# There is Always a First Time: Coordinated Effects via Vertical Structural Changes in Anglo/Lafarge

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This article explores the UK Competition Commission's Anglo/Lafarge merger decision (2012) focusing on the reasoning for a finding of coordinated effects in cement. While the theory of harm identified has been considered in a few theoretical academic papers and mentioned in the European Commission's Guidelines on Non-Horizontal Mergers (2008), to our knowledge this was the first SLC finding in Europe based on coordinated effect in which the vertical aspect of the merger was a critical component of the decision.

## I. INTRODUCTION

Mergers that raise coordinated effects concerns are a rare occurrence in Europe. Those that raise such concerns through changes in the vertical structure rather than more simply increasing concentration or eliminating a maverick firm are even rarer. *Anglo/Lafarge* was such a merger (though technically a joint venture). It was even more unusual given that the merger was between two cement producers that were already vertically integrated in downstream ready-mix (RMX) production—cement is a key input to produce RMX—pre-merger and, hence, one that did not affect the market share of the independent (*i.e.* not vertically integrated) downstream RMX providers. Instead, the merger increased the degree of vertical integration of one provider and critically resulted in cement producers being more similar in terms of their degree of vertical integration.

The Anglo/Lafarge merger (CC, 2012) was not solely a "vertical" merger. It also substantially increased concentration upstream in cement production and led to consolidation in the downstream RMX markets in the UK. However, the Competition Commission's (CC) finding that the merger would have led to a Significant Lessening of Competition (SLC) in the UK cement market because of coordinated effects in the production of cement was not based solely on the impact of increased concentration in cement on coordination. The CC also found that the increased vertical integration would have had a substantial impact on the likelihood of coordination post-merger. Indeed, the CC found that simply divesting cement capacity equal to the incremental increase brought about by the merger was, on its own, insufficient to allay concerns about coordinated effects.

MERGERS THAT RAISE COORDINATED EFFECTS CONCERNS ARE A RARE OCCURRENCE IN EUROPE. THOSE THAT RAISE SUCH CONCERNS THROUGH CHANGES IN THE VERTICAL STRUCTURE RATHER THAN MORE SIMPLY INCREASING CONCENTRATION OR ELIMINATING A MAVERICK FIRM ARE EVEN RARER. *ANGLO/LAFARGE* WAS SUCH A MERGER

This was not only a coordinated effects merger. The overall merger assessment was made more complex by also raising unilateral effects concerns in the supply of rail ballast and high purity limestone and, locally, in primary aggregates, RMX and asphalt.

This article explores the CC's *Anglo/Lafarge* decision (2012), focusing solely on the reasoning for a finding

of coordinated effects in cement. To our knowledge this is the first merger decision in Europe with an SLC finding of coordinated effects based in part on a change in the vertical market structure.

This article is organized as follows:

- Section 2 discusses the circumstances in which vertical mergers can facilitate coordination. It briefly reviews the relevant literature, the main competition authorities' guidelines and some potentially relevant merger cases;

- Section 3 describes and examines the Anglo/Lafarge decision and briefly considers how it relates to the existing literature; and

- Section 4 offers some concluding remarks.

## II. WHEN CAN VERTICAL MERGERS FACILITATE COORDINATION?

We examined the relevant literature, the EU and US competition authorities' merger guidelines and selected cases to derive a simple taxonomy of how economists currently consider vertical mergers could facilitate coordinated behavior upstream.

It is not straightforward to define a vertical merger. The simplest example is that of an upstream firm merging with a downstream firm. This increases vertical integration in the market by reducing the number of non-integrated downstream firms. However, the Anglo/Lafarge merger did not create a new vertically integrated producer as the two merging firms were already vertically integrated pre-merger, both being active in the upstream input market—cement—and in the downstream product market—RMX—although to substantially different degrees. Tarmac (owned by Anglo-American) almost entirely self-supplied its RMX plants with cement, while Lafarge, with a smaller presence in RMX, sold a substantial proportion of its cement to independent RMX providers. However, the CC found that, over and above the increased upstream concentration, the fact that the merger increased Lafarge's downstream presence was likely to further facilitate coordination. In other words, this merger was vertical in the sense that it increased the degree of vertical integration of an already vertically integrated provider (Lafarge). In addition, by so doing, it increased the similarities of the post-merger cement producers in terms of their degree of vertical integration. In some circumstances, this could have important implications as to the ability and sustainability of coordination.

### *A. Literature*

The literature that examines how vertical mergers may facilitate collusion is recent and very limited in scope. The analysis of vertical of mergers has, instead, almost entirely focused on foreclosure rather than coordinated effects.

There are two notable exceptions: the contributions by Nocke and White (2007) and Norman (2009).

Nocke and White (2007) examines the impact of a vertical merger on the sustainability of collusion—*i.e.* what is the impact of a merger between an upstream and a downstream firm on the sustainability of upstream collusion. The paper identifies two effects from an increase in vertical integration: an "outlet effect," which facilitates collusion, and a "punishment effect" that undermines it. The outlet effect reduces the profitability of

deviations and, hence, it enhances collusion. This arises because a vertical merger reduces the number and share of supply of non-integrated downstream firms. Upstream rivals who deviate cannot expect to win sales from the downstream division of the vertical integrated supplier anymore. The deviator has then fewer outlets it can hope to win over. The profits from deviations and the incentive to deviate are, hence, reduced. The punishment effect works in the opposite direction and increases the incentives of the vertically integrated firm to deviate. This is because the vertically integrated firm cannot be punished as severely as if it were not vertically integrated as its downstream division is less dependent on external upstream suppliers and will continue to purchase from the upstream division during a punishment phase.

Norman (2009) builds on Nocke and White (2007) by assuming that the upstream input is sold at linear prices rather than using two-part tariffs. It confirms Nocke and White's results. With linear prices, the upstream firms cannot realize the maximum industry profit because there will be double marginalization. This has important consequences as to the overall welfare implications because, although a vertical merger may facilitate collusion upstream, this may not lead to a decrease in welfare. In fact, the vertical merger may have the effect of eliminating the double mark-up, which may offset the welfare effect of increased upstream coordination.

The Jullien and Rey (2007) article does not deal directly with the impact of vertical mergers. However, the authors argue that Retail Price Maintenance (RPM) can help collusion by making it easier for upstream firms to monitor each other's behavior. If the downstream market were subject to demand or supply shocks, downstream firms would reflect such shocks by adjusting their prices. RPM removes this price flexibility and therefore lowers any collusive profits. However, it also increases the ability to detect deviations by *de facto* eliminating the possibility that downstream prices changed due to anything by deviations. The overall effect of RPM on collusion is ambiguous; however, if RPM has no efficiency features, then the collusion facilitating effect is likely to dominate. Vertical integration can provide a similar effect as RPM in terms of increased price visibility and, hence, better ability to detect deviations. Therefore, by integrating downstream, firms would be better able to monitor the behavior of their upstream rivals.

## *B. Merger Guidelines*

The European Commission and the US Department of Justice and Federal Trade Commission merger guidelines discuss the possible impact of vertical mergers on coordination.[2]

The European Commission Non-Horizontal Merger Guidelines[3] put forward the three necessary conditions for coordination to be sustainable:

- the coordinating firms must be able to monitor to a sufficient degree whether the terms of coordination are being adhered to;
- discipline requires that there is some form of deterrent mechanism that can be activated if deviation is detected; and
- the reactions of outsiders, such as current and future competitors not participating in the coordination, as well as customers, should not be able to jeopardize the results expected from the coordination.[4]

They also stress how a vertical merger could impact on all the three necessary conditions for coordination.

It could increase the firms' ability to reach a common understanding and to monitor competitors' behavior by, for example, leading to foreclosure and reducing the number of competitors, increasing the symmetry of firms, or eliminating a maverick firm.[5] It could also increase the ability to monitor deviations by increasing transparency, if this is higher downstream than upstream, and firms' ability to punish deviators.[6] It may also increase the external stability of any coordination by raising barriers to entry or eliminating a disruptive buyer.[7]

The US Non-Horizontal Merger Guidelines[8] refer to two circumstances in which vertical integration could facilitate collusion. First, increased vertical integration may facilitate upstream collusion by making it easier to monitor price changes. This is because retail prices are generally more visible than prices in upstream markets, and vertical mergers may increase the level of vertical integration to the point at which the monitoring effect becomes significant. The US Guidelines conclude that concerns would be unlikely unless the upstream market is generally conducive to collusion and most of its sales are via vertically integrated retail outlets. Second, a vertical merger may eliminate a particularly disruptive buyer in a downstream market and may thus facilitate collusion upstream. Such a buyer may disrupt collusion if it is sufficiently important to induce a seller to deviate from the terms of a collusive agreement in an effort to secure that business. The merger of such a buyer with an upstream firm may eliminate that incentive and make collusion more likely or effective.

## C. Relevant Merger Cases

We have also briefly reviewed selected vertical merger cases that have raised coordinated effects concerns at the European level.[9] Although the European Commission has raised serious concerns in a few concentrations because of coordinated effects concerns,[10] it has not yet done so in vertical mergers for the same reason.

Two almost contemporaneous vertical mergers—*TomTom/Tele Atlas* (2007)[11] and *Nokia/Navteq* (2008)[12] —involved the supply of digital navigation services. Digital maps are the essential upstream input in order to provide customers with navigation services. Tele Atlas and Navteq were prominent providers of navigable digital maps. They supplied manufacturers of PNDs (Portable Navigation Devices), car manufacturers, navigation software producers, mobile handset manufacturers and location web companies with the digital maps they needed to provide navigation services. Both transactions raised potential input foreclosure concerns, although the two transactions had only a limited impact on each other in terms of competitive assessment, as TomTom and Nokia are essentially active in different downstream markets. The European Commission dismissed foreclosure concerns but also briefly examined any impact on coordination upstream.

The European Commission examined whether the TomTom/Tele Atlas merger was likely to make upstream coordination between Tele Atlas and Navteq likely.[13] It concluded that this was not the case, as reaching an agreement would be difficult because the prices of map databases were not transparent and large and infrequent contracts would undermine coordination. The European Commission, though, did not examine whether vertical integration increased Tele Atlas and Navteq's ability to monitor each other's behavior. It also concluded that the Nokia/Navteq merger was not likely to lead to coordinated effects in the upstream market for navigable maps.[14] Despite noting that there was evidence of vibrant competition pre-merger, the European Commission also noted that, following the two mergers, there would be two vertically integrated providers (Nokia/Navteq and TomTom/Tele Atlas). Although TomTom and Navteq would have a common incentive to partition the market between the supply to PDN and mobile devices, the European Commission found that such a strategy would be unlikely because the growth expectations for the two devices were very different. This

would make any market partition along these lines inherently unstable. Building on the analysis in TomTom/Tele Atlas, the European Commission also concluded that the vertical integration of Nokia and Navteq would not increase price transparency.

In the *Accor/Hilton/Sixcontinents* joint venture, the European Commission (2003)[15] also examined whether this vertical merger between hotel operators on the one hand (Accor, Hilton and Six Continents) and Worldres on the other (a provider of business-to-business e-commerce solutions for online marketing and reservations to hotel operators) would raise coordinated effects concerns. In particular, the European Commission considered whether hotel operators would be able to coordinate via sharing of the information stored and processed by Worldres. The European Commission found that the merger was not likely to lead to coordination via such a mechanism.

THE ANGLO/LAFARGE MERGER IS AN EXAMPLE OF A CHANGE IN THE DEGREE OF VERTICAL INTEGRATION IN THE CEMENT AND RMX MARKETS THAT WAS FOUND TO FACILITATE UPSTREAM COORDINATION IN THE SUPPLY OF CEMENT, ALTHOUGH THERE ARE ALSO IMPORTANT EFFECTS OF UPSTREAM INCREASED CONCENTRATION ON COORDINATION IN CEMENT.

### *D. A Taxonomy*

From our brief review of the relevant literature and the merger guidelines we identified a number of ways in which vertical mergers could facilitate collusion. A useful categorization would be to distinguish cases depending on whether the coordination concern would arise upstream or downstream. When the impact of the merger is to solely increase concentration upstream (or downstream) and coordinated effects concerns relate to the same market, the merger has no vertical impact on coordination.

Of the two cases where there is a vertical effect, the one most often considered is that of a merger that facilitates coordination upstream. There are a number of possible explanations as to how a vertical merger could facilitate upstream coordination:

- The "outlet effect" discussed by Nocke and White (2007);
- The increased ability to monitor and punish upstream competitors' behavior mentioned in the EU and US Non-horizontal Merger Guidelines; and
- Elimination of a disruptive/maverick downstream buyer discussed in the US Non-horizontal Merger Guidelines.

The Anglo/Lafarge merger is an example of a change in the degree of vertical integration in the cement and RMX markets that was found to facilitate upstream coordination in the supply of cement, although there are also important effects of upstream increased concentration on coordination in cement. The discussion in the next section explains the reasoning in the CC's decision on coordinated effects in the Anglo/Lafarge merger inquiry.

## III. THE ANGLO/LAFARGE MERGER

This joint venture would have combined the UK activities of Tarmac (a subsidiary of Anglo American) and Lafarge. They planned to contribute to the joint venture their UK activities in the production of cement, aggregates, asphalt and RMX.

Given the focus of this paper on coordinated effects in (bulk) cement, the relevant activities of the merger parties, in this context, are in cement and RMX. Of the 12 cement plants in Great Britain[16] at the time of the CC's inquiry, Tarmac operated one plant (Tunstead). It also operated over 150 fixed RMX plants. Lafarge operated four cement plants (Hope, Cauldon, Dunbar and Aberthaw), 12 cement depots and two cement import terminals.[17] It also had about 90 fixed RMX plants. In broad terms, Tarmac self-supplied its RMX plants with the cement it produced, while Lafarge's RMX's operations were more limited relative to its cement production and Lafarge sold a large proportion of its cement to third parties. There are two other cement producers in Great Britain, Hanson and Cemex, both of which are vertically integrated into RMX. Hanson and Cemex have a similar degree of vertical integration to each other, and it lays in between that of Lafarge on one hand (which had a relatively low degree of vertical integration) and Tarmac on the other (which had a relatively high degree of vertical integration). Most cement producers also buy and sell cement to each other, although this has become less common more recently.

The relationship between cement and RMX is critical in understanding the vertical aspect of the CC's coordinated effects finding. Cement is used to bind together the components of building materials. It is therefore mixed with aggregates and water to produce RMX or concrete products such as prefabricated building blocks made out of concrete. Cement and aggregates are therefore the two key inputs into the production of RMX.

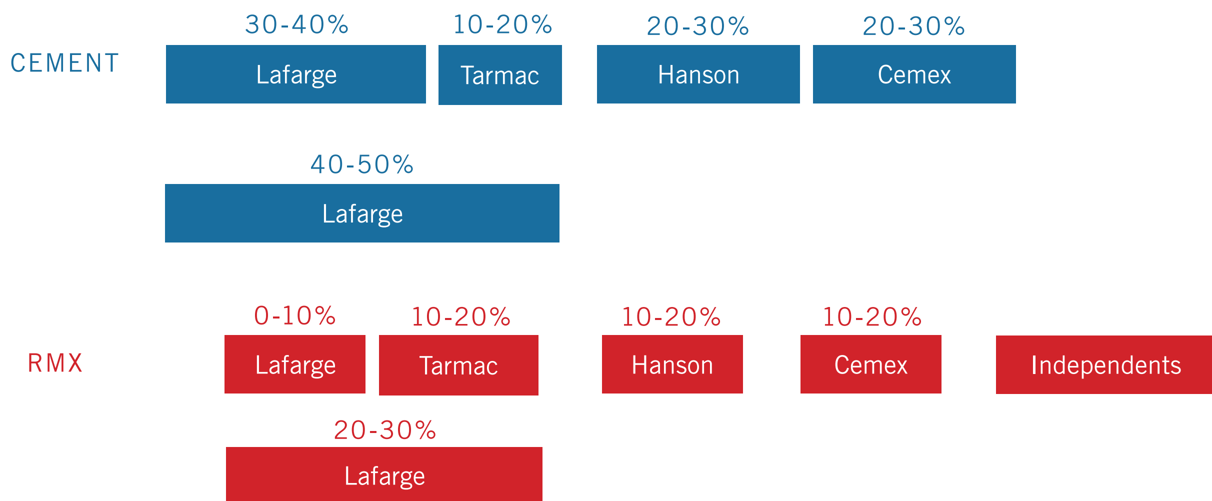
### A. *Structural Impact of the Merger*

The CC concluded that the merger would have three broad structural effects that were relevant for the assessment of coordinated effects:[18]

- increased concentration in cement production;
- increased concentration in RMX production; and
- a more balanced position in terms of the degree of vertical integration (cement vs. RMX) between the cement producers.

This is illustrated in Figure 1, which shows that as a result of the merger, the new joint venture (JV) would, in comparison with Lafarge, self-supply a much larger proportion of its cement and rely less on sales to third parties. The JV would therefore become much similar to the two remaining vertically integrated cement producers, Hanson and Cemex.

**Figure 1: Structure of the (bulk) cement and RMX markets in Great Britain: market shares of bulk cement sales and shares of RMX sales (2010)**




*Source for market share ranges: CC Anglo/Lafarge Decision (2012), Table 10. The boxes are not in scale.*

## B. *Pre-Existing Coordination*

The CC examined market characteristics and outcomes and assessed whether the three conditions for coordination identified in the CC/OFT Merger Assessment Guidelines (2010) were met in the Great Britain cement market pre-merger[19] and, in particular:

- the cement producers' ability to reach and monitor coordination;
- the internal sustainability of such coordination; and
- its external sustainability.

It found that the evidence was consistent with a degree of pre-merger coordination on the basis of a range of evidence including:

- pricing behavior and sustained margins that did not appear to be consistent with the excess capacity in the industry. In particular, increases in the variable profits per ton of cement over the period 2007 to 2010 appeared inconsistent with cement producers competing for customers in a market where demand fell substantially and led to excess capacity;
- the degree of stability of shares of production at the time of large changes in demand and in the structure of the industry; and
- the results from the CC's econometric estimation which may be consistent with the existence of a degree of coordination in the market.[20]

The CC concluded that if there was pre-existing coordination, it would have been between all Great Britain cement producers with the exception of Tarmac. Coordination would have operated by monitoring shares of

total cement production and/or wins and losses of customers, rather than prices (which are individually negotiated with customers and lack transparency). Producers would also signal their future intentions by:

- issuing generic price announcement letters to customers and monitoring of others' price announcements; and
- reverting to self-supplying small volumes of cement that were previously purchased from another producer (this action is known as "repatriation"). This would act as an additional cheap signal to potential deviators to stop current deviations, without necessarily getting into costly retaliatory actions.

Deviations could have been punished by lowering cement prices to independent RMX producers, or by reducing RMX prices charged by integrated RMX businesses to RMX customers.[21]

The CC also found that any pre-existing coordination in the bulk cement market would not be undermined by external factors (*i.e.* importers, entry and countervailing buyer power).

…POST-MERGER CEMENT PRODUCERS WOULD BE BETTER ABLE TO MONITOR COORDINATION, AS THEY WOULD BE ABLE TO SPOT DEVIATIONS OR TO TARGET PUNISHMENT MORE EASILY WITH ONE FEWER PRODUCER. MONITORING WOULD BE LIKELY TO BE EASIER AND ANY INFERENCES DRAWN FROM OBSERVING A REDUCTION IN CEMENT SALES WOULD BE MORE PRECISE (*E.G.* DISTINGUISHING BETWEEN A DEVIATION AND A CHANGE IN DEMAND FOR CEMENT).

## C. *The Impact of the Merger*

The CC did not conclude on whether there was pre-existing coordination in the supply of cement. This is not a requirement in order to find that a merger would lead to coordinated effects. Rather, the CC analyzed the impact of the merger under two different scenarios for the pre-merger situation: the case where there was some pre-existing coordination and the case where there was no pre-existing coordination. In this article we principally focus on the case in which there is no pre-merger coordination, but we first briefly examine how the merger may have strengthened any pre-existing coordination.

We focus on the effect of the merger on the three conditions for coordination and the impact on all cement producers but with a particular emphasis on how the merger would have altered the structure of Lafarge's cement and RMX business. Although post-merger Lafarge's and Tarmac's would have been conferred into a JV, for ease of exposition we refer to Lafarge pre and post-merger. We analyzed whether the merger either strengthened the conditions for coordination (if there was already evidence of coordination pre-merger) or whether the impact of the merger created the conditions for coordination (absent pre-merger coordination).

## D. *If There Were Pre-Existing Coordination*

The CC concluded that the merger would make any pre-existing coordination (working as discussed above) more stable.[22]

If there were already a degree of pre-existing coordination, post-merger cement producers would be better able to monitor coordination, as they would be able to spot deviations or to target punishment more easily

with one fewer producer. Monitoring would be likely to be easier and any inferences drawn from observing a reduction in cement sales would be more precise (*e.g.* distinguishing between a deviation and a change in demand for cement). This is because, pre-merger, Tarmac was not involved in coordination and its incentive and ability to continue to expand output in the medium term still introduced some uncertainty. This would be removed by the merger.

If there were pre-existing coordination, then post-merger, this would become more stable and, hence, more internally sustainable. Lafarge's post-merger absolute profits from coordination in cement would be larger than those pre-merger, reducing its incentives to deviate post-merger. As a larger producer, any deviation by Lafarge would have a greater impact on the market and be more likely to provoke punishment by the other cement producers.[23]

In assessing the effect of the proposed merger on the external sustainability of coordination, the CC focused mainly on the role of Tarmac in the bulk cement market. Pre-merger it found that Tarmac had limited incentives to coordinate compared to the other Great Britain cement producers and therefore it was likely to be part of a competitive fringe.[24] Furthermore, Tarmac could not expand its cement sales further in the short term, given that it was at, or close to, full capacity. However, Tarmac had considerably expanded its capacity on two occasions in the ten years prior to the inquiry. It may, therefore, have been perceived as a long-term potential threat to any possible coordination.[25] Post-merger, the threat that Lafarge might expand its capacity further would be lower as Lafarge's cement plants had excess capacity pre-merger.

## *E. Absent Pre-Existing Coordination*

The CC then examined the impact of the merger on each of the conditions for coordination in the case where there was no pre-existing coordination.

## 1. ABILITY TO REACH AND MONITOR COORDINATION

The merger would raise concerns if it made it more likely that Great Britain cement producers could reach a common understanding on the terms of coordination, or that they could do so more easily.[26]

The CC considered two factors that might facilitate reaching and monitoring coordination post-merger.

First, the number of cement producers would decline from four to three making it easier and/or quicker to reach a common understanding on the terms of coordination. Furthermore, post-merger, cement producers would also have an increased incentive to reach an understanding of the benefits they could achieve from coordination. This is because, for example, any act of aggressive competition by a cement producer would affect the remaining two competitors more strongly than pre-merger.

Second, Lafarge would have access to more information about the market post-merger. Its increased degree of vertical integration and, in particular, its larger presence in RMX, would provide it with more information to facilitate upstream coordination. Post-merger Lafarge would have a better understanding of the RMX market (both overall and in its geographic distribution), via informal local contacts with RMX purchasers rather than having to observe competitors' cement sales volumes in these areas. In other words, additional RMX plants

would provide better local knowledge to spot deviation in cement. For example, pre-merger, in areas where Lafarge did not have RMX plants, it might find it difficult to distinguish between when its cement sales declined because of an overall decline in demand in the area and when they declined because of deviations. The incremental RMX plants gained through the merger would change from being, in some cases, a customer that could potentially switch supplier and that, hence, needed to be monitored, to being a vertically integrated retail outlet for the Lafarge's cement post-merger.

The merger parties argued that additional RMX plants would be likely to provide at best only limited incremental transparency since changes in RMX sales volumes were driven by a large number of factors other than the price of bulk cement. However, the basis of the CC's concern was not that Lafarge would have a better ability to monitor RMX sales, but that it would obtain additional information on cement sales, in particular, a better ability to distinguish between the impact on the demand for cement of market changes and of deviations.[27]

In summary, the CC concluded that, in addition to the effect from the reduction in the number of cement producers as a result of the merger, Lafarge's increased presence in RMX post-merger would be likely to provide it with additional and better information about cement sales. Lafarge would gain general information on the local area via the additional RMX plants.

## 2. INTERNAL SUSTAINABILITY

In assessing the impact of the merger on the internal sustainability of coordination the CC examined its likely effects on both the incentives to coordinate and the ability to punish deviations.[28]

The CC considered that the merger would have increased the cement producers' incentives to coordinate because:

- there would be fewer cement producers post-merger. Any coordination would also have been more stable because Lafarge would have stronger incentives to coordinate post-merger because of its larger size, while Hanson's and Cemex's incentives would be unchanged; and

- it would increase the similarities between the cement producers in terms of their degree of vertical integration. Pre-merger Lafarge was the least vertically integrated cement producer with a modest position in RMX. Post-merger it would become more similar to Hanson and Cemex in relative terms. This has important implications for Lafarge's ability to punish deviators, as discussed next.[29]

- The merger would affect cement producers' range of tools available to punish deviations and their relative effectiveness. Cement producers could punish deviations by engaging in:

- targeted cement price reductions to external customers—*i.e.* independent RMX and concrete producers. Post-merger the revenues (and profits) from external cement sales would be proportionally less important for Lafarge than pre-merger. Therefore, if it punished a deviation and this led to stronger competition in external sales of cement, Lafarge would be less affected post-merger because of its greater reliance on internal sales.[30] This is similar to the outlet effect identified by Nocke and White (2007)[31] and has the effect of making punishment more credible; and/or

- targeted RMX price reductions by their in-house RMX operations. Pre-merger this punishment mechanism was unlikely to have been as effective for Lafarge as it was for Hanson and Cemex. Pre-merger Lafarge's fewer RMX plants limited its options if it were either to target lower RMX prices at specific locations and/or to punish on a large scale in RMX. The CC noted that, post-merger, if Lafarge intended to punish effectively via lower RMX prices, it would have to identify local areas where the deviator either had material RMX sales or sold material quantities of cement to independent RMX producers (which would reduce their cement purchases from the deviator if demand for their RMX declined).

POST-MERGER, LAFARGE WOULD HAVE A SIMILAR SET OF PUNISHMENT TOOLS WITH A SIMILAR DEGREE OF EFFECTIVENESS AS THOSE AVAILABLE TO HANSON AND CEMEX. AS A RESULT OF THE INCREASED SIMILARITY IN VERTICAL INTEGRATION, EACH REMAINING CEMENT PRODUCER WOULD HAVE A BETTER UNDERSTANDING OF THE ABILITIES AND INCENTIVES OF EACH OF THE OTHER CEMENT PRODUCERS AND WOULD BE BETTER ABLE TO TAKE THESE EXPECTATIONS INTO ACCOUNT IN ITS OWN BEHAVIOR.

Post-merger, Lafarge would have a similar set of punishment tools with a similar degree of effectiveness as those available to Hanson and Cemex. As a result of the increased similarity in vertical integration, each remaining cement producer would have a better understanding of the abilities and incentives of each of the other cement producers and would be better able to take these expectations into account in its own behavior.

This aspect of the CC's decision was particularly criticized by the merger parties who claimed that coordination that relied on reaching and monitoring the terms of coordination at the RMX level was speculative and would be undermined by the additional complexity of trying to do so. They also argued that punishment of deviations in the cement market via lower RMX prices would be unattractive. They pointed out that even if targeted RMX punishment could be achieved, it would also provide an additional mechanism by which cheating on any coordinated terms could occur – this is similar to the punishment effect identified by Nocke and White (2007), though it applies to a firm rather than to the market. In this respect the CC noted that Lafarge would sell more cement in total post-merger than it had pre-merger, making it more reluctant to deviate because it would have more to lose from deviating than pre-merger when it was a smaller producer.

In summary, post-merger, Lafarge would have greater flexibility and more options in punishment than it had pre-merger and, in this respect, it would be more aligned to the other Great Britain cement producers. This would be likely to make any coordination more stable[32] or more likely to emerge post-merger.[33]

## *F. External Sustainability*

The CC concluded that post-merger coordination in the bulk cement market would not be undermined by external factors (*i.e.,* importers, entry and countervailing buyer power). Rather, as discussed in the case of pre-existing coordination, the fact that Tarmac would no longer be a possible fringe competitor would increase the external sustainability of any coordinated outcome.

## G. *Summary*

The CC concluded that coordination would become more likely, could be reached more quickly or become more stable post-merger both because of the merger impact on the cement market structure and the increased presence of Lafarge in RMX. This is a critical aspect of the decision and had implications as to the appropriate remedies. Table 1 summarizes the impact on coordination of these two factors.

**TABLE 1: THE IMPACT OF THE ANGLO/LAFARGE MERGER**

| Change in cement market structure | Lafarge's increased presence in RMX |
| --- | --- |
| • makes reaching a common understanding on the terms of coordination easier and/or swifter, and makes monitoring of wins and losses of cement customers and production volumes easier as a result of the reduction in the number of producers;<br>• reduces Lafarge's incentives to deviate from the coordinated outcome, since it will have larger overall profits from coordination; and<br>• removes Tarmac as a fringe competitor with a strong incentive to produce at capacity and ability to expand its capacity in the future. | • allows more information on the RMX market to flow to Lafarge compared to Lafarge pre-merger, enhancing its ability to monitor coordination;<br>• creates greater similarities in vertical structure among cement producers. This would better align both their incentives to coordinate and their ability to punish deviations, as well as increase Lafarge's flexibility and options in its punishment actions; and<br>• if Tarmac's present cross-sale arrangements remained, this would have given Lafarge increased ability to use repatriation as a cheap signal that it has detected deviation. |

The merger would increase transparency in the cement market via Lafarge's increased presence in the RMX market, by means of a mechanism similar to that described in the EU and US Merger Guidelines and in Jullien and Rey (2007). Lafarge's incentives would be modified by an effect similar to the outlet effect identified by Nocke and White (2007). The merger would also increase Lafarge's ability to punish deviations (while leaving other cement producers' ability to punish unaffected) as discussed in the EU Non-Horizontal Merger Guidelines.

IN ESSENCE, THEREFORE, ALTHOUGH THIS IS A NOVEL DECISION, THERE IS NOT MUCH NEW IN THE PRINCIPLE THAT THE MORE THE SUPPLIERS LOOK ALIKE, THE MORE LIKELY THEY ARE TO THINK ALIKE, BEHAVE SIMILARLY AND HAVE SIMILARLY ALIGNED GOALS; THIS, NOTWITHSTANDING THE FACT THAT THE MERGER WOULD HAVE REDUCED THE NUMBER OF CEMENT PRODUCERS IN GREAT BRITAI FROM FOUR TO THREE.

The effects arising from the combination of Tarmac and Lafarge's cement businesses and the effects arising from the combination of their RMX businesses were considered both largely independent and cumulative. For this reason the CC required remedies that included (amongst other things) divestment by the merger parties of both a cement plant and a large number of RMX plants.[34]

## IV. CONCLUSIONS

To our knowledge the CC's Anglo/Lafarge decision was the first SLC finding in Europe based on coordinated effect in which the vertical aspect of the merger was a critical component of the decision. Although the European Commission's TomTom/Tele Atlas and Nokia/Navteq decisions briefly assessed this as one of the possible theories of harm, which is explicitly mentioned in the EU Non-Horizontal Merger Guidelines, this was not a critical aspect of these decisions. In Anglo/Lafarge this aspect was central in that a divestment of all the cement assets of Tarmac (a single large and efficient cement plant) was deemed insufficient to remedy the SLC finding. The contribution of the Tarmac's RMX plants was a critical aspect of the SLC finding. The greater similarity between the remaining three cement producers in terms of the proportion of cement that they would self-supply to their own RMX plants was deemed central in two main ways. First, additional RMX plants would have provided additional and better information to Lafarge about the behavior of other cement producers compared to what it had before the merger with its limited downstream presence. This would have increased Lafarge's ability to spot deviations. Second, post-merger the additional RMX plants provided Lafarge with the same wider range of punishment tools available to the other Great Britain cement producers pre-merger.

In essence, therefore, although this is a novel decision, there is not much new in the principle that the more the suppliers look alike, the more likely they are to think alike, behave similarly and have similarly aligned goals; this, notwithstanding the fact that the merger would have reduced the number of cement producers in Great Britai from four to three. Although the latter aspect might have been in itself sufficient for a SLC finding, the vertical aspect was critical for the CC to identify a set of effective remedies. ▲

## REFERENCES:

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2. The UK CC/OFT Merger Assessment Guidelines (2010) do not address this possible effect of vertical mergers.

3. European Commission, "Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings", 2008/C 265/07, available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:265:0006:0025:en:PDF.

4. European Commission Non-Horizontal Merger Guidelines, *para* 81.

5. European Commission Non-Horizontal Merger Guidelines, *paras* 82-85.

6. European Commission Non-Horizontal Merger Guidelines, *paras* 86-88.

7. European Commission Non-Horizontal Merger Guidelines, *paras* 89-90.

8. Department of Justice (DoJ), "Non-horizontal merger guidelines", 1997, Section 4.22, available at http://www.justice.gov/atr/public/guidelines/2614.pdf.

9. This type of mergers is also rare in other jurisdictions. One US example is Masonite (2001), available at http://www.justice.gov/atr/public/press_releases/2001/8754.pdf.

10. None of the decisions, though, led to a prohibition. The merger was either cleared subject to remedies (ABF/GBI, 2008), withdrawn (EMI/Time Warner, 2000), cleared by the European Commission but the decision annulled by the CFI (Sony/BMG, 2004) or blocked by the European Commission but the decision annulled by the CFI (Airtours/First Choice).

11. COMP M.4854 TomTom/Tele Atlas, available at, http://ec.europa.eu/competition/mergers/cases/decisions/m4854_20080514_20682_en.pdf.

12. COMP M.4942 Nokia/Navteq, available at http://ec.europa.eu/competition/mergers/cases/decisions/m4942_20080702_20682_en.pdf.

13. Footnote 12, paras 278-283.

14. Footnote 13, paras 395-408.

15. COMP M.3101 ACCOR/HILTON/SIXCONTINENTS/JV, available at http://ec.europa.eu/competition/mergers/cases/decisions/m3101_en.pdf.

16. The CC decision focused on the Great Britain Market (i.e., excluding Northern Ireland) because the market structure of Northern Ireland appeared to be different from Great Britain.

17. It also operates a cement plant in Northern Ireland (Cookstown) and one depot.

18. See CC Anglo/Lafarge decision, at para 6.205.

19. See CC Anglo/Lafarge decision, at paras 6.134-6.202.

20. The CC carried out a price-concentration analysis. Results suggested that the presence of a Hanson or of a Cemex plant within 50 miles had no statistically significant effect on Lafarge's external sales price for cement. See CC Anglo/Lafarge decision, at paras 6.128-6.199 and Appendix H for more details.

21. See CC Anglo/Lafarge decision, at para 6.133.

22. A finding of coordination requires that all conditions are satisfied post-merger. If there was pre-existing coordination, it follows that the three conditions for coordination to arise were met pre-merger. In this case, the CC noted that it was not necessary that the merger would increase the extent to which each condition was satisfied in order to reach an SLC finding on the basis of coordinated effects (See CC Anglo/Lafarge decision, at para 6.203).

23. Furthermore, we note that in the medium term any additional increase in cement sales in Great Britain (e.g. if demand recovered from the very low point of 2009) would lead to larger profits for the coordinating group of firms which would have weaker incentives to deviate to capture additional sales.

24. The term competitive fringe refers to firms that are not part of the coordinating (or colluding) group and behave as price takers.

25. In the longer term, Tarmac could use its existing planning permission to increase the capacity of its Tunstead cement plant.

26. See CC Anglo/Lafarge decision, at paras 6.213-6.222.

27. The merger parties also argued that pre-merger neither Lafarge nor Tarmac used detailed market information from their in-house RMX operations to monitor cement supplies to RMX producers. The CC noted that, although the possible monitoring mechanisms that it identified focused on external bulk cement sales and Great Britain shares of production, there could also be informal mechanisms for passing on local information from RMX plants. The fact that Lafarge might currently make only limited use of any information from its RMX plants might simply reflect the fact that its RMX network was the smallest among Great Britain cement producers.

28. See CC Anglo/Lafarge decision, at paras 6.223-6.251.

29. The CC also noted that if the merger led to more similar cost among cement producers this would also facilitate the internal sustainability of coordination. The CC examined the variable production costs of each cement producer and found that in recent years Lafarge's cement plants overall have been among the highest-cost plants in the UK, while Tarmac has been the lowest-cost producer based on the audited data to which the CC had access. However, the CC could not reach firm conclusions on this.

30. Lafarge's stronger presence in local RMX markets post-merger would mean that a reduction in cement prices to external RMX producers could also result in a larger loss of sales and profits in its own RMX activities than Lafarge would experience currently. This would tend to reduce its incentive to punish via lower cement prices compared with the pre-merger situation. The CC recognized this effect, but considered its impact limited, first, because a reduction in the price of cement to external RMX producers might not be fully passed through into RMX prices (e.g. if the local RMX market was not very competitive), and, second, because Lafarge could target any reduction in prices to independent RMX producers in specific local areas so as to minimize the effect on its own RMX operations, because RMX markets are local.

31. Nocke and White (2007)'s argument refers to the fact that a vertical merger reduces the downstream share of independent producers. This means that all upstream producers would have reduced incentives to deviate because by doing so their expected incremental sales would be lower than pre-merger. In this case the argument applies to a single firm, Lafarge, because the size of the un-integrated downstream RMX producers was unaffected by the Anglo/Lafarge merger.

32. The scope for increased similarity in vertical integration and its 'stabilizing' impact on the market was noted in several internal documents from the Great Britain cement producers (See CC Anglo/Lafarge decision, at para 6.239).

33. The CC also noted that if post-merger Lafarge were to have greater cross-sales with Hanson and Cemex than Lafarge had pre-merger, then it would have an enhanced ability to use repatriation as a cheap signal to deviators from the coordinated outcome to cease doing so, as an alternative to or a preliminary step before entering a more costly generalised punishment phase. Hence the merger might result in a lower risk for the cement producers of costly price wars than at present. The CC believed that it was possible that Lafarge would have some cross-sales with other GB cement producers.

34. These RMX plants had, together, RMX sales volumes broadly similar to that of Tarmac's RMX business before the merger.