



National Audit Office

**Cabinet Office**

# Improving the efficiency of central government office property

## Detailed Methodology

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**MARCH 2012**

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## Introduction

**1** This document accompanies *Improving the efficiency of central government office property*, a report published by the Comptroller and Auditor General on 2 March 2012. It adds further details to the description of the methodology included in the main report at Appendix One.

**2** The purpose of the report is to evaluate the value for money of government's expenditure on office property. It focuses on the Government Property Unit (the Unit) in the Cabinet Office, which is responsible for leading the delivery of property savings across government. Accountability for expenditure on office property remains with the individual departments and agencies that own or occupy it.

**3** We set out to examine how well the Unit supports departments to further improve the efficiency of the office estate, by examining the potential for savings and assesses the current pace of reform; identifying the barriers to making savings more quickly; and assessing whether the Unit and wider central government are taking all possible actions to address these barriers and to improve the value for money of the estate quickly. We used five main methods:

- Interviews with staff in the Government Property Unit, and estates management staff in the 17 main central government departments.
- A review of documentation provided by the Government Property Unit and individual departments.
- A review of literature on the management of government office property.
- Consultation with a panel of commercial property experts.
- A model to assess the extent to which relying on leases coming to a natural end can achieve all the potential savings by 2020.

## Identifying barriers and assessing the effectiveness of the centre of government

**4** Our work identifying barriers to accelerating savings on office expenditure and evaluating the effectiveness of the Government Property Unit at the centre of government drew on:

- Semi-structured interviews with departmental estates staff;
- Review of documentation provided by departments and the Government Property Unit;
- Review of literature on government office property; and
- Consultation with a panel of property experts.

### Semi structured interviews

**5** We conducted semi-structured interviews with estates management staff across all 17 central government ministerial departments. The staff we interviewed were mainly departmental Heads of Estates and were all members of the centrally convened Property Champions group or the Facilities Management Board, so were in regular contact with the Government Property Unit. These interviews explored:

- departmental views on the opportunities available to them to improve efficiency on the office estate;
- barriers to improving efficiency, both at the level of individual buildings and more structural issues around the way government property is managed;
- opinions on the effectiveness of the Government Property Unit's work across the various strands of its activity; and
- departmental expectations for central support.

**6** We undertook the interviews using a standard template, and recorded results in a structured analysis matrix. In addition to the semi-structured interview programme we also interviewed staff from the Government Property Unit, from each of the separate teams within the Unit.

### Sample review – barriers to efficiency

**7** We sampled 100 buildings from the e-PIMS data as at 22 September 2011. This data set includes all central government civil estate offices except that which are sub-let to commercial tenants. To select this sample, we divided the population into quartiles based on their occupied area. We then selected 25 properties at random from each quartile. This was done so that there was an even representation of buildings of different sizes in the sample.

**8** We conducted telephone interviews with the departments holding each building about their intentions for the sampled property. We asked departments about:

- the function of the property including whether it was pure office space or served an operational function;
- the utilisation of the property and if there were any plans to improve upon this;
- if there were any issues with the building that would prevent increased utilisation; and
- the intention for the property in the future, i.e. exit, hold until lease end, retain etc.

### Sample review – exceptions to national property controls

**9** We requested from the Government Property Unit a list of all the exceptions it had granted to the freeze on new property acquisitions and lease extensions, between June 2010 to March 2015. At that time, there were 218 approvals, 127 of which were classified as office property. We sampled 40 of these 127 offices and requested further information from the Unit on each. We then reviewed the application from the Department and the decision by the Unit. We analysed the 40 cases for:

- the reason given for granting the exception;
- whether the application was submitted within reasonable time to allow the Unit to make an informed decision; and
- when a request was submitted after the amendment to national property controls on 24 November 2010 whether the revised requirements for an exception to be granted had been met.

## Document review

**10** We requested and reviewed a wide range of documentation from the Government Property Unit and departments including:

- The initial consultancy report recommending approaches for the Government Property Unit.
- Strategy submissions.
- Minutes of meetings attended by senior officials including the Property Advisory Board, the Property Champions Group and the Property and Facilities Management Board.
- The Government Property Unit's pathfinder plans for London and Bristol property consolidation.
- Information on savings.
- Examples of documentation relating to national property controls.
- Ways of working papers.
- Capability papers.
- Government Property Unit correspondence with departments.
- Departmental documentation.

## Literature review

**11** We reviewed a range of published material including:

- previous NAO reports on office property;
- government's State of the Estate reports;
- published government reports on aspects relating to office property including the Working Without Walls report on working practices and reports on the Capital Asset Programme; and
- reports from previous government reviews including the Operational Efficiency Programme, the Smith Review of civil service relocation, and the Philip Green review of government efficiency.

## A framework for an effective centre

**12** We drew on the findings of our fieldwork to construct an evaluative framework for the role of the centre in improving the efficiency of office property (**Figure 1**). We did this by listing all the barriers to greater efficiency that our fieldwork had identified, and then considering whether there could be a central role in resolving each barrier. We found that this list of barriers was supported by all the strands of our fieldwork. We used the resulting framework to produce the RAG ratings on effectiveness used in the report.

**Figure 1**  
An evaluative framework for the role of the centre of government in managing the office estate

Barrier	Role of the centre	NAO Expectation
The need for departments to share space and plan their needs together.	Vision and strategic planning	Decisions need to be taken from the perspective of savings for the taxpayer and working towards a shared flexible estate. Departments need to be encouraged to work together.
The need to integrate estate planning with plans for wider reform.		
Inadequate central information to manage the estate collectively.	Collating and sharing information	Departments need shared information if they are to work together to rationalise the existing estate
Perverse incentives from departmental budgets.	Addressing financial barriers	Perverse incentives that drive departments to work against the interests of the taxpayer need to be tackled, and invest to save projects funded to maximise the savings to taxpayers.
Invest to save projects difficult to fund.		
Previous low compliance with moratorium on new leases in south east.	Policing spending controls	Previous compliance with initiatives such as the Lyons Review have not been high, with many public bodies finding reasons for spending on new office space.
Lack of connectivity between ICT and security systems often quoted as a reason for not sharing space.	Removing barriers to working together and improving best practice	Departments need to develop and share best practice on how to transform the productivity and efficiency of the estate and ensure the interoperability of buildings.
Inconsistent approach between departments with reports of poor deals and onerous contracts	Developing and deploying expertise	The property asset management community requires leadership to ensure that it can deliver the transformation in the estate required and deploy skills and resources where they are most needed.
A lack of coordination between departments in negotiations.		

Source: National Audit Office

## Estimating potential savings through financial modelling

**13** The NAO produced a Model with the assistance of the Government Property Unit to assess what might be a reasonable level of savings to expect by relying on National Property Controls to achieve savings. We also wanted to understand the extent to which there was potential for further savings beyond the work of the National Property Controls. The model therefore aims to project:

- the minimum required size of office estate to accommodate office-based civil servants each year to March 2020; and
- the likely size of the actual office estate expected to be owned or occupied by central government each year to March 2020, if the government relies on National Property Controls to reduce the size of the estate.

**14** The base case results of this modelling as shown in **Figure 2** overleaf indicate that:

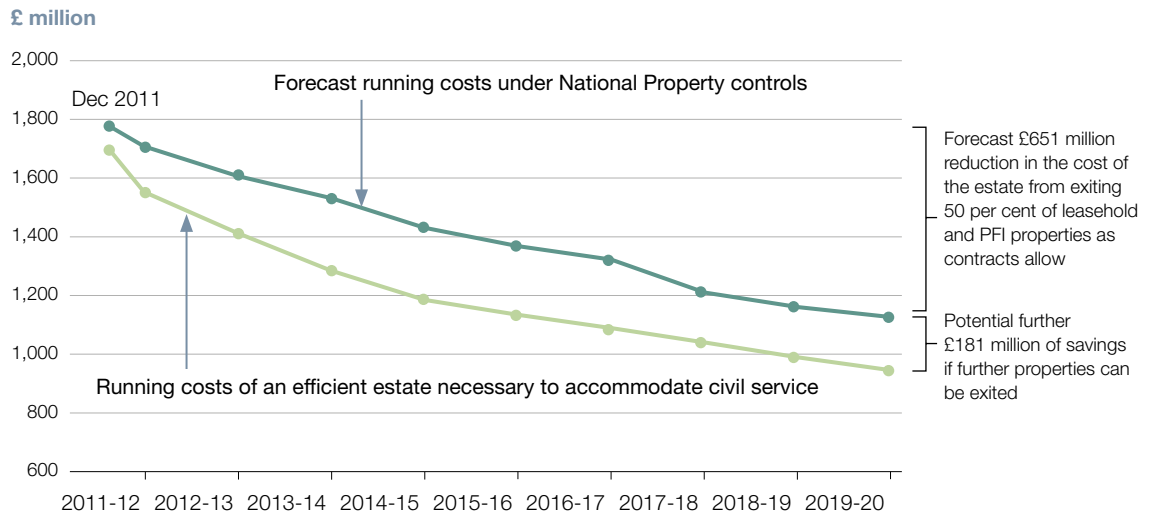
- on the basis of the assumptions in the Model, a total saving of £830 million on office property is potentially available to government by March 2020;
- the expected results of the operation of National Property Controls will be a reduction in the estimated costs of the actual office estate of £650 million by March 2020;
- the expected size and cost of the actual office estate remains in excess of the minimum required size of office estate calculated each year; and
- the excess of actual over minimum required office estate indicates a potential further £180 million of savings available by 2020 if government is able to exit this surplus property.

**15** These results depend on the following key assumptions, the impact of which are described in more detail at paragraph 30 below:

- that civil service numbers fall in line with current Cabinet Office expectations;
- that occupancy rates of 10 m<sup>2</sup> per person can be attained across the estate by March 2020;
- that government is able to exercise 50 per cent of leasehold breaks as they arise;
- that DWP and HMRC use the flexibility allowances in their PFI estates management contracts; and
- rental costs do not increase over the period to 2020, while Facilities Management costs fall by 2 per cent each year.

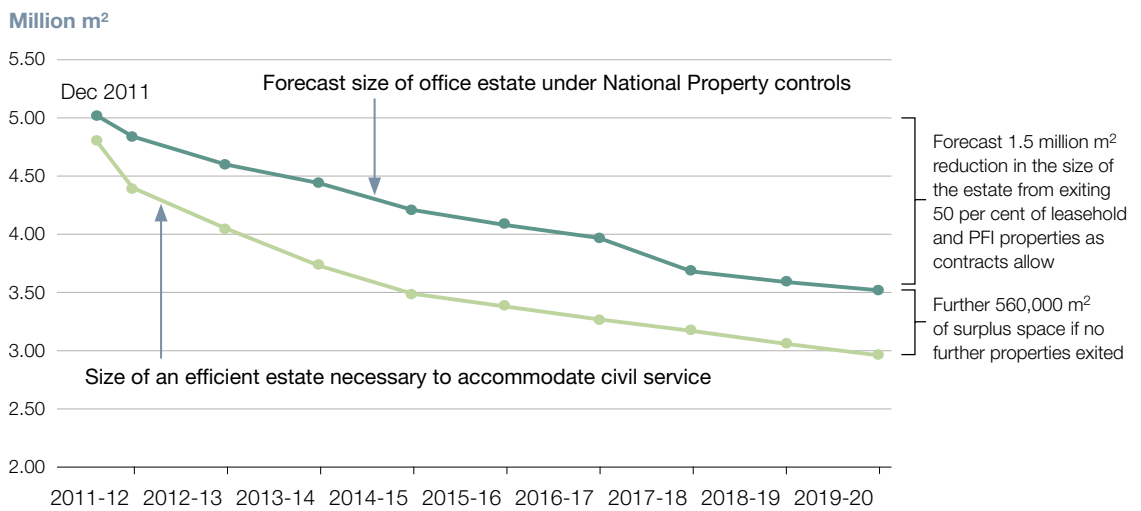
**Figure 2**  
Space worth £830 million could potentially be released by 2020

**Projected cost of the office estate**



● Cost of estate available	1,777	1,708	1,607	1,532	1,431	1,368	1,322	1,210	1,160	1,126
● Cost of estate required	1,698	1,553	1,413	1,285	1,185	1,134	1,089	1,040	989	945

**Projected size of the office estate**



● Size of estate available	5.02	4.84	4.60	4.44	4.21	4.08	3.97	3.68	3.59	3.52
● Size of estate required	4.80	4.40	4.05	3.73	3.49	3.38	3.27	3.17	3.06	2.96

**NOTES**

- 1 All prices are as at December 2011.
- 2 The sudden fall after 2018 is due to the expiry of the DWP PFI contract. See below for assumptions.



## Modelling minimum required office space

**16** The demand for office space is represented by the lower (light green) lines in Figure 2. It is driven by assumptions around the number of civil servants requiring office accommodation each year, and the amount of space each of these civil servants requires. The model begins at December 2011.

### Minimum space at December 2011

**17** The model assumes there are 507,115 full time equivalent civil servants employed at December 2011, of whom 339,767 need to work in offices. The Office for National Statistics reported 507,410 full-time equivalent staff employed in central government at 30 September 2011, which we have adjusted downwards to produce a figure for December. Using the figure of 4.80 million m<sup>2</sup> for office space and 13.2 m<sup>2</sup> per person in December 2010, we estimated that 67 per cent of civil servants worked in offices in March 2011. We have assumed that proportion of office workers remained the same in December 2011.

### Projected future space requirement

**18** Our assumptions of future levels of civil service numbers are based on Cabinet Office projections. The Cabinet Office forecasts a reduction in numbers up to 2014-15. We have assumed that civil service numbers are steady thereafter. We have also assumed that the proportion of civil servants requiring office accommodation remains constant at 67 per cent through to March 2020.

**19** The amount of space required per person is expected to decrease towards government's target of 10 m<sup>2</sup> per person. We have assumed achievement of 10 m<sup>2</sup> per person by March 2020, with steady progress towards that level achieved each year. By 2020 we estimate the minimum office requirement could be 2.96 million m<sup>2</sup> or a 45 per cent reduction on December 2011 levels.

### Estimating the cost of the minimum space requirement

**20** The £1,698 million expected cost of the minimum office space required at December 2011 is generated using an average cost of £354 per m<sup>2</sup>. This figure is derived from the average running costs for the 82 per cent of office buildings that were benchmarked in March 2011. The average cost is weighted to take into account the varying running costs of different tenure types (leasehold, PFI and freehold) on the estate.

**21** By 2020 the average cost of space is expected to fall to £320m<sup>2</sup>, meaning the remaining 2.96 million m<sup>2</sup> of office space is expected to cost £1,116 million. The model allows for savings of 2 per cent per annum in facilities management costs, and assumes no increase in rental costs, resulting in an average cost of £320 per m<sup>2</sup> in 2020.

## Modelling actual office space available in central government

**22** The supply of office space available in central government is represented by the upper (dark green) lines in Figure 2.

### Known weaknesses in the model

**23** The model calculates required and actual space on a whole-estate level, assuming that demand for office space can be met by supply on the existing estate wherever it may be located. In reality:

- Departments are unlikely to split teams and people around to achieve the most efficient accommodation, as they might inhibit their effective working. Buildings are therefore likely to work as silos, with empty floors and spaces.
- Not all space is interchangeable, and departments may have specific space requirements that they are unable to achieve from the existing estate, if they end a lease for a specialist building.
- Some buildings will be difficult to convert to 10 m<sup>2</sup>.

**24** We try to compensate for these known weaknesses in the model by assuming only half of the known lease expiry and lease breaks can be exercised.

### Available space at December 2011

**25** The supply of office property at December 2011 is 5.02 million m<sup>2</sup> as recorded on the Government Property Unit's e-PIMS database at that date. The e-PIMS database records 5.4 million m<sup>2</sup> in total from which 380,000 m<sup>2</sup> sublet outside central government is deducted.

### Projected future available estate

**26** **Exiting leases and PFIs under the National Property Controls is expected to release 1.53 million m<sup>2</sup> by March 2020.** We obtained the list of expected lease exits under National Property Controls between December 2011 and March 2015 from the Government Property Unit. We assumed that half of remaining properties with available lease breaks will be exited. This allows for a level of exceptions to the National Property Controls in line with the Government Property Unit's past experience. We verified this assumption through our survey of properties and sample of exceptions applied in 2010-11.

**27** We also took into account the large PFI estate management contracts let by the Department for Work and Pensions (DWP) and HM Revenue and Customs (HMRC). We made the following high level assumptions:

- We assumed that the DWP would exercise all of its remaining paid for flexible allowance under the contract, but none of the flexible allowance it would have to pay for, by removing offices from its estate. We applied this on a straight line basis. We then assumed that it would hand back half of its pure offices, but none of the offices attached to job-centers, when its contract expires in 2018.
- We assumed that HMRC would reduce its office space to 775,000 m<sup>2</sup> by 2020. We applied this on a straight line basis.

The departments confirmed these were reasonable assumptions, but stressed that they had not finalised their property strategies for this whole period.

### Estimating the cost of the future available estate

**28** We estimate the cost of the available office estate at December 2011 is **£1,777 million**. This figure is derived from the £1,479 million cost of benchmarked office space in March 2011, which is adjusted to add the remaining 18 per cent of office space that is not benchmarked in line with average costs for benchmarked buildings of each tenure type.

**29** The cost of the available estate for future years is calculated using the same reducing weighted average cost per m<sup>2</sup> as set out in paragraph 13, allowing for reducing facilities management costs of 2 per cent per year and assuming no increases in rental costs. The resulting cost of government's available office property in 2020 of £1,116 million (a reduction of 37 per cent) is given in December 2011 prices.

### Figure 3

#### Summary of results from model

	December 2011	Forecast March 2020
Minimum office space required by government (m <sup>2</sup> )	4.8 million	2.96 million
Cost of space required by government (£m)	1,698	945
Cost of space owned or rented by government (£m)	1,777	1,126
Cost of remaining excess of supply over demand	79	181

Source: National Audit Office

## Risks and caveats

**30** The model suggests the potential for £830 million of savings on office property, of which £650 million are expected to be achievable by 2020 by relying on the Government's National Property Controls. These estimates are dependent on the assumptions within the model holding true. The potential impact of variation in some of the key assumptions is shown in **Figure 4**.

### Figure 4

#### Impact of changes in modelling assumptions on projected savings

Base case assumption	Sensitivity testing variation	Effect of changing each independent variable
<b>Civil service numbers</b>		
That civil service numbers fall in line with Cabinet Office expectations	We tested two scenarios where decline in civil service numbers was approximately: 8 per cent above and below expectations.	<p>The increased reduction in civil servant numbers increases potential savings from £830 million to £900 million.</p> <p>Reductions below expectations reduced potential savings to £730 million.</p> <p>The expectation of £650 million savings delivered by national property controls remains the same.</p>
<b>Performance on occupancy of office space</b>		
That government attains an average occupancy of 10 m <sup>2</sup> per person	We tested a scenario where average occupancy reduced to the more challenging level of 8 m <sup>2</sup> per person.	<p>Potential savings increased from £830 million to £1,020 million.</p> <p>The expectation of £650 million savings delivered by national property controls remains the same.</p>
<b>Performance of national property controls</b>		
That 50 per cent of leasehold properties are exited as soon as their contracts allow	<p>We tested two scenarios:</p> <ul style="list-style-type: none"> <li>• Only 25 per cent of leaseholds granted exceptions to national property controls as leases end (i.e. more leases exited).</li> <li>• 75 per cent of leaseholds granted exceptions to national property controls as leases end (i.e. fewer leases exited).</li> </ul>	<p>With only 25 per cent of leases requiring exceptions to national property controls, savings generated by the controls will rise from £650 million to £764 million.</p> <p>If the requirement for exceptions rises to 75 per cent of leases, savings generated by the controls will fall from £650 million to £536 million.</p> <p>Total potential savings remain unchanged at £830 million.</p>

Source: National Audit Office

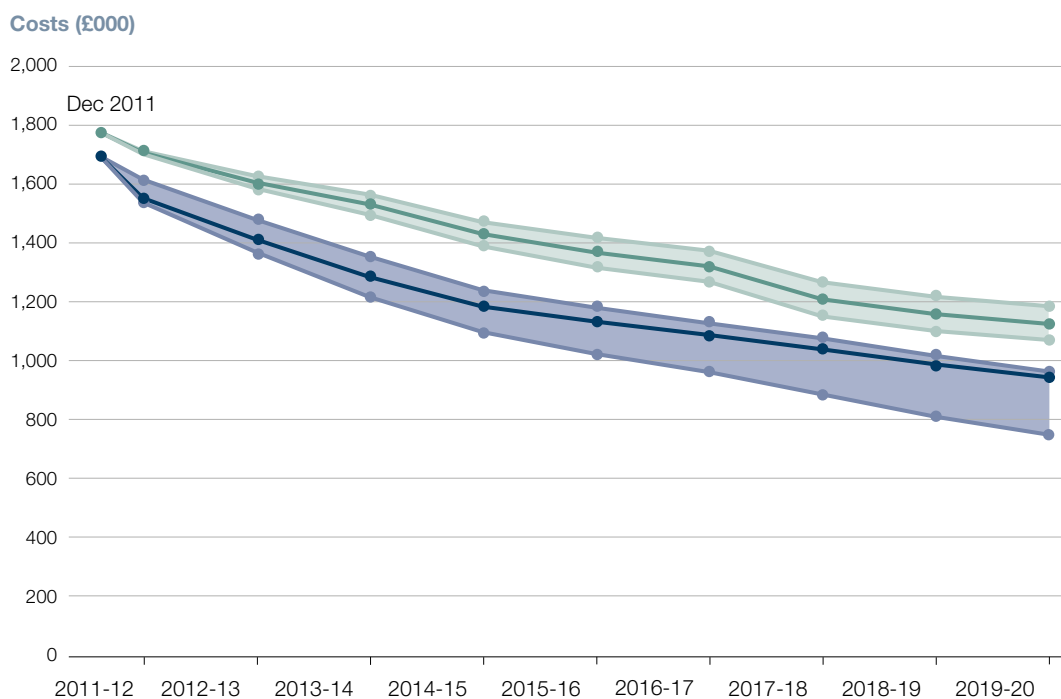
### Assessing the impact of uncertainty on the model's results

**31** To understand the effects of uncertainty on the assumptions in our calculations we undertook a Monte Carlo simulation on the model. The Monte Carlo simulation runs all the different scenarios in Figure 4 simultaneously. Instead of each variable being assigned a single value in each year, the range of variables from the scenarios are assigned in a triangular probability distribution giving each variable a low value, most likely value (the base case) and high value.

**32** We ran 2,500 iterations of the Monte Carlo analysis with different values of each variable, until the mean for all iterations achieved a steady state. The analysis shows that our base case, presented in the report, is reasonable. Key variations in assumptions delivering these scenarios are summarised in **Figure 5**.

**Figure 5**

Ranges of potential values delivered by Monte Carlo analysis



	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	
● Size of estate available maximum	1,777	1,713	1,628	1,565	1,472	1,419	1,375	1,268	1,219	1,187
● Base case size of estate available	1,777	1,708	1,607	1,532	1,431	1,368	1,322	1,210	1,160	1,126
● Size of estate available minimum	1,777	1,703	1,586	1,497	1,390	1,318	1,269	1,152	1,102	1,072
● Size of estate required maximum	1,698	1,616	1,481	1,355	1,241	1,182	1,129	1,077	1,018	965
● Base case size of estate required	1,698	1,553	1,413	1,285	1,185	1,134	1,089	1,040	989	945
● Size of estate required minimum	1,698	1,539	1,370	1,218	1,099	1,025	963	887	811	750

Source: National Audit Office

