



Annex 9

Royal Mail's response to Postcomm's initial proposals for the 2006 price and service quality review

Royal Mail's current approach to cost allocation for class costing

1 September 2005

1. Introduction

This paper describes how Royal Mail currently carries out cost allocation, with specific reference to the approach used to allocate costs to different classes of mail. It also shows – at a high level – the results of this cost allocation and the estimated profit/loss of different products and groups of products.

OXERA have produced a separate paper on behalf of Royal Mail reviewing the principles of 'Class Costing'. Annex 2 to this paper gives preliminary results from an ad-hoc modelling exercise carried out following Oxera's suggested approach.

2. Background

Royal Mail provides many products, with different service specifications, through its network. Many activities are used by more than one service and almost all activities are used by more than one product. In estimating costs for the products and services the issue of cost allocation is therefore very important.

Royal Mail operates an Activity Based Costing (ABC) system (Revenue and Cost Model – R&CM) which follows standard ABC principles in defining activities, assigning costs to those activities and driving the activity costs to 'cost objects'. The cost objects are generally defined as subdivisions of individual products. The estimated cost of a product is therefore the sum of the costs of a number of cost objects and the cost of a service (e.g. First Class) is the sum of the costs of a number of products.

ABC does not automatically assess the 'economic' cost of providing a service as it reflects the specific usage of a resource. For example, the resource (time) used in sorting a letter is the same whether the letter is first class or second class. The monetary cost of that time might be different, due to different pay rates, but this still does not make any allowance for the cost of the network, which might be caused by the need to provide one particular service (e.g. First Class).

In order to underpin its pricing assumptions Royal Mail has, over time, carried out a number of high level analyses which have considered the economic costs, in particular studies have considered the nature of costs driven by class.

Where possible the approaches identified have been built into the ABC system. This is not always possible as ABC relies on being able to follow a specific set of rules to allocate actual historic costs to real activities and on to cost objects, whereas the analyses may often have considered hypothetical scenarios to identify rules for cost allocation.

The remainder of this note describes the types of analysis carried out and how these are implemented within R&CM, where it has been practicable to do so.

3. Approaches taken to class costing

Class costing is the most significant example of where rules have been developed to carry out the allocation of costs of activities that are shared by more than one product or service. A similar approach, but in a different dimension (e.g. format), could be developed for almost every activity as there are virtually no activities that are used by only one cost object. However, in many cases there is a fairly clear basis on which to allocate costs and this is what is used.

The basic ABC system contains (2004/05) some 340 'live' activities against which costs are recorded and these can be summarised as shown in Table 1 below.

Category	Number of Activities	Costs (£m) 2004/05
International Business Unit	11	247
HWDC (Heathrow Worldwide Distribution Centre)	42	28
Logistics Services	75	489
Letters Operations (Service Delivery)	151	5,067
Marketing and other Letters overheads	58	439
Royal Mail Group overheads	3	202
Total	340	6,470

The general approach taken in developing the class costing rules that have been used is that the operation is considered from the point of view of whether certain activities or cost types (or both) are only required to be incurred to meet the needs of First Class products. Where such activities or cost types have been identified different sets of rules have been developed to allocate those costs to products.

4. Costs in scope of class costing

The assessment above concentrates on a number of areas, listed below.

a) Shift payments.

Staff are paid extra to work at night, in particular between 2000 and 0500. It can be argued that if there were no requirement to provide a next day service then there would be no need to work during these hours – certainly in Mail Centres. As a result the Mail Centre shift payments are extracted from each relevant activity and treated separately. The cost

covered by this is £58m. Note there is an additional £107m of shift payments incurred elsewhere in the network, principally delivery, which is not treated as part of class costing.

b) Numbers of machines

All first class non-presorted mail must be handled during a very limited time window. This occurs between around 5pm and 9pm in the Outward operation and between around 2am and 6am in the Inward Operation. This means that the hourly processing capacity needed is greater than it would be if the whole of the day were available to process the mail. At least some of the capacity, therefore, can be assumed to be required purely to satisfy First Class peak requirements. It is then appropriate for First Class products to bear the cost of that extra capacity. This approach is applied to CFCs, IMPs, OCRs and LSMs. In 2004/05 approximately £21m was treated this way.

c) Machine Idle Time

Although strictly not all machines are needed to process Second Class mail, Mail Centres will tend to make as much use as they can of the machines they have, to provide more flexibility in scheduling and resourcing of workload. Nevertheless, there will be occasions when machines are idle but available for work (i.e. not undergoing maintenance). Although this idle time does not incur any staff cost it does, potentially take a share of the machine cost itself and the cost of the space the machine occupies. Class costing assumes that the cost of this idle time is borne by First Class products. The reason for this is that in the absence of First Class peak requirements it would be possible to schedule machines so that there was no idle time. This is more likely to be feasible the longer the time period over which work can be scheduled. In 2004/05 approximately £26m was treated this way.

d) Accommodation costs for manual sorting

Similarly to the discussion of machine numbers above, the same argument can be applied to manual primary sorting fittings as their number depends on the first class volume and the time available to sort it. The space occupied by such fittings is allocated between classes based on a simple model of the relative requirements for First and Second Class processing. In 2004/05 approximately £7m was treated this way.

e) Air Network costs

With very limited exceptions, mail is flown purely to achieve next day service. Hence the total cost of the Air service network can be allocated to First Class products. In 2004/05 approximately £74m was incurred on air services.

f) Sunday Collections

Although both First and Second Class mail is collected on Sundays, only the First Class element is processed on Sunday, with the goal of providing next day (Monday) delivery for that mail. It is therefore argued that the whole cost of the Sunday operation (Collection,

segregation, sorting, overnight transport) should be borne by First Class (non-presort) products. In 2004/05 approximately £11m was treated this way.

5. Areas out of scope of class costing

There are a number of other areas where there is a logical argument to support some part of the costs being driven solely by the need to provide a First Class service. These have not been built into the ABC system because they require a more hypothetical assessment of what the costs might be under alternative network configurations.

a) Network infrastructure

Royal Mail currently operates a network of 68 Mail Centres, which with very limited exceptions all provide the full range of First and Second Class services. The key constraint in providing next day service is the time available between collection and delivery and this requires Mail Centres to be located in all parts of the country. As a result some of the Mail Centres are quite small (Truro, Swansea, Norwich, Canterbury etc). If only a second class service were being provided then a smaller number of larger Mail Centres might be practicable. This network might cost less to run although, of course, there would be compensating costs in transport.

b) Delivery Office Network

Royal Mail currently operates a network of 1400 principal Delivery Offices with a further 1000 or so Scale Payment Delivery Offices (SPDOs), which are generally small offices in rural locations. The DOs and SPDOs deliver all mail products. The key constraint in providing next day service is the time available between collection and delivery and this requires delivery offices to be located in all parts of the country. If there were only a second class service specified then it might be possible to reduce the number of offices. This would facilitate any future plans for automation but would introduce additional 'stem' time at the start of delivery routes.

As with Mail Centres there would be a balance between the savings on transport costs to DOs and DO costs and the additional costs incurred between the DO and the start of the actual delivery routes themselves.

c) Network Redesign

The complex transport network (although somewhat simplified since the Transport Review) is designed around the requirement to meet both first and second class service requirements, with many elements being used for both classes at different times. For example, a van might run from A to B with Second Class mail and return from B to A with First Class mail. With only one class a different – and probably cheaper – network would be possible. In particular, no air services would be required if no First Class service were being provided.

6. How Class Costing is carried out within ABC

Class costing is implemented within the R&CM by utilising the same model structure as the overall costing model. A number of steps are carried out :

- a) For each activity where a degree of Class Costing is required a number of sub-activities are defined. For example, for activity SD1844XX (Outward Primary Letter Sorting) is split as follows:

SubActivity	Description	Detail	Cost (£m) 2004/05
SD1844A1	OUTWARD PRIMARY SORT LETTERS - CLASSED	Accommodation costs to be allocated to 1C	0.7
SD1844A2	OUTWARD PRIMARY SORT LETTERS - CLASSED	Accommodation costs to be allocated to 2C	0.2
SD18440S	OUTWARD PRIMARY SORT LETTERS - CLASSED	Shift payments	5.6
SD1844S1	OUTWARD PRIMARY SORT LETTERS - Sunday	Staff cost on Sundays	2.8
SD1844W1	OUTWARD PRIMARY SORT LETTERS - Weekday	Staff cost on Mondays - Saturdays	58.9
SD1844XX	OUTWARD PRIMARY SORT LETTERS	Other costs	5.2

Instead of all costs being assigned to SD1844XX – which is what would happen in the absence of Class Costing – different elements of cost are assigned to the sub-activities. Therefore, all shift payments are assigned to SD18440S whilst the Ordinary Pay is assigned to SD1844S1 and SD1844W1 depending on the day of the week. Activities SD1844A1 and SD1844A2 are assigned the relevant share of the Accommodation costs allocated to the activity.

- b) Each of the sub-activities appears separately in the routing matrix. This allows different percentages to be applied for different route/activity combinations to allow the relevant cost elements to be assigned to classes of mail. For example, SD1844A1 will have First Class (but not Second Class) routes assigned to it whilst the opposite will be the case for SD1844A2. For SD18440S, just First Class routes will be assigned to it. For SD1844XX all routes are assigned to it, just as they would be without Class Costing.
- c) Separate weighting factors can be supplied to determine the allocation of sub-activity costs to SPHCCs. In general this is not necessary as the same weighting factors as for the original 'XX' activity still apply.
- d) LRMC factors can also be specified for each sub-activity but in general the same values are used as for the parent 'XX' activities.
- e) Having supplied the above data the normal ABC process is followed to assign activity and sub-activity costs to cost objects.
- f) All reports and outputs from R&CM can then be seen at sub-activity level to show the impact of the adjusted cost allocation.

7. Resultant unit costs for key products

The result of the approach described above is the set of product costs shown in Table 2 below. These cover all Price Controlled products, Other Letter products, USO non price control products and Downstream access products. The figures are consistent with the 2004/05 Regulatory Accounts and are based on the Operational traffic measure.

Table 2 Costs of each product (2004/05 figures excluding SIS costs)

Product	Total Cost (£m)	Volume (m)	Unit Cost (Pence)
First Class			
Stamped	779	1,983	39.3
Meter	514	1,631	31.5
PPI	299	1,115	26.8
Second Class			
Stamped	473	1,599	29.6
Meter	370	1,475	25.1
PPI	394	1,768	22.3
Presort			
First Class	85	357	23.8
Second Class	546	3,189	17.1
Mailsort 3	832	4,645	17.9
Other	1849	7,425	24.9
Total	6141	25,187	24.4

Table A1-1 in Annex 1 shows the unit costs for the public tariff products when calculated using the 'Revenue Equated' version of traffic that is used for planning purposes.

Table 3 shows the revenue and profit for each service. It can be seen that levels of profit are quite different, and that second class mail in particular is heavily loss making.

Table 3 Profitability of each Product (2004/05 figures)

Product	Total Revenue (£m)	Unit Revenue (p)	Total Cost (£m)	Profit/(Loss)	Profit/(Loss) as % of revenue
First Class					
Stamped	673	33.9	779	(106)	(15.8)
Meter	662	40.6	514	148	22.4
PPI	365	32.7	299	66	18.1
Second Class					
Stamped	344	21.5	473	(129)	(37.5)
Meter	373	25.3	370	3	0.8

PPI	409	23.1	394	15	3.7
Presort					
First Class	101	28.3	85	16	15.8
Second Class	612	19.2	546	66	10.8
Mailsort 3	874	18.8	832	42	4.8
Other	2,263	30.5	1,849	414	18.3
Total	6676	26.5	6141	535	8.0

For the purposes of assessing Postcomm's proposals for the Price Control Review it is instructive to repeat the tabulation above for the two specific 'baskets' being proposed. In Table 4 Basket A is the 'captive' basket including most public tariff mail whilst Basket B is the 'non-captive' basket including all bulk and pre-sort products. Access products are also shown, as they would fall into a separate price controlled category. The total of these three categories is less than the total shown in Tables 2 and 3 due to the presence of non Price Controlled products (e.g. Presstream, International Contract, Door to Door etc).

Table 4 Profitability of Postcomm's proposed baskets (2004/05 figures excluding SIS)

Product	Total Revenue (£m)	Total Cost (£m)	Profit/(Loss) £m	Profit as % of revenue
Basket A	3,275.8	3,266.0	9.8	0.3
Basket B	2,497.8	2,122.4	375.3	17.7
Access Mail	12.4	12.1	0.3	2.5
Excluded	890.6	752.2	138.4	18.4

The results in tables 2 and 3 show that public tariff prices are already out of line with costs. However, there are some areas of cost allocation, which have not been fully developed, which could lead to a greater disparity. These are discussed in more detail in section 7 below but essentially they address the question of whether the true constraints of the multi class operation and the Universal Service Obligation are adequately captured by the analysis that is included in the Costing System.

8. Limitations

As well as the areas listed as 'out of scope' in section 4 there are a number of other limitations of the current approach. These are detailed below:

a) No separate costing for Mailsort 3

There is a considerable strength of argument that Mailsort 3 should be regarded as a 'marginal' product, given that it has an extended period over which it can be delivered which therefore leads to there being an element of choice as to when it is handled. Hitherto no specific analysis of the potential impact of this has been carried out. The principal areas which would be affected would be the RDC network operation, where the existence of Mailsort 3 might allow smoothing of the resources being used, and the delivery operation where, again a lower overall level of resource might be facilitated by mail being Mailsort 3 rather than First or Second Class.

The delivery analysis might be taken further by postulating a third class only operation and estimating the minimum costs of that operation. Due to the marginal nature of Mailsort 3 then this cost would essentially become the cost to be allocated to that product.

b) Capacity Issues

The current approach may not fully capture all the capacity related issues. In particular:

- the extent to which the size of the transport network (including the NDC hub facility) may be driven by the First Class peak requirement.
- the extent to which the collection activity is driven by the need to make a full range of First Class collections within a very limited time interval in the late afternoon. It might be argued that a full collection from Post Offices at similar times would still be required even if only a Second Class service were being provided but the corresponding pillar box collections would not have to take place during the peak time as currently and could be spread out after the peak.

c) Universal Service Obligation

The approach currently used focuses on costing by class. In doing so it does not explicitly address the question of whether there should be a disproportionate loading of costs onto USO products, on the grounds that those products have to be provided so they should bear the fixed costs of the operation. A primary reason for this is that the wide extent of the USO means that relatively little re-allocation of costs would currently take place, compared with that taking place through Class Costing. However, in the future, when the USO will be reduced in scope, there may be a case for considering this further, especially if only a Stamped Public Tariff service were to remain as the USO.

9. Conclusions

This report has described how Royal Mail currently carries out its Class Costing within the ABC Costing system. Economic costing of this type is not something which naturally sits within an ABC system and developments outside the ABC approach are necessary.

Nevertheless, the ABC system is fully fit for its primary purpose of assessing overall activity, process and product costs that can be used for decision making and performance reporting.

OXERA have proposed an approach that will allow the limitations discussed in section 8 to be addressed, initially through ad-hoc analysis but ultimately perhaps through the development of a more formal system, whose linkages into the ABC system remain to be assessed. Annex 2 gives some preliminary results from carrying out such an ad-hoc analysis

Annex 1 : Unit costs using Revenue Equated Traffic

Table A1 below shows the comparable volumes and costs for the 'Revenue Equated' version of traffic for the public tariff products.

It is important to note these differences as it is this version of traffic and costs which forms the basis of Royal Mail's forward projections of volumes

Note also that the Revenue Equated unit costs include the Share in Success payment, which has been excluded from the Regulatory Accounting statements.

Table A1-1 Revenue Equated Figures

Product	Operational Figures		Revenue Equated Figures	
	Volume (m)	Unit Cost (Pence)	Volume (m)	Unit Cost (Pence)
First Class				
Stamped	1,983	39.3	1,703	43.1
Meter	1,631	31.5	1,576	34.0
PPI	1,115	26.8	1,115	28.7
Second Class				
Stamped	1,599	29.6	1,373	32.6
Meter	1,475	25.1	1,424	27.1
PPI	1,768	22.3	1,768	23.9

Annex 2 : Preliminary results from carrying out an ad-hoc analysis of 'Class Costing'

Introduction

Class Costing is the approach used by Royal Mail to reflect cost differences between classes of mail, and hence support the pricing of those classes of mail. It requires consideration of network costs from an economic point of view and does not assume that applying equi-proportional markups to Long Run Marginal Costs (LRMC) is sufficient.

OXERA have produced a paper for Royal Mail outlining the principles that can be applied in carrying out this type of costing and have identified three stages: the simple approach that can (and does) operate within the confines of our Activity Based Costing system, an ad-hoc analytical approach and a full systems approach (LRIC). The first of these stages is already implemented within Royal Mail's Revenue and Cost Model and our baseline costs reflect this approach. The third stage is a longer-term proposition requiring careful consideration before resources are committed to it, and we note that BT took 3 years to develop such a system. However, for the second stage a preliminary high-level analysis has been carried out to estimate the possible range of impacts from modifying our approach.

This annex summarises the approach and the key results. It is envisaged that further work on the second stage, ad-hoc, modelling may take place before Postcomm's final Price Control proposals are published in November 2005 and Royal Mail would hope to meet with Postcomm to discuss more detail of this work.

Approach

The incremental costs of each of first, second and third classes of mail are estimated by carrying out three separate 'thought experiments' which estimate what the costs of the Royal Mail operation might be if that class of mail no longer existed and that appropriate adjustments were made to the network.

These scenarios are completely hypothetical and network changes can range from making better use of the existing network through to a complete redesign starting from a 'blank sheet of paper'. In this initial analysis the former approach has been used because the purpose of this exercise is principally to investigate alternative allocations of the costs of the existing network.

The detailed assumptions, which are intentionally quite conservative, will be described in full in a more detailed report in due course. The key principle is to identify where the removal of a whole class of mail allows costs to be removed at a rate different from the LRMC. This

can be a higher rate if operational changes and efficiencies are thereby facilitated or a lower rate if the service removed was able to be used as an 'infill' product.

Having estimated the incremental (strictly, decremental) costs of each service there remains a residual 'fixed' cost that needs to be allocated to the services. This typically corresponds to the joint and/or common costs. A number of methods are available to carry out this allocation and rather than make a definitive decision as to which, if any, is most appropriate, each is used so as to demonstrate a range of possible outcomes from this type of analysis.

Results

These are presented below. The analysis is carried out at the total service level and the results then disaggregated to produce the cost estimates for the key 0-60g basic weight step. Altogether 4 different methods are used to allocate the residual costs: volume, cost, elasticity and value measure. The range of the results is shown. Note that the same method does not necessarily produce all the highest or all the lowest values.

Table A2-1 : First weight step costs and indicative prices after applying additional class costing modelling

(pence per item)	Unit cost Baseline (2004/05)	Range of cost estimates (2004/05 levels)		Indicative 2009/10 prices
		Low	High	
1c presort	23.2	26.8	29.4	32.5
1c non presort	28.8	33.3	36.6	40.4
2c presort	17.5	15.5	16.2	18.1
2c non presort	24.2	21.5	22.4	25.0
3c	17.9	11.8	14.8	14.6

The final column projects the values forward to show indicative prices in 2009/10. These have been estimated by applying cost inflation allowing for 1.5% p.a. efficiency improvement (i.e. RPI-1.5) and a markup for profit of 8% and then taking the average of the 4 estimates arising from the 4 different methods of allocating overheads. It should be noted that these are the averages over all methods of payment so, particularly for the non-presort categories, stamped prices could certainly be higher and meter/PPI prices lower. The equivalent stamped prices (for non-presort) are likely to be around 45p and 30p for first and second class respectively.

The proposed 2009/10 basic price for stamped mail of 39p that has been assumed in Royal Mail's price control response to Postcomm is still therefore somewhat below the level based on a plausible cost estimate that takes 'class costing' issues into greater account.