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**Review of the full economic costs of
National Research Libraries
A report for HEFCE by CHEMS Consulting**

Review of the full economic costs of National Research

Libraries

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Executive summary

- I. This paper presents the findings from a TRAC-based review of the English National Research Libraries (NRLs)¹ by CHEMS Consulting. The aim of the project is to identify the full economic cost of each of the five libraries, using an approach consistent with the TRAC methodology, that will calculate the costs applicable to the use of the libraries by eligible external users. Eligible external users are defined here as researchers or staff from other UK higher education institutions (so including Scotland, Wales and Northern Ireland). The group includes students registered as both taught and research undergraduates and all staff (whether academic or not).
- II. The full economic cost of each library is a cost calculation describing, on a comparable basis, all costs whether 'directly incurred' by the library or on its behalf, or 'attributable' to the library having been recognised elsewhere in the university. An additional element of full economic cost is recognition of the need to provide sustainable development of the library through components for capital development and financing of working capital. These elements are all captured through an approach embodied in the TRAC methodology and applied in this project.
- III. There are four elements to the methodology:
 - Staff time and costs have been identified to over 35 different library activities (such as 'receiving', 'ordering' and 'producing user materials');
 - The direct non-pay costs of the library have been allocated directly to activities where applicable or in proportion to staff time. Income has not been netted off against cost in this exercise.
 - Central service costs from each university's TRAC model have then been allocated to the library using appropriate cost drivers. Our approach applies the institution's own TRAC approach to their library, as though it were an academic department, in order to identify the appropriate support and TRAC costs.
 - The activity data which has been collected by the libraries for this exercise has been used to analyse 'pools' of cost to categories of user. The result of the analysis is a set of figures representing the proportion of each library's full economic costs which is attributable to its external users.

¹ The five National Research Libraries in England are the libraries of the School of Oriental and African Studies (SOAS); the Oxford University Library Service (OULS); the John Rylands University Library at the University of Manchester; the Cambridge University library and its dependent libraries; and the British Library of Political and Economic Science at the LSE.

- IV. The analysis shows that across the five libraries a full economic cost of over £100m is being incurred. And depending on the data input measures used in the model, between £10m and £12m is incurred on behalf of the eligible external users. This is shown in Figure A following this Executive Summary.
- V. A range of estimates of 'eligible external use' has been calculated, starting with an initial analysis of cost using only basic user number data (namely the number of registered users and the number of user visits) as the denominator. A further analysis of cost has been carried out breaking down into more detail the cost and use of circulation (loan) activities and interlibrary loans. Finally, an analysis of costs taking account of detailed data and costs relating to the libraries' designated special collections has been produced where data permitted. Other areas of specific cost were considered, notably the cost of answering queries, but although the costs could be clearly identified, activity data was not reliable enough to reach a conclusion.
- VI. Of the examples presented the most balanced and most appropriate as the starting point for identifying each library's eligible portion of costs is Example 3 – the extension to include specific consideration of special collections. But if more data were available on different areas of the libraries' activities the cost profiles could look different again, and it is for this reason that we recommend these costs as illustrative rather than formulaic in any funding decision which HEFCE may make.
- VII. Examples 2a and 3a, including consideration of Legal Deposit costs and activities, are a mixture of two different concepts and as such are potentially confusing and purely on the grounds of the robustness of the costing method we would recommend that the issues of external users and Legal Deposit are looked at separately.
- VIII. Great care was taken to ensure that the underlying data used was comparable among libraries: for each of the examples of costs considered the same measure was used for each library. Earlier versions of the analysis prior to this report considered the use of data items of 'best fit' according to the data routinely gathered in each of the NRLs. However, in order to ensure comparability two basic data items were taken forward in the final analysis: registered members and user visits. All five libraries were able to provide these data sets (with the proviso that the visit data for Manchester is for only six months of the year following the implementation of a new gate entry system and is most likely to under represent external users on a full year basis).
- IX. The comparability of the data used was confirmed following a series of visits to the libraries to interrogate the user registration systems and to observe local practices.

As a result of these visits we are confident that potential areas of difference in registering alumni and in categorising users from other institutions are immaterial to the model and that all of the libraries have interpreted the requirements of the data model in a similar fashion.

- X. An additional analysis of the costs met by Oxford and Cambridge in providing Legal Deposit facilities is included, showing estimates of £7.3m and £5.4m respectively. However, these figures should be seen as illustrative only as although elements of the cost are clearly identifiable within the methodology, the significant element of storage cost is based on estimates: to identify the proportion of stock which originated as Legal Deposit material would be an enormous task and is not one which would likely yield differences to the outcome here that would merit the scale of the task. What can be concluded, though, is that the cost of meeting the responsibilities of Legal Deposit are greater than the element of funding which is assumed to be applicable.
- XI. As the distribution of costs in the libraries is at least one element of HEFCE's decision-making process in distributing the funding for NRLs, it is important to establish the extent to which the model reacts to the use of different input measures. This is particularly relevant as the choice of input measures has been determined at least in part by the need to use the same measures in all libraries, even though some libraries 'count' different aspects of user activity which would 'fit' more appropriately with the objectives of the model.
- XII. The scenarios tested in the sensitivity analysis show a great deal of potential variability in the proportion of costs applicable to external users, perhaps unhelpfully so – the model shows itself to be highly sensitive to the choice of cost driver or activity measure – and it is worth reiterating that given a different set of available and comparable measures across the libraries the relative results (of library compared with library) could have been different here.
- XIII. But the cost drivers were chosen on the basis of the most appropriate measure: to apply a different driver – such as demonstrated in the sensitivity scenarios – would imply a different set of criteria. For the results of the main model – shown in Figure A – the drivers of “registered members” and “user visits” assume that the objective of the library is both to maintain and store material for members and for material to be used by members. By reducing the cost drivers to just one measure – as seen in the sensitivity analysis – might imply that only one of those objectives is relevant.

XIV. We conclude that there is a range of potential results from this model, each of which can be supported with valid arguments about the nature of the use of the material and the objectives of the individual libraries and the sector as a whole, in collecting and maintaining their material. Combined with the areas where we would have liked to carry out further work (particularly on the costs of enquiries and user support) and the areas which are difficult to address (notably electronic use of material) we conclude that the model supports the premise of the libraries that the costs they are meeting in order to provide material and access for external researchers exceeds the funding provided but we also conclude that the model does not indicate in itself a particular distribution of funding among the libraries.

Figure A : Costs applicable to eligible external users
Summarised from Table 4 in Appendix

	Cambridge	LSE	Manchester <i>note 1</i>	Oxford	SOAS	Total
Example 1 - using registered user and visits data only	4,089	850	1,907	2,991	985	10,821
Example 2 - identifying specific activities to external users, where available	4,115	845	2,127	3,100	813	11,000
Example 2a - as case 2, with Legal Deposit included	8,434	845	2,127	9,589	813	21,809
Example 3 - accounting for special collections individually	4,115	1,094	2,422	3,590	1,246	12,468
Example 3a - accounting for special collections individually, where applicable, with Legal Deposit	8,434	1,094	2,422	10,079	1,246	23,276

Note 1: Manchester data for user visits is based on six month entry data and is likely to understate the number of visits by eligible users when annualised. This means that Manchester costs could be expected to be higher in all examples shown here, at an estimate to a maximum of an additional 5% on cost stated

1 Introduction

- 1.1 This report to the Higher Education Funding Council for England (HEFCE) by CHEMS Consulting presents the findings from a TRAC-based review of the National Research Libraries (NRLs). It supersedes an interim report of the same name dated October 2009. The five NRLs are the libraries of the School of Oriental and African Studies (SOAS); all the libraries in the Oxford University Library Service (OULS); the John Rylands University Library at the University of Manchester; the Cambridge University library and its dependent libraries; and the British Library of Political and Economic Science at the London School of Economics.
- 1.2 These libraries were designated as NRLs following a report to HEFCE by Professor Sir Ivor Crewe in March 2008 entitled “Review of the HEFCE funding for Research Libraries”. That report recommended that these five libraries continued to receive non-formula funding from HEFCE in recognition of several key factors, including an exceptional proportion of use by students and staff from other UK higher education institutions (HEIs).² HEFCE accepted this recommendation and consolidated previous streams of non-formula funding (for the research support libraries programme, Legal Deposit and whole institution special funding) into one stream of supplementary funding from 2008/09. The review further recommended that the funding should be long term and renewable.
- 1.3 In reaching his conclusions, Sir Ivor recognised that the financial information provided to him by the NRLs was not entirely comparable and therefore recommended that HEFCE commission a ‘TRAC-based review’ of costs to provide information for future decisions about funding. This report is the outcome of that TRAC-based review.
- 1.4 Not all readers will be familiar with the term ‘TRAC-based review’ and with the TRAC concept of full economic cost which underpins it. TRAC derives from the TRansparent Approach to Costing, an approach to costing across the sector which has been progressively implemented across activities carried out by HEIs since 1999. The TRAC approach proposes that all activities (defined for institutions under the headings of ‘Teaching’, ‘Research’ and ‘Other’) should be costed in a comparable way (for all institutions and all activities) taking account of all of the costs in an institution, including and recognising the long term costs of strategic development and

² The libraries met four specific criteria:

- a unique collection or a critical mass of rare material;
- a significant and essential contribution to the national research base;
- associated costs beyond that which the host institution could reasonably be expected to maintain from its own resources; and
- a track record of providing high-quality services and facilities to external researchers.

change (whether expended or not). A comparable concept in the private sector would be full absorption costing, but with additional long term sustainability factors built in.

- 1.5 All institutions are required to submit an annual TRAC return and an annual return on TRAC for Teaching showing their income by funder type (most broadly defined as 'publicly funded' and 'not publicly funded') against the costs incurred in those categories, thus identifying a surplus or deficit by funder type by activity type. More detail is specifically required for research funding and for teaching. In order to arrive at the required definition of cost, HEIs are required to analyse staff time and to attribute central services and estates costs to the defined activities. To arrive at their figures, HEIs employ different models and approaches, subject to minimum and mandatory requirements being met. As TRAC has been progressively implemented in the sector over the last 10 years, there is now a good body of comparable data across HEIs about their activities. The methodology used in this study has been able to draw upon that body of data.
- 1.6 In the course of this work a great deal of detailed financial information has been provided by the libraries and their finance teams on the costs and resources employed by the libraries. Much of that detailed information is regarded as commercial in confidence and consequently is not detailed here.
- 1.7 Although the analysis has been carried out by ourselves, the majority of the data collection has been carried out by the libraries themselves, involving hundreds of members of staff in the process. We are extremely grateful to them for their hard work.

2 Terms of reference

2.1 The terms of reference for this review were published in April 2009 and we reproduce them here for ease of reference. We are asked to:

- a. Identify the volume and nature of external use, in particular identifying which activities external UK researchers undertake.
- b. Undertake an analysis of the cost of different activities for internal and external users using the TRAC methodology, with a comparison of the two and an explanation of any significant differences. In particular, this should identify separately the costs of provision of special collections and archives to external users.
- c. Provide evidence of the additional cost to the Universities of Oxford and Cambridge in relation to the legal deposit libraries, over and above the costs that would be incurred by a major non-copyright research library.
- d. Develop a methodology by which this analysis can be repeated in future years. This may include making recommendations about standard data HEI libraries may need to collect.
- e. Consider the financial sustainability of the NRLs. Where appropriate provide recommendations for how libraries can move to a more sustainable footing, including via institutional subscriptions, or by identifying opportunities for cost savings.
- f. Identify any appropriate service standards for external UK researchers, and how HEFCE can monitor these in its future funding.

2.2 The original 2008 report to HEFCE by Professor Sir Ivor Crewe "Review of HEFCE funding for Research Libraries" provided a first estimate of the full economic costs of external use being experienced by the libraries. Those figures were accepted as being provided on different bases for each library and did not conform to a common set of principles, nor in most cases did they purport to be full economic costs as defined by the TRAC methodology. The scale of costs and the comparative proportions of costs in the five libraries in this exercise are therefore not expected to correlate with that initial study.

3 The costing methodology and key definitions

- 3.1 The aim of the project is to identify the **full economic cost** of each of the five libraries, using an approach consistent with the TRAC methodology to estimate the costs applicable to the use of the libraries by **eligible external users**.
- 3.2 A key principle of TRAC is that costing is based on activities, specifically through staff time analysis and the use of cost drivers for the apportionment of cost pools. Although every institution has in place a robust process for analysing academic staff time, analysis of the time of library staff is not required for the annual TRAC exercise, nor would the style of academic time analysis fit with library activities. However, two of the five NRLs have previously employed a common approach to analysing staff time and the same approach was used in this analysis.
- 3.3 **'Full economic cost' (fEC)** is a specific term deriving from TRAC which is in common parlance in the sector. The fEC of an activity (in this case the provision of library services) is calculated as the directly incurred local costs of the service (as described, broadly, in the library management accounts), plus allocated proportions of costs for central service support (such as HR and Finance) and calculated space costs and specific cost adjustments to reflect costs relating to sustainability (eg, the need to continually renew assets). The term 'fEC' and the methodology for arriving at that figure is one which is now widely employed in the costing of research projects and activity, and in calculating the cost of teaching by funder and subject groups – the main activities of most universities. Using the same approach to identify a comparable full economic cost for the library services provided to (eligible) external users is therefore a logical step which will benefit from existing analysis available from the annual TRAC approach in each institution.
- 3.4 Although substantial elements of TRAC data were available to the project (from the annual TRAC and local resource allocation models supporting the annual TRAC returns), TRAC analysis was a new approach to most of the five libraries and involved a considerable amount of data collection and analysis.
- 3.5 The objective of the methodology is to allocate or apportion all applicable costs, both direct and apportioned, across relevant categories of library activity and then to attribute costs to users according to measures appropriate to those categories.
- 3.6 The study highlighted some difficulties in implementing the methodology, as had been originally envisaged, arising specifically from the time period available for data collection and from the existing sets of data available.

- 3.7 A robust approach to time analysis would be to ask all staff to keep a diary for a minimum of three sample periods representative of a full academic year. As the timing of this part of the study (June to September 2009) did not allow this approach in this project, the libraries used a mixture of sampling and estimating to cover all staff activity. Unless and until this (or a similar) exercise is conducted over a whole year, it cannot be regarded as certain that the results of this exercise are reliable in their conclusions on the split of time (and therefore cost) between staff activities. (There is, however, no concern over the identification of the fEC in total – only over the attribution of those costs across activity categories.)
- 3.8 Libraries also collected activity data describing their libraries' users (by category of user, eg 'undergraduate from a home institution') and specific library activities (such as acquisitions, cataloguing, answering enquiries, retrieving material and circulation activities). Additionally, libraries were asked to describe (in terms of the time and resources engaged) those collections they designated as special collections.
- 3.9 The most critical set of activity data is the identification of different users by category. The libraries have historically collected a variety of measures about their users, including the number of times users visit in a year; how long they stay; how many are registered to use the library and more, for a variety of different groups of users from their own undergraduates to visiting PhD students to overseas academics and members of the public. These definitions of user are essential for this exercise. Here, we are defining **eligible external users** as researchers or staff from other UK HEIs (so including Scotland, Wales and Northern Ireland). The group includes students registered as both taught and research undergraduates and all staff (whether academic or not); this may overextend the definition of 'researcher' slightly (we suspect this is not material, but this cannot be substantiated with the current data set). The group therefore excludes researchers from the EU and any other overseas institution and excludes members of the NHS who are registered as members of the NHS (although clinical staff with academic appointments may be counted as higher education (HE) staff depending on their registration details).
- 3.10 For Oxford and Cambridge, a limited identification of costs relating to **Legal Deposit** was done based on staff time identified through the staff time analysis, on data for acquisitions and cataloguing and on an estimate of the proportion of items held (as a percentage of the total for the libraries' items). This limited approach is the extent to which we assess that the specific costs of Legal Deposit responsibilities can be tracked: once Legal Deposit items are ingested, the use and loan of the material is not tracked, and neither, therefore, can the relevant costs be tracked. The estimates

of costs for Legal Deposit therefore relate primarily to: the proportion of staff costs involved in identifying, receiving and cataloguing the items; the subscription costs for the legal deposit agency; and an estimate of the space costs applicable to housing the legal deposit material. Costs applicable to the use made of legal deposit material have not been identified and nor have we attempted to 'net off' the potential savings to those two universities of not paying for the items received. Also, some additional costs cannot be recognised in this approach – such as the policy of binding all Legal Deposit material where another library would leave the volume unbound.

3.11 The resulting costs are therefore interesting (in that they do show considerably higher annual costs than the funding received), but are not necessarily conclusive as a requirement for additional funding. A significant portion of the assumed total cost derives from the cost of space, itself dependent on an estimate of the portion of total holdings which was originally acquired under the Legal Deposit scheme. (An estimate of 45% applied in both cases.) Neither university can say with certainty what this proportion actually is and the figure comes from a number of different previous studies but is not validated; to establish the figures would be a considerable task. The resulting suggested costs are therefore best viewed as an indication of magnitude rather than a definitive cost.

3.12 The methodology used in this study had the following steps:

- Firstly, staff time and costs have been identified over 35 different categories, and further analysed to a subset of 22 different library activities (such as 'receiving', 'ordering' and 'producing user materials' – the full list can be seen in Table 1 of the Appendix). Standard costs per grade were used, rather than costs by named individual, and where necessary adjustments were made to reconcile to budgeted costs (this applied only in Manchester where some staff were displaced during the upgrading of library facilities). For the other libraries, the difference between standard cost and budgeted cost is explained, in all three relevant cases, by the exclusion of externally funded staff from this exercise.
- The budgeted non-pay costs of the library have been allocated directly to activities where applicable (such as the costs relating to interlibrary loans) or in proportion to staff time (for staff development and staff travel) or, for the bulk of all non-pay costs, to activities in proportion to time spent. The exception is the purchase cost of material (books, journals etc) which has been allocated directly to the 'purchase and storage of material' category. Income has not been netted off against cost in this exercise: the five libraries are not consistent in their identification of attributable

income to budgets and this is potentially one area which could be improved in future years if the methodology were to be repeated.

- Central service costs from the TRAC model have then been allocated to the library, using appropriate cost drivers consistent with the institution's own TRAC model. All of the TRAC managers provided detail on the value of specific cost pools (for Human Resources, Finance, IT and central secretariat) and the cost drivers associated with their allocation. Our methodology applies the institution's own TRAC approach to their library as though it were an academic department to identify appropriate support and TRAC costs.³
- The detailed costs of activities have been combined to identify larger pools of costs, namely:
 - the purchase and storage of material
 - maintaining material
 - the use and loan of material
 - user support, plus
 - specific projects and research
- The activity data which has been collected by the libraries for this exercise has been used to analyse the first four 'pools' of cost in the most appropriate way (the 'specific projects and research' pool being funded from other sources). For example, the cost of the 'use and loan of material' has been attributed to users of the library on the basis of number of visits. The results of the analysis are a set of figures representing the proportion of each library's full economic costs which is attributable to its external users.

3.13 The summary results of the full economic costs of the libraries are shown in Figure 1 below. Across the five NRLs the costs are greater than £100m.

³ University finance staff will note that the assumed cost of the library is already accounted for as a support to research and teaching in their TRAC returns and through the indirect cost rates for research projects. This exercise is designed to estimate the full economic cost of the library service with a view to identifying the support to external UK researchers, an element of cost which for these five libraries exceeds the national norm and could, arguably, be accounted for separately as Other ('O') activity in TRAC and resourced specifically.

Figure 1: Full economic cost of the libraries by activity area

	Cambridge	LSE	Manchester	Oxford	SOAS	Total
Purchase and storage of material	10,200	5,950	10,965	15,756	2,862	45,734
Maintaining material	5,248	643	2,883	6,817	483	16,073
Use and loan of material	4,241	4,271	4,714	6,605	1,011	20,842
User support	1,815	1,886	2,947	3,497	1,026	11,171
Specific projects and research	3,097	928	1,374	3,494	231	9,124
Full Economic Cost	24,600	13,678	22,883	36,169	5,613	102,944
Purchase and storage of material	41%	43%	48%	44%	51%	44%
Maintaining material	21%	5%	13%	19%	9%	16%
Use and loan of material	17%	31%	21%	18%	18%	20%
User support	7%	14%	13%	10%	18%	11%
Specific projects and research	13%	7%	6%	10%	4%	9%
Full Economic Cost	100%	100%	100%	100%	100%	100%

- 3.14 A range of estimates of 'eligible external use' has been calculated, starting with an initial analysis of cost using only basic registered user number data as the denominator. A further analysis of cost has been carried out by breaking down into more detail, where possible, the cost and use of circulation/loan activities and interlibrary loans. Finally, an additional analysis of cost taking account of detailed data and costs from designated special collections has been produced.
- 3.15 In the course of the project other areas of specific cost were considered, notably the cost of answering queries. A substantial proportion of library time (and therefore resource) is directed into answering queries – up to 13% of staff time in two of the libraries. But although the costs could be clearly identified, activity data – that is who raised the query and what the query was about – was not reliable enough to reach a conclusion and attempts to further categorise costs on this basis would be misleading.
- 3.16 The comparability of activity data among the libraries is an important point to consider in assessing the potential use of the model's results in informing any funding formula. The results of the model under different scenarios described above are shown in Table 4 of the Appendix and depend upon only two key activity measures: 'registered users (or members)' of the library and the number of visits made to the library. For each library the same measure is used to allocate the same cost pool. In draft versions of the analysis different activity measures were considered for different libraries according to the availability of best fit data. For example, 'active users' was considered as a denominator in the calculations as was 'day visits'. However, not all libraries have collected all categories of activity in the past and not all data was therefore available for all libraries. A brief analysis showed that there was potential for the use of one measure compared to another to reveal different results in the model: to use a locally available measure could therefore place any library at either an advantage or a disadvantage – the same measures have therefore been used for each library.
- 3.17 However, seemingly identical measures could still hide differences which materially affect interpretation of results. For example, 'visits to the library' has been selected as the measure by which user related cost pools will be attributed to user groups. The total number of visits to the library will depend on the number of times a user enters the library (usually clocked on a gate entry system). A user may enter the library several times in one day depending on more than the need to access library material: for example, whether coffee breaks are taken inside or outside of the library (and the location of facilities varies) will materially affect the number of visits recorded. The

methodology, however, has no dependence on any such differences in data collected among libraries – it only affects results across each individual library. So unless the argument is made that eligible external users access the facilities differently from other users (one group takes more coffee breaks than another and therefore clocks more entries at the gate, for example), the comparative data within each library will be valid. In this exercise we can be confident that these differences among the libraries are not a factor in the reliability of the results of the methodology.

- 3.18 It would be possible to analyse the pools of cost in greater detail in each library and to create different results in the model. One example is the substitution of 'active users' for 'registered users' in the model (where 'active users' describes those users who have entered the library in the last 12 months). A different approach to any of the cost pools could also show a different range of the costs applicable to eligible external users. The results from the adopted methodology are therefore an illustration of a range of costs which could represent the cost of eligible external users, based on the most comparable data available.
- 3.19 It is our understanding that HEFCE will take into account the results of this review when determining the allocation of supplementary funding among the five libraries, but that it will be only one of several factors considered. Given that there is a possible range of results from within the model we would not recommend, at this stage, using the results of the exercise in a formulaic approach to funding allocation, but rather as an indication of the scale and depth of costs experienced. It will always be the case that more and different investigation of specific activities, with more detailed data sets, would reveal different results again – but this methodology captures the most significant drivers of costs and further detailed work is unlikely to result in material changes to the findings. It will always be the case that this methodology captures only the actual on-site use of the material and not other factors such as collection preservation or electronic access and availability which may be important in any funding decisions.

4 Results of the model and sensitivity analysis

4.1 The tables contained in this report are the high level summaries of a great deal of analysis. Much of the data supporting the findings is considered to be 'commercial in confidence'. Each of the five libraries has received a full analysis of its own data and calculations, but these have not been distributed to the other NRLs.

4.2 It should be noted that each of the five libraries is treated in this analysis as one library: in reality this is not the case in three of them. The figures that are provided are for the whole of the library 'system' (as designated as a National Research Library) and not for one individual library. Although libraries were able to provide detailed data on some aspects of cost or activity for individual libraries within their 'systems', these are not separately identified in this report. The results of this analysis are necessarily dependent on the originating definition of 'National Research Library' – the definition, or boundary, is drawn more tightly at Cambridge than at either Manchester or Oxford. As a starting point, therefore, Manchester and Oxford are including potentially more 'qualifying costs' than Cambridge. Intuitively, however, it might be expected that the tighter definition of an NRL at Cambridge would show a higher average use of the facilities by eligible external users, perhaps negating the difference in definition.

4.3 All costs are shown at 2008/09 pay and price levels. The tables provided as a result of our exercise are:

Table 1: Overview of staff activity analysis

Table 2: Full economic costs of all libraries

Table 3: Activity data

Table 4: Library costs applicable to eligible external users

Table 5: Sensitivity analysis

4.4 **Table 1** shows the proportion of staff time spent on each activity. The staff activity analysis derives directly from the sampling and estimating exercises carried out by the libraries and, subject to common interpretation of the activity categories, is comparable across libraries.

4.5 In order to use the figures in attributing the fEC, the individual staff returns are combined with a standard cost by grade, but the resulting cost figures are not shown here to protect the anonymity of the libraries. The staff cost figures are a key element in this analysis, as their relative proportions within each institution drive some of the key support costs: for example, if the cost of cataloguing is higher in staff time than

the cost of selection, cataloguing as an activity will be apportioned relatively more costs than selection from the central services cost pool.

- 4.6 **Table 2**, the fEC of each library, moves the analysis through several stages until a final cost position is represented for the library. At this stage, the 22 activity categories from the staff analysis have been summarised into five higher level categories. This amalgamation of categories is for two purposes: firstly to manage more sensibly the attribution of costs to users, but secondly to reflect, in line with TRAC principles, the fact that more confidence can be placed in costs grouped at a higher level. For example, the cost of the purchase and storage of material includes costs relating to selection, receiving and ordering (amongst others). At some point, some of these activities may have an overlap, but taken as a group they have a logical coherence. (A comparison from TRAC might be to say that confidence can be placed in the subject FACTS⁴ for subject areas in TRAC for Teaching but not for individual courses.) These key groupings of cost ('purchase and storage of material' etc) are then used in the attribution of costs to categories of users.
- 4.7 Table 2 additionally shows the estimated cost of Legal Deposit responsibilities for Oxford and Cambridge. These figures are tentative and include both the estimated time (from the staff time analysis) and central service costs apportioned on the same basis as the full analysis (both of which we believe are firm cost estimates), and also an apportionment of space costs based on the estimated proportion of material at the libraries which is likely to have been acquired under the Legal Deposit scheme. The funding for Legal Deposit is now 'rolled up' into the total Supplementary Funding available for the NRLs – until 2007/08 this figure was separately stated and was in the region of £1.6m each for Oxford and Cambridge. However, for this methodology, no prior assumption is made about the scale of the likely funding for this aspect of their work and no allowance, or netting off, has been made for likely specific funding.
- 4.8 It would be taking the analysis beyond its comfortable limits to suggest that the gap between costs and funding for Legal Deposit activities is 'underfunding' of the activity. However, the figures do illustrate that the actual costs experienced do greatly exceed the funding received (but before considering any offsets of defrayed costs of material purchased etc).
- 4.9 **Table 3** is a presentation of the key items of input data in the model. The comparability of the data is discussed in more detail in Chapter 5 but it should be noted that the visits data for Manchester is based on a new gate entry system for a

⁴ TRAC for teaching, or TRAC (T) identifies the cost per student for each HESA subject area. The resulting figure is called a 'Subject FACT'

period of only January to June 2010 and does not reflect a full academic year of data. The totals are likely to under record the total of external researcher visits that might be expected in a year (as many of these occur in the summer period).

- 4.10 **Table 4** is essentially the results from the model – the identification of the costs relating to eligible external users using the two key data elements from Table 3. Table 4 presents a range of examples of eligible external cost and these are summarised in Figure 2.
- 4.11 **Example 1** uses only the most widely available general user data to attribute cost, taking the total of all costs in the four summary categories and attributing costs based on a combination of registered users and user visits. On this basis, the proportion of eligible external cost varies among libraries from 8% to 38% of total cost, and from £850k to £4.1m.
- 4.12 **Example 2** takes the analysis into more detail using two sub-analyses: for all five of the libraries, we have been able to use both circulation and interlibrary loan data to separately apportion the costs of those activities. In general, specific consideration of inter-library loans adds costs to the external category (as each of these libraries commits more resource to sending material to other UK users than in requesting material for its internal users) and consideration of circulation/loan activities reduces costs from the external category (as the majority of loans are to internal users).
- 4.13 More and different examples of use could be explored. Other areas of specific cost were considered, as was data provided by the libraries which, where available, could potentially have been applied to further examples. In particular, a draft cost analysis that considered the cost of answering queries was prepared. But although the costs could be clearly identified, activity data was not reliable enough to reach a conclusion.
- 4.14 **Example 2a** is an extension of Example 2 after an additional consideration of Legal Deposit costs. Specific costs relating to the activities of receiving and cataloguing Legal Deposit items have been apportioned according to the volume of material received, plus specific identified costs of activities to support Legal Deposit activities (all of these deriving from the individual staff activity returns). A considerable proportion of the cost involved derives from the estimate of space devoted to storing the material – estimated at 45% of all stock held.

Figure 2: Costs applicable to eligible external users (£000s)
Summarised from Table 4 in Appendix

	Cambridge	LSE	Manchester <i>note 1</i>	Oxford	SOAS	Total
Example 1 – using registered user and visits data only	4,089	850	1,907	2,991	985	10,821
Example 2 – identifying specific activities to external users, where available	4,115	845	2,127	3,100	813	11,000
Example 2a – as case 2, with Legal Deposit included	8,434	845	2,127	9,589	813	21,809
Example 3 – accounting for special collections individually	4,115	1,094	2,422	3,590	1,246	12,468
Example 3a – accounting for special collections individually, where applicable, with Legal Deposit	8,434	1,094	2,422	10,079	1,246	23,276

Note 1: Manchester data for user visits is based on six month entry data and is likely to understate the number of visits by eligible users when annualised. This means that Manchester costs could be expected to be higher in all examples shown here, at an estimate to a maximum of an additional 5% on cost stated.

- 4.15 **Example 3** shows the relative position of each library after including specific costs relating to special collections. A key aspect of at least some of these libraries is the separate organisation and access to their material defined as 'Special Collections and Archives'. But although no two libraries organise their access to 'special' material in the same way and a side-by-side comparison of time, cost and resource devoted to special collections alone is not possible, extending the identified costs here allows a potential differential use by internal and external users to be explored. Taking specific consideration of special collections into account should give the most rounded, complete comparison of eligible external users across the five libraries.
- 4.16 Material designated as 'special' (that is with a different type of access from general material or with restrictions on use or accessibility) varies across the libraries: what is special in one library may be general in another library. It is not relevant for this report that these differences exist: the purpose of separately considering the cost of special material is to recognise the differential cost of providing access to special material and to attribute costs to different types of user if appropriate. Comparisons across libraries will not therefore be of any relevance but will provide a better profile of costs attributable to users within each library.
- 4.17 In three libraries we have been able to identify confidently the external use of special collections and/or archives and the relative cost of external use is seen to increase when this is taken into account – significantly so in the case of SOAS and materially for the other two (Manchester and LSE). For Cambridge, although the significant cost relating to special collections can be readily identified, access to the material by users cannot be: additional costs attributable to external users cannot therefore be identified in this example. For Oxford, total costs of special collections are again significant and some additional costs have been identified to external users. But not all collections have separately counted access arrangements so there is a potential for a different cost profile to apply if comprehensive user data were used.
- 4.18 As for Example 2, Example 3 has been extended to provide an **Example 3a** incorporating the additional impact of Legal Deposit activity.
- 4.19 The conclusion to our analysis is broad in nature: we have identified the full economic costs of the libraries and can conclude that for each of them a significant proportion of that cost is attributable to the use of material and facilities made by eligible external users. The relevant amount for all five NRLs is in the region of £12.5m for eligible external users.

- 4.20 Additional to this amount is the cost met by Oxford and Cambridge for the collection and maintenance of Legal Deposit materials, amounting to £7.3m and £5.4m respectively across the categories of cost identified here.

Sensitivity Analysis

- 4.21 As the distribution of cost is at least one element of HEFCE's decision on distributing the funding for NRLs, it is important to establish the extent to which the model is sensitive to changes in data. Most sensitivity analyses explore the results of changes in the volumes of the input data (eg the number of users); however, as we have confidence in the data input as historically accurate measures, of more relevance here is an analysis of how the model reacts to the use of different types of input measures. This is particularly relevant as the choice of input measures has been determined at least in part by the need to use the same measures in all libraries, even though some libraries 'count' different aspects of user activity which would 'fit' more appropriately with the objectives of the model.
- 4.22 Table 5 in the Appendix shows the variability in the results of the model under three different scenarios and is summarised here in Figure 3. The first scenario tested uses the original case, Example 1, and extends the definition of eligible external users to include undergraduates from other UK HEIs. It can be argued that to at least a certain extent undergraduates access the NRLs for their research collections and if this definition is used then all five NRLs see a marked increase in eligible costs. The eligible cost increases by varying proportions – by approximately 9% at Cambridge but by 75% at LSE. Whether to include or exclude undergraduates from the definition of eligibility is therefore a key decision.
- 4.23 The second and third scenarios explore the extent to which the model is sensitive to the choice of cost driver used to distribute the cost pools in the model ie the activity measure used to divide through the cost totals. The base case uses two different measures according to the type of cost. Scenarios 2 and 3 in the sensitivity analysis show the effect of using just one of the measures or the other to attribute the entirety of cost. Scenario 2 shows the eligible costs if only membership is taken into account: all of the NRLs see their costs identified to external users increasing in this case. Scenario 3 shows the opposite – when only user visits are taken into account, the eligible costs fall. This is intuitively what could have been predicted: internal registered members use the library more frequently during a year than external registered members.

Figure 3: Sensitivity analysis: costs applicable to eligible external users (£000s)
Summarised from Table 5 in Appendix

	Cambridge	LSE	Manchester <i>note 1</i>	Oxford	SOAS	Total
Scenario 1 – as for Example 1, but also including UK HEI undergraduates in definition of 'eligible' users	4,459	1,503	2,713	3,763	1,280	13,718
Scenario 2 – attributing all costs on the basis of registered members only	5,056	1,385	2,878	4,024	1,134	14,477
Scenario 3 – attributing all costs on the basis of user visits only	3,715	404	492	1,715	853	7,180
<i>Example 1, for comparison</i>	<i>4,089</i>	<i>850</i>	<i>1,907</i>	<i>2,991</i>	<i>985</i>	<i>10,821</i>

Note 1: Manchester data for user visits is based on six month entry data and is likely to understate the number of visits by eligible users when annualised. This means that Manchester costs could be expected to be higher in scenarios 1 and 3 shown here, at an estimate to a maximum of an additional 5% on cost stated.

Conclusions on the cost findings

- 4.24 The results obtained from the model show that the NRLs as a group are incurring costs greater than their supplementary funding to varying degrees. The situation and funding for Legal Deposit activities at Oxford and Cambridge cloud the picture and we recommend that the costs for external users and the costs for Legal Deposit responsibilities are viewed separately: any decision on comparative funding is clouded by mixing these two elements of cost.
- 4.25 The 'base case' data given in Example 1 takes the simplest first cut view of the libraries' cost profiles, and shows that as a group over £10m in cost is specifically incurred to meet the needs of external UK researchers. But further identifying only a few specific activities, particularly providing more detail on access to special collection material, shows what we believe to be a more appropriate estimate of over £12m.
- 4.26 But the range of results in the sensitivity analysis gives pause for thought: Figure 2 shows clearly the variability in the costs for each library depending on the measure chosen to attribute costs. Given this variability it is crucial that the most appropriate data measure is used in the model: we have used both measures in the main model applied to different pools of cost. An ideal application of the model would have used more variables but the comparability of data did not allow enough confidence in the comparability of the results to use more than these two data measures. But it can be argued that other different cost drivers in the model and the use of more cost pools (eg including a cost pool specifically for answering queries) would have created a different comparative profile among the libraries.
- 4.27 This variability means that we conclude that there is a range of potential results from this model, each of which can be supported with valid arguments about the nature of the use of the material and the objectives of the individual libraries and the sector as a whole, in collecting and maintaining their material. Combined with the areas where we would have liked to carry out further work (particularly on the costs of enquiries and user support) and the areas which are difficult to address (notably electronic use of material) we conclude that the model supports the premise of the libraries that the costs they are meeting in order to provide material and access for external researchers exceeds the funding provided but we also conclude that the model does not indicate in itself a particular distribution of funding among the libraries.

5 Data quality and reliance on the findings

5.1 In our initial report of October 2009 we reported that whilst we were confident in the logic of the methodology and in the categorisation of costs and activities and in the comparability of data, there were some areas of concern over the consistency and reliability of the data used. Since the initial report an additional programme of work has been carried out to provide a greater level of assurance on the comparability of the data used in the model, specifically to assure all parties that:

- all five of the libraries have interpreted the data measures in the same way;
- all five libraries have been able to provide traceable, complete and reliable data to populate the model; and
- any residual nuances in the data and any gaps in the data are not material to the results indicated in the model.

5.2 As the findings of the model are completely dependent on the data entered into the model, each of the areas of data entry and capture is described in more detail here.

Staff time analysis

5.3 The staff time analysis was conducted over a very short period of time, but was designed to capture data illustrative of one complete year. Both SOAS and Oxford had the benefit of previous similar exercises and LSE had the benefit of a partial previous exercise (focussed on one particular aspect of staff time); for Manchester and Cambridge the approach to the analysis of individuals' time was completely new. Although all of the five universities have robust staff time analysis models for annual TRAC, these did not extend as far as the library (and nor do they need to), so the collective experience of the universities in analysing staff time was not relevant in this study.

5.4 The level of detail and the completeness of the responses of the libraries gave us confidence in the quality of the data provided – where an individual's time was considered down to 1% or 2%, this would illustrate that a considered approach had been taken. However, for TRAC compliance, and therefore to provide evidence of robustness in the process, a one-off exercise is not seen as adequate – at least three returns a year are required to capture the differences in different parts of the academic cycle. We have no reason to believe that a longer sampling period or a more inclusive programme (perhaps involving all individuals in completing their own returns) would give greatly different results, but this is a possibility. The university librarians of the NRLs themselves are also alert to the possibility that a longer exercise could give different figures.

- 5.5 However, a longer more considered exercise would not change the overall figures relating to either total staff cost or fEC: it would only change the proportions of cost split between the named activities and potentially therefore the split of costs between types of users: the cost envelope would remain entirely unchanged.

Local cost information

- 5.6 The management accounts of the libraries are perhaps the most robust element of the model: we concede that there are some local differences in including or excluding certain categories of spending (such as providing security passes for the whole building at SOAS or meeting cleaning costs locally at Manchester) but they are minor across the whole library system budget and we have largely ignored them here. Staff costs comprise 50% to 60% of costs in delegated budgets and are separately accounted for as standard costs in the data analysis; material acquisition costs are the next largest cost element (ranging from 20% to 36% according to library). With the largest part of the budgets accounted for by staff and acquisitions alone, any additions or subtractions for items inconsistently included or excluded are likely to be marginal.

TRAC cost adjustments

- 5.7 The attribution of central service costs and cost adjustments to the libraries is also an area of good comparability. The TRAC model and resource allocation model (RAM) of the universities lend themselves well to identifying appropriate cost pools with drivers which are consistent with library measures. Good detail was provided by the TRAC managers specifically from audited TRAC data. The only slight reservation we have is in some of the figures in Oxford's TRAC model which appear anomalous. After discussion, we have adjusted Oxford's calculated figures for the model to within parameters which not only sit within the four other libraries' figures, but also fit within the range we would expect for a research-intensive university. This results in figures for Oxford which are potentially illustrative rather than precise and could be slightly over- or under-stated. However, an additional analysis revealed that reducing the attributed central costs to the level of the next highest sum reduced Oxford's total cost by only 1%, a figure which becomes immaterial in attributing costs on to external users and we do not believe this issue requires revisiting.

- 5.8 Estates costs are significant in the overall figures, accounting for an average of 29% of the full economic cost but ranging from 21% (Manchester) to 43% (LSE) of total cost. These figures are not strictly comparable and do show some local differences in accounting for some estates costs and depend on precisely what is included and what is excluded in the delegated budget compared with the TRAC model. The

estates costs included are locally determined and reflect actual differences in estates costs experienced by the universities (and are comparable in that both reflect the TRAC infrastructure adjustment). The space costs do also, of course, record the different types of space provided in the different locations and the cost reflects not only 'price' but 'volume' by user. The variation we see in the cost of space is to be expected and does, we believe, reflect the real situation.

Activity data

- 5.9 To capture 'library activity' the libraries were asked to provide a series of returns relating to activity in several areas of their work. Where possible, the libraries have relied upon established systems to provide us with the required data: different libraries routinely collect different sets of data for operational purposes, including differences between parts of the library service in the same university.
- 5.10 The most significant return for the working of the model proved to be Activity return 1 – User activity. This return covered the basic user registrations and visitor data to the libraries, including where available the number of minutes of each visit. In the initial report we used different measures for different libraries according to what appeared to be the best fit for each library. For this final version of the analysis and following on from the additional data assurance strand of work, the activity measures now included have been standardised on the same two measures – registered members and user visits (more detail on the methodology is given in Chapter 2 above). The comparability and reliability of these two measures is therefore crucial and we have particularly considered:
- on registration, the identification of the user to user category (internal undergraduate, other UK HEI researcher etc);
 - the identification and categorisation of alumni members;
 - the length of membership granted to external users and therefore the potential inclusion of inactive members in the statistics;
 - for libraries where gate entry systems cover less than 100% of library activity (Manchester and Oxford), the extent to which captured data is representative of the whole 'system';
 - physical features and policies of the libraries which could render difficult comparison across the libraries.

Member registration

- 5.11 Three of the libraries are members of the Society of College, National and University Libraries (SCONUL) scheme and register users accordingly. There is consequently a 'tight' recognition of 'eligible external users' in these three libraries (with the possible exception of alumni, of which more below), with length of membership predetermined. Oxford and Cambridge are not members of the SCONUL scheme and their categorisation relies on internal definitions which are found to be just as robust in identifying users. The one potentially relevant difference at Oxford is that external researchers can register initially for up to four years of membership (rather than three elsewhere) which may mean that some now inactive researchers perhaps in their fourth year are included in their membership numbers. But equally possible is the researcher elsewhere who automatically reregisters at the library after the expiry of the third year membership but does not actually use the library. As the measure being used in the model is registered members the assumption in the model is that this potential difference is immaterial.

Reciprocal schemes at Manchester

- 5.12 One issue of registration pursued in more detail has been the identification of users on reciprocal schemes at Manchester and a large proportion of users termed 'other'. Several reciprocal access arrangements are in place most notably the North West Academic Libraries (NOWAL) scheme under which there are currently several thousand members. Analysis has been done by Manchester to reattribute members under these headings to the categories relevant to this model and we are satisfied that this has been done on a methodical and systematic basis and are now confident that the data used in the model is fit for purpose.

Cambridge MAs

- 5.13 In the preliminary stages of this project it became clear that at Cambridge there was the possibility that a material group of potentially eligible external users could have been excluded from this category having been recorded only as 'alumni' in the membership system. In order to ensure that these users were not excluded, and Cambridge therefore placed at a relative disadvantage in this exercise, the team at Cambridge carried out a sampling exercise to discover what proportion of alumni users were also researchers or academics from other UK institutions. We have looked at this analysis and are confident that it is soundly based and that the Cambridge user data now represents the best estimate possible within this exercise.

Alumni

- 5.14 Having considered the Cambridge alumni position we investigated the possibility that the same position may exist in the other NRLs – with the potential of some eligible external users being misrecorded in the model. Each library has a different membership and registration system and within the LSE and Manchester system there is a real possibility that to a least a minor extent alumni will have been miscategorised. In both of these systems, alumni's borrowing and access rights are superior to those under the SCONUL scheme and a user would benefit from registering as an alumnus rather than as an external user. But the scale of the issue within LSE and Manchester is not within the range of numbers which could affect the materiality of the model; unlike Cambridge, where the group numbered in the thousands, for LSE and Manchester the numbers are more likely to be in the tens. The issue does not arise at Oxford – where multiple membership categories apply – or at SOAS – where alumni are charged for membership.

Gate entry coverage

- 5.15 Coverage of the gate entry systems was considered. At SOAS and LSE (both single site libraries), all entries are automatically counted. At Cambridge the main library is controlled by gate but not the dependent libraries; however, these libraries are small compared with the main library (measured by staff numbers, spending, floor space or volumes held). At Manchester the gate entry system at the main library has just provided the first set of usage statistics (albeit for only a part year). Together with statistics from two major undergraduate libraries the total data representatively covers the total library system. At Oxford the user visit statistics cover between 75% and 80% of all visits, by Oxford's own estimates. The libraries covered include both research dominated locations and departmental libraries. Libraries excluded from the Oxford data also include both specific research collections and largely undergraduate libraries: the mix of libraries covered is not notably different from the mix of libraries not covered and we conclude that the Oxford data used is likely to be representative of the wider library system.

Physical features

- 5.16 Certain physical features of the libraries could also influence the comparability of the figures and we noted that some libraries have cloakrooms and cafes inside the gate entry system and others outside; some have return book points outside the gate and some not. These factors affect how often users swipe in and out of the libraries and mean that one library cannot be compared with another. There is no reason to believe, however, that the features will lead to different groups behaving differently within one library and we are confident that these physical features do not impact on the interpretation of the model.

Factors affecting the results of the model

- 5.17 The scenarios presented in Table 4 illustrate how using or excluding additional sets of data can affect the 'result' of the model – attributing more or less of the total full economic cost to external or other users for each library and changing the relative 'position' of each library within the group with respect to these proportions. Even if the data used are entirely consistent across the five libraries (which we believe them to be) and the activities measured comprehensive, the results would still be only illustrative of potential ranges of cost as there could be other areas of specific activity which would also benefit from additional detailed analysis (for instance, retrievals for users have not been included here, and nor has the use of group seminar rooms – costs relating to these could be differentially charged to users). Our methodology has been designed to capture the most significant areas of identifiable costs in the library which are differentially used by internal and external users (ie circulation and interlibrary loans), and which are comparable across all libraries, separately from the 'regular' use of collections and user spaces, but we accept that there are more possibilities which may change the relative picture.
- 5.18 In particular we are already aware that electronic access to library materials is not addressed in this methodology, partly because of the difficulty in collecting user data and partly because of the added complexity in defining relevant costs. With rapidly changing access modes we do not doubt that including a consideration of electronic resource use by external users would change the overall usage proportions shown here for physical access and use of material. Thought will need to be given to how this rapidly growing trend will affect the cost attribution between users in the future.
- 5.19 Additionally, the treatment of special collections is extremely sensitive (in statistical terms) in influencing the results of the model. Our approach has, where possible, captured the direct costs of providing the collections and proportions of the total pool of central and estates costs. But special collections and archives are not always easily allocated to a particular area of the library; for some there are dedicated rooms or specific buildings with access requirements, but for others special collections are intermingled with open access stock, so that deciding where special collections end and general collections begin means that a judgment is being made about flexible space and use of the material – so the cost attached is not necessarily clearly defined.
- 5.20 Another key point to note is that what in one place is an item in a general collection could in another be placed in a special collection: the size and range of the collection as defined in this study (and the costs which attach to it) are of no consequence in

answering a question based on 'which library has the most material in special collections' or 'which library spends the most on special collections'? The only consequence of defining special collections in this way is that the proportion of cost which has significant external use is better captured: it is a means to an end and not a parameter for comparison in itself.

- 5.21 User data relating to special collections is variable across the libraries both in terms of the type of activity data available and in terms of data by location; for example no data is available for users at Cambridge. Here, we have not been able to further analyse users and at Oxford special collections shows a less intense use of material by external users than general material, which would require a fuller understanding before the data could be relied upon. For these reasons, whilst this example of cost distribution within and across the libraries is the most appropriate, it is still not perfect.
- 5.22 One area for future consideration could be the use of user weightings to differentiate between the data. A paper on the possible use of this approach was considered in the course of the exercise and, on reflection by the group, deemed to be both too complicated a process and also potentially incomparable among libraries; therefore it has not been adopted in this analysis. However, the potential still remains for any future adaptation of the model to allow for user weightings. At the simplest level, it may take more time and documentation to register an external user than an internal user: this is not captured in any of the base data here. Another example is that on each visit an external user may typically need more help and support in finding material on the shelf than a repeat internal visitor: again, this is not captured here. It is our expectation that the use of weightings would change the relative profile of costs within an individual library's analysis (with more costs being attributable to external users) and possibly the relative weight of external use across the libraries (with more eligible cost concentrated in the libraries with the highest existing proportions of external user numbers). However, for such an approach to be viable, it would require much more detailed analysis of time spent than exists at present. Given that these illustrative costs are to be taken as just one factor in determining funding, the cost and resource burden of carrying out such an exercise would not be worth the marginal improvement in the reflectivity of the results of the model.
- 5.23 Notwithstanding these areas of potential variability, we do believe that the figures are reliable enough to give the HEFCE an illustration of the likely scale of the cost of eligible external users, and a good indication of the potential impact within each library.

6 Sustainability, service standards and next steps

- 6.1 The terms of reference for the study requested that some non-financial specific areas should be also addressed as well as the costing aspects of the study covered above. These are considered in this chapter.

Sustainability

- 6.2 The terms of reference specifically ask for consideration of the financial sustainability of the libraries. Our comments cover both a sector view and the more local view we have gained during this project.
- 6.3 We are aware that sustainability is a key issue facing the sector and that much work has been carried out on the sustainability of teaching, research and institutions generally by different studies and different groups over the last several years. The TRAC methodology itself drives at the key issue of financial sustainability, recognising as it does the need for strategic development and investment in infrastructure; these crucial aspects of sustainability are therefore captured in the TRAC methodology.
- 6.4 A recent report by the Financial Sustainability and Strategy Group (FSSG)⁵ on the sustainability of teaching has also identified key threats to sustainability currently being faced by the sector. The threats specifically identified, in addition to financial issues, are related to pressures on teaching (student support services, the relationship of staff to students, student needs and expectations). The libraries under review very obviously have a key role in supporting the teaching portfolio of the institution, but this study is focussed on the needs of the research community and, as such, the pressures through teaching are only relevant here in so far as the library provides for both the research and teaching communities. Thus, the identified threats to sustainability in the FSSG study are not directly relevant here.
- 6.5 The improvement in research costs recovery (through the introduction of fEC funding from Research Councils and others) and its impact on the state of research support infrastructure is also the subject of a recent report (from Research Councils UK and Universities UK⁶) and reaches conclusions about the sector as a whole (where funding for research infrastructure including libraries has been seen to increase over the last five years).

⁵ The Financial Sustainability and Strategy Group: The sustainability of learning and teaching in English Higher Education. December 2008.

⁶ Research Councils UK and Universities UK: Review of the Impact of Full Economic Costing on UK Higher Education Sector.

- 6.6 For the five libraries in this study any conclusions on sustainability will necessarily be local and specific and it is our understanding that they will be addressed through the libraries' forthcoming strategic plans.
- 6.7 But the libraries' sustainability is primarily determined by the position of the university as a whole and the policies and practices of those five 'host' institutions. The supplementary funding provided for the NRLs is awarded to the institution as a whole and not directly to the library, which has no independent corporate standing, and is in all cases awarded to the library as part of the internal budget allocation process. We have identified here the full economic costs of the libraries, a cost which by definition includes costs met by the institution outside of the budgets normally delegated to libraries: the supplementary funding for the libraries could under this model be applied to meeting the costs of central services and estates costs, a recognised and legitimate expense in meeting the needs of external users. But given that we have demonstrated here that the funding does not meet the full economic costs of that service to eligible external users, the ability and willingness of each institution itself to meet a portion of those costs is also important in the library's sustainability – the library's sustainability cannot be assured without the sustainability of the institution itself being secured.

Service Standards

- 6.8 The terms of reference for the study requested that we “identify any appropriate service standards for external UK researchers, and how HEFCE can monitor these in its future funding”.
- 6.9 Standards can be of a variety of types:
- a. Those developed externally by, for example, professional associations, funding bodies or validating bodies with suggested or required standards and levels of service (which may include collections, staffing, space, etc).
 - b. Those developed internally for the guidance of library staff, committees, university management, etc. on the general development of the library. (These may or may not be promulgated to users.)
 - c. Those developed internally with specific targets for the performance of the library in various activities (time to catalogue a book for example or time to fetch an item).
 - d. Those developed iteratively by groups of institutions in exchanges of experience or benchmarking clubs, etc.
 - e. Forms of 'contract' with users (you can expect us to do x; we can expect you to do y).

- 6.10 Common service standards and the possibility of benchmarking is the subject of an ongoing development amongst the NRLs themselves and at the time of writing the NRL Group has held meetings on the topic and is taking this forward to reach an agreed template and format. During the course of the study we have looked at the current service standards, where applicable, of the libraries; provided the Group with a format for consideration; and reported on the work on standards from the international library community.
- 6.11 The UK context is that many (perhaps most) UK university libraries (including some of the NRLs) have developed and made public statements of service standards; these are a mixture of qualitative statements and quantitative (measurable) targets. Some of the NRL libraries do not yet have coherent sets of standards, but have some broad targets embedded in strategic plans and/or some broad monitoring of performance against targets that is reported in annual reports.
- 6.12 Discussion in this project about service standards has gone hand in hand with two other sets of discussions:
- The extent to which, and ways in which, the five NRLs could take responsibility for developing methods of ongoing data collection about service development for external users and use of services;
 - The extent to which, and ways in which, the five NRLs might be able to market themselves to the UK research community as a discrete group or community with common standards of service.
- 6.13 The NRLs themselves took on the exploration of these issues with some input from consultants after discussions with HEFCE; we understand that such discussions of marketing, service standards and data collection will continue.
- 6.14 Some principles have emerged:
- Service standards should as far as possible be the same for UK external users as for internal users, except where licence conditions make it impossible. (This condition may apply not only to 'normal' materials such as electronic books and journals, but also for other materials such as software to enlarge text on screen for partially sighted users.)
 - As far as possible services on offer to external users should be similar across the five libraries. There may be exceptions: libraries are not going to develop, say, lending policies or opening hours in order to harmonise services to external users.

But they can develop a common framework for the presentation of standards, with links to individual library websites for details.

- Standards should be developed in such a way that monitoring of performance should as far as possible be a simple by-product of other data collection.
- There should be a series of key performance indicators that can be easily scanned by HEFCE and others (including NRLs for their own comparative purposes). These should be developed in such a way that there is, as far as possible, agreement on definitions of entities being measured.
- There is a concern that, as library services become more complex, the picture of performance should reflect this. However, there is agreement that the effort taken to monitor performance should not be disproportionate to the utility of the measure.

6.15 Although work is still to be done to finalise how these may be taken forward, an initial suggestion for some benchmarking criteria, developed by the NRLs themselves, is shown at Figure 4 at the end of this chapter. These criteria are a combination of user data, expenditure analysis and usage indicators which are primarily useful to the library management teams themselves. For the purposes of this costing exercise, and for future monitoring and possible updates, the data set is beyond what would be required and possibly in a different format. The costing exercise carried out here requires no ongoing data analysis.

Next Steps

6.16 The TRAC review of the NRLs is now complete and a methodology has been tested and found to be feasible and replicable on a regular basis, if required. Given that the key data items used are now being regularly collected in all of the NRLs, the activity data is capable of being updated on an annual basis. But, unless the staff activities analysis is updated, the full economic cost attribution between cost categories will only be subject to inflationary changes, and an 'inflation revised' Table 2 (see Appendix) could be used as a basis for applying revised activity data. (This suggestion is dependent on there being no material changes to the local library costs (including space occupied) and no major changes to the RAM or TRAC models of the university in the intervening period.)

6.17 However, it is our view that there would be little advantage in updating the exercise more frequently than fits with HEFCE's strategic planning cycle for supplementary funding as we recommend that the results of the model are seen as broadly illustrative of scale and distribution of costs, rather than as definitive 'shares' of costs across the group. The sensitivity of the model to the use of different data sets (illustrated in Chapter 4 above), together with the increase in electronic usage of material, which is not recognised in the

model, would mean that more frequently updating the model would lend a spurious accuracy to the data.

Figure 4: NRL Suggested Benchmarking Criteria: Working Draft

Users

- 1 Total full time equivalent (FTE) students
- 2 Percentage of FTE postgraduate students
- 3 Total FTE users
- 4 Registered external users (UK HEIs)
- 5 Total number of visits by external users (UK HEIs)

Expenditure

- 6 Total expenditure per FTE student
- 7 Total expenditure per FTE user
- 8 Percentage breakdown of expenditure:
 - Percentage of total library expenditure spent on staff
 - Percentage of total library expenditure spent on information provision
 - Percentage of total library expenditure spent on “other”
- 9 Expenditure per FTE student on library staff
- 10 Expenditure per FTE user on library staff
- 11 Expenditure per FTE student on information provision
- 12 Expenditure per FTE user on information provision
- 13 Library as % of total inst. Expenditure

Information provision

- 14 Book acquisitions per FTE user
- 15 Current serials per FTE user
- 16 Breakdown of serial titles by format
- 17 Databases per 100 FTE users
- 18 Total catalogued book stock
- 19 Total catalogued book stock per FTE student
- 20 Total catalogued book stock per FTE user
- 21 Number of items borrowed/requested by external users (UK HEIs)
- 22 Number of enquiry desk consultations by external users (UK HEIs)

Space

- 23 FTE students per study place
- 24 FTE users per study place
- 25 FTE students per workstation
- 26 FTE users per workstation
- 27 Number of workstations set aside for external users

Use of material

- 28 Loans per FTE student
- 29 Loans per FTE user
- 30 Article downloads per FTE student
- 31 Article downloads per FTE user
- 32 Number of items borrowed/requested by external users (UK HEIs)

Appendix – The cost model

List of Tables

Table 1: Overview of staff activity analysis

Table 2: Full economic costs of all libraries

Table 3: Activity data

Table 4: Library costs applicable to eligible external users

Table 5: Sensitivity analysis

Table 1: Summary staff activity analysis

	Library 1	Library 2	Library 3	Library 4	Library 5
	% total staff cost				

Material related:

1 Selection	3%	2%	2%	2%	6%
2 Ordering	2%	1%	3%	2%	3%
3 Receiving	4%	2%	3%	7%	2%
4 Cataloguing & classification	15%	4%	5%	12%	10%
5 Conservation & preservation	7%	1%	2%	5%	1%
6 Digitisation of material	2%	0%	1%	1%	0%
7 Activities relating to special collections	1%	0%	6%	1%	0%

User related:

8 Circulation activities	2%	9%	5%	4%	6%
9 Staffing the reading rooms	1%	0%	1%	1%	0%
10 Staffing the special collections reading rooms	2%	1%	3%	0%	2%
11 Shelving and reshelving material	4%	9%	5%	3%	6%
12 Retrieval of materials	2%	1%	2%	1%	2%
13 Producing materials	1%	4%	2%	2%	5%
14 Answering enquiries	6%	13%	8%	6%	13%
15 User education & training	2%	3%	5%	2%	5%
16 Interlibrary loans: to others	1%	0%	1%	1%	1%
17 Interlibrary loans: from elsewhere	0%	0%	1%	1%	0%

Project related:

18 Activities supported by external grant/fund	11%	3%	2%	3%	2%
19 Work relating to the repository/LRC/REF	1%	2%	1%	3%	0%
20 Exhibitions & displays	1%	0%	1%	1%	0%
21 Library internal projects eg retrospective catalogue conversion	2%	4%	2%	3%	2%

Table 1: Summary staff activity analysis

	Library 1	Library 2	Library 3	Library 4	Library 5
	% total staff cost				

Librarians' own research and scholarship:

22 Librarians' own research and scholarship	0%	0%	1%	0%	1%
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Administration and enabling activities:

23 Income generating activities	1%	1%	1%	3%	0%
24 Producing management information	3%	3%	2%	3%	2%
25 IT related activities	4%	5%	3%	5%	3%
26 Personnel related	3%	4%	5%	5%	2%
27 Finance related	2%	2%	2%	4%	1%
28 User related	2%	6%	4%	2%	4%
29 Estates, buildings and maintenance related	6%	2%	7%	5%	3%
30 Institution and library management	4%	10%	4%	5%	7%
31 Professional development and training	1%	3%	5%	1%	3%
32 Providing staff training	2%	2%	2%	4%	1%
33 Work relating to Legal Deposit	1%	0%	0%	1%	0%
34 For 'distributed' library systems only: activities supporting other libraries	1%	0%	0%	0%	0%
35 Other	1%	0%	2%	1%	8%

TOTAL	100%	100%	100%	100%	100%
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Table 2: NRLs' full economic costs

Step 1: Comparable management accounts

All at 2008/09 pay and price levels, £000s

	Cambridge	LSE	Manchester	Oxford	SOAS	Total all Libraries
Staff costs	10,410	4,157	9,113	15,696	2,100	41,476
Non staff costs:						
Collections/acquisitions (covering books, journals, e-material and data bases)	3,298	2,272	6,093	4,775	869	17,307
<i>As a percentage of 'local' library expenditure</i>	<i>21%</i>	<i>33%</i>	<i>36%</i>	<i>20%</i>	<i>26%</i>	
Other non staff costs, where detail is available:						
Library operating costs		263	852	1,914	225	
Library systems expenditure		148	461	207	64	
Other expenditure (eg advertising, professional fees etc)		59	271	742	20	
All other non pay expenditure (if not above)	1,739					
Total non pay expenditure	5,036	2,742	7,677	7,639	1,178	24,273
Total comparable 'local' library expenditure	15,447	6,899	16,790	23,335	3,278	65,748
	<i>23%</i>	<i>10%</i>	<i>26%</i>	<i>35%</i>	<i>5%</i>	<i>100%</i>

Notes:

Excludes space charges and depreciation

Table 2: NRLs' full economic costs, cont'd
Step 2: Comparable TRAC space charges
(£000s)

	Cambridge	LSE	Manchester	Oxford	SOAS	Total all Libraries
Total comparable 'local' library expenditure	15,447	6,899	16,790	23,335	3,278	65,748
Locally determined space charges, (including infrastructure adjustment)	7,782	5,819	4,782	10,952	1,824	31,159
<i>As percentage of library fEC</i>	32%	43%	21%	30%	32%	30%
Sub total – local management accounts, plus space charges	23,229	12,718	21,572	34,287	5,102	96,907
	24%	13%	22%	35%	5%	100%

Step 3: TRAC adjustments to achieve full economic cost

	Cambridge	LSE	Manchester	Oxford	SOAS	Total all Libraries
Central services costs:						
Human resources	142	125	149	129	93	
Finance	230	131	286	458	80	
VC and secretariat	78	70	31	95	53	
Information technology	220	287	218	338	103	
Sub total – central services	670	613	685	1,019	328	3,315
Plus, Return for Financing Adjustment (RFI)	701	348	626	863	183	2,722
Total fEC, £000s	24,600	13,678	22,883	36,169	5,613	102,944
	24%	13%	22%	35%	5%	100%

Table 2: NRLs' full economic costs, cont

FEC of the libraries by activity area, £'000s

	Cambridge	LSE	Manchester	Oxford	SOAS	Total
Purchase and storage of material	10,200	5,950	10,965	15,756	2,862	45,734
Maintaining material	5,248	643	2,883	6,817	483	16,073
Use and loan of material	4,241	4,271	4,714	6,605	1,011	20,842
User support	1,815	1,886	2,947	3,497	1,026	11,171
Specific projects and research	3,097	928	1,374	3,494	231	9,124
Full Economic Cost	24,600	13,678	22,883	36,169	5,613	102,944
Purchase and storage of material	41%	43%	48%	44%	51%	44%
Maintaining material	21%	5%	13%	19%	9%	16%
Use and loan of material	17%	31%	21%	18%	18%	20%
User support	7%	14%	13%	10%	18%	11%
Specific projects and research	13%	7%	6%	10%	4%	9%
Full Economic Cost	100%	100%	100%	100%	100%	100%
Identified costs applicable to Legal Deposit activities	5,436			7,301		12,738

Table 3: Activity data

	Cambridge	LSE	Manchester <i>note 1</i>	Oxford <i>note 2</i>	SOAS
Total registered members	42,644	37,761	79,340	56,279	27,997
Eligible external members	8,764	3,824	9,979	6,262	5,654
<i>As a percentage of total</i>	21%	10%	13%	11%	20%
Total library visits	265,099	1,562,762	1,056,074	421,038	25,956
Visits by eligible external members	40,036	46,204	22,719	19,966	3,946
<i>As a percentage of total</i>	15%	3%	2%	5%	15%

Note 1: Manchester data for user visits is based on six month entry data and is likely to understate the number of visits by eligible users when annualised.

Note 2: Oxford figures for visits are for three of the libraries believed to be representative of the whole library system to provide the relevant comparison of different categories of users. The absolute visits figures cannot therefore be compared with the other NRLs as only a portion of total visits is captured in this data.

Table 4: Costs applicable to eligible external users:						
Example 1 – using registered user and visits data only						
	Cambridge	LSE	Manchester	Oxford	SOAS	Total
Applicable external use, £k	4,089	850	1,907	2,991	985	10,821
% of total (all NRL) eligible cost falling in each library	38%	8%	18%	28%	9%	100%
% of local fEC accounted for by external use	17%	6%	8%	8%	18%	11%
Example 2 – identifying specific activities to external users, where available						
	Cambridge	LSE	Manchester	Oxford	SOAS	Total
Applicable external use, £k	4,115	845	2,127	3,100	813	11,000
% of total (all NRL) eligible cost falling in each library	37%	8%	19%	28%	7%	100%
% of local fEC accounted for by external use	17%	6%	9%	9%	14%	11%

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Table 4: Costs applicable to eligible external users, cont:						
Example 2a – as case 2, with Legal Deposit included						
	Cambridge	LSE	Manchester	Oxford	SOAS	Total
Applicable external use plus total legal deposit costs, £k	8,434	845	2,127	9,589	813	21,809
% of total (all NRL) eligible cost falling in each library	39%	4%	10%	44%	4%	100%
% of local fEC accounted for by external use/legal deposit responsibilities	34%	6%	9%	27%	14%	21%

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Table 4 : Costs applicable to eligible external users, cont:						
Example 3 – accounting for special collections individually						
	Cambridge	LSE	Manchester	Oxford	SOAS	Total
Applicable external use, £k	4,115	1,094	2,422	3,590	1,246	12,468
% of total (all NRL) eligible cost falling in each library	33%	9%	19%	29%	10%	100%
% of local fEC accounted for by external use	17%	8%	11%	10%	22%	12%
Example 3a – accounting for special collections individually, where applicable, with Legal Deposit						
	Cambridge	LSE	Manchester	Oxford	SOAS	Total
Applicable external use, £k	8,434	1,094	2,422	10,079	1,246	23,276
% of total (all NRL) eligible cost falling in each library	36%	5%	10%	43%	5%	100%
% of local fEC accounted for by external use	34%	8%	11%	28%	22%	23%

Table 5: Sensitivity analysis

Costs Applicable to eligible external users under different scenarios

Sensitivity analysis: Scenario 1 – as for Example 1, but also including UK HE undergraduates in definition of 'eligible' users

	Cambridge	LSE	Manchester	Oxford	SOAS	Total
Applicable external use, £k	4,459	1,503	2,713	3,763	1,280	13,718
<i>compare with Example 1 from Table 3:</i>	<i>4,089</i>	<i>850</i>	<i>1,907</i>	<i>2,991</i>	<i>985</i>	<i>10,821</i>
% of total (all NRL) eligible cost falling in each library	33%	11%	20%	27%	9%	100%
% of local fEC accounted for by external use	18%	11%	12%	10%	23%	13%

Sensitivity analysis: Scenario 2 – attributing all costs on the basis of registered members only

	Cambridge	LSE	Manchester	Oxford	SOAS	Total
fEC	24,600	13,678	22,883	36,169	5,613	102,944
Eligible external members, as % of all members	21%	10%	13%	11%	20%	
Applicable external use, £k	5,056	1,385	2,878	4,024	1,134	14,477
<i>Compare with Example 1</i>	<i>4,089</i>	<i>850</i>	<i>1,907</i>	<i>2,991</i>	<i>985</i>	<i>10,821</i>

Sensitivity analysis: Scenario 3 – attributing all costs on the basis of user visits only

	Cambridge	LSE	Manchester	Oxford	SOAS	Total
fEC	24,600	13,678	22,883	36,169	5,613	102,944
Visits by eligible external members, as % of all visits	15.10%	2.96%	2.15%	4.74%	15.20%	
Applicable external use, £k	3,715	404	492	1,715	853	7,180
<i>Compare with Example 1</i>	<i>4,089</i>	<i>850</i>	<i>1,907</i>	<i>2,991</i>	<i>985</i>	<i>10,821</i>

Glossary

EU – European Union

fEC – full economic cost

FSSG – financial sustainability and strategy group

FTE – full time equivalent

HE – higher education

HEFCE – Higher Education Funding Council for England

HEI – higher education institution

HR – human resources

IT – information technology

LSE – London School of Economics and Political Science

MA – Master of Arts

NHS – National Health Service

NOWAL – North west academic libraries

NRL – national research library

OULS – Oxford University Library Service

RAM – resource allocation model

RCUK – Research Councils UK

SCONUL – Society of college, national and university libraries

SOAS – School of Oriental and African Studies

TRAC – transparent approach to costing

UUK – Universities UK