



Retail zonal pricing: impact on Royal Mail's volumes and revenues

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Executive summary.....	1
1 Introduction	5
1.1 Background.....	5
1.2 Frontier's remit.....	6
2 Royal Mail's revenue neutrality model.....	9
2.1 Bulkmail – excluding Presstream Profile.....	10
2.2 Presstream Profile.....	11
2.3 Impact on entry.....	13
2.4 Overall impact.....	14
3 Volume response to price changes	15
3.1 Survey evidence.....	16
3.2 Two benchmark cases.....	16
3.3 Own price elasticity	23
4 Switching between Royal Mail products	27
4.1 Switching to other Royal Mail products	27
4.2 Switching during the transition period	31
5 Entry and Royal Mail market share	35
5.1 Royal Mail's forecast of market entry	35
5.2 Frontier's forecasts of market entry.....	37
5.3 Conclusions	42
6 Conclusions	45
Annexe 1: Modelling entry in the CPMM.....	47

Retail zonal pricing: impact on Royal Mail's volumes and revenues

Table 1: Proposed zonal uplifts.....	1
Table 2: Proposed zonal uplifts.....	5
Table 3: Inward processing and delivery costs by zone.....	6
Table 4: Price changes for Presstream Profile services.....	6
Table 5: Bulkmail volumes and revenues – excluding Presstream Profile.....	10
Table 6: Presstream Profile volumes and revenues.....	12
Table 7: Royal Mail's predictions for change in market share relative to the level that would be achieved with uniform tariffs (percentage points)	13
Table 8: Overall price change for Royal Mail bulkmail products assuming no change in the zonal mix.....	18
Table 9: Bulkmail volumes and revenues – excluding Presstream Profile – no change in zonal mix	19
Table 10: Presstream Profile volumes and revenues – no change in zonal mix ..	19
Table 11: Price changes for bulkmail products.....	20
Table 12: Bulkmail volumes and revenues – excluding Presstream Profile – independent zone response	21
Table 13: Price changes for Presstream Profile	21
Table 14: Presstream Profile volumes and revenues – independent zone response	21
Table 15: Volumes and revenues for Royal Mail bulkmail products excluding Presstream Profile	22
Table 16: Volumes and revenues for Presstream Profile	23
Table 17: Volumes and revenues for Royal Mail bulkmail products excluding Presstream Profile	24
Table 18: Potential substitutes for products within the zonal pricing application. 1 indicates the most likely substitute, 3 the third most likely.	29
Table 19: Potential substitutes for uniformly priced services.....	30
Table 20: Potential substitutes and pre-existing price differences	31
Table 21: Presstream Profile revenues during the transition period.....	33

Table 22: Royal Mail bulkmail revenues (excluding Presstream Profile) under alternative arbitrage scenarios.....	33
Table 23: Projected bulkmail volumes (million items).....	36
Table 24: Projected bulkmail volumes (million items).....	36
Table 25: Projected bulkmail volumes (million items) – moderate cost of arbitrage, access prices remain based on existing zones.....	37
Table 26: Projected bulkmail volumes (million items) –moderate cost of arbitrage and access prices based on proposed retail zones.....	38
Table 27: Projected bulkmail volumes (million items) – prohibitive cost of arbitrage and existing access prices.....	39
Table 28: Projected bulkmail volumes (million items) – Costless arbitrage and existing access prices.....	40
Table 29: Projected bulkmail volumes (million items) relative to the level predicted when all customers have the same zonal profile – moderate cost of arbitrage, access prices remain based on existing zones.....	41
Table 30: Projected bulkmail volumes (million items) – moderate cost of arbitrage, access prices remain based on existing zones.....	41
Table 31: Projected change in bulkmail volumes as a result of zonal retail prices (million items) – all customers have national mailing profile	42
Table 32: Projected change bulkmail revenues as a result of zonal retail prices – all customers have national mailing profile	42
Table 33: Access and end to end prices for a 100g Mailsort 2 700 letter, outside London	49

Executive summary

Royal Mail has applied to Postcomm to be allowed to introduce zonal prices for all its price controlled bulkmail services except those within the scope of the USO. With zonal prices, the price of an item of mail would vary according to its destination. In general, bulkmail sent to London and rural areas would become more expensive while bulkmail sent to urban areas outside London would become cheaper.

Frontier Economics has been asked by Postcomm to assess the reasonableness of the volume assumptions underlying Royal Mail's application. Our report also analyses the implications of alternative assumptions for Royal Mail's licence condition 21 (19) (a). According to this condition (one of a number of requirements that Royal Mail must meet), Postcomm can reject Royal Mail's application unless it is satisfied that the introduction of zonal prices will be revenue neutral.

For the purposes of this report, we measure revenue neutrality over Royal Mail's bulkmail retail (i.e. end to end) products over the course of a typical year. We have therefore not taken into account any bulkmail revenues that could be earned by Royal Mail wholesale (i.e. access services) after the move to zonal pricing.

This report draws on three workstreams: a detailed review of Royal Mail's application; our own analysis of volumes and revenues; and a survey of twenty-one large mailers that we carried out in March 2007.

The report considers a variety of ways in which the introduction of zonal prices may affect volumes and revenues. The most important, which we discuss in this summary, are:

- the direct impact of prices on revenues, even with unchanged volumes;
- the volume response to price changes (price elasticity response); and
- the impact of zonal prices on market entry.

Direct impact of prices on entry

Table 1 shows the zonal uplifts and discounts that Royal Mail is proposing to apply from 1st April 2008 in the first year for which zonal prices are introduced. They range from a 4.9% discount in Zone A (business districts) to a 4.8% uplift in Zone D (rural areas). The uplifts and discounts would apply equally to all bulkmail products within the application, at least initially.

	London	Zone A	Zone B	Zone C	Zone D
Uplift	+2.5%	-4.9%	-2.0%	-1.7%	+4.8%

Table 1: Proposed zonal uplifts

Source: Royal Mail Application Table 2.4

With these uplifts, Royal Mail's bulkmail revenues across all zones would be 0.03% higher under the proposed zonal tariff than under the existing uniform tariff if volumes remain unchanged. Because the zonal volume mix of each product varies slightly, the average revenue change by product with unchanged volumes varies between -0.32% and +0.32%.

These estimates exclude Presstream Profile. Presstream Profile currently has an alternative discount structure for mail sent to certain urban areas which is being withdrawn as part of the current application, to be replaced with common bulkmail uplifts and discounts. Average prices for this service are projected to rise by 12.7% after the introduction of zonal prices with significant variation by zone.

Volume response to price changes

Mailers are likely to vary the volume of mail they send in response to price changes. A key question here is the extent to which they will treat mail being sent to different zones separately.

Based on survey evidence, we believe many mailers will continue to regard items sent to different zones as a single mailing, at least initially, and will absorb price differences between zones. This is likely to be particularly true for businesses sending transactional mail, such as statements or policy documents, where there is a need to communicate with a specific customer.

Other mailers will have more scope to alter the geographic location of their mail. For instance, companies sending direct mail may be able to target their post at customers within cheaper zones. Overall, however, our survey evidence suggests that few mailers at present have a good idea of which zones their customers are located in, which makes substantial early changes in the zonal mix of bulkmail unlikely.

In Section 3, we present two alternative cases which put a reasonable upper and lower bound on the extent to which the zonal mix of mail could change in the short to medium term.

- In the lower bound case, mailers do not change the zonal mix of their mail and respond only to changes in the average price for each product. In this case, total bulkmail volumes would be expected to fall by around 300,000 items per year relative to initial volumes of 6.1 billion items. Bulkmail revenues are predicted to increase by £230,000 relative to initial revenues of £1.2 billion.
- In the upper bound case, mailers respond independently to the change in price in each zone. In this case, volumes are predicted to fall by up to 2% in zone D, which experiences the largest price rise under zonal prices, and to rise by a similar amount in zone A. However, the variations are predicted to largely cancel out across all zones: overall volumes are predicted to increase by 300,000 items again while revenues are predicted to fall by £40,000.

Again, these estimates exclude Presstream Profile which is predicted to experience volume reductions of 12.2 – 15.7 million items after the introduction of zonal bulkmail prices, and could see large falls in volumes in London if mailers treat all zones independently.

We also consider it unlikely that many mailers will switch mailings into or out of products in the application as a result of zonal prices. Most zonally priced products are already substantially cheaper than their universally priced substitutes and technical restrictions (e.g. minimum volume requirements) are likely to make it hard for new customers to exploit price reductions in some zones. The same price differences also mean that mailers would face additional costs if they switch away from zonally priced products towards products in the USO and are therefore unlikely to do so in large numbers, although additional mail presentation requirements (e.g. the need to present mail in zone order) may encourage some to do so.

Changes in market entry

The impact of zonal prices on entry also depends to some extent on how easy it is for mailers to treat different zones independently. In particular, zonal prices are likely to increase volumes for Royal Mail's bulkmail services if mailers are currently able to practise arbitrage by sending mail to urban areas using access (where zonal access prices are cheaper) while using end to end services for mail to rural areas (where access prices are more expensive)

Our results are also dependent on whether Royal Mail adopts a common zonal definition for bulkmail and access zones. If some arbitrage is being practised at present, our model predicts:

- bulkmail volumes would increase by 63 million items and bulkmail revenues would increase by £20.6 million if access prices keep their existing zonal definition; and
- bulkmail volumes would increase by 102 million items and bulkmail revenues would increase by £29.4 million if access prices adopt the zonal definition proposed for bulkmail prices.

However, if arbitrage is currently not widespread, zonal prices would have a smaller impact on bulkmail volumes and revenues.

These modelling results, however, only take account of the proposed price changes. They do not consider any possible changes in mail presentation requirements for access operators as these were not detailed in Royal Mail's application. If access providers are required to carry out additional mail preparation, including sorting mail into zone order, they could face cost increases and become less attractive to customers. In that case, bulkmail volumes could increase by more than predicted by our models. Alternatively, some customers indicated during our survey that adapting to zonal prices would require additional investment, and that they might use the opportunity to ensure their mailroom systems were compatible with any operator. If this effect is widespread, the predicted increases in bulkmail volumes could fail to materialise.

1 Introduction

1.1 BACKGROUND

Royal Mail has applied to Postcomm to be allowed to introduce zonal prices for certain bulkmail products, meaning the price of an item of mail would vary according to its destination.¹ The affected products are:

- Mailsort 120 1st and 2nd class, OCR and CBC;
- Mailsort 700 1st 2nd and 3rd class;
- Mailsort 1400 3rd class;
- Walksort 1st and 2nd class;
- Presstream Standard 1st and 2nd class;
- Presstream >250k; and
- Presstream Profile 1st and 2nd class.

Mailsort 1400 1st and 2nd class are not included as they are within the scope of the USO and therefore will continue to have a geographically uniform tariff. In addition, Mailsort 120 3rd class will also become zonally priced although it is not a controlled service and could become zonally priced without Postcomm's approval.

Royal Mail proposes that in future all addresses would be allocated to one of five zones. The first zone is London (approximately the area within the M25) while the other four zones are defined based on the residential and business delivery point density. Zone A covers areas with high business density, Zone B is other dense urban areas, Zone C is intermediate and Zone D covers rural areas.²

The zonal prices would be introduced by offering uplifts relative to the uniform price for each product. The proposed uplifts would not vary by product or by format, at least initially. Table 2 shows the proposed zonal uplifts for the first year.

	London	Zone A	Zone B	Zone C	Zone D
Uplift	+2.5%	-4.9%	-2.0%	-1.7%	+4.8%

Table 2: Proposed zonal uplifts

Source: Royal Mail Application Table 2.4

¹ Royal Mail, "Application under licence condition 21 for approval to offer geographic zonal prices for bulkmail services (Modified)", 20 February 2007

² Full details are available in Annex B of the Stakeholder Letter sent by Postcomm on 2nd April 2007, available at http://www.psc.gov.uk/postcomm/live/policy-and-consultations/consultations/zonal-pricing-by-royal-mail/020407_Stakeholder_letter_zonal.pdf.

Royal Mail's application states that over time, it intends zonal prices to reflect estimated cost differences between zones. Although Royal Mail has not provided any explicit estimate of prices in later years, its estimate of inward processing, distribution and delivery costs suggests that the zonal variation in price would increase over time. Table 3 shows these costs by zone relative to the national average. Total inward processing, distribution and delivery costs in London are estimated to be 12% higher than average, while those in business districts (Zone A) are estimated to be 28% lower than average.

	London	Zone A	Zone B	Zone C	Zone D
Costs (pence)	+12%	-28%	-11%	-4%	+11%

Table 3: Inward processing and delivery costs by zone

Source: Postcomm, based on information provided by Royal Mail. Table 3 of Annex B to Stakeholder Consultation letter of 2nd April 2007.

Since all bulkmail products except Presstream Profile currently have a geographically uniform price, the proposed zonal uplifts shown in Table 2 also represent the change in price due to the introduction of zonal price for most products by zone.

Presstream Profile, however, already offers substantial discounts to mailers sending mail to urban areas. As part of this application, these discounts will be withdrawn and replaced by the common bulkmail zonal uplifts described earlier. This means that the price changes by zone experienced by Presstream Profile products are estimated to be as in Table 4 below.

	London	Zone A	Zone B	Zone C	Zone D
Change relative to existing tariff	+70.2%	+7.2%	+4.1%	+2.3%	+9.5%

Table 4: Price changes for Presstream Profile services

Source: Royal Mail Zonal Tariff Model

Since these changes are very different from the price changes for other bulkmail products, we present the results of our analysis separately for Presstream Profile throughout our report.

1.2 FRONTIER'S REMIT

Postcomm has asked Frontier to assess the reasonableness of the volume forecasts that form the basis of Royal Mail's application. In addition, our report comments on the implications of the volume forecast for Royal Mail's licence condition 21 (19) (a), under which Postcomm can reject the application unless it is satisfied that the introduction of zonal prices will be revenue neutral.

Our revenue neutrality calculations compare revenues earned by Royal Mail for its retail (i.e. end to end) services under the existing uniform tariff and with retail zonal prices. We do not consider revenues earned by Royal Mail's wholesale division.

We have focused our estimates on the expected change in revenue that Royal Mail will face over a single typical year. We have used 2007-08 as a typical year, for ease of comparison with Royal Mail's application which is based on that year although retail zonal prices will not be introduced before 2008-09.

In most of our calculations, we also exclude any one-off effects associated with the six month transition period Royal Mail is proposing, during which both uniform and zonal tariffs will be available to customers. We examine the impact of the transition period in Section 4.2, but we do not include these one off effects elsewhere in the report.

The analysis in sections 2, 3 and 4 is based on projected 2007-08 Royal Mail end to end volume and price data contained in a spreadsheet submitted by Royal Mail as part of their application – the Zonal Tariff Model (ZTM). The underlying volume data assumes uniform retail prices remain in place and is derived from Royal Mail's EPM model with additional modifications from Royal Mail's marketing division. Our analysis, like Royal Mail's, then models the incremental effect of zonal prices relative to this base. The analysis in section 5 is based on total market volumes derived directly from Royal Mail's EPM with no additional modifications.

1.2.1 Structure of the report

In section 2 we describe Royal Mail's model and the assumptions underpinning it. In the remainder of the report, we critically review the results of the model across the three drivers of volume change that we have identified:

- Section 3 considers whether customers will change the volume of mail that they send using each product, and the zonal mix of that mail;
- Section 4 considers the extent to which customers will switch mail across different Royal Mail products; and
- Section 5 estimates changes in the level of market entry as a result of zonal retail prices.

2 Royal Mail's revenue neutrality model

This section of the report provides a brief overview of the volume and revenue forecasts contained within Royal Mail's application. Later sections provide a critique of this work and an assessment of possible alternative assumptions.

As part of their application to offer zonal prices for bulkmail services, Royal Mail has sought to demonstrate that the change would be revenue neutral. It has provided supporting evidence in its written application³ and in a spreadsheet model which illustrates their calculations (the Zonal Tariff Model).⁴

Royal Mail does not explicitly state how it has interpreted the revenue neutrality requirement of licence condition 21 (19) (a). However, the application appears to interpret the requirement as meaning that Royal Mail Retail's expected revenue for end to end services in the first year in which zonal prices are introduced should be the same as it would have been had uniform prices been retained. Unlike our analysis, the application counts revenue losses related to the transition period as part of the revenue neutrality calculation.

Royal Mail has based its revenue neutrality calculations on projected volumes for 2007-08. This is assumed to be a representative year, although Royal Mail has only applied for retail zonal prices to be introduced on 1st April 2008. The volumes are derived from Royal Mail's EPM model with some modifications made by Royal Mail's marketing department. The volumes are based on the existing uniform tariffs and it should be noted that these are likely to be different from those assumed at the time of the price control.

The application considers four possible effects of zonal prices:

- the direct impact of price changes on revenues (before any changes in volumes are taken into account);
- an own price elasticity volume response;
- switching between uniformly and zonally priced retail products during the transition period; and
- switching to and from other Royal Mail retail products outside the application (e.g. Cleanmail).

The first three effects are evaluated in Royal Mail's spreadsheet model. Royal Mail does not directly estimate the fourth effect– switching to Royal Mail retail products outside the application – as it judges its overall impact to be very small.⁵

³ Royal Mail, "Application under licence condition 21 for approval to offer geographic zonal prices for bulkmail services (Modified)", 20 February 2007

⁴ The Zonal Tariff Model assessed for this report was provided to Postcomm in May 2007. It is a slightly modified version of the model used by Royal Mail in preparing their application. There are therefore some differences between the figures attributed to Royal Mail in this report and the figures that appear in Royal Mail's original application.

⁵ Royal Mail Application, Annexe 1.

The next sections report Royal Mail's assessment of how volumes and revenues will respond to the introduction of zonal prices, broken down to show the magnitude of each of the three effects identified above. Section 2.1 shows the changes for all products except Presstream Profile; Section 2.2 shows the changes for Presstream Profile.

Royal Mail has also provided an estimate of how market entry will be affected by zonal pricing, although the impact on entry is not included as part of the revenue neutrality calculation. We report Royal Mail's estimate in Section 2.3.

2.1 BULKMAIL – EXCLUDING PRESSTREAM PROFILE

Table 5 reports the volume and revenue changes for all products except Presstream Profile, broken down by the three effects described above. Overall, total bulkmail volumes are predicted to increase by 2.29 million but total revenues are predicted to decrease by £1.17 million.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to initial level – price impact</i>						
Volumes	-	-	-	-	-	-
Revenues	£3.80m	-£1.89m	-£5.67m	-£5.36m	£9.47m	£0.34m
<i>Total impact excluding transition period – price impact + volume response</i>						
Volumes	-6.28m	2.96m	9.66m	8.94m	-15.57m	-0.30m
Revenues	£2.55m	-£1.32m	-£3.89m	-£3.68m	£6.29m	-£0.04m
<i>Total impact including transition period</i>						
Volumes	-5.51m	2.96m	9.66m	8.94m	-13.76m	2.29m
Revenues	£2.22m	-£1.32m	-£3.89m	-£3.68m	£5.49m	-£1.17m

Table 5: Bulkmail volumes and revenues – excluding Presstream Profile

Source: Royal Mail Zonal Tariff Model

Direct price impact

Price changes will have a direct impact on revenues. The price impact row in the table shows the how revenues would change under zonal prices in the absence of any changes in volumes. Overall revenues increase by £340,000 from a base of just over £1.2 billion. This is equivalent to an average price rise of 0.03%.

Own price response

Price changes will lead to changes in volumes via an own price elasticity effect. Royal Mail's model assumes that volumes move independently in each zone and

for each product and format. This implies that the zonal mix of mail will change under zonal prices as volumes contract in expensive zones and expand in cheaper zones.

The model uses the same elasticity for all products, zones and weightsteps and takes its value of -0.32 from Royal Mail's Inland Letter Traffic Model (ILTM) (2004). The elasticity figure estimates the percentage change in total market volumes that is likely to result from a 1% average price increase (but does not provide any estimate of how much mail may move to alternative operators). We discuss this elasticity estimate further in section 3.3 and consider it a reasonable estimate of medium to long term volume responses.

Based on these assumptions, there is some change in the zonal mix of mail – mail volumes for products in the application fall by 15.6 million items in zone D and rise by 9.7 million items in zone B. However, the changes in different zones largely balance each other out and aggregate market volumes and revenues are both predicted to change by less than 0.1%.

Transition period

The six month transition period (during which both zonal and uniform tariffs would be available) could affect volumes and revenues in two ways:

- customers may switch from the uniform tariff to the zonal tariff at different times; and
- customers have an opportunity to arbitrage by using the uniform tariff for some zones and the zonal tariff for others.

Royal Mail's model assumes that customers for Presstream Profile (who all experience price rises under zonal pricing) will only switch to the zonal tariff at the last possible moment at the end of the transition period.

For the purposes of modelling arbitrage, the model assumes that customers for other products switch immediately to the zonal tariff, but then take advantage of the arbitrage opportunities by switching some mail in London and Zone D to the cheaper uniform tariffs. Overall, the model estimates that just over 25% of the volumes that can take advantage of the arbitrage opportunity do so.

Table 5 shows that the arbitrage reduces Royal Mail's revenues in London and Zone D by just over £1 million. The model also predicts that volumes would increase by around 2 million items in these areas as mailers take advantage of the cheaper uniform prices by sending more mail.

2.2 PRESSTREAM PROFILE

Presstream Profile experiences average price increases in all zones in Royal Mail's model, unlike other bulkmail products. It also experiences greater variation in the average price change by zone. Table 6 shows current Presstream Profile volumes and revenues, and the changes predicted by Royal Mail under current after the introduction of zonal prices.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to initial level – price impact</i>						
Volumes	-	-	-	-	-	-
Revenues	£8.86m	£0.53m	£1.13m	£0.82m	£2.29m	£13.63m
<i>Total impact excluding transition period – price impact + volume response</i>						
Volumes	-11.67m	-0.47m	-0.96m	-0.68m	-1.91m	-15.69m
Revenues	£4.04m	£0.35m	£0.75m	£0.55m	£1.49m	£7.18m
<i>Total impact including transition period</i>						
Volumes	-8.64m	-0.25m	-0.51m	-0.35m	-1.06m	-10.81m
Revenues	£0.86m	£0.17m	£0.37m	£0.27m	£0.70m	£2.36m

Table 6: Presstream Profile volumes and revenues

Source: Royal Mail Zonal Tariff Model

Overall, the model predicts Royal Mail's revenues from Presstream Profile would increase by £2.36 million in the first year after zonal prices are introduced. The direct price impact (i.e. average price change) for Presstream Profile is projected to be around £13.6 million. The price rises then cause an overall reduction in volumes of 15.7 million items, as mailers respond to higher prices. As a result, Royal Mail's revenue is only predicted to increase by £7.2 million. The reduction in volumes is concentrated in London where volumes are projected to fall by 11.7 million items.

Finally, Royal Mail's model simulates an effect by which customers for Presstream Profile will only switch mail to the zonal tariff right at the end of the six month transition period. The particular way in which Royal Mail has modelled this period means the effect is slightly overstated and Royal Mail is only predicted to achieve a £2.36 million revenue increase in the first year of zonal prices, rather than the £3.6 million (half of £7.18 million) that Royal Mail would achieve in a normal six month period.⁶

⁶ With a six month transition period, customers would be expected to send 50% of their mail using the current tariffs and 50% using the new zonal tariff. We would therefore expect the additional revenue earned by Royal Mail to be half the level that would be achieved in a typical year.

Royal Mail's model predicts that overall Presstream Profile volumes in the six months following the transition period would be 49% of the level achieved in a typical year. However, the way in which this is modelled means that the volume of mail sent to London (which sees the highest price rise) would be only 43% of that in a typical six month period, while the volume of mail to other zones is almost 50% of the typical level. The lower proportion of London mail results in lower average revenues.

2.3 IMPACT ON ENTRY

Royal Mail has provided an estimate of how market entry will be affected by the introduction of zonal prices. Table 7 shows the percentage point change in market share that Royal Mail is predicting it will achieve for products within the zonal pricing application, relative to the predicted level with uniform tariffs. The predictions are based on two scenarios for bulkmail pricing:

- zonal prices based on the proposed initial zonal uplifts; and
- zonal prices based on the proposed “final” zonal uplifts.

The initial zonal uplifts are as in Table 2. Royal Mail has not provided detailed information about the “final” zonal uplifts but has stated that they have greater discounts and supplements than the initial zonal prices, “but are still constrained by uniform pricing of Mailsort 1400 products and other commercial considerations”.

	2007-08	2008-09	2009-10
<i>Change in market share – based on proposed initial zonal uplifts</i>			
Royal Mail end to end	0.3%	0.3%	0.3%
Access	-0.3%	-0.1%	-0.1%
Entrant end to end	0.0%	-0.1%	0.0%
<i>Change in market share – based on proposed “final” zonal uplifts</i>			
Royal Mail end to end	0.9%	1.9%	2.0%
Access	-2.1%	-1.2%	-0.7%
Entrant end to end	1.2%	-0.8%	-1.4%

Table 7: Royal Mail’s predictions for change in market share relative to the level that would be achieved with uniform tariffs (percentage points)

Source: Royal Mail

Royal Mail is predicting that the initial zonal uplifts would increase its end to end market share by 0.3 percentage points by 2009-10. If it continued to increase the zonal variation in price to its current “final” proposals, Royal Mail predicts that it would increase its share of end to end mail by 2.0 percentage points by the same year. This would be at the expense of both access mail (which would fall by 0.7 percentage points) and entrant end to end volumes (which would fall by 1.4 percentage points). There are smaller changes in 2007-08 and 2008-09.

Royal Mail has not provided estimates of what impact these changes in market shares would have on revenues.

2.4 OVERALL IMPACT

Royal Mail's model predicts that across all products, the introduction of zonal prices would lead to an over-recovery of £1.2 million before any impact from changes in market share is taken into account.

In the absence of the transition period (i.e. in a typical 12 month period), the model predicts that the introduction of zonal prices would lead to an over-recovery of £7.14 million in the first year. This is entirely due to increases in price for Presstream Profile, and across all other products the model predicts that bulkmail revenues would fall by £0.04 million.

Royal Mail also predicts that the introduction of zonal prices would lead to an increase in bulkmail market share, relative to access and entrant bypass services. However, Royal Mail's application does not quantify the additional revenues that the increase in market share would allow bulkmail products to earn.

3 Volume response to price changes

The remainder of this report contains our analysis of the reasonableness of Royal Mail's volume forecast. Section 4 considers whether zonal prices will encourage customers to switch to alternative Royal Mail products. Section 5 then examines the impact of zonal prices on market entry.

First, this section of the report examines how the introduction of zonal prices will affect:

- the total volume of bulkmail sent; and
- the zonal mix of that mail.

In general, changes in a product's price will alter demand for that product: an own price elasticity effect. This section of the report considers how much demand will alter, and what set of volumes we should apply the price elasticity to.

Royal Mail's Inland Letter Traffic Model (ILTM) (2004) estimates an own price elasticity for bulkmail of -0.32. In other words, a 1% increase in bulkmail prices is predicted to lead to a 0.32% decrease in bulkmail volumes. This price elasticity, discussed further in Section 3.3, describes mailers' decision about what volume of mail to send. It does not describe mailers' decisions about whether to switch to alternative operators which we discuss in the Section 5.

In order to estimate how volumes will react to price changes, it is necessary to decide which volumes to apply the price elasticity to. Essentially, it should be applied to the smallest group of items over which customers make independent decisions. For this chapter, the important question is whether customers will treat all mail volumes for a particular product as a single group – effectively with a single price – or whether they will treat mail volumes going to different zones independently.

Mailers have had very limited experience of zonal prices in the past and so it is hard to predict exactly how they will react in future. We therefore examine two benchmark cases in which the group of to allow us to put plausible upper and lower bounds on the volume changes that zonal prices are likely to lead to.

The two benchmark cases are:

- **lower impact case:** mailers only react to the total price of their mail, not variations in price between zones; and
- **upper impact case:** mailers consider each zone independently when they send mail.

The second case is the one assumed by Royal Mail. We set out the two cases in Section 3.2. Section 3.3 then examines in more detail the elasticity assumptions that underlie the volume changes in the two cases.

First, we summarise some of the key results of a survey of large mailers we carried out on behalf of Postcomm in March 2007. We believe the survey evidence so far suggests that the overall impact of zonal prices is likely to be

closer to the lower impact case, where the zonal mix does not change significantly, than to the upper impact case assumed by Royal Mail.

As this section explains, we believe large shifts in the zonal distribution of mail are unlikely, given the proposed variation in prices. With limited shifts in the zonal mix, Royal Mail is unlikely to face large reductions of mail volumes in rural areas. Zonal prices are therefore unlikely to lead to large increases in average delivery costs.

3.1 SURVEY EVIDENCE

Frontier conducted a telephone survey of 21 large mailers in March 2007.⁷ The survey was designed to give an overview of the range of ways in which mailers are likely to react to the introduction of zonal prices.

Our survey found that many mailers expect to make only small changes in response to zonal pricing. Only six of the mailers we spoke to expected to make early changes in the geographic destination of their mail. For many businesses the cost and business reorganisation required to take advantage of zonal prices appears to be greater than the potential reward. We note, however, that these results need to be treated with caution as many survey respondents have not yet fully considered the implications of zonal pricing.

There were clear differences between different types of mailers within the survey. Direct mailers, for instance, often have reasonable scope for selecting who they mail to and may select their promotional mail recipients within cheaper zones.

Transactional mailers like banks or utilities, on the other hand, often have much less scope to alter the destination of their mail. They feel obliged – and some are required by law – to send statements or other mail if they are to keep trading with a customer. For small variations in post prices, it is not worth either losing a customer or introducing big changes in business processes to exploit zonal prices. For these mailers, zonal variations in price will simply be absorbed and the total bill to handle all post is likely to drive mailing decisions.

Of the mailers who did say they expected to change the destination of their mail, there was a range of potential reactions. One marketing company expected that some of their customers would be able to increase the proportion of their sample in urban areas to get a higher “hit rate” for a fixed budget. Other respondents expected more limited change: two retailers thought some marginal customers in rural areas might become unprofitable, although it was very unlikely they would stop mailing existing customers.

3.2 TWO BENCHMARK CASES

In order to take account of this variation in behaviour between mailers, we have constructed two benchmark cases to provide plausible upper and lower bounds for the overall change in zonal mix and total volumes due to zonal prices.

⁷ Frontier Economics, 8th March 2007 “Potential reactions to zonal pricing: A report prepared for Postcomm”

- In the lower impact case, customers are assumed to have no scope for altering the zonal mix of their mailings. However, they do change the overall volumes they send slightly as the introduction of zonal prices causes small changes in each customer's average bill. This benchmark provides a lower bound for the changes in market volume and zonal mix.
- The upper impact case is the case used by Royal Mail. Customers are assumed to treat mailings to each zone independently. The volumes of mail being sent to each zone therefore vary independently according to the own price elasticity effect in that zone alone. On this basis, the volume of mail customers send to Zone A does not affect the volume of mail they also send to other zones.

We believe the assumption made by Royal Mail represents an upper bound on how the zonal mix of mail will change. From our survey results, most mailers do not expect to consider zones independently. Very few mailers are likely to develop individual mailings to each zone. Instead, most mailings target recipients with a particular characteristic – demographics or previous purchases in the case of marketing, account holders or customers for banks and retailers – rather than a particular zone.

In the tables that follow, we examine the effect of these two benchmark cases relative to the same baseline used by Royal Mail: Royal Mail's projection of retail volumes for the full year 2007-08 under the existing uniform tariff.⁸ We do not take account of any changes in volumes as a result of the transition period. The volumes changes are based on an own-price elasticity of -0.32, derived from Royal Mail's ILTM model and used in their application. Section 3.3 discusses the reasonableness of the elasticity assumptions further.

3.2.1 Benchmark 1: no zonal mix

The first benchmark case assumes mailers only respond to the aggregate change in their bill as a result of zonal prices; they have no scope for altering the zonal composition of their mail. Under this limiting assumption, mail volumes are only predicted to change by around 300,000 items relative to their current level.

Table 8 shows that for customers with the national average zonal distribution of mail, the overall price change for each product varies between +0.3% and -0.3% (with the exception of Presstream Profile). Price increases in some zones are balanced by price decreases in other zones. Although all products face the same price uplift in each zone, small variations in the zonal mix for each product mean that the exact change for each product varies from a price cut of 0.32% for Walksort 1 to a price rise of 0.32% for Mailsort 1 700.

⁸ Contained in Royal Mail's Zonal Tariff Model

Product	Overall price change
Mailsort 1 120	-0.29%
Mailsort 1 700	0.32%
Mailsort 1 1400	0.00%*
Mailsort 2 120	-0.05%
Mailsort 2 700	0.03%
Mailsort 2 1400	0.00%*
Mailsort 3 120	0.00%†
Mailsort 3 700	-0.06%
Mailsort 3 1400	0.12%
Walksort 1	-0.32%
Walksort 2	0.00%
Presstream 1	0.04%
Presstream 2	0.15%
Total – excluding Presstream Profile	0.03%
Presstream Profile 1	13.15%
Presstream Profile 2	12.10%
Total - Presstream Profile	12.67%
Total	1.04%

Table 8: Overall price change for Royal Mail bulkmail products assuming no change in the zonal mix

Source: Frontier Economics, Royal Mail Zonal Tariff Model

*Product remains on uniform tariff

†Product is outside the Price Control

Volume and revenue change – excluding Presstream Profile

Table 9 shows predicted changes in total bulkmail volumes and revenues (excluding Presstream Profile). If mailers only react to changes in the average price of each product, with no variation by zone, total volumes would fall by about 300,000 items from their existing level of nearly 6.1 billion items as a result of zonal prices. The price elasticity is applied individually to each product and

some individual products see slightly larger changes.⁹ Similarly, Royal Mail retail's total revenue is predicted to increase by around £230,000 relative to total revenues of almost £1.3 billion.¹⁰ This compares with a £40,000 fall in bulkmail revenues predicted in Royal Mail's model, which assumes some change in product mix.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to initial volumes and revenues</i>						
Volumes	-0.04m	-0.01m	-0.05m	-0.10m	-0.08m	-0.30m
Revenues	£3.78m	-£1.90m	-£5.69m	-£5.40m	£9.44m	£0.23m

Table 9: Bulkmail volumes and revenues – excluding Presstream Profile – no change in zonal mix

Source: Frontier Economics, Royal Mail

Volume and revenue change – Presstream Profile

Presstream Profile experiences an average price increase of 12.7% across all zones, with a maximum price increase of 70% in London. The volume and revenue effects of zonal pricing are therefore different from those for other bulkmail products.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to initial volumes and revenues</i>						
Volumes	-2.11m	-0.83m	-2.93m	-3.78m	-2.54m	-12.19m
Revenues	£7.99m	£0.21m	-£0.02m	-£0.68m	£1.22m	£8.71m

Table 10: Presstream Profile volumes and revenues – no change in zonal mix

Source: Royal Mail Zonal Tariff Model

⁹ Volumes do not vary equally in all areas as the zonal mix of products differs. Although the volume change for each individual product is constant across all zones, products that are sent disproportionately to Zone B (for example) will tend to see small price drops and therefore see volume increases. The opposite is true for products that are sent disproportionately to Zone D.

¹⁰ The revenues presented here will actually slightly over-estimate the revenues that Royal Mail would achieve. There is a second order interaction in our calculations between revenues and volumes which means that although our table shows the correct volumes for this scenario, we will have slightly over-estimated the average revenue per unit that Royal Mail will achieve. The reason for this is that customers have slightly different zonal mixes, and will therefore face slightly different price changes for the same product. Those customers with larger price increases will tend to reduce their mailings further while customers with price falls will increase volumes. Unless there are very large variations in zonal mix by customer, however, the magnitude of this effect is likely to be small.

In the lower impact case, Table 10 shows that Presstream Profile volumes would fall by more than 12 million items. The table also shows that the 12.7% average price rise for Presstream Profile translates into an increase in revenues of £8.7 million once customers' own price elasticity response is taken into account.

3.2.2 Benchmark 2: mailers treat all zones independently

The second benchmark is the case used by Royal Mail in their application. Mailers are assumed to treat all zones independently when considering what volumes of mail to send. Sending a statement or a piece of marketing mail to a customer in one zone does not affect their decision to send the same item to a customer in another zone.

This benchmark case is a reasonable upper bound on the extent to which mail will move across zones in the medium term: in reality, mailings to different zones are likely to be linked. This scenario assumes that the own price elasticity response is particular to the price change in each zone. The own price elasticity remains constant in each zone at -0.32.

Volume and revenue change – excluding Presstream Profile

Table 11 shows the zonal uplifts – and hence price changes – for all bulkmail products excluding Presstream Profile. The price changes vary from a 4.9% fall in Zone A to a 4.8% increase in Zone D.

	London	Zone A	Zone B	Zone C	Zone D
Mailsort 1400 1&2	0.0%	0.0%	0.0%	0.0%	0.0%
Other bulkmail products	2.5%	-4.9%	-2.0%	-1.7%	4.8%

Table 11: Price changes for bulkmail products

Source: Royal Mail Zonal Tariff Model

Table 12 shows that aggregate mail volumes across all zones also remain almost constant in this benchmark case. Over all zones, total mail volumes fall by about 300,000 items from a base of almost 6.1 billion items. There is, however, more variation in mail volumes by zone than under the lower impact case. The largest drop in volumes is in Zone D where volumes are predicted to fall by 15.6 million items.

Despite the different revenue effects in different zones, overall Royal Mail revenues in this case are almost unchanged from the uniform pricing benchmark: total revenues fall by around £40,000. Revenue increases in zones with price increases are almost exactly offset by revenue falls in zones with price cuts. The largest increase in revenues occurs in Zone D, where revenues are predicted to increase by £6.3 million.

Volume response to price changes

This methodology is the same as that used in Royal Mail's model, and the predicted change in volumes and revenues is therefore the same.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to initial volumes and revenues</i>						
Volumes	-6.28m	2.96m	9.66m	8.94m	-15.57m	-0.30m
Revenues	£2.55m	-£1.32m	-£3.89m	-£3.68m	£6.29m	-£0.04m

Table 12: Bulkmail volumes and revenues – excluding Presstream Profile – independent zone response

Source: Frontier Economics, Royal Mail

Volume and revenue changes – Presstream Profile

Table 13 shows the price changes for Presstream Profile. Mail volumes to London will experience an average 70% price rise but all zones will face price increases.

	London	Zone A	Zone B	Zone C	Zone D
Presstream Profile	70.2%	7.2%	4.1%	2.3%	9.5%

Table 13: Price changes for Presstream Profile

Source: Royal Mail Zonal Tariff Model

If volumes move independently by zone, Table 14 shows that mail volumes would fall by 11.7 million items in London. Over all zones, volumes would fall by 15.7m items. These volume changes are significantly larger (relative to initial volumes) than any of the other volume changes that we have considered as part of our review of Royal Mail's application.

The table also shows that even with the large falls in volumes, the price increases are large enough that overall revenues would increase as a result of the change in prices. In London, revenues would increase by £4.0m, while the increase for Presstream Profile nationally would be £7.2 million.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to initial volumes and revenues</i>						
Volumes	-11.67m	-0.47m	-0.96m	-0.68m	-1.91m	-15.69m
Revenues	£4.04m	£0.35m	£0.75m	£0.55m	£1.49m	£7.18m

Table 14: Presstream Profile volumes and revenues – independent zone response

Source: Frontier Economics, Royal Mail

Volume response to price changes

3.2.3 Comparison of the two cases

With the exception of Presstream Profile, overall market volumes and revenues are similar in the two benchmark cases.

Within individual zones, however, there is more variation. In our upper bound case (with independent zones) the largest proportionate volume changes are in Zones D and A. These two zones also see the largest proportionate revenue changes.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to current volumes</i>						
No change in zonal mix	-0.04m	-0.01m	-0.05m	-0.10m	-0.08m	-0.30m
Independent zones	-6.28m	2.96m	9.66m	8.94m	-15.57m	-0.30m
<i>Change relative to current revenues</i>						
No change in zonal mix	£3.78m	-£1.90m	-£5.69m	-£5.40m	£9.44m	£0.23m
Independent zones	£2.55m	-£1.32m	-£3.89m	-£3.68m	£6.29m	-£0.04m

Table 15: Volumes and revenues for Royal Mail bulkmail products excluding Presstream Profile

Source: Frontier Economics, Royal Mail

Further evidence of how mailers are likely to react to the introduction of zonal prices will help to gauge the likely response within the range of these two benchmark cases.

However, based on the information currently available, we believe it is more likely the zonal mix will not change significantly. Many mailers have very limited scope to change their zonal mix without making large changes to their marketing strategies and are therefore likely to continue sending out national mailings.

We also find it unlikely that the zonal mix of Presstream Profile will vary to the extent predicted by Royal Mail, despite the large price changes. In the short term, many Presstream Profile deliveries will be to customers on long subscriptions (up to two years). Even after that, one publisher we spoke to said it would be extremely hard from a marketing perspective to offer alternative delivery prices to customers in different parts of the country. Changes in the zonal mix of Presstream Profile are therefore likely to come mainly from customer acquisition efforts, which take time to have their full effect.

The overall impact of introducing zonal prices may, therefore, be closer to the £8.7 million increase in revenues and 12.2 million item reduction in volumes in our first benchmark case, than the £7.2 million increase in revenues and 15.7

million item reduction in volumes that Royal Mail is assuming. Table 16 compares the two benchmark cases for Presstream Profile.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to current volumes</i>						
No change in zonal mix	-2.11m	-0.83m	-2.93m	-3.78m	-2.54m	-12.19m
Independent zones	-11.67m	-0.47m	-0.96m	-0.68m	-1.91m	-15.69m
<i>Change relative to current revenues</i>						
No change in zonal mix	£7.99m	£0.21m	-£0.02m	-£0.68m	£1.22m	£8.71m
Independent zones	£4.04m	£0.35m	£0.75m	£0.55m	£1.49m	£7.18m

Table 16: Volumes and revenues for Presstream Profile

Source: Frontier Economics, Royal Mail

3.3 OWN PRICE ELASTICITY

The preceding section and Royal Mail's model are both based on an own price elasticity of -0.32 for all bulkmail products within the application. This value comes from their Inland Letter Traffic Model (ILTM) 2004, an econometric model of letter traffic within the UK. The model is used by Royal Mail to inform their predictions of total market mail volumes within the UK.

This elasticity estimate is a measure of how the demand for bulkmail in general varies with price. It does not take into account any consideration of how bulkmail is delivered and therefore does not take into account any switching between Royal Mail and alternative operators. We separately consider how zonal pricing may affect market entry in Section 5.

Frontier has previously reviewed the ILTM and found the overall model to be statistically robust and economically well-founded.¹¹ The estimate of an own price elasticity of -0.32 is therefore based on an appropriate methodology. The range of products over which the elasticity is estimated is also reasonable for the products within this application. All Mailsort, Walksort and Presstream services are included, although the dataset also covers Packetpost and Response Services.

The exact value chosen for the elasticity for each product has limited impact on overall Royal Mail retail volumes, in any case. As an example, Table 17 shows

¹¹ Frontier Economics, June 2005 "Volume modelling for the price control: A report prepared for Postcomm".

how bulkmail volumes and revenues would change if the own price elasticity for all products was -0.50 instead of -0.32 and volumes in all zones move independently (upper impact benchmark case). This is an increase in the elasticity estimate of over 50%.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to current volumes</i>						
Own price elasticity: -0.32	-6.28m	2.96m	9.66m	8.94m	-15.57m	-0.30m
Own price elasticity: -0.50	-9.82m	4.62m	15.09m	13.97m	-24.33m	-0.46m
<i>Change relative to current revenues</i>						
Own price elasticity: -0.32	£2.55m	-£1.32m	-£3.89m	-£3.68m	£6.29m	-£0.04m
Own price elasticity: -0.50	£1.85m	-£0.99m	-£2.89m	-£2.73m	£4.51m	-£0.25m

Table 17: Volumes and revenues for Royal Mail bulkmail products excluding Presstream Profile

Source: Frontier Economics, Royal Mail

With the higher elasticity, there are greater changes in volumes in individual zones but as before increases in some zones cancel out decreases in others: aggregate bulkmail volumes fall by 460,000 items relative to total market volumes of 6.1 billion items. In individual zones, however, mail volumes change by up to 24 million items (Zone D).

Different levels of elasticity may be appropriate over different time periods. In shorter time periods, mailers will be more inelastic: they will absorb more price changes without making volume changes. (In particular, a lower elasticity figure is likely to be more appropriate for the short term switching that could take place during the transition period, especially when it comes to changes in the zonal mix.)

Over longer time periods, mailers will have more opportunity to develop new mailing policies and find ways to exploit the price differences, perhaps by focusing customer acquisition or marketing mail in new areas. A higher elasticity is therefore likely to be more appropriate over longer time periods.

As well as the precise value to use, there are three further questions about the use of this elasticity that are relevant for this report.

- Is it appropriate to use the same elasticity value for all products and zones?
- How should cross-price elasticities be taken into account?

Volume response to price changes

- Is the elasticity still robust for the large price increases experienced by Presstream Profile?

We consider each of these points in turn.

Using a single elasticity for all products and zones

In reality, the price elasticity is not likely to be constant across all products and zones. However, Royal Mail has not provided any estimates of how elasticities will vary by product or by zone. Developing any estimate of elasticities by zone will in any case be complicated by the fact that bulkmail has not experienced zonal prices in the past and there is therefore no directly relevant data with which to estimate elasticities.

If there are variations in elasticities between products, they are likely to have only a relatively small impact on the overall estimate of revenue neutrality for Royal Mail retail. All products (except Presstream Profile) face average price changes of less than 0.32%. Changes in the elasticity will therefore alter the volume and revenue variations in individual zones, but will tend to balance out across the market as a whole.

Variations in the zonal elasticity will also only affect overall market volumes and revenues if the variation in elasticity is both high and linked to the zonal price changes. If all zones in which the price falls have more inelastic demand than zones with price rises, for example, Royal Mail's revenues would fall slightly. Lower volumes in high price zones would not be compensated for by higher volumes in other zones. However, we have seen no evidence to suggest that this should be the case.

Cross-price elasticities

Cross-price elasticities measure how demand for one item varies in response to changes in price for another. For this review, the most important cross price elasticity is the measure of how price changes for a product in one zone will affect volumes for the same product in another zone. This will determine the extent to which the zonal mix of mail will change as a result of zonal prices. However, these cross-price elasticities are hard to measure directly because there is no historical price and volume data to suggest how customers will react to being charged different prices in different zones.

To cope with this lack of data, we estimated volume and revenue changes in the two benchmark cases above. It is likely that the final market response will lie within the range of these two cases, although it is possible to think of situations in which volumes would change more. For example, some marketing companies may only be interested in reaching a certain number of customers at least cost. If they can reach all the customers they are interested in within cheap zones, they will not send any mail to more expensive zones. In this case, the reduction in price for cheap zones will have led to large falls in mail in more expensive zones.

However, we think this effect, while present, will be relatively limited as direct mailers with this degree of freedom to choose their customers are likely to form only a small part of the total market. Consequently, we believe the second

benchmark case with independent zones still provides a credible upper-bound on the change in zonal mix driven by zonal prices.

The other set of cross-price elasticities that could in theory affect our results are the cross-price elasticities between different bulkmail products. In the context of the changes proposed in Royal Mail's application, however, these are relatively unimportant. Almost all products within the application experience the same zonal uplifts and price changes and the mix of bulkmail products used is therefore likely to remain relatively constant.

Finally, switching to products that will not become zonally priced and switching to alternative operators can also be considered as examples of cross price elasticities. However, we consider these issues separately and look at switching to products that are not in the application in Section 4.1 and switching to alternative operators in Section 5.

Elasticity for Presstream Profile

Presstream Profile experiences larger price rises than other bulkmail products and a greater variation in zonal price increases. The elasticity estimate from the ILTM is derived from data showing volume changes in response to many incremental price changes, rather than large price jumps. The largest price changes in the ILTM dataset are an 11% increase and a 5% decrease. This may therefore reduce confidence in the exact value of the elasticity that Royal Mail have chosen to apply.

In addition, applying an own price elasticity independently in each zone leads to a large shift in the future zonal mix for this product. This could over-estimate the change in zonal mix. Up to now, Presstream Profile customers have not been presented with separate prices for different items of mail. Rather, they receive a discount on their total mailing depending on the proportion of mail going to discounted areas, with a maximum discount of 28%. Consequently, mailers may not perceive a 70% average price increase in London, and may react more to the change in overall mailing price.

4 Switching between Royal Mail products

In this section, we consider two sorts of switching that we might expect to see after the introduction of zonal retail pricing. They are:

- switching between zonally priced services and other Royal Mail retail products outside the application (Section 4.1); and
- switching between zonally priced services and the uniformly priced versions that remain over the transition period (Section 4.2).

4.1 SWITCHING TO OTHER ROYAL MAIL PRODUCTS

Switching between zonally priced products and products that are outside the application might happen in two directions. In Zones A-C, where zonal products become cheaper, we might expect to see some switching from products outside the application to the new zonal services. In London and Zone D, where zonal products become more expensive, we might expect to see some switching to products outside the application.

Switching, of any type, will only take place if products are sufficiently close substitutes for each other. All work-share products are potentially substitutable in the sense that customers can modify their sortation capabilities and delivery time requirements. Similarly, the public tariff is ultimately a potential substitute for work-share products. However, significant volumes of mail are only likely to switch between close substitutes.

For this exercise, therefore, we have identified possible close substitutes for each product. When identifying potential substitutes, we have assumed that mailers will prefer:

- to use the same format; and
- to use a coarser degree of sortation before considering a finer degree of sortation.

Based on the price differences between the zonal products and the substitutes we identified, we agree with Royal Mail's view that significant volumes of mail are unlikely to move between zonal bulkmail services and other Royal Mail end to end services.

4.1.1 Switching from zonally priced services to uniformly priced services

First we consider whether customers would be encouraged to switch away from the zonally priced services to the remaining uniformly priced services. Table 18 shows which uniformly priced services might act as substitutes for services inside the zonal pricing application. We consider a wider range of potential substitutes than Royal Mail do in their application. For each product we indicate up to three likely substitutes based on price, class, and sortation requirements.

There are some non-price factors associated with the potential substitutes, such as the need to make Cleanmail postings machine readable, or to sort Mailsort 1400 postings to 1400 areas which will make switching hard for some customers. However, for most customers already using the other bulkmail services that are becoming zonally priced, these non-price factors are not likely to present a major difficulty.

Price will therefore be the major determinant of switching. Based on the prices of a 50g letter or a 150g packet, we find that all the potential substitutes in Table 18 are at least 5.9% more expensive than the proposed 2007-08 uniform price for the relevant zonal products (the price difference between Mailsort 2 1400 and Mailsort 3 1400). Typically, the price difference is nearer 25%.

Since the largest price increase for products in the zonal application is the Zone D uplift of 4.8%, all of the products in the zonal application will remain cheaper than their potential substitutes outside the application in every zone. We would therefore not expect large scale switching to products that remain uniformly priced.

In later years, Royal Mail has said it will introduce higher zonal uplifts and these could cause some zonal products to become more expensive than the uniformly priced potential substitutes. However, Royal Mail states that its “application does not propose to introduce Zone D prices to the point at which transfer to the product within the universal service would be attractive”. In this case, Royal Mail’s assessment that no significant volumes of mail are likely to switch to bulkmail products outside the application is likely to be correct.

The main factor that could cause customers to switch from zonally priced products to uniformly priced products will be the additional presentation requirements related to zonal pricing. These include a requirement to print the zone code on each mail item and a requirement to produce mail in zone order within each standard selection code (SSC). Customers who machine sort their mail may have to complete an additional run in order to sort their mail by zone. Other customers who use bulkmail less frequently could find it harder to print the zone code. In either case, customers may be more likely to use Cleanmail or Mailsort 1 and 2 1400, rather than the zonally priced equivalents.

	Potential substitutes for zonal products								
		Public tariff 1	Public tariff 2	Packetsort 1	Packetsort 2	Cleanmail 1	Cleanmail 2	Mailsort 1 1400	Mailsort 2 1400
Products in the zonal application	Mailsort 1 120	2				1			
	Mailsort 2 120		2				1		
	Mailsort 1 700	2				1			
	Mailsort 2 700		2				1		
	Mailsort 3 700		2				1		
	Mailsort 3 1400				3		2		1
	Walksort 1	3				2		1	
	Walksort 2		3				2		1
	Presstream 1 Std.			2				1	
	Presstream 2 Std.				2				1
Zonal product outside the application	Mailsort 3 120		2				1		

Table 18: Potential substitutes for products within the zonal pricing application. 1 indicates the most likely substitute, 3 the third most likely.

Source: Frontier Economics

4.1.2 Switching from uniformly priced services to zonally priced services

We now consider switching in the opposite direction, from uniformly priced services to zonally priced services. As before, we consider a range of potential substitutes and find that no significant volumes are likely to switch into zonally priced services. This is consistent with the view presented by Royal Mail in their application.

Table 19 shows which services inside the application might act as substitutes for other retail services. For each product we again indicate up to three substitutes given price, class, and other restrictions.

Switching between Royal Mail products

		Zonally Priced Services					
Uniformly priced services		Mailsort 1 120	Mailsort 2 120	Mailsort 1 700	Mailsort 2 700	Mailsort 3 700	Mailsort 3 1400
	Public tariff 1 st	1					
	Public tariff 2 nd		1				
	Packetpost 1						1
	Packetpost 2						1
	Packetsort 1						1
	Packetsort 2						1
	Cleanmail 1	1					
	Cleanmail 2		1				
	Mailsort 1 1400	2		1			
	Mailsort 2 1400		3		2	1	

Table 19: Potential substitutes for uniformly priced services

Source: Frontier Economics

As before, price will be a major determinant of switching. However all of the services that would become zonally priced are already significantly cheaper than the uniformly priced services from which customers might move; customers who can move easily are therefore likely to have done so already.

Table 20 shows the price difference between the uniformly priced services and the current uniform price of their closest zonally priced substitute. It also shows the most likely reason why people do not switch to the cheaper service.

The main impediments to switching to substitute bulkmail products are likely to be that:

- customers cannot meet the minimum volume requirements;
- customers cannot cost-effectively perform the necessary pre-sortation; and
- customers cannot change the format of their mail.

Since there is already a significant potential cost saving in almost all cases from moving to the substitute bulkmail products, we agree with Royal Mail's assessment that the introduction of zonal uplifts is unlikely to lead to large volumes of mail switching to alternative products.

Switching between Royal Mail products

Uniformly priced service	Zonally priced substitute	Price difference (pence)	Relevant non-price barrier to switching
Public tariff 1st	Mailsort 1 120	5p [*]	4,000 items volume requirement
Public tariff 2nd	Mailsort 2 120	4p [*]	4,000 items volume requirement
Packetpost 1	Mailsort 3 1400	32p [†]	Pre-Sort requirement to 1,400 Postcode area selections
Packetpost 2	Mailsort 3 1400	21p [†]	Pre-Sort requirement to 1,400 Postcode area selections
Packetsort 1	Mailsort 3 1400	29p [†]	Pre-Sort requirement to 1,400 Postcode area selections
Packetsort 2	Mailsort 3 1400	19p [†]	Pre-Sort requirement to 1,400 Postcode area selections
Cleanmail 1	Mailsort 1 120	2p [*]	4,000 items volume requirement
Cleanmail 2	Mailsort 2 120	2p [*]	4,000 items volume requirement
Mailsort 1 1400	Mailsort 1 700	3p [*]	Format restriction and 10,000 items volume requirement
Mailsort 2 1400	Mailsort 3 700	1p [*]	Format restriction and 10,000 items volume requirement

Table 20: Potential substitutes and pre-existing price differences

^{*} based on the price of a 50g letter

[†] based on the price of a 150g packet

Source: Frontier Economics

4.2 SWITCHING DURING THE TRANSITION PERIOD

Royal Mail is planning to operate a six month transition period when zonal prices are first introduced, during which uniform prices will remain available. The transition period has two implications for Royal Mail's volumes, and hence revenue neutrality:

- not all mailers will switch to zonal prices at the same time; and
- there is an opportunity to arbitrage by splitting mail volumes between zonal and uniform versions of the same service.

We examine both of these effects in turn. In each case, we find that the impact is likely to be a small revenue loss for Royal Mail.

Switching between Royal Mail products

4.2.1 Moving to zonal prices

Not all customers will move their mail volumes to the zonal tariff on the first day it is introduced. There are at least two reasons for this:

- customers may naturally take time to move, perhaps because they do not have all the relevant systems in place immediately to meet Royal Mail's technical requirements for zonal prices; and
- customers may delay moving to zonal pricing because they believe their average bill will increase.

The first effect is unlikely to significantly alter bulkmail volumes and revenues. The second effect could cause a small revenue loss for Royal Mail.

The fact that some customers delay switching to the zonal tariff will not in itself lead to a large change in Royal Mail's revenues. As we show in Section 3, if volumes do not change, mailers with an average zonal profile would see their aggregate mail bill rise by 0.03% under zonal prices. (This excludes Presstream Profile which sees large increases.) On this basis, the exact time at which customers move to the zonal tariffs would have little impact on either Royal Mail's revenues or volumes. (We look at Presstream Profile separately below.)

However, Royal Mail could lose revenues if customers who see price falls as a result of zonal prices choose to switch straight away while those who see price rises delay for as long as possible. Royal Mail would lose revenues from the customers who move to zonal prices while the off-setting revenue increases from customers with price increases would not arrive until later. The net result would be a small reduction in Royal Mail's revenue in that year.

This effect is likely to be small, but it is hard to quantify. Based on a survey of large mailers we undertook in March 2007¹² (see Section 3.1), we expect that few customers have a good understanding of the zonal destination of their mail at present. They will therefore find it hard to predict whether their average bill will increase or decrease and many customers may see price increases for some mailings and price falls for other mailings.

The extent to which customers delay or speed up their shift to zonal tariffs therefore will depend on when they know whether they face a price increase. This in turn will depend to a large extent on technical factors: whether mailers' and Royal Mail's system requirements make it practical to choose the tariff after a mailing has been priced and sorted, or whether a decision must be made before sortation. If the decision must be made before sortation (as is likely) mailers will have a less informed view of their likely bill with the zonal tariff.

Nevertheless, there is likely to be a small overall impact on Royal Mail's revenues as customers who benefit from zonal prices move first, while those who will lose out choose to stay on the uniform tariff for as long as possible.

¹² Frontier Economics, 8th March 2007 "Potential reactions to zonal pricing: A report prepared for Postcomm"

Presstream Profile

Presstream Profile customers face large price rises and are therefore unlikely to move to the new zonal tariffs until the existing tariffs are withdrawn at the end of the transition period. Royal Mail's revenues will therefore be lower than if customers switched to the zonal tariff immediately.

We estimate that Royal Mail would earn £6.8m more in a six month period if all Presstream Profile customers were on the zonal tariff (and did not change the volume or mix of mail they send) than if all customers were on the current tariff. If customers do change the level and mix of their mail in line with Royal Mail's assumptions, Royal Mail would still earn £3.6m more.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Change relative to current revenues</i>						
Zonal – no change in volumes	£4.4m	£0.3m	£0.6m	£0.4m	£1.1m	£6.8m
Zonal – Royal Mail assumptions	£2.0m	£0.2m	£0.4m	£0.3m	£0.7m	£3.6m

Table 21: Presstream Profile revenues during the transition period.

N.B. The table assumes that half of annual revenues are received during the transition period.

Source: Frontier Economics, Royal Mail

4.2.2 Opportunity to arbitrage

The previous section discussed the time at which customers would move their entire mailings to the zonal tariff. This section examines the extent to which Royal Mail may lose revenue from customers splitting an individual mailing between the zonal tariff and the uniform tariff during the six month transition period. Table 22 shows the potential arbitrage during the transition period.

	London	Zone A	Zone B	Zone C	Zone D	Total
<i>Revenue loss due to arbitrage</i>						
Maximum arbitrage	-£0.9m	-£0.5m	-£1.4m	-£1.3m	-£2.4m	-£6.5m
One quarter arbitrage	-£0.2m	-£0.1m	-£0.4m	-£0.3m	-£0.6m	-£1.6m

Table 22: Royal Mail bulkmail revenues (excluding Presstream Profile) under alternative arbitrage scenarios.

The table assumes that Royal Mail receives half its annual revenues during the transition period

Source: Frontier Economics, Royal Mail

The maximum arbitrage loss to which Royal Mail is exposed is £6.5 million. This loss would occur if all customers sent mail to London and zone D via uniform services and mail to zones A to C via zonally priced services. The table assumes mailers do not make changes to the volumes of mail they send (as the transition period lasts for only six months) and therefore ignores any own price elasticity effect on volumes. For many mailers, reconfiguring their IT and mail systems to exploit this arbitrage opportunity for six months will not be worthwhile. But some customers could be able to exploit the arbitrage opportunities.

Royal Mail estimates that one quarter of the mail that can take advantage of the arbitrage opportunity will do so. At a meeting, Royal Mail stated that this is broadly consistent with their mailer's reactions to similar arbitrage opportunities in the past (for instance Mailsort Re-engineering) although we have not been able to review any past data to confirm this point directly.¹³

We consider that expecting one quarter of mail volumes to exploit the arbitrage opportunity is at the upper end of what is plausible given the short time scale for which the arbitrage opportunity exists. If one quarter of the mail exploits the arbitrage opportunity, Royal Mail would lose revenues worth around £1.6 million.

4.2.3 Overall impact of the transition period

The transition period is likely to reduce Royal Mail's revenues slightly. Arbitrage between uniform and zonal retail prices could lead to a revenue loss of up to £1.6 million. Further, customers who face higher prices under zonal prices than with uniform tariffs may switch later than those who experience price cuts. This could lead to an additional small reduction in revenues.

The transition period has a more significant impact on Presstream Profile. Few customers will give up the discounts available under the existing tariff for the higher prices under zonal pricing before they have to. This means Royal Mail is not likely to receive higher revenues for Presstream Profile until after the end of the transition period. This results in revenues being £3.6 to £6.8 million lower than they would be if there were no transition period and all customers moved immediately to the new zonal tariff.

If these revenue losses are taken into account in setting the zonal uplifts and discounts, Royal Mail could over-recover revenue in typical periods (after the end of the transition period). The amount of the over-recovery would be equivalent to the revenue loss taken into account during the transition period.

¹³ Meeting with Royal Mail on March 2nd 2007

5 Entry and Royal Mail market share

The introduction of bulkmail zonal prices is likely to lead to changes in the level and type of market entry. Changes in entry will affect the revenues that Royal Mail can expect to earn from its bulkmail retail products, and therefore calculations of revenue neutrality.

Changes in volumes come from two main sources:

- changes in average bulkmail prices as a result of zonal prices; and
- changes in the opportunity to split individual mailings between retail and access prices depending on the zone (i.e. arbitrage).

Our scenarios suggest that the second factor is likely to be more important given the price changes that Royal Mail is proposing at present. Overall, restricting arbitrage will tend to cause volumes to switch from access providers to Royal Mail end to end services, but this will not always be the case.

Zonal retail prices will tend to make the margin between retail and access prices more similar across zones. Mailers will therefore use access services where they are consistently cheaper than end to end products, but there will be less opportunity to exploit price differences between zones. This may lead end to end volumes:

- to increase, where zonal discounts for bulkmail in zones A to C encourage mailers towards Royal Mail's end to end services; or
- to decrease, where zonal bulkmail price rises in London and Zone D encourage customers to switch mail away from end to end services.

The extent to which customers are able to arbitrage between zones is an important determinant of the impact of zonal retail prices. In the absence of any strong data suggesting how widespread arbitrage is at present, we present a range of scenarios, in which arbitrage is more or less easy. In general, the more widespread arbitrage is assumed to be, the more impact the introduction of zonal pricing will have.

Another potentially important factor is whether Royal Mail adopts a common zonal definition for retail and access zones. The proposed new zones for retail prices are different from those currently in use for access prices. Royal Mail has not stated whether it intends to unify the zonal definitions, and we have therefore modelled two alternative scenarios in which the zones are and are not unified.

First, we present Royal Mail's own forecasts of how zonal prices would affect market entry.

5.1 ROYAL MAIL'S FORECAST OF MARKET ENTRY

Table 23 shows Royal Mail's forecast of market entry with and without zonal prices in the first year for which zonal prices are introduced. The forecasts do not take into account any impact of the transition period.

Projected bulkmail volumes – initial zonal uplifts

	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
Change relative to uniform tariffs	-17.8m	16.8m	-35.1m	0.5m

Table 23: Projected bulkmail volumes (million items)

Source: Royal Mail

Royal Mail is predicting that total end to end bulkmail volumes would increase by almost 17 million items with the introduction of zonal pricing. However, this would be more than offset by a fall in access volumes of just over 35 million items. Entrant bypass volumes are predicted to remain largely unaffected and so total market volumes decline by just under 18 million items per year with the introduction of zonal pricing. Almost 12 million items of the fall is due to a decline in Presstream volumes.

However, Royal Mail also predicts that the impact on market entry could be larger with greater zonal discounts and uplifts. Table 24 shows Royal Mail's predictions of bulkmail volumes with "final" zonal prices, which contain greater uplifts and discounts but "are still constrained by the uniform pricing of Mailsort 1400 products and other commercial considerations".

Projected bulkmail volumes – "final" zonal uplifts

	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
Change relative to uniform tariffs	2.1m	134.9m	-264.8m	132.1m

Table 24: Projected bulkmail volumes (million items)

Source: Royal Mail

With the greater price changes, Royal Mail predicts a larger impact on volumes. The modelling suggests that access volumes could be reduced by up to 265 million items per year, and Royal Mail end to end volumes could be increased by 135 million items per year.

Revenue neutrality

Changes in market share will affect the revenues that Royal Mail earns from bulkmail end to end products within the price control. Increases in bulkmail end to end volumes, as predicted by Royal Mail, are likely to increase bulkmail end to end revenues. However, Royal Mail has not provided any estimate of how revenues would be affected.

5.2 FRONTIER'S FORECASTS OF MARKET ENTRY

In this section, we present our predictions of how market entry will be affected by the introduction of zonal prices. The predictions are derived from our Competitive Postal Market Model (CPMM), which was also used to predict market shares for Royal Mail's price control. Some further technical details about the CPMM and the assumptions we have made are contained in an annexe to this report.

We present a range of scenarios for market entry, taking account of:

- the possibilities for arbitrage between retail and access products;
- whether or not Royal Mail adopts a common zonal definition for both retail and access prices; and
- possible variations in zonal mix for different customers.

All our scenarios compare the impact of moving from the existing uniform tariffs to the zonal prices Royal Mail is proposing in the first year (i.e. with uplifts and discounts as shown in Table 2). We have not received estimates of how the uplifts would change in later years and so have not been able to conduct model runs under the "final" zonal prices used by Royal Mail in Table 24 above.

We find that under most scenarios, Royal Mail could be expected to increase end to end bulkmail volumes at the expense of access volumes, with a consequent increase in bulkmail revenues. The increase in revenues is, however, largely driven by reducing the scope for arbitrage. If few mailers are currently practising arbitrage (i.e. splitting individual mailings between Royal Mail's end to end and access services) then the introduction of zonal prices is unlikely to have a big impact on market share.

We consider entrants are unlikely to establish large scale end to end networks of their own within the timeframe being considered. This is unlikely to be affected by the introduction of bulkmail zonal prices.

5.2.1 Results when some arbitrage takes place

Table 25 shows our predictions for how market shares would change in the first year after the introduction of zonal prices, assuming access prices retain their existing zonal definitions.

Projected bulkmail volumes – moderate arbitrage, existing access zones

	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
Change relative to uniform tariffs	-13m	63m	-76m	0m

Table 25: Projected bulkmail volumes (million items) – moderate cost of arbitrage, access prices remain based on existing zones

Source: Royal Mail, Frontier Economics CPMM

The table shows that Royal Mail could be expected to see an increase in bulkmail end to end volumes of 63 million items, relative to the level that would be achieved with uniform tariffs. The increase in volumes would largely come at the expense of access volumes which are predicted to fall by 76 million items. Total market volumes would fall overall by around 13 million items, led by falls in Presstream Profile which would experience the largest average price increases.

The overall increase in end to end volumes is mainly driven by increases in zones A to C outside London, as mailers react to lower prices in these areas. Here, volumes are predicted to increase by 74.3 million items. This increase is partially offset by volumes falling in Zones D and E where prices rise. The falls in these regions come as mailers with access contracts operators who would otherwise separate mail for Zones D and E to send via end to end services, now send all mail via access.

As a result of the new prices, overall bulkmail revenues would be predicted to increase by just over £20 million. Part of this increase is due to higher Presstream prices, with the remainder due to increases in volumes.

Common zonal definition

Our modelling predicts that the overall impact would be similar but larger if Royal Mail adopted a common zonal definition for both bulkmail and access prices. Table 26 shows how market volumes would change with the introduction of zonal bulkmail prices.

Projected bulkmail volumes – moderate arbitrage, unified zonal definition

	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
Change relative to uniform tariffs	-13m	102m	-116m	1m

Table 26: Projected bulkmail volumes (million items) –moderate cost of arbitrage and access prices based on proposed retail zones

Source: Royal Mail, Frontier Economics CPMM

Under this scenario, the introduction of retail zonal prices increases Royal Mail end to end bulkmail volumes by around 102 million items and access volumes fall by 116 million items. The change in volumes is therefore predicted to be larger than when the zonal definitions remain different.

Part of the reason for the larger impact is an increase in volumes switching to retail products in London, as access prices are assumed to increase and so the differential between retail and access prices becomes less marked. However, there are also further increases in volumes switching to Royal Mail in Zones A to C outside London.

Under this scenario, bulkmail revenues are predicted to increase by £29.4 million, £8.8 million more than when access prices remain with their existing zonal definition

5.2.2 Impact of arbitrage

These results, however, depend on the extent to which customers are able to arbitrage between end to end and access services. Making arbitrage easier within the model tends to have two effects:

- baseline access volumes increase, as mailers are not prevented from using access by a small number of relatively expensive items that would be significantly cheaper to send via Royal Mail; and
- introducing zonal prices leads to greater volume changes, as the scope for benefiting from this arbitrage is reduced.

No arbitrage

Table 27 shows market shares if no arbitrage takes place and mailers are unable to split individual mailings between end to end and access services. It shows that Royal Mail's bulkmail volumes would be predicted to decline by around 17 million items, with access volumes increasing by around 4 million items.

Projected bulkmail volumes – no arbitrage, existing access prices

	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
Change relative to uniform tariffs	-13m	-17m	4m	0m

Table 27: Projected bulkmail volumes (million items) – prohibitive cost of arbitrage and existing access prices

Source: Royal Mail, Frontier Economics CPMM

The decline in volumes for bulkmail products is caused partly by a decline in the volumes of Presstream Profile in response to price rises. For other products, the impact is small. With no arbitrage, mailers cannot respond to changes in the relative price of mail in different zones, only to the average price of sending an entire mailing via either an entrant or Royal Mail end to end services. If Royal Mail continues to provide access services with the same prices and non-price terms and conditions, entrants are unlikely to change the prices they offer to mailers. Likewise, as shown in Section 3.2.1, average prices for bulkmail products (across all zones) change by no more than 0.32% with the introduction of zonal prices. The impact on entry is therefore limited.

With no arbitrage, our model predicts Royal Mail would achieve an increase in end to end bulkmail revenues of £7.3 million. This is principally the result of an increase in the price of Presstream Profile.

Costless arbitrage

Table 28 shows the predicted impact of introducing zonal prices in the extreme case where it is costless for mailers to split any mailing between access providers and Royal Mail's bulkmail services.

Projected bulkmail volumes – costless arbitrage, existing access prices

	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
Change relative to uniform tariffs	-13m	-136m	124m	-1m

Table 28: Projected bulkmail volumes (million items) – Costless arbitrage and existing access prices

Source: Royal Mail, Frontier Economics CPMM

In this case, the introduction of zonal prices is predicted to lead to more substantial falls in Royal Mail's bulkmail volumes. The fall in volumes comes almost entirely from a shift in mail in zone D, as end to end bulkmail volumes move to access. The model predicts that if arbitrage is very straightforward, customers currently using access providers for most of their mail may choose to separate out mail to zone D to send via Royal Mail, as zonal access prices do not offer a cost saving in these areas, once upstream costs are taken into account. With the introduction of higher bulkmail prices in zone D, however, this no longer becomes worthwhile, and customers would also send these items via access operators. Even though bulkmail volumes increase in other areas, they do not increase by enough to offset the loss of volumes in Zone D.

5.2.3 Variations in customers' zonal profile

Variations in customers' zonal profile are predicted to have some impact on market entry. At present, cheaper access prices in urban areas mean that entry is slightly more likely to happen in these areas. Large customers are also more likely to switch to access products than smaller customers.

As a result, increasing the number of large customers with zonal profiles skewed towards urban areas tends to increase the volume of mail going via access. Table 29 shows how volumes for Royal Mail end to end, access and entrant bypass are predicted to change when customers have different zonal profiles. (All these scenarios assume uniform retail tariffs). If all Royal Mail's 100 largest customers are assumed to have a mailing profile skewed towards urban areas, access volumes are projected to increase, as large customers (who are most likely to use alternative operators) take advantage of cheaper access prices in these areas. The reverse is true if large customers are skewed towards rural areas while variation in the top 100 appears to have little impact.

Projected bulkmail volumes, relative to constant zonal profiles – moderate arbitrage, existing access prices

	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
Top 100 have urban skew	0m	-110m	109m	2m
Top 100 have rural skew	0m	266m	-264m	-2m
20 have urban skew, 20 have rural skew	0m	-156m	155m	0m

Table 29: Projected bulkmail volumes (million items) relative to the level predicted when all customers have the same zonal profile – moderate cost of arbitrage, access prices remain based on existing zones

Source: Royal Mail, Frontier Economics CPMM

However, variations in customers' zonal profile may affect the incremental impact of zonal prices. Table 30 shows how bulkmail volumes are projected to change if customers do not all have a national mailing profile.

In general, the impact of zonal prices is reduced. Where big customers have a more urban profile, the introduction of zonal prices still tends to lead to increases in end to end volumes. However, where big customers have a disproportionately rural profile, the opposite is true. The reduction in end to end volumes in zone D due to higher zonal retail prices outweighs any increases in other zones.

Projected bulkmail volumes – moderate arbitrage, existing access prices

Change relative to Table 29	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
All customers have national profile	-13m	63m	-76m	0m
Top 100 have urban skew	-13m	16m	-28m	-1m
Top 100 have rural skew	-13m	-49m	37m	0m
20 have urban skew, 20 have rural skew	-13m	20m	-33m	0m

Table 30: Projected bulkmail volumes (million items) – moderate cost of arbitrage, access prices remain based on existing zones

Source: Royal Mail, Frontier Economics CPMM

5.3 CONCLUSIONS

Our modelling suggests that the main way in which retail zonal prices will affect market entry is by altering the opportunity for arbitrage between retail and access services.

Table 31 and Table 32 show that the introduction of retail zonal prices is predicted to increase retail bulkmail volumes as long as some customers are currently practising arbitrage by splitting mailings between retail and access services.

Projected change in bulkmail volumes

	Total bulkmail volumes	RM E2E volumes	Access volumes	Entrant bypass
<i>Access zones keep existing zonal definition</i>				
No arbitrage	-13m	-17m	4m	0m
Moderate arbitrage	-13m	63m	-76m	0m
<i>Access zones move to proposed retail zone definition</i>				
No arbitrage	-13m	-17m	4m	0m
Moderate arbitrage	-13m	102m	-116m	1m

Table 31: Projected change in bulkmail volumes as a result of zonal retail prices (million items) – all customers have national mailing profile

Source: Royal Mail, Frontier Economics CPMM

Projected change in bulkmail revenues

	Access zones keep existing zonal definition	Access zones move to proposed retail definition
No arbitrage	£7.2m	£7.3m
Moderate arbitrage	£20.6m	£29.4m

Table 32: Projected change bulkmail revenues as a result of zonal retail prices – all customers have national mailing profile

Source: Royal Mail, Frontier Economics CPMM

If customers are able to split their mailings at moderate cost, our model predicts retail bulkmail volumes would increase by around 63 million items if Royal Mail maintain their existing access zones, and 102 million items if Royal Mail adopt a common zonal definition for both retail and access zones. This would lead to an increase in bulkmail end to end revenues of £20.6 million under existing access zones and £29.4 million under common zones.

If arbitrage is not possible, however, the access zone definition is less important, and the change in volumes and revenues smaller. Bulkmail end to end volumes would fall by around 17 million items, led by lower total market volumes, while bulkmail end to end revenues would increase by just over £7 million.

Table 31 and Table 32 are likely to indicate the maximum amount that Royal Mail could benefit from restricting arbitrage. We have not seen evidence that arbitrage is widespread at present, and we have not heard it mentioned in our recent discussions with big mailers and alternative operators.

However, these forecasts only take account of the changes to retail bulkmail products listed in Royal Mail's application; they therefore assume that there are no substantial changes in mail presentation requirements for access products. In practice, Royal Mail's wholesale division may make changes to access products to match those made for bulkmail products. If Royal Mail makes zonal sequencing of mail compulsory for access mail, for instance, alternative operators could face increases in costs and reductions in the quality of service they would be able to offer customers. In that case, growth in access volumes could be restricted and the increases in bulkmail volumes would be greater.

There are also ways in which the introduction of zonal pricing could encourage customers to move to alternative operators.

- First, some respondents to our survey suggested that they would need additional investment in order to meet the requirements of zonal pricing, and could use the opportunity to upgrade their equipment in order to meet the technical requirements of other operators more easily too.
- Second, other survey respondents felt that the introduction of zonal pricing was a major change for which they had only limited scope to negotiate details with Royal Mail. They indicated that they could be inclined to move to alternative operators if the operators could offer greater security in terms and conditions or more negotiation on price.

Royal Mail's own projections of the impact of zonal bulkmail prices on entry are somewhat lower than ours. Royal Mail predicts that bulkmail volumes would increase by 17 million items in the first year in which zonal bulkmail prices were introduced, although bulkmail volumes could rise by up to 135 million items if the zonal uplifts and discounts increase in later years.

The differences between the entry projections from Royal Mail's model and our model reflect differences in the structure and underlying assumptions in the two models. The CPMM, for instance, models customers explicitly and assumes customers will only be willing to shift discrete units of mail to an alternative operator (e.g. all Mailsort 2 700 letters of less than 60g). (The alternative operator may then choose to practise arbitrage on the customer's behalf.) As additional customers switch to alternative operators, there will be discrete jumps in the volume of mail handled by entrants. By contrast, Royal Mail's EPM model has no such jumps as it does not treat customers explicitly.

More fundamentally, there will be a margin of error around small changes in prices and costs in the context of a total bulkmail market of over six billion items

Entry and Royal Mail market share

of mail. The volume changes will be sensitive to small differences in cost assumptions and assumptions about the price differential at which customers are most likely to consider switching. In addition, while it is reasonably straightforward to take into account changes in Royal Mail's prices as a result of zonal pricing, it is very hard to include all the cost changes that entrants could face as a result of new operational requirements.

The modelling results should therefore be viewed in the context that most of Royal Mail's 100 largest customers will send at least 17 million items per year (the level of switching predicted by Royal Mail), and some will send more than 63 million items per year (the level of switching predicted by Frontier). The modelling therefore suggests that, taken by themselves, the price changes proposed by Royal Mail could have an impact equivalent to one of these large important customers choosing to stay with Royal Mail rather than moving to an alternative access provider. Viewed in this context, however, any changes that Royal Mail makes to mail presentation requirements or other non-price terms and conditions for access or bulkmail products could be more significant than the price effects that are picked up in the modelling.

6 Conclusions

The introduction of zonal bulkmail prices has the potential to lead to changes in overall mail volumes, volume mix and market entry. Each of these changes could affect the revenues that Royal Mail can earn from its bulkmail products.

Market entry

Our analysis suggests that the main impact of zonal bulkmail prices on end to end bulkmail volumes and revenues is likely to be the result of changes in entry. The introduction of zonal bulkmail prices will limit the scope for mailers to practise arbitrage by splitting individual mailings between bulkmail and access products. If this arbitrage is moderately widespread at present we estimate that the introduction of zonal bulkmail prices would

- increase bulkmail volumes by 63 million items and increase bulkmail revenues by £20.6 million if access prices keep their existing zonal definition; and
- increase bulkmail volumes by 102 million items and increase bulkmail revenues by £29.4 million if access prices adopt the zonal definition proposed for bulkmail prices.

However, in the absence of arbitrage, customers will respond more to changes in average prices for each product, ignoring differences across zones. In this case, the introduction of zonal bulkmail prices would have a smaller impact on entry. Overall bulkmail volumes would be predicted to fall by around 17 million items, while revenues would increase by £7.2 – £7.3 million, largely as a result of price increases for Presstream Profile.

In addition, big changes in non-price terms and conditions as a result of zonal prices could also have a significant impact on market development, and hence bulkmail volumes and revenues. The extent to which this is an issue is likely to be informed by the consultation process.

Our forecast with arbitrage therefore predicts a larger change than Royal Mail's forecast does. Royal Mail's prediction is that the introduction of zonal bulkmail prices would increase bulkmail volumes by around 17 million items, in the first year, although this is predicted to increase to 135 million items if larger zonal uplifts and discounts are introduced in later years.

Other effects

Our work suggests that the other effects of bulkmail zonal prices are likely to be smaller.

- Excluding Presstream Profile, average prices across all products and zones are predicted to increase by 0.03%. Differences in the zonal distribution of mail means that different products face larger or smaller average price increases, despite the common zonal uplifts, but no individual product would see a price change of more than 0.32%.

- The extent to which bulkmail volumes vary by zone will depend on how far mailers treat individual zones independently. In what we regard as an upper bound case, where mailers respond independently to price changes in each zone, the maximum volume change in any zone would be around 2%. However, these volume changes are likely to largely balance out across all zones, and our modelling predicts that aggregate volumes would change by only around 300,000 items, or 0.01%, relative to initial volumes of 6.1 billion items.

These effects are broadly in line with those estimated by Royal Mail in its application. The changes would, though, become larger if Royal Mail introduces more substantial zonal discounts and uplifts than those proposed for the first year in its application. More substantial discounts and uplifts would increase the incentive for mailers to change the zonal mix of their mail, and would also be likely to affect entry more significantly.

Finally, Presstream Profile will be affected differently from the other bulkmail products. At present, it has significant discounts in urban areas which are being withdrawn as part of the zonal pricing application. Customers will therefore face price increases in all areas, and a wide variation in price rises across zones. Total revenues for Presstream Profile are predicted to increase by £7.2-8.7 million, with volumes falling by 12.2-15.7 million items or 4.0-5.2%.

Annexe 1: Modelling entry in the CPMM

Our market entry projections are based on the Competitive Postal Market Model (CPMM). The CPMM predicts market shares based on estimates of entrants' costs and customers' likely switching behaviour given price, quality of service, brand and other differences between entrants and Royal Mail.

6.1.1 Source data

The CPMM estimates market shares but uses forecasts of total market volumes for each product provided by Royal Mail. The projections in this report use the same estimates of bulkmail volumes in 2007-08 as used in the Royal Mail forecasts presented in Section 5.1. The projections were made assuming uniform retail prices remain in place.

We have additionally generated estimates for market volumes under zonal retail prices, based on the methodology used by Royal Mail in their zonal application, and in benchmark case two in section 0. This is based on the volume data above but assumes that volumes of a given product in each zone change in response to their own price change; price changes for other products or other zones have no impact. We have assumed an own price elasticity of -0.32, consistent with Royal Mail's application. (See section 0 for more details.)

The basic price data underlying the projections in this report are Royal Mail's 2007-08 access prices and uniform retail prices. We have calculated the equivalent zonal retail prices based on the zonal uplifts submitted by Royal Mail in their application.¹⁴

The 2007-08 access prices are based on different zonal definitions from the proposed retail bulkmail zones. Royal Mail has not given any indication of whether it intends to move to a common zonal definition, and has not provided any information on how access prices would be set if it did. In order to assess the impact of moving to a common zonal definition, we have calculated an additional access price series

For the revised access price series, we have assumed that average prices of each product (by format and weightstep) do not change, only the relative prices of different zones. To construct this series, we initially assumed:

- zones A to D (outside London) maintain current prices;
- zone E is charged the current zone D price; and
- London receives 52% of the uplift that zone D currently receives, equivalent to the relationship between the two in the retail zonal pricing application.

¹⁴ The volume data we are using does not identify Presstream Profile separately from other Presstream products. We have therefore calculated an average price change for Presstream products based on the volume shares provided for Presstream products in Royal Mail's Zonal Tariff model.

Since these changes result in average price changes, we then rescaled the prices so that the average price for that product, by product and weightstep remained the same.

6.1.2 Assumptions

The CPMM embodies various assumptions about customer behaviour and entrant costs. Where possible, we have used the same assumptions in this report as we have in our report on Royal Mail's Price Control interim review.¹⁵ The parameters used apply to the market in 2007-08. Entrant costs (and therefore the prices they charge customers) are based on common upstream costs (to deliver mail for access) plus separate estimates of costs for delivering mail in each of the five proposed retail zones (i.e. London and zones A to D).

In addition we have made further assumptions in this report about customers' willingness to arbitrage between access and end to end services, and about the zonal profile of customers' mail.

Arbitrage

In the CPMM, entrants are assumed to be able to split any volumes they receive between their own end to end services and access. In this report, we have additionally made a range of assumptions about how willing customers are to arbitrage (i.e. split mailings) between Royal Mail end to end and access services. We have not seen any estimates of how widespread arbitrage is, and Royal Mail did not provide any evidence as part of its application. We have therefore constructed three scenarios in which:

- customers cannot practise arbitrage;
- customers can practise arbitrage, but at a cost equivalent to 1.5 pence per item sent via Royal Mail end to end (base case); and
- customers can practise arbitrage freely, and make decisions on a zone by zone basis.

As an example of what impact this may have, consider the price of a 100g Mailsort 2 700 letter shown in the table below. For mail to zone A, mailers would like to send the letters via access if their additional upstream costs are less than 5.6 pence per item. In zone D, however, they only have a margin of 1.5 pence per item, and in zone E it is actually cheaper to send mail via Royal Mail's end to end network than via its access network.

If arbitrage is free, a mailer who normally uses an access provider for Mailsort 2 700 will still send their zone E mail via Royal Mail's end to end services. They will do the same with zone D mail if they can avoid at least 1.5 pence per item. The introduction of zonal prices, however, means that they will only switch zone D mail out of access if they can avoid at least 2.3 pence per item.

¹⁵ Frontier Economics "A review of Royal Mail's application for wider rebalancing limits", June 2007.

For some mailers, though, the cost of separating zone E mail may be prohibitive. In that case, they will still send zone E mail via the access network, despite the cheaper prices available for an equivalent end to end product.

	Zone A	Zone B	Zone C	Zone D	Zone E
Access price	11.3	12.7	13.2	15.4	22.0
Current retail price	16.9	16.9	16.9	16.9	16.9
Zonal retail price	16.1	16.6	16.6	17.7	17.7
<i>Margin between retail and access prices</i>					
Current retail price	5.6	4.2	3.7	1.5	-5.1
Zonal retail price	4.8	3.9	3.4	2.3	-4.3

Table 33: Access and end to end prices for a 100g Mailsort 2 700 letter, outside London

Source: Royal Mail

Zonal profile of mail

In most of our scenarios, we assume that all customers have a national profile of mail. In reality, not all customers will have identical mailing profiles. We therefore examine the impact of relaxing this assumption by looking at three cases:

- all top 100 customers have an urban skew to their mailing profile;
- all top 100 customers have a rural skew to their mailing profile; and
- twenty top 100 customers have an urban skew and twenty top 100 customers have a rural skew.

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