Royal Fleet Auxiliary Service** Constituted in 1905, this is a civilian manned fleet, owned by the Ministry of Defence. Its main task is to supply warships of the Royal Navy at sea with fuel, food, stores and ammunition which they need to remain operational while away from base. It also provides aviation support for the Royal Navy, together with amphibious support and secure sea transport for Army units and their equipment. Its employees are full-time civil servants, but who come under the Naval Discipline Act when deployed to sea under naval command.

**RPIX** see **Retail Price Index excluding mortgage interest payments.**

**SCAPE** see **Superannuation Contribution Adjusted for Past Experience.**

**SIC** see **Standard Industrial Classification.**

**SIC Groups** These are DASA defined groups based upon the Standard Industrial Classification of economic activity, which is maintained by the Office for National Statistics, and are used to place defence contracts into homogeneous categories based upon the principle economic activity undertaken by a contract.

**Specialist pay** This is paid for undertaking specific activities related to an individual's normal work such as flying, parachuting, or being in a submarine.

**Standard Industrial Classification (SIC)** SIC classifies business establishments and other statistical units by the type of economic activity in which they are engaged. The classification is maintained by the **ONS**.

**Superannuation Contribution Adjusted for Past Experience (SCAPE)** The model, accepted by HM Treasury, to charge government departments for the provision of an unfunded pension scheme. Under SCAPE, both the employer and the employee make contributions to the scheme. SCAPE rates are determined by the Government's Actuary Department to reflect their expectations of future pension provision.

# Bibliography

**DASA website**

<http://www.dasa.mod.uk>

**Defence Inflation Background Quality Notice**

<http://www.dasa.mod.uk/applications/newWeb/www/index.php?page=48&pubType=3&thiscontent=900&PublishTime=09:30:00&date=2012-09-26&disText=Single%20Report&from=listing&topDate=2012-09-26>

**Defence Statistics Bulletin No. 10**

<http://www.dasa.mod.uk/applications/newWeb/www/index.php?page=48&pubType=0&thiscontent=1200&PublishTime=09:30:00&date=2010-03-30&disText=Bulletin%2010%20-%20Defence%20Inflation&from=listing&topDate=2010-03-30>

**Defence Statistics Bulletin No. 12**

<http://www.dasa.mod.uk/applications/newWeb/www/index.php?page=48&thiscontent=1200&pubType=0&date=2011-09-28&disText=Bulletin%2012&from=historic&topDate=2011-09-28&PublishTime=09:30:00>

**UK Code of Practice for Official Statistics**

<http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

**UK National Statistics Publication Hub**

<http://www.statistics.gov.uk/hub/index.html>

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