

AGGREGATES, CEMENT AND READY-MIX CONCRETE MARKET INVESTIGATION

Analysis of price announcements for bulk cement (CEM I)

Background and summary

1. Cement suppliers regularly send out letters to their customers to notify them that the supplier in question plans to increase its prices for cement.¹ These letters are usually sent out at least once a year—though in one year (2008) they were sent out two to three times—and usually at least one month before the date of the planned increase.² In this working paper, we assess the available information on the announcement letters sent by the major cement producers in Great Britain (ie Cemex UK Operations Limited (Cemex), Hanson, Lafarge Aggregates Limited and Lafarge Cement UK Limited (together Lafarge) and Tarmac Group Limited (Tarmac)) (in this working paper, the ‘Majors’) to their customers, and set out our analysis on the extent to which these announcements are translated into increases in realized prices.

2. We have undertaken this analysis as part of our wider analysis of the coordinated effects theory of harm. Price increase letters could serve as a focal point for co-ordination if present, or these letters could be used by the Majors to signal to each other the expected outcome from coordination (ie the level of price or of price increase which is sought in the coordinated outcome). Price announcement letters may also provide information on whether there is a price leader (and the identity of that leader), and which companies may be price followers. It is also relevant to analyse the extent to which the Majors are able to realize announced price increases, as an inability to realize announced price increases may mean that price announcement letters may not be a focal point for any existing or potential coordination.

¹ The Majors noted that price announcement letters did not always translate into realized price increases, stating that the letters were typically the start of a negotiation with a customer. We assess this in paragraphs 25–47 below.

² It is interesting to note that though we observe instances where realized prices fall for most Majors, none of them have sent out letters which announce price decreases, or prices remaining the same.

3. We first present the analysis of the timing and content of price announcement letters. We then report our findings on whether prices paid by customers did increase following a price increase announcement, and on the extent to which announced price increases were realized in terms of increases in actual prices paid by customers. We find that:
- (a) Majors generally announced similar price increases in fairly close succession. This was particularly the case relating to the 1 August 2008 announced price increase, where all Majors announced the price increase within one week of each other, with increases ranging from £3.40 to £4.00.
 - (b) Lafarge was most often the first to announce a price increase, with the other Majors generally following with the same, or higher, announced price increases.
 - (c) In almost all cases that we analysed, the Majors were able to increase the average price paid by their customers following a price increase announcement.
 - (d) For all Majors, price increases were realized more successfully for the multiple price increases in 2008 than in the following years.
 - (e) [X]
 - (f) However, the Majors were generally not able to realize the full announced price increase, [X].

Analysis of the price announcement letters: dates and levels of increases announced

Data

4. We received the following data on price announcements letters for grey cement from the four UK major suppliers of cement:

<i>Company</i>	<i>Data</i>	<i>Dates covered</i>	<i>Product coverage</i>
Lafarge	Date of letter, date of increase and magnitude of increase	From Mar 2003	Bagged and bulk cement
Tarmac	Date of letter, date of increase and magnitude of increase	From Jan 2006	Bagged and bulk cement
Hanson	Date of letter, date of increase and magnitude of increase	From Jan 2006	Bagged and bulk cement
Cemex	Date of letter, date of increase and magnitude of increase	From Jan 2006	Bagged and bulk cement

5. The remainder of this working paper focuses on price increase announcement letters for bulk CEM I only.

Dates of letters and dates of increase

6. In Table 1 below, we summarize the information we received from all the suppliers for announced price increases of bulk CEM I.³ There is a clear parallelism in the dates for the price increases and the amounts of the announced increases, although to an extent this can be expected (1 January increases are a standard in many industries).
7. There are also occasionally mid-year announcements which are particularly notable for the parallelism in the dates of their announcement, the date of increase and the amount of announced increase. In particular, the increase for 1 August 2008 was announced in late June by all the cement manufacturers within days of each other: both Hanson and Cemex sent their letters out to announce their price increases on 25 June, Lafarge sent letters out on 26 June and Tarmac sent letters out on 30 June. Therefore, all four major UK cement producers announced their increases within less than one week of one another. The amounts of the price increases announced were also similar, ranging between £3.40 per tonne and £4.00 per tonne, depending on the

³ We note that, as shown in our analysis of cement cross-sales between the majors, most Majors are customers of each other and would therefore receive these price announcement letters directly, in their capacity as cement customers.

product. It is worth noting that Lafarge's announced price increases stand out for not being round numbers (£3.53 per tonne and £3.91 per tonne). There is one other instance of an unrounded price announced increase (announced on 18 October 2011 with implementation date of 1 January 2012), again by Lafarge.

8. In most cases, once a supplier had announced price increases for a certain date, the other cement suppliers also announced similar increases within one or two months. The other partial 'pattern' that emerges is that, in five out of the nine⁴ price announcements, Lafarge was the first mover. Hanson often acted second and either Tarmac or Cemex came next. This is not a general rule and there are some exceptions, notably in 2010, when Tarmac and Hanson announced a price increase for January 2010, and Cemex and Lafarge only announced the increase for March 2010 (although they did so shortly after Hanson and Tarmac).
9. Finally, there appears to be a trend for increases announced later in the announcement round to be higher than those announced earlier. In many, but not all, instances, Lafarge was the first to announce a price increase, and was then followed by the others which announced slightly larger increases than Lafarge. It is worth noting, however, that this appears to cease to apply to Tarmac from around 2009. While this piece of analysis is only one part of our assessment of coordinated effects, this observation (that Lafarge was often first, followed by the other suppliers announcing slightly larger increases) seems more consistent with cement suppliers accommodating Lafarge's first move rather than trying to compete strongly on prices to increase volumes to take advantage of Lafarge's price increases. At least in relation to intent, the cement suppliers appear to be signalling that they will try to accommodate the other majors' price increases in many cases.

⁴ Or five out of eight if we count the 1 January 2010 and 1 March 2010 announced price increases as being part of the same round of announced price increases, as they were announced around the same time.

TABLE 1 Bulk CEM I price increase announcements

<i>Date of price increase</i>	<i>Date of announcement</i>	<i>Supplier</i>	<i>Price increase</i>
1 Jan 06	23 Sep 05	Lafarge	£6.45
	18 Oct 05	Cemex	£6.45
	24 Oct 05	Tarmac	£6.50
	1 Nov 05	Hanson	£6.50
1 Jan 07	25 Aug 06	Lafarge	£8.35 or 8.75 depending on product
	21 Sep 06	Hanson	£8.50 or £9.40 depending on product
	16 Oct 06	Tarmac	£8.50
	16 Oct 06	Cemex	£8.15 or £9.25 depending on product
1 Jan 08	7 Sep 07	Lafarge	£7.20 or £7.60 depending on product
	12 Sep 07	Hanson	£7.35 or £8.00 depending on product
	24 Oct 07	Tarmac	£7.45
	26 Oct 07	Cemex	£8.85 or £9.95 depending on product
1 Aug 08	25 Jun 08	Hanson	£3.40
	25 Jun 08	Cemex	£3.75 or £4.00 depending on product
	26 Jun 08	Lafarge	£3.53 or £3.91 depending on product
	30 Jun 08	Tarmac	£3.70
1 Oct 08	21 Aug 08	Cemex	£3.50 or £3.75 depending on product
1 Jan 09	1 Oct 08	Lafarge	£16.00
	23 Oct 08	Hanson	£17.20
	31 Oct 08	Cemex	£16.40 or £18.40 depending on product
	13 Nov 08	Tarmac	£15.75
1 Jan 10	27 Oct 09	Tarmac	£5.20
	27 Oct 09	Hanson	£5.80 or £6.20 depending on product
1 Mar 10	28 Oct 09	Cemex	£5.75 or £6.75 depending on product
	1 Dec 09	Lafarge	£4.75 or £5.50 depending on product
1 Jan 11	23 Sep 10	Lafarge	£6.75 or £7.50 depending on product
	7 Oct 10	Hanson	£7.10
	8 Oct 10	Cemex	£7.25 or £7.75 depending on product
	1 Nov 10	Tarmac	£7.00
1 Jan 12	30 Sep 11	Cemex	£8.75 or £9.25 depending on product
	18 Oct 11	Lafarge	£7.73 or £8.05 depending on product
	6 Nov 11	Hanson	£9.60 or £10.60 depending on product
	1 Dec 11	Tarmac	£8.15
1 Sep 12	17 Aug 12	Cemex	Number of supplementary charges introduced
1 Jan 13	[X]	Cemex	[X]

Source: Lafarge, Hanson, Cemex and Tarmac.

10. In terms of the rationale for sending out price increase letters, we were told by Hanson that it sent general price increase notifications to customers in order to attempt to recover cost increases (eg energy costs which had risen substantially in recent years).
11. Lafarge told us that price announcement letters had typically been sent three months ahead of the date of the application of the increase because customers required this

much advance notice in order to be able to plan for the price increases within their own businesses.

12. Tarmac told us that to the extent that there had been any correlation between the timing and the amounts of the price letters sent by the different cement producers, this could be explained by the need to respond to customer requests for their own budgeting/costing purposes and to address increased input costs (which are common to all producers) annually or, in more exceptional circumstances, as they could no longer continue to be absorbed.⁵
13. We have found some internal documents that discuss price announcement letters and the related strategy. Cemex, [REDACTED].⁶ In a different document, Cemex [REDACTED].
14. We also found some references to price increase announcements for cement in a Lafarge internal document. [REDACTED]
15. [REDACTED]⁷
16. Going forwards, Cemex has introduced a number of significant changes to its pricing strategy from 1 January 2013. [REDACTED] Cemex told us that [REDACTED]. We note that the proposed change was very recent, and therefore at present it is not clear whether this change will be implemented in full, nor what effect it might have on the price announcement strategies of the other Majors. Nonetheless, [REDACTED]. As such, it is not clear which of the following outcomes might result in the market:
 - (a) Cemex makes the proposed changes, and other Majors do not make similar changes;
 - (b) Cemex makes the proposed changes, and other Majors follow suit; or

⁵ [Response to Issues Statement](#), section 5.2.

⁶ [REDACTED] See also paragraph 16.

⁷ [REDACTED]

(c) Cemex does not end up following through with its plans, as its customers threaten to switch, or actually do switch, to competitors, making changes unprofitable for Cemex.

Announced price increases—levels

17. Figures 1 and 2 below show the nominal and cumulative announced price increases over time for the different suppliers and for the different types of bulk cement, as provided by the Majors.

18. In general, the charts show very similar announced price increases by the different suppliers (by product). In the case of Figure 2, because these are cumulative increases, if the price increases were a little bit different on one particular date, the series would not be aligned, at all following dates, even if the increase was exactly the same thereafter. However, in that case, the series would be parallel to each other.

FIGURE 1

Announced increases in price of bulk CEM I (nominal)



Source: CC's calculations using the parties' price increase announcement letters.

FIGURE 2

Announced increases in price of bulk CEM I (cumulative)



Source: CC calculations using the parties' price increase announcement letters.

Announced versus realized prices

19. We have also conducted some analysis on the extent to which realized price increases follow price increase announcements. Indeed, we were told by the Majors that they were rarely able to realize fully the price increases announced in price

announcement letters. We first summarize the submissions of the Majors, and then present our analysis of announced versus realized prices.

Submissions from the Majors on the comparison between announced price increases and actual price increases for cement

20. Lafarge told us that price increases detailed in letters were aspirational only and did not reflect actual prices implemented to individual customers. According to Lafarge, the eventual price agreed depended on the negotiations which followed the price increase announcement, with customers carrying out market testing to secure other offers and using these to optimize their outcome. The final agreement might include a delayed date of application, adjustments to the product supplied, price, volume, rebates, discounts, promotional assistance, delivery modes, credit terms, service level, etc.
21. Tarmac told us that announced price increases sometimes did not translate into actual price changes at all and, in some cases, the outcome of price negotiation after a price announcement letter had been reduction in prices.⁸
22. [REDACTED] Hanson also told us that customers used the threat of switching to negotiate lower (or no) price increases.
23. In response to the Market Questionnaire, Cemex told us that the actual price agreed with a customer following a price increase announcement depended on a variety of factors, [REDACTED].

⁸ [Response to Issues Statement](#), section 5.2.

24. In response to the issues statement, Cemex told us that there had been significant variation in the price increases that had been announced by the suppliers (for some types of cement more than for others). Cemex also said that [redacted].⁹

Analysis of announced versus realized prices

25. We have conducted some analysis on the extent to which realized price increases follow price increase announcements. In order to do this, we calculated the average realized change in customers' prices observed in the transactions data submitted by the main parties and compared this with the price increases that were announced by the Majors. We aim in this way to understand:
- (a) whether the Majors are able to increase prices following a price increase announcement;
 - (b) if so, how the realized price increase compares with the announced increase; and
 - (c) whether there is a discernible pattern in observed average price changes that is consistent across the Majors.
26. All analysis is undertaken based on delivered prices only. We have looked at the announced price increase letters which are sent to customers for cement, and we understand that the increase in price in those letters applies to the delivered price to the customer.¹⁰ Also we focus solely on external sales to independents. For completeness, we present results using all external sales in Appendix 1. Using all external sales, rather than external sales to independents, does not alter our conclusions. Data is averaged across product and period.
27. The results show that:

⁹ [Response to Issues Statement](#), paragraph 6.18.

¹⁰ Where a customer collects cement directly from the producer, delivered prices are equivalent to ex-works prices, and are included in the analysis. Collected sales are a small proportion of each Major's total sales.

- (a) In almost all cases that we analysed, the Majors were able to increase the average price paid by their customers following a price increase announcement.
- (b) [REDACTED].
- (c) The Majors were generally not able to realize the full announced price increase, [REDACTED].

Lafarge

28. We analyse Lafarge's price increase announcements over the period 2007 to 2011. We requested that Lafarge's submitted transaction data be split into broad CEM I, CEM II, CEM III and CEM IV categories. We therefore compare the transaction data for CEM I with the price increase announcements for products CEM I 42,5N/52,5N, as these are predominantly the standard products (as opposed to rapid setting).¹¹
29. Figure 3 shows the weighted average price for CEM I from Lafarge's transaction data alongside the implied price based on price increase letters for products 42,5N/52,5N for the three months immediately following each announced price increase. The figure shows that Lafarge [REDACTED].¹²

FIGURE 3

Announced and realized increases in price of bulk CEM I

[REDACTED]

Source: CC calculations using Lafarge's price increase announcement letters and transaction data.

30. In order to calculate the realized average price change, we take as a base period the month just before the increase was planned to become effective (eg December in the case of January price increases) and compare the average price in that month with the one in the month in which the announced price increase became effective. Given

¹¹ Lafarge told us that the CEM I category did not necessarily exclude all rapid-setting cements. If this is the case, our results on realized price increases may be biased upwards somewhat, as they may include price increases of some rapid-setting cements, which may have been subject to greater announced price increases. However, this need not be the case, as a greater announced price increase does not automatically imply a greater realized price increase.

¹² [Summary of initial hearing held with Lafarge](#) on 18 May 2012, paragraph 21.

that we expect that the price increases might not show immediately, we do the same analysis comparing the base month with each of the subsequent three months in turn (eg January, February and March in the case of January price increases). This allows us to see also how average prices across all sales change over time. The results are shown in the following table.

TABLE 2 Lafarge price increase announcements—bulk CEM I

Month of announced price increase	Month of realized price increase	Announced price increase CEM I 42,5N/52,5N £/tonne	Average realized change CEM I £/tonne	Deviation from announced price £/tonne	Realized price increase %
Jan 08	Jan 08	7.20	[X]	[X]	[X]
	Feb 08		[X]	[X]	[X]
	Mar 08		[X]	[X]	[X]
Aug 08	Aug 08	3.53	[X]	[X]	[X]
	Sep 08		[X]	[X]	[X]
	Oct 08		[X]	[X]	[X]
Jan 09	Jan 09	16.00	[X]	[X]	[X]
	Feb 09		[X]	[X]	[X]
	Mar 09		[X]	[X]	[X]
Mar 10	Mar 10	4.75	[X]	[X]	[X]
	Apr 10		[X]	[X]	[X]
	May 10		[X]	[X]	[X]
Jan 11	Jan 11	6.75	[X]	[X]	[X]
	Feb 11		[X]	[X]	[X]
	Mar 11		[X]	[X]	[X]

Source: CC calculations using Lafarge data.

31. The data shows that Lafarge was able to increase the average price paid by customers following the 1 January 2008, 1 August 2008 and 1 January 2009 price increase announcements. Although Lafarge was not able to realize the full price increase, it did pass on between [X] and [X] within three months of the date from which the announced price increase applied. Lafarge was not able to pass on the 1 March 2010 price increase announcement, while it did pass on a low proportion of the 1 January 2011 price increase announcement.

Tarmac

32. We analyse Tarmac's price increase announcements over the period 2007 to 2011. Tarmac's transaction data is split into broad CEM I and CEM II categories. We

compare the transaction data for CEM I with the price increase announcements, which apply to all bulk cement as this is the comparable product.

33. Figure 4 shows the weighted average price for CEM I from Tarmac's transaction data alongside the implied price based on price increase letters for the three months immediately following each announced price increase. The figure shows that Tarmac was able to realize significant proportions of the announced price increases in January 2008 and August 2008, while it was not able to realize a high proportion of the announced price increases in January 2009, January 2010 and January 2011. This pattern is broadly similar to that of Lafarge.

FIGURE 4

Announced and realized increases in price of bulk CEM I



Source: CC calculations using Tarmac's price increase announcement letters and transaction data.
Note: Rebates submitted by Tarmac separately have been incorporated into the transaction data.

34. In order to calculate the realized average price change, we take as a base period the month just before the increase was planned to become effective (eg December in the case of January price increases) and compare the average price in that month with the one in the month in which the announced price increase became effective. Given that we expect that the price increases might not show immediately, we do the same analysis comparing the base month with each of the subsequent three months in turn (eg January, February and March in the case of January price increases). This allows us to see also how prices change over time. The results are shown in the following table.

TABLE 3 Tarmac price increase announcements—bulk CEM I

Month of announced price increase	Month of realized price increase	Announced price increase bulk cement £/tonne	Average realized change CEM I £/tonne	Deviation from announced price £/tonne	Realized price increase %
Jan 08	Jan 08	7.45	[X]	[X]	[X]
	Feb 08		[X]	[X]	[X]
	Mar 08		[X]	[X]	[X]
Aug 08	Aug 08	3.70	[X]	[X]	[X]
	Sep 08		[X]	[X]	[X]
	Oct 08		[X]	[X]	[X]
Jan 09	Jan 09	15.75	[X]	[X]	[X]
	Feb 09		[X]	[X]	[X]
	Mar 09		[X]	[X]	[X]
Jan 10	Jan 10	5.20	[X]	[X]	[X]
	Feb 10		[X]	[X]	[X]
	Mar 10		[X]	[X]	[X]
Jan 11	Jan 11	7.00	[X]	[X]	[X]
	Feb 11		[X]	[X]	[X]
	Mar 11		[X]	[X]	[X]

Source: CC calculations using Tarmac data.

Note: These figures may need to be updated as Tarmac has not been able to verify the accuracy.

35. The data shows that Tarmac was able to increase the average price paid by customers following the 1 January 2008 and 1 August 2008 price increase announcements, passing on [X] of the price increase in both cases within three months of the date from which the price increase applied. Tarmac was also able to increase the average price following the 1 January 2009, 1 January 2010 and 1 January 2011 price increase announcements, although the price increases were less than [X] per cent of the announcement in each case.

Hanson

36. We analyse Hanson's price increase announcements over the period 2007 to 2011.¹³ Hanson's transaction data is split into broad CEM I and Other bulk cement categories, but is not split into further subcategories. We therefore compare the trans-

¹³ We have treated all cement sales to Hanson's downstream operations as internal sales, even where those sales occurred before the HeidelbergCement acquisition. This affects sales to Hanson Concrete Products, Hanson UK SSC, Hanson Premis JV (Lond Con) and Hanson Redbank.

action data for CEM I to the price increase announcements for product CEM I 52,5N, which was the standard product (as opposed to rapid setting) in 2010/11.¹⁴

37. Figure 5 shows the weighted average price for CEM I from Hanson's transaction data alongside the implied price based on price increase letters for product 52,5N for the three months immediately following each announced price increase. The figure shows that Hanson was able to realize [X] proportions of the announced price increases in [X] but [X]. The pattern for Hanson is broadly similar to that for Lafarge and Tarmac up to early 2009 but [X].

FIGURE 5

Announced and realized increases in price of bulk CEM I

[X]

Source: CC calculations using Hanson's price increase announcement letters and transaction data.

38. In order to calculate the realized average price change, we take as a base period the month just before the increase was planned to become effective (eg December in the case of January price increases) and compare the average price in that month with the one in the month in which the announced price increase became effective. Given that we expect that the price increases might not show immediately, we do the same analysis comparing the base month with each of the subsequent three months in turn (eg January, February and March in the case of January price increases). This allows us to see also how prices change over time. The results are shown in the following table.

¹⁴ In 2008/09 the standard product was 42.5R. We note that the announced price increases for 42.5R were the same as those for 52.5N for all but one announcement (1 Jan 2008) across the period 2008/09.

TABLE 4 Hanson's price increase announcements—bulk CEM I

Month of announced price increase	Month of realized price increase	Announced price increase CEM I 52,5N £/tonne	Average realized change CEM I £/tonne	Deviation from announced price £/tonne	Realized price increase %
Jan-08	Jan-08	8.00	[X]	[X]	[X]
	Feb-08		[X]	[X]	[X]
	Mar-08		[X]	[X]	[X]
Aug-08	Aug-08	3.40	[X]	[X]	[X]
	Sep-08		[X]	[X]	[X]
	Oct-08		[X]	[X]	[X]
Jan-09	Jan-09	17.20	[X]	[X]	[X]
	Feb-09		[X]	[X]	[X]
	Mar-09		[X]	[X]	[X]
Jan-10	Jan-10	6.20	[X]	[X]	[X]
	Feb-10		[X]	[X]	[X]
	Mar-10		[X]	[X]	[X]
Jan-11	Jan-11	7.10	[X]	[X]	[X]
	Feb-11		[X]	[X]	[X]
	Mar-11		[X]	[X]	[X]

Source: CC calculations using Hanson data.

Note: Hanson was not able to replicate our results for the 2008 and 2009 price increase announcements. We believe this may be due to the treatment of sales to Hanson's downstream operations outlined in the first footnote to paragraph 37.

39. The results show that Hanson was able to increase the average price paid by customers following all of the price increase announcements [X].

Cemex

40. We analyse Cemex's price increase announcements over the period 2007 to 2011. Cemex's transaction data is split into subcategories, of which we analyse Portland Bulk and Rapid Bulk, which Cemex has confirmed match the price increase announcements, which are available for CEM I and CEM I Rapid.

41. Figure 6 shows the weighted average price for Portland cement from Cemex's transaction data alongside the implied price based on price increase letters for Portland cement for the three months immediately following each announced price increase.¹⁵ Figure 7 shows the same data for Rapid cement. The figures show that [X].

¹⁵ In August 2008, October 2008 and January 2009, where the announced price increases follow each other quite closely, we show the implied price based on the price increase letters for the one (in the case of August 2008) and two (in the case of

FIGURE 6

Announced and realized increases in price of bulk CEM I (Portland)



Source: [✂].

FIGURE 7

Announced and realized increases in price of bulk CEM I (Rapid)



Source: [✂].

42. In order to calculate the realized average price change, we take as a base period the month just before the increase was planned to become effective (eg December in the case of January price increases) and compare the average price in that month with the one in the month in which the announced price increase became effective. Given that we expect that the price increases might not show immediately, we do the same analysis comparing the base month with each of the subsequent three months in turn (eg January, February and March in the case of January price increases). This allows us to see also how prices change over time. The results are shown in the following tables.

October 2008) months immediately following the price increase in order for the following implied price increase to start from the prevailing price level in the month immediately preceding the month in which the announced price increase applied.

TABLE 5 Cemex's price increase announcements—bulk CEM I (Portland)

Month of announced price increase	Month of realized price increase	Announced price increase Portland £/tonne	Average realized change Portland £/tonne	Deviation from announced price £/tonne	Realized price increase %
Jan 08	Jan 08	8.85	[X]	[X]	[X]
	Feb 08		[X]	[X]	
	Mar 08		[X]	[X]	
Aug 08	Aug 08	3.75	[X]	[X]	[X]
	Sep 08		[X]	[X]	
	Oct 08		[X]	[X]	
Oct 08	Oct 08	3.50	[X]	[X]	[X]
	Nov 08		[X]	[X]	
	Dec 08		[X]	[X]	
Jan 09	Jan 09	16.40	[X]	[X]	[X]
	Feb 09		[X]	[X]	
	Mar 09		[X]	[X]	
Mar 10	Mar 10	5.75	[X]	[X]	[X]
	Apr 10		[X]	[X]	
	May 10		[X]	[X]	
Jan 11	Jan 11	7.25	[X]	[X]	[X]
	Feb 11		[X]	[X]	
	Mar 11		[X]	[X]	

Source: CC calculations using Cemex data.

TABLE 6 Cemex's price increase announcements—bulk CEM I (Rapid)

Month of announced price increase	Month of realized price increase	Announced price increase Rapid £/tonne	Average realized change Rapid £/tonne	Deviation from announced price £/tonne	Realized price increase %
Jan 08	Jan 08	9.85	[X]	[X]	[X]
	Feb 08		[X]	[X]	
	Mar 08		[X]	[X]	
Aug 08	Aug 08	4.00	[X]	[X]	[X]
	Sep 08		[X]	[X]	
	Oct 08		[X]	[X]	
Oct 08	Oct 08	3.75	[X]	[X]	[X]
	Nov 08		[X]	[X]	
	Dec 08		[X]	[X]	
Jan 09	Jan 09	18.40	[X]	[X]	[X]
	Feb 09		[X]	[X]	
	Mar 09		[X]	[X]	
Mar 10	Mar 10	6.75	[X]	[X]	[X]
	Apr 10		[X]	[X]	
	May 10		[X]	[X]	
Jan 11	Jan 11	7.75	[X]	[X]	[X]
	Feb 11		[X]	[X]	
	Mar 11		[X]	[X]	

Source: CC calculations using Cemex data.

44. Tables 5 and 6 show that Cemex was able to realize a proportion of each price increase in relation to both Portland and Rapid cement. [X]

45. [X]

Preliminary conclusions

46. We have compared the average realized price change with the announced price change based on the majors' transactions for price announcements over the period 2007 to 2011. We found that:
- (a) In almost all cases that we analysed, the Majors were able to increase the average price paid by their customers following a price increase announcement.
 - (b) For all Majors, price increases were realized more successfully for the multiple price increases in 2008 than in the following years.
 - (c) [REDACTED]
 - (d) However, the Majors were generally not able to realize the full announced price increase, [REDACTED].
47. There are some limitations to this analysis:
- (a) With the exception of [REDACTED], the transaction data submitted by all other majors is aggregated across product categories (eg CEM I, non-CEM I) and we are not able to conduct the analysis at the more disaggregated level at which some of the price increases are announced. Therefore, we had to calculate averages across gross product categories which might not reflect precisely the real price changes. This means that actual price increases may potentially be subject to volume effects. In other words, if, within a category, customers purchase more of the cheaper cement and less of the more expensive cement in proportion, this would have the effect of reducing the average price paid even if the actual price of each product did not vary.
 - (b) We calculated changes with reference to delivered prices. Average delivered prices could change over time because of changes in the average distances travelled rather than because of negotiated price increases, and this could therefore affect the results in some cases.

Announced versus realized prices using all external sales

Lafarge

FIGURE A1

Announced and realized increases in price of bulk CEM I—all external sales

[✂]

Source: CC calculations using Lafarge's price increase announcement letters and transaction data.

TABLE A1 Lafarge price increase announcements—bulk CEM I—all external sales

Month of announced price increase	Month of realized price increase	Announced price increase CEM I 42,5N/52,5N £/tonne	Average realized change CEM I £/tonne	Deviation from announced price £/tonne	Realized price increase %
Jan 08	Jan 08	7.20	[✂]	[✂]	[✂]
	Feb 08		[✂]	[✂]	[✂]
	Mar 08		[✂]	[✂]	[✂]
Aug 08	Aug 08	3.53	[✂]	[✂]	[✂]
	Sep 08		[✂]	[✂]	[✂]
	Oct 08		[✂]	[✂]	[✂]
Jan 09	Jan 09	16.00	[✂]	[✂]	[✂]
	Feb 09		[✂]	[✂]	[✂]
	Mar 09		[✂]	[✂]	[✂]
Mar 10	Mar 10	4.75	[✂]	[✂]	[✂]
	Apr 10		[✂]	[✂]	[✂]
	May 10		[✂]	[✂]	[✂]
Jan 11	Jan 11	6.75	[✂]	[✂]	[✂]
	Feb 11		[✂]	[✂]	[✂]
	Mar 11		[✂]	[✂]	[✂]

Source: CC calculations using Lafarge's data.

Tarmac

FIGURE A2

Announced and realized increases in price of bulk CEM I—all external sales

[✂]

Source: CC calculations using Tarmac's price increase announcement letters and transaction data.
 Note: Rebates submitted by Tarmac separately have been incorporated into the transaction data.

TABLE A2 Tarmac price increase announcements—bulk CEM I—all external sales

Month of announced price increase	Month of realized price increase	Announced price increase bulk cement £/tonne	Average realized change CEM I £/tonne	Deviation from announced price £/tonne	Realized price increase %
Jan 08	Jan 08	7.45	[X]	[X]	[X]
	Feb 08		[X]	[X]	
	Mar 08		[X]	[X]	
Aug 08	Aug 08	3.70	[X]	[X]	[X]
	Sep 08		[X]	[X]	
	Oct 08		[X]	[X]	
Jan 09	Jan 09	15.75	[X]	[X]	[X]
	Feb 09		[X]	[X]	
	Mar 09		[X]	[X]	
Jan 10	Jan 10	5.20	[X]	[X]	[X]
	Feb 10		[X]	[X]	
	Mar 10		[X]	[X]	
Jan 11	Jan 11	7.00	[X]	[X]	[X]
	Feb 11		[X]	[X]	
	Mar 11		[X]	[X]	

Source: CC calculations using Tarmac's data.

Note: These figures may need to be updated as Tarmac has not been able to verify the accuracy.

Hanson

FIGURE A3

Announced and realized increases in price of bulk CEM I—all external sales

[X]

Source: CC calculations using Hanson's price increase announcement letters and transaction data.

TABLE A3 Hanson's price increase announcements—bulk CEM I—all external sales

Month of announced price increase	Month of realized price increase	Announced price increase CEM I 52,5N £/tonne	Average realized change CEM I £/tonne	Deviation from announced price £/tonne	Realized price increase %
Jan 08	Jan 08	8.00	[X]	[X]	[X]
	Feb 08		[X]	[X]	
	Mar 08		[X]	[X]	
Aug 08	Aug 08	3.40	[X]	[X]	[X]
	Sep 08		[X]	[X]	
	Oct 08		[X]	[X]	
Jan 09	Jan 09	17.20	[X]	[X]	[X]
	Feb 09		[X]	[X]	
	Mar 09		[X]	[X]	
Jan 10	Jan 10	6.20	[X]	[X]	[X]
	Feb 10		[X]	[X]	
	Mar 10		[X]	[X]	
Jan 11	Jan 11	7.10	[X]	[X]	[X]
	Feb 11		[X]	[X]	
	Mar 11		[X]	[X]	

Source: CC calculations using Hanson's data.

Note: Hanson was not able to replicate our results for the 2008 and 2009 price increase announcements. We believe this may be due to the treatment of sales to Hanson's downstream operations outlined in the first footnote to paragraph 37.

FIGURE A4

**Announced and realized increases in price of bulk CEM I (Portland)—
all external sales**

[✂]

Source: CC calculations using Cemex's price increase announcement letters and transaction data.

FIGURE A5

**Announced and realized increases in price of bulk CEM I (Rapid)—
all external sales**

[✂]

Source: CC calculations using Cemex's price increase announcement letters and transaction data.

TABLE A4 **Cemex's price increase announcements—bulk CEM I (Portland)—all external sales**

<i>Month of announced price increase</i>	<i>Month of realized price increase</i>	<i>Announced price increase Portland £/tonne</i>	<i>Average realized change Portland £/tonne</i>	<i>Deviation from announced price £/tonne</i>	<i>Realized price increase %</i>
Jan 08	Jan 08	8.85	[✂]	[✂]	[✂]
	Feb 08		[✂]	[✂]	[✂]
	Mar 08		[✂]	[✂]	[✂]
Aug 08	Aug 08	3.75	[✂]	[✂]	[✂]
	Sep 08		[✂]	[✂]	[✂]
	Oct 08		[✂]	[✂]	[✂]
Oct 08	Oct 08	3.50	[✂]	[✂]	[✂]
	Nov 08		[✂]	[✂]	[✂]
	Dec 08		[✂]	[✂]	[✂]
Jan 09	Jan 09	16.40	[✂]	[✂]	[✂]
	Feb 09		[✂]	[✂]	[✂]
	Mar 09		[✂]	[✂]	[✂]
Mar 10	Mar 10	5.75	[✂]	[✂]	[✂]
	Apr 10		[✂]	[✂]	[✂]
	May 10		[✂]	[✂]	[✂]
Jan 11	Jan 11	7.25	[✂]	[✂]	[✂]
	Feb 11		[✂]	[✂]	[✂]
	Mar 11		[✂]	[✂]	[✂]

Source: CC calculations using Cemex's data.

TABLE A5 **Cemex's price increase announcements—bulk CEM I (Rapid)—all external sales**

<i>Month of announced price increase</i>	<i>Month of realized price increase</i>	<i>Announced price increase Rapid £/tonne</i>	<i>Average realized change Rapid £/tonne</i>	<i>Deviation from announced price £/tonne</i>	<i>Realized price increase %</i>
Jan 08	Jan 08	9.85	[X]	[X]	[X]
	Feb 08		[X]	[X]	[X]
	Mar 08		[X]	[X]	[X]
Aug 08	Aug 08	4.00	[X]	[X]	[X]
	Sep 08		[X]	[X]	[X]
	Oct 08		[X]	[X]	[X]
Oct 08	Oct 08	3.75	[X]	[X]	[X]
	Nov 08		[X]	[X]	[X]
	Dec 08		[X]	[X]	[X]
Jan 09	Jan 09	18.40	[X]	[X]	[X]
	Feb 09		[X]	[X]	[X]
	Mar 09		[X]	[X]	[X]
Mar 10	Mar 10	6.75	[X]	[X]	[X]
	Apr 10		[X]	[X]	[X]
	May 10		[X]	[X]	[X]
Jan 11	Jan 11	7.75	[X]	[X]	[X]
	Feb 11		[X]	[X]	[X]
	Mar 11		[X]	[X]	[X]

Source: CC calculations using Cemex's data.