

AGGREGATES, RMX AND CEMENT MIR
HANSON'S RESPONSE TO THE PROVISIONAL FINDINGS
16 JULY 2013

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1. INTRODUCTION AND EXECUTIVE SUMMARY

- 1.1 On 21 May 2013, the Commission published its Provisional Findings ("PFs") and Notice of Possible Remedies ("**Remedies Notice**") in relation to its Market Investigation into the supply or acquisition of Aggregates, Cement and RMX ("**MIR**"). This document constitutes Hanson's response to the PFs.

Preliminary Remarks

- 1.2 Hanson welcomes the Commission's recognition that there is no feature giving rise to an adverse effect on competition ("**AEC**") in the market for construction aggregates and for the supply of RMX in GB, notwithstanding the serious concerns and theories of harm suggested previously, both by the Commission within the MIR and also whilst under the previous jurisdiction of the Office of Fair Trading ("**OFT**"). Hanson therefore agrees with the Commission that there is clearly no evidence in the market for foreclosure conduct or monopolistic effects arising from the vertical integration of market players in aggregates, RMX and cement.
- 1.3 Hanson strongly refutes, however, the Commission's conclusions in relation to "*a combination of structural and conduct features that gave rise to an AEC in the GB bulk and bagged cement markets*"¹. The market evidence before the Commission and upon which the Commission finds "*coordination among Cemex, Hanson and Lafarge [with the] likely effect of these features [being] higher prices of cement in GB than would otherwise be the case for all GB cement users*"² is, with respect, insufficient to support such conclusions and often leads to contrary findings, when assessed fairly and objectively.
- 1.4 Hanson further contends, with respect, that the Commission has similarly erred in its process and assessment of Hanson's contracts with Lafarge Tarmac and the markets for the GB production of the cement substitute, GGBS. Hanson does not believe that this is a feature of the cement market, and, for the reasons set out in detail below, rejects the finding that the situation gives "*rise to an AEC in the GB cement markets, also resulting in higher prices for cement than might otherwise be the case*"³.
- 1.5 In light of the PFs, the focus of this response will be to support the Commission in reaching a correct and better understanding of the (perceived) features of the relevant market and therefore to come to the more objective conclusion that the supply of cementitious products in GB is competitive and takes place in a well-functioning market.

Structure of this Response

- 1.6 This response is structured as follows:

Part I: Procedural Flaws and Due Process Concerns

Part II: Undue Finding of Coordination in Cement

Part III: Profitability

¹ PFs, paragraph 12.3.

² PFs, paragraph 12.6 – 12.7.

³ PFs, paragraph 12.8.

Part IV: Market Changes

Part V: Undue Findings regarding GBS / Cement Substitute REGEN

Part VI: Non-Confidential Annexes

- (a) Non-Confidential Annex 1 - Analysis of Inconsistent Evidence of Co-ordination
- (b) Non-Confidential Annex 2 - Simulation of Price and Margins
- (c) Non-Confidential Annex 3 - Testing for Market Share Co-ordination

Part VII: Confidential Annexes

- (a) Confidential Annex A - Selective Treatment of Documentary Evidence
- (b) Confidential Annex B - Production Costs and Sales Volume Analysis
- (c) Confidential Annex C - Pan-Company Profit and Clinker Production Analysis

1.7 Please note that certain key statistics and arguments which rely on material accessed only in the Data Room are presented in the Confidential Annexes (albeit, where possible, summarised in the main Text). It was prepared and reviewed exclusively by Hanson's external advisors who signed the Commission's Undertakings. Therefore, Hanson has not had the chance to review these.

1.8 Please note further that there is a certain amount of data contained within the main body of this response which is reflective of Data Room material. It has been excised from the version of the Response shared with, and reviewed by, Hanson, but has been included in the version of the response provided to the Commission (the data in question is noted with square brackets). This data is requested to be excised from publication of this response by the Commission.

PART I: PROCEDURAL FLAWS AND DUE PROCESS CONCERNS

2. INTRODUCTION

- 2.1 In this section, Hanson sets out to the Panel the evidence showing that the Commission undertook an outcome-focused approach towards the MIR ('Confirmation Bias'). Hanson believes that the historic chronology demonstrates how the conclusions have been formulated too early on in the process, since they were established prior to review of the key evidence and background information. Hanson will then highlight the concerns it raises with regard to the Commission's handling of the MIR ('Procedural Deficiencies') and the related due process concerns ('Inability for Hanson to exercise its Rights of Defence').
- 2.2 In light of this confirmation bias and the procedural concerns raised, Hanson requests that the Panel make a fresh and objective assessment of the underlying evidence, in order to formulate a more balanced and comprehensive view on the basis of the available evidence⁴.

3. CONFIRMATION BIAS

- 3.1 Hanson notes that throughout the MIR, the Commission's case team has been the same case team that analysed and adjudicated the Lafarge/Anglo-American JV. During the course of the JV inquiry the case team believed to have found evidence that there was "*pre-existing tacit coordination*"⁵ and set out in detail how it believed that its "*analysis [...] indicated that each of the three conditions for coordination was satisfied*"⁶. The case team went on to state how "*coordination in the bulk cement market [...] would be most likely to operate*".⁷ The case team working on the JV even went so far as to report that an "assessment of remedies [was needed] to address any existing shortcomings in competition in aggregates, cement and RMX markets for the market investigation"⁸ (emphasis added). Hanson notes that the Commission's own Guidelines for market investigations and remedies (the "Guidelines")⁹ require first a proper assessment of the market situation and the finding of an AEC before considering remedial action. The public record therefore shows that the case team formed its views during the more limited merger assessment and prior to the market 'investigation', without the safeguards that would otherwise apply to the market investigation regime, and without the due input by those affected market players which were not concerned by the JV.
- 3.2 At the start of the MIR and in discussion, the Commission expressly informed and reassured Hanson that the case team carrying out the work for the MIR would not be the same as the case team from the JV inquiry. Hanson had then been reassured by the Commission's express confirmations, in the context of working to ensure that a fresh and independent review of the market would be carried out, as opposed to being carried out by exactly the same persons as those who had already declared adverse findings of "coordination" and a need for "remedies" whilst working on the JV inquiry.
- 3.2.1 Hanson was therefore surprised and subsequently became concerned when the Commission changed its position and announced on 16 May 2012 its decision that it had changed its mind and had decided to bring in the exact same case team from the JV inquiry, despite having provided the earlier confirmation to the contrary.

⁴ See Competition Commission's CC4 General Advice and Information.

⁵ Lafarge/Anglo-American JV report May 2012, summary paragraph 37.

⁶ Ibid paragraph 38.

⁷ Lafarge/Anglo-American JV report, May 2012, summary paragraph 42.

⁸ Lafarge/Anglo-American JV report, May 2012, paragraph 8.7.

⁹ Competition Commission 'Guidelines for market investigation: Their role, procedures, assessment and remedies', April 2013.

- 3.2.2 In particular, the key advisors and officers in the form of the Economic Adviser, the Financial and Business Adviser, and the Inquiry Director all transferred to the MIR, along with various others. Such key advisors, in particular the Inquiry Director, had already formulated and voiced various adverse views about the structure and conduct of the market and so Hanson then became extremely concerned that a fresh and independent review was going to be impossible, especially given the strength of the adverse conclusions already voiced.
- 3.2.3 At the first Hanson Hearing in May 2012, Hanson's Head of Legal reiterated the concerns and formally requested the appointment of a fresh case team to conduct the enquiries of the MIR and review the market evidence, in order to guarantee the integrity and objectivity of the MIR in accordance with the Commission's statutory remit.
- 3.2.4 The Panel Chairman flatly refused such request and stated that the MIR was going to be entirely independent procedurally, when in fact its structure alone was far from it.
- 3.3 Since that refusal, Hanson has had to deal with a long list of issues, described throughout the detail of this document, ranging from its key evidence not being presented to Panel members despite numerous express requests to do so, to the complete omission of the four months of critical data and submissions (prepared at enormous cost by Hanson) during the same four months when the Commission wrote its overall economic assessment of the market. The failure of the Commission to appoint a new and independent case team, has led to an inevitable, but otherwise easily avoidable conflict, with the case team staff finding themselves in the unprecedented and very difficult and restricted position, where they are having to consider much fuller market evidence immediately after publishing the findings in a far less comprehensive merger process. It would be most unlikely in practice, although perhaps understandable, for any such staff team to formulate market conclusions that in any manner contradicted those established during the merger, as in doing so their decisions made during the merger process would then be questionable.
- 3.4 When it became clear in late 2012 and early 2013 (from the continuing work of the MIR) that the case team had not read the key evidence being submitted by Hanson, and requested confirmation that certain evidence be given in full to the Panel members (some of whom had even expressly requested it), the Panel wrote back to rebuke Hanson for making such requests and confirming that the Panel had put all due process in place to ensure a comprehensive review of such evidence in the MIR.
- 3.5 Notwithstanding such statements and assurances from the Commission, Hanson was then surprised that the Commission acknowledged as late as 15 March 2013 (in the Coordinated Effects paper) that it had not reviewed any of the Hanson data, response papers or submissions made after 1 December 2012. This was despite the Coordinated Effects Paper representing the Commission's fundamental economic assessment of the markets and evidence, and despite Hanson's key evidence and data being that submitted during the period after Hanson's hearing on 2 December 2012. The basic chronology in this respect records the Commission formulating its key economic conclusions for the MIR without taking into account or even reading the critical body of evidence that a key party had expressly submitted for such purposes. Hanson therefore considers that its key evidence was inexplicably ignored and not reviewed by the Commission at the critical stage in the MIR.
- 3.6 The case team's pre-existing beliefs towards the existence of tacit coordination have therefore led to significant bias which impacted upon the course of the MIR. As explained below Hanson has repeatedly expressed its concerns towards the approach adopted by the Commission throughout the course of its 'investigation'.

- 3.7 Furthermore, the Commission adopted an approach which has caused Hanson significant procedural difficulties including limited access to key documents and information.
- 3.8 The Commission has disregarded the vast majority of the information and evidence Hanson and other GB cement producers have presented (much of which was inconsistent with the conclusions formulated by the Commission with regard to its theory of harm), and has omitted to consider many of the fundamental points Hanson raised prior to issuance of the PFs. The extremely high level of the Commission's selectivity goes far beyond its normal margin of appreciation and judgment and Hanson's position is therefore that the PFs fall short of the Commission's statutory obligation to formulate a decision that is based upon a fair and objective review of adequate evidence.¹⁰ The Commission's simple restatement of Hanson's argument in Appendix's to the PFs does not constitute an analysis of the evidence. From the putback papers process, Hanson saw extracts from its own submissions finally being used by way of 'copy- pasting' into the respective annexes of the PFs in the final days prior to publication, but a long time after the conclusions were formulated. Hanson does not consider such mere 'reiteration' of extracts of its own detailed submissions to represent anything like due and objective consideration, but rather views the exercise as an unacceptable attempt on the part of the Commission to be seen to taking Hanson's considerations into account.
- 3.9 Indeed, Hanson has already commented on these shortcomings of the MIR in its response to the Commission's Working Paper on Coordinated Effects. In that response, Hanson stated that critical evidence, data and substantive comments it made had been omitted from that Working Paper (whether those made during December's Main Party Hearings, in responses to the Updated Issues Statement (UIS) or in response to the entire body of the various other working papers). Whilst Hanson appreciates that a small number of responses to working papers have now finally been restated and referred to at a very late stage in the PFs themselves, it is incongruous with the Commission's duty as a public body that a detailed analysis of this data was not been carried out, either prior to formulating conclusions or indeed at all¹¹.
- 3.10 Hanson further notes that the Commission also denied Hanson access to data which has materially hindered its task of responding to the working papers and PFs. For example, the first time Hanson was made aware of an investigation into the cement substitute GGBS was as late as November 2012. At first, the Commission did not liaise with Hanson as the key operator in this industry, and consequently Hanson could not adequately comment on the Commission's GGBS material prior to the Commission formulating and settling its conclusions. Later, the Commission omitted the vast majority of comments and submissions Hanson made and failed to take them into account in the PFs and related analysis. The Commission merely represents Hanson's comments and submissions by restating them, without conducting any kind of evaluation, review or analysis in considering any theories of harm, and without weighing up countervailing aspects that might suggest critical efficiencies in the market or mitigation against possible competitive concerns. It does not explain how it has evaluated such material or why it disregards Hanson's submitted facts and arguments, and the Commission provides no analysis as to why it discounts them. Hanson further expands on concerns in relation to GGBS in Part V ('Undue Findings regarding GBS / Cement Substitute REGEN'). Hanson considers it extraordinary that the Commission can have reached such advanced and fundamental conclusions

¹⁰ See *IBM Healthcare* [2004] EWCA Civ 142 [2004] 4 All ER 1103 at paragraph 45 and 93. [t]here must be evidence available to the Commission of some probative value on the basis of which the Commission could rationally reach the conclusion it did". See also *British Sky Broadcasting plc v. The Competition Commission* [2008] CAT 25, at paragraph 66.

¹¹ Giving due weight to the comments of, and the evidence presented by the parties is a fundamental and statutory aspect of due process. Indeed, the duty to consult with potentially affected parties, and to take into account comments received, is written into statute (for example, section 169 of the Enterprise Act 2002). Hanson considers it both unfortunate and unacceptable that the vast majority of its statements and critical evidence submitted to the Commission since early December 2012 have been omitted for the purposes of PFs.

regarding the cement substitutes and GGBS markets and regarding the absolute need for the most severe remedies when it has done nothing to evaluate such markets, the efficiencies of the current arrangements for customers and the submissions of industry in these respects. Indeed, the extremely small amount of work carried out by the Commission with regard to such products and markets, despite the Commission's claims that such work has been in progress throughout the course of the MIR, contains errors of such a degree of magnitude that Hanson considers the entire process to be unsafe and has therefore written formally to the Chairman of the Panel to demand formal abandonment with regard to the Commission's work on GGBS.

3.11 The collective effect of all these shortcomings is the significant denial of Hanson's rights to comment in a meaningful way on critical aspects of the Commission's analysis that were material to formulating its conclusions and on which Hanson might be expected to provide meaningful comment. Hanson was denied such opportunity at the key time before the Commission's analysis had crystallised into a settled decision¹², and indeed it is clear from the advanced status of the drafting in the Updated Issues Statement published on 26 November 2012, that the Commission had drafted conclusions on the status of GGBS in the cement substitute market prior to even issuing the relevant questionnaire on 28 November 2012. The sole basis for such premature conclusions was the casual and immediate reference to terminology such as 'exclusivity' and 'monopoly' without the required prior level of professional analysis.

3.12 Similarly and as referred to above, Hanson cannot understand how the Commission's MIR timetable did not afford adequate time for a proper substantive analysis of Working Paper responses to be carried out by the Commission. With reference again to its response to the Commission's Working Paper on Coordinated Effects, Hanson set out its concerns in this regard: *"This working paper is the critical paper in the MIR and comes at the critical time in the MIR (shortly before Provisional Findings). Hanson has presented its own critical evidence and key statements during the period from December 2012. Hanson therefore considers it both extraordinary and unacceptable that Hanson's critical evidence has been completely omitted and disregarded from all considerations in this critical paper at this critical stage in the market study."*

4. PROCEDURAL DEFICIENCIES

4.1 The PFs show that the Commission has adopted a prohibitively selective approach in respect of its selection of evidence, the way in which it uses the pre-selected evidence, and the limited access rights granted by it to the market players concerned. Hanson also notes that the Commission has unduly caused procedural and practical obstacles, limiting Hanson's right of defence.

4.2 This irregular approach has undermined the integrity of the Commission's work, and gives rise to substantial due process concerns.

Selectivity of Documents - Evidence Not Considered

4.3 English case-law is unequivocal in that consideration must be given to all evidence especially where the lack of such consideration might have caused the Commission to reach a different conclusion¹³.

4.4 Hanson has highlighted this point to the Commission previously¹⁴, and it remains notable, there is a staggering amount of evidence that the Commission has simply disregarded in its competitive analysis. Hanson has already illustrated that the analysis of e-mails set out in the Commission's workings represent less than 1% of the

¹² *R v. North and East Devon Health Authority, ex p. Coughlan* [2001] QB 213.

¹³ *R v Parliamentary Commissioner for Administration, ex parte Balchin* [1998] 1 PLR 1.

¹⁴ Most notably in Hanson's response to the Internal Documents Working Paper, submitted to the Commission on 4 April 2013.

e-mails presented by Hanson¹⁵. The substantial body of e-mails Hanson has supplied to the Commission display clear and strong competition between the GB producers and importers on a continuing basis and yet has been inexplicably and wilfully disregarded by the Commission in its entirety and without evaluation.

- 4.5 These concerns are referred to by the Commission in the PFs¹⁶ as the Commission acknowledges that a considerable volume of documents "*provide evidence of competition taking place*"¹⁷. However the regulator does not carry out any form of evaluation or substantive analysis of this evidence. Instead, it simply casually suggests that competition is restricted to taking place 'within boundaries' without defining such boundaries or in any manner weighing up or evaluating such evidence against any items the Commission suggests might represent evidence in support of a model of coordination. It therefore seems that the Commission has worked only to select that evidence which it finds helpful to support its previously stated theories and that might appear consistent with such hypotheses. In other words, and as highlighted time and time again throughout the course of MIR and as referred to within this Response, the Commission has gone out to look for evidence that might be useful in helping to justify its stated theories and claimed AECs, and has not undertaken an objective assessment of the evidence before it. The evidence and submissions that are before the Commission but which are clearly inconsistent with the model theories, have been omitted from evaluation at the appropriate times, or only brought into the published reviews and analysis during the very final days before publication of the PFs, (which include the first examples of the Commission evaluating Hanson's submissions, often restating some of Hanson's submissions but without any proper consideration or evaluation).
- 4.6 Indeed, the Commission expressly admits the outcome-dependent use of evidence:
- "documents must be interpreted in light of the evidence on market set out in paragraphs 8.3 and 8.4 [i.e. the market outcomes] that competition in the GB cement markets was not working"*¹⁸.
- 4.7 The Commission is expressly acknowledging that its analysis of such evidence may well be somewhat limited, but that such concerns and needs for fuller assessments are subordinated to and strictly dependent upon the context of the Commission's findings on market outcomes, such as unacceptable pricing trends and excessive levels of profit, concerns regarding 'variable' margins, and concerns stated regarding focus on very specifically defined market shares that the relevant commercial teams within Hanson do not even monitor (as explained below). It is not permissible for the Commission to wilfully disregard exculpatory evidence, in the belief that the MIR outcomes render it unnecessary to properly evaluate underlying evidence and to reach a balanced objective assessment. As explained in more detail below, Hanson asserts that such fundamental shortcomings fall short of any due standard of proportionality and objectivity. Similar procedural irregularities have for example led to the collapse of the European Commission ("EC") investigation in the *Airtours* case.
- 4.8 As stated in its response to the Internal Documents Working Paper, Hanson has had long-standing concerns regarding the Commission's approach, and it is worth re-emphasising them.
- 4.9 Specifically, Hanson expressed considerable concerns regarding the Commission's own wording in the introduction to the Working Paper. It constitutes an explicit acknowledgment of its selective approach but also makes assurances as to the future treatment of documents within the PFs:

¹⁵ A rough count suggests that around 65 documents are referred to in the Internal Documents Working Paper out of around 6,000 provided (after deduplication, per paragraph 67).

¹⁶ PFs, paragraphs 8.151 and 8.152.

¹⁷ PFs, paragraph 8.152.

¹⁸ PFs, paragraph 8.32.

"This working paper does not try to capture the 'totality' of the documents we have reviewed. Many of the documents provide evidence of price competition between the GB cement Majors or between the GB cement Majors and importers including AI (Paragon) (eg incumbent suppliers being undercut on price and/or internal discussion of the need to reduce prices to retain a customer). Although 'some' examples of these are included below we have not sought to summarise that body of documents Rather, in this working paper we focus on extracts of those internal documents which may suggest the continuance of some of the behaviours identified in our points of interest/themes outlined in our earlier working paper on internal documents (cement) (see above)¹⁹."

- 4.10 This statement was supplemented by a footnote: "*That body of documents [showing strong competition between GB cement producers and importers] will be taken into account in our decision-making alongside the documents referred to in this working paper*"²⁰.
- 4.11 At the time Hanson made it clear that the Commission was deliberately adopting this highly selective approach in confining its detailed analysis only to those e-mails which the Commission considered as supporting its theories of harm (which the Commission staff team formulated early on in the investigation and indeed before, when considering the merger between Tarmac and Lafarge). Hanson stressed in its response that this approach essentially led to an enormous and overwhelming body of e-mails evidencing strong competition being consigned to the category of 'general background' - to be noted without analysis and conveniently (for the Commission) classified as 'competition within bounds' before being disregarded in its entirety. Hanson suggests that such action can in no manner constitute 'taking such evidence into account' as the Commission has stated it has duly done.
- 4.12 Furthermore, the Commission has ignored a letter from the Chief Executive of Hanson to the MIR Chairman²¹ setting out in detail the level of uncertainty in the market caused by the UK and worldwide economic situation. The issues raised in this letter are of fundamental importance, are critical in explaining market behaviour, and exemplify the high level of change the GB cement market is subject to. Hanson received express confirmation from the Commission that it would specifically address the issues raised in this letter²², however to date Hanson has not seen any evidence of this.
- 4.13 The approach adopted by the Commission, and the omission of evidence presented can only be regarded as partial and prosecutorial from the outset. Whilst such a partial analysis may support one particular view of the market, it is devoid of any holistic or probative value, and, with respect, does not satisfy the basic requirements to carry out a fair and balanced review that is both objective and comprehensive.
- 4.14 The Commission, just like the EC, must assess "*the weakness of any competitive pressure that might be exerted by other operators*"²³ and decisions must be supported by "*a sufficiently cogent and consistent body of evidence*"²⁴.

Selectivity of Documents - Misinterpretation of and Serious Error in the pre-selected Evidence

- 4.15 In addition to using selected documents (only those which the Commission has chosen on the basis of being consistent with its theory of harm), the Commission also selectively interpreted the documents, despite its statement that "*our assessment of*

¹⁹ Internal Documents Working Paper, paragraph 4.

²⁰ Internal Documents Working Paper, footnote 1.

²¹ Dated 28 November 2012 – also see Hanson's response to UIS paragraph 10.

²² Statements made by Commission Chair in Hearing 3 December 2012.

²³ *Airtours v Commission* (T-342/99), paragraph 63.

²⁴ *Airtours v Commission* (T-342/99), paragraph 50, citing *Kali and Salz, Bertelsmann AG and Sony Corporation of America v Impala and Commission* (C-413/06).

what the documents tell us about rivalry in the GB cement markets does not turn on individual emails; rather it is based on all the documents in the round."

- 4.16 The data room review undertaken by Hanson's external advisors, has shown that the Commission has clearly not formed its view on the basis of all documents in the round as the Commission has claimed it has done, but has rather formulated its opinions on the basis of one (possibly a maximum of two) dozen selected emails, whilst wilfully discarding the many thousands and thousands of emails that show a continuum of strong competition between the three GB cement producers week on week, month on month.
- 4.17 Regrettably, the Commission's outcome-dependent approach and express reliance on outcomes have in numerous instances led to documents and emails being selected by the Commission to illustrate a point supporting its theories, whilst other passages within the same document very clearly demonstrate positive and countervailing features and characteristics of the market. These competitive features, in accordance with established economic literature on the subject and upon any objective and more balanced review, clearly suggest coordination to be unlikely and difficult to sustain, with the alleged economic theories then being undermined in the context of such clear and active competition by Hanson. However, such matters, that are clear on the face of the relevant emails, remain either unaccounted for, absent from the PFs, or independent of evaluation for countervailing efficiencies and mitigations, and devoid of all substantive analysis. A non-exhaustive sample list of examples of such an approach can be found in the documents misquoted within PFs Annex 8.2 paragraphs 11, 45, 103-107, 117, 127, 135, 164, 232-233 and 257-258. A detailed breakdown of both the text selected and omitted by the Commission is set out in Confidential Annex A - Selective Treatment of Documentary Evidence.
- 4.18 A further proportion of the emails raised by the Commission and forming a part of the Commission's analysis in identifying market characteristics of concern also regrettably include a number of errors as to the direction of the relevant commercial supply lines, the nature of the commercial transactions being negotiated or other fundamental errors in assumption, often causing Hanson to request that the Commission formally remove such documents from all papers and findings. Typical examples of such emails including errors in interpretation included:
- 4.18.1 [✂]
- 4.18.2 [✂]
- 4.18.3 [✂]
- 4.18.4 [✂]
- 4.18.5 [✂]
- 4.18.6 [✂]
- 4.18.7 [✂]
- 4.18.8 [✂]
- 4.18.9 [✂]
- 4.18.10 [✂]
- 4.19 The concerns Hanson expressed in its response to the Working Paper on Internal Documents seems to have crystallised, including:
- 4.19.1 the failure to conduct a full and complete assessment of the e-mails and 'weigh up' the overall position;

- 4.19.2 the failure to consider the parties' corrections, explanations and contextualisations of internal documents relied upon by the Commission and the wilful disregard of certain parts of the underlying documents which contradict the Commission's theory of harm; and
- 4.19.3 the inclusion of numerous emails, as described above, showing an unsafe degree of error in interpretation.
- 4.20 It is clear from both the PFs and the evidence collected in the data room that such an assessment has not been carried out by the Commission and that the results of the investigation remain distorted as a result. It is notable that the Commission also exhibits documents and points therein that support its arguments in one particular regard but then ignore the same document (or point therein) that undermines its arguments in other regards.
- 4.21 The Commission furthermore acknowledged other weaknesses within its own workings, in particular with regard to the evidence it uses to prove the existence of a retaliation mechanism. It states that "*we did not expect to see an entirely 'consistent' trend of evidence of this behaviour from any individual firm or from all firms*²⁵".
- 4.22 It seems that the Commission, instead of trying to comprehend and reconcile the conflicting underlying evidence in order to reach an objective understanding of the workings of the market, used this disclaimer as an excuse for completely ignoring evidence in its assessment. In other words, the Commission 'cherry picks' evidence selectively to prove the theory of harm it has sought to establish. Such circularity is incompatible with the legal requirements established in European and English case law as well as the requirements in the Commission's own recently updated Guidelines, and gives rise to concerns of confirmation bias. It is also inconsistent and incongruous with all due methodology.

Selectivity of Documents - Conclusion

- 4.23 Hanson remains of the resolute conviction that a full and impartial review of the underlying evidence would not only be beneficial but is crucial to the Commission's understanding of the industry and supply lines, and that, as a result, evidence of this nature should not be relegated to general background without proper assessment and due evaluation.
- 5. INABILITY FOR HANSON TO EXERCISE ITS RIGHTS OF DEFENCE**
- 5.1 The procedures followed by the Commission have been ineffective in allowing Hanson to exercise its rights of defence. Given the seriousness and gravity of the potential remedies proposed by the Commission, the ability for Hanson to exercise its rights of defence is one of the fundamental protections which must be afforded to it. Hanson has not had adequate access to the evidence relied upon by the Commission, the evidence which undermines the Commission's analysis and key aspects of the Commission's analysis. As a result, it has not been given an adequate opportunity to defend itself, or to present its commentary and submissions prior to the Commission formulating its conclusions.
- 5.2 One fundamental concern arises from the redaction, and non-presentation, of key findings and data in either the PFs or the working papers preceding the PFs. The data room set up by the Commission fell a long way short of the usual standards required for access to documents and evidence.
- 5.3 In the data room, the Commission only provided the pre-selected documents which it referred to in the PFs. This not only subjects the Commission to the above criticism, but in addition a contextualisation of these documents (e.g. e-mails sent before or

²⁵ PFs, paragraph 8.137.

after the cited document) was not provided. This significantly undermines the market players' ability to contextualise and understand the true meaning of some detached phrases.

- 5.4 Huge amounts of critical evidence (for example, regarding the entirety of the Commission's workings on GGBS and also regarding the financial data regarding importers' claimed cost bases) were inexplicably withheld from the data room, rendering it impossible for Hanson's or its advisors to review and comment on the Commission's work on these critical issues.
- 5.5 The Commission's selection of data is, however, not the sole shortcoming seen in the context of the data room review:
- 5.5.1 The data room did not contain any figures for clinker production at the individual plant level²⁶. The Commission stated that as the specific clinker production figures were not included in the PFs, they would not be included in the data room. However, it is unclear how the Commission can come to an accurate measure of profitability without using these figures. The Commission uses clinker output in each year to drive movements in the MEAV value of each company's asset base (e.g. to determine impairments). Hanson's economic advisors consider this a necessary input to understand, and test, the Commission's analysis. Hanson's economic advisors would have sought to build a spreadsheet model (in the data room only) to replicate the Commission's profitability analysis at the industry level in order to check it.²⁷ The Commission used the clinker production figures, and nevertheless denied Hanson's external economists access to this data, the Commission has clearly breached in a fundamental way its responsibility to allow fair and reasonable access to the evidence underlying the PFs. It made it impossible for Hanson to verify the Commission's analysis, which given the level of error across the Commission's various workstreams, render the process both unfair and unsafe.
- 5.5.2 The data room does not contain Mittal/HCM's business plan²⁸. The future business strategy (or at least a confidential and summarised version) of Mittal's/HCM's business plan is an important piece of evidence for Hanson's external advisors to analyse the current and future impact Mittal/HCM is having, and will have, on the market outlook. Access to the business plan would have been crucial to obtain evidence of the new entrant's *clear intentions* (the threshold set by *Airtours* for an *ex ante* assessment, see below). This impact is integral to the Commission's theory of harm and any potential 'external instability' that would undermine the alleged coordinated group. Without external advisor access to such plans, it is impossible for the Commission to safely suggest it cannot know HCM's intentions.
- 5.5.3 The data room did not contain the redacted GGBS data from PFs Appendix 7.6. The Commission explained that it has not done so as it "*decided not on the basis that all parties accessing the data room should have access to the same material*"²⁹. However, the data room does similarly not contain any of the underlying documentation from the Lafarge/Anglo-American merger decision and so Hanson has not been able to test the quality and accuracy of such workstreams. Certainly Lafarge Tarmac has access to significant amounts of highly relevant industry data from this merger inquiry, information that no other party to the data room has. Therefore, the Commission's response is a fallacious excuse for not granting Hanson's external legal

²⁶ Note, even aggregated data for the sale of grey cement was only made available to Hanson on 19th June, a few days prior to the deadline for the submission of the PFs response.

²⁷ Email from Hanson to Commission dated 2 June 2013 at 16:04.

²⁸ PFs, Appendix 7.15, paragraphs 30-43.

²⁹ Email from Commission dated 30 May 2013 at 12:01.

advisers access to data and material which would have been of fundamental importance to address some of its key concerns raised.

- 5.5.4 The Commission rejected Hanson's request to allow more than three representatives into the data room at any one time.³⁰ This is despite the huge and unprecedented size of the data room and the highly complex and intricate legal and economic factors on which the Commission has based its theories of harm.
- 5.5.5 The Commission denied data room access to Hanson's in-house qualified solicitors, adopting a European style lack of recognition, despite the strict solicitors' professional undertakings offered to be signed by the relevant individuals, and despite Hanson's concerns regarding such an approach³¹, with the result that integral issues could not be discussed in a suitable level of detail required, and creating an unnecessary conflict and delay for Hanson's external advisors.
- 5.5.6 The data room rules prevented external advisors from making use of essential data in relation to importers, despite Hanson's repeated requests on this issue³². This handicap has resulted in substantial difficulties for Hanson in assessing the Commission's analysis regarding the impact of importers and their stated cost bases. The PFs state repeatedly that importers do not act as a competitive constraint on the majors, nor create external instability of the alleged coordinated group; although this directly contradicts the market share evidence and the general data submitted by Hanson as well as the other data seen in the data room³³. Without being able to include this data in the report, so to make reference to it as required, it is impossible for Hanson to adequately redress and rebut the Commission's clearly flawed assessment of the underlying evidence.

³⁰ Email from David Fowles dated 24 May 2013 at 10:48.

³¹ Email to Commission dated 28 May 2013 at 21:22.

³² Email to Commission dated 28 May at 21:22.

³³ For a full analysis of the impact of importers see Part III Profitability – Market Structure.

PART II: UNDUE FINDING OF COORDINATION IN CEMENT

6. INTRODUCTION

6.1 This section examines the economic and legal foundations on which the Commission builds its conclusion that there has been tacit coordination in grey cement. Hanson shows that a series of errors and unacceptable inconsistencies underlie the Commission's reasoning, which are partially due to factual errors and unjustifiable expectations. These mistakes completely undermine the Commission's approach, tests and conclusion.

The Commission's position

6.2 The Commission provisionally concludes that competition in the GB cement market was not working effectively³⁴ and was consistent with a degree of coordination between the three Majors – Lafarge, Cemex, and Hanson – on shares of sales. This conclusion is expressly dependent and based fundamentally on three principal market outcomes:

6.2.1 Variable profit margins are stated to be of key significance, they had been successfully maintained, and had been relatively and unacceptably stable, over the period 2007 to 2011 against a backdrop of a 36% reduction in demand from 2007 to 2009 and an increase in costs;

6.2.2 Industry profitability based on the continuing cost of supply was unacceptable and excessive for the three GB cement producers and exceeded the cost of capital; and

6.2.3 Market shares between 2007 and 2011 had been excessively stable in comparison with what the Commission would have expected.

6.3 The Commission points also to concerns regarding cement prices rising marginally in real terms over the period.

6.4 The Commission then examines the structural features of the market and the conduct of the cement producers. It concludes that the conditions for coordination were met and that the focal point for coordination was the maintenance of market shares within the coordinating group. The Commission also considers it likely that Lafarge, as the largest supplier, took a leadership role within the coordinating group and accommodated the growth of fringe cement suppliers (specifically Tarmac and importers) by absorbing the losses sustained by the group.

Hanson's principal concerns

6.5 Hanson has a series of very serious concerns about the Commission's findings and its approach. In particular:

Definition of coordination

6.5.1 The Commission's definition of coordination is deficient. Where competition is effective, it is normal commercial practice and rational for suppliers both to be aware of and to take into account the likely reaction of competitors. EU case law makes it clear that firms have the right to adapt themselves intelligently to the existing and anticipated conduct of their rivals³⁵. The

³⁴ PFs paragraph 4.35 note that "in reaching our decisions, much of the evidence on which these provisional findings are based relates to 2012 and earlier years."

³⁵ See 114/73, *Suiker Unie v Commission* [1975] ECR 1163. The ECJ explains in *Wood Pulp II* that "71.[...] it must be noted that parallel conduct cannot be regarded as furnishing proof of concertation unless concertation constitutes the only plausible explanation for such conduct. It is necessary to bear in mind that, although Article [101] of the Treaty prohibits any form of collusion which distorts competition, it does not deprive economic operators of the right to adapt

Commission's definition is therefore overly broad. It leads to the misinterpretation of competitive conduct and finds coordinated behaviour where it does not exist.

Approach

- 6.5.2 The Commission's analytical approach suffers from confirmation bias. The Commission effectively adopts a two part approach. First, it reviews and concludes on market outcomes, and finds (alleged) evidence of coordination on extremely questionable grounds. Second, it assesses the feasibility of coordination (based on market structure and conduct) and its likely mechanism, *expressly assuming that coordination is taking place and using its stated market 'outcomes' as the express basis for determining and interpreting certain critical structure and conduct criteria*. The unfortunate effect of this assumption is that the evidence of market structure and conduct which should have cast fundamental doubt on the Commission's overall finding that coordination was taking place is instead interpreted as *confirming* the existence of coordination. For example, evidence of high levels of customer switching and significant movements in market shares (even more so at the regional level) which are consistent with strong competition are instead classified as mere evidence of 'tit-for-tat' and 'competition within bounds', as the Commission has already pre-assumed at this point that coordination is taking place, making the entire approach taken by the Commission unsafe and perilous.

Outcomes

- 6.5.3 **Variable profit margins:** There is no logical basis for the Commission to conclude that constant variable profit margins are consistent with coordination. In the context of a significant negative demand shock, even the most standard economic theory predicts that coordination will result in variable profit margins *falling* when demand falls. Constant variable profit margins are not therefore consistent with coordination and the Commission departs from established economic theory and empirical literature in saying otherwise.

In contrast, stable variable cost margins can be consistent with effective competition, particularly in an industry, where, as here, capacity (and "fixed" costs more generally) has been shown to be able to adjust rapidly to lower levels of demand. Therefore, the Commission's observed evidence is actually more consistent with *competition* than coordination, when stating correctly the relevant economic theories on this issue. The Commission's analysis and overall reliance on such assessments are therefore highly unsafe.

- 6.5.4 **Profitability:** The Commission's approach to economic profitability is incorrect and fundamentally flawed, in erroneously denying applicable impairment charges (that came as a direct result of the economic downturn) when inputting EBIT into the continuing costs of supply / ROCE calculations (as discussed in detail in Part III - Profitability). Correcting the Commission's calculations and financial errors removes all evidence of excessive profitability in the industry. In the absence of excessive profitability, and in light of the competitive constraints imposed on the market price by importers (see below), it is evident that market prices (and revenues) are the result of effective competition taking place within a well-functioning market.

themselves intelligently to the existing and anticipated conduct of their competitors.... 72. Accordingly, it is necessary in this case to ascertain whether the parallel conduct alleged by the Commission cannot, taking account of the nature of the products, the size and the number of the undertakings and the volume of the market in question, be explained otherwise than by concertation" Joined Cases C-89, 104, 114, 116, 117, 125 to 129/85 *Ahlström Osakeyhtiö and others*.

As shown in Part III - Profitability, even if it were to be assumed that the Commission's figures to be correct (to be clear, they are not), then there would be significant uncertainty about whether profits could be considered 'excessive', when the Commission has previously held *higher* numbers *not* to be excessive. The Commission's analysis is acutely susceptible to small variations in its underlying assumptions (both of the Commission's sensitivity scenarios show small changes in a single assumption cause the 'excessive profits' to fall by over a third in each case). Further, on the Commission's own numbers, all of the alleged excess profits (and therefore the entire cause of all financial detriment) are earned by only one member of the supposed coordinating group, rendering the Commission's conclusions stated in respect of the *industry* as entirely reliant on only *one* company. Furthermore the industry profits are allegedly highest in 2011 when elsewhere in the MIR the Commission classifies this year to be a period with a higher degree of competition.

Even using the Commission's own figures, it is notable that profitability for the industry as a whole has been volatile. Two of the five years of the review period showing pan-industry returns significantly below WACC: 2009 had a negative ROCE of -4.8% for the industry on an all costs basis; 2008 also showed negative ROCE when excluding the revenue from windfall carbon sales. Results that include adverse years of negative returns and losses (in this case – for two years of the five year review period) cannot safely or objectively be categorised as representing financial returns through a 'sustained' period that are 'consistently' in excess of WACC.

Hanson's own profitability during the five year period [X]

- 6.5.5 **Market shares:** There is no logical basis, nor is there any basis in literature in established economic theory for the Commission's view that a decline in demand should lead to market share volatility. This is not a prediction of any of the established theoretical economic models. Nor is there support for the Commission's proposition from empirical research. Moreover, the Commission does not provide any indication as to how much volatility it would expect to see in an effectively competitive market. This is highly unsatisfactory as it substitutes a proper evidence based professional approach, with the Commission instead moving to a subjective or 'lay' approach based upon mere speculative "belief".

To further address this issue Hanson has carried out two statistical tests – a unit root test and a Monte Carlo modelling exercise. These show that that the observed level of variation in market shares is precisely what Hanson would expect to observe in a highly *competitive* and well-functioning market.

Further, Hanson's changes in market share are significantly understated by the Commission (when looking at a monthly and/or regional level). This is discussed further below.

The Commission's hypothesis that the market is governed by adherence to disciplined and stable market shares is questionable. Indeed, as stated in the detail of paragraph 8.164 of the PFs, the Commission itself acknowledges that it is not possible to know what the market share targets were of the GB producers. This is consistent with the emails submitted to the Commission, which show management at the highest level of the cement business debating what a target share might be and expressing uncertainties as to what a proper target ought to reflect.

Further, the Commission understates and omits all mention of the key changes in market shares, such as [X] from early 2007 to little more than a year ago, or the jump in importer shares from zero only two decades earlier

to more than 14% last year, a number which would be even higher if stated in the context of CEM1 bulk supplies only.

- 6.5.6 **Price:** The Commission has identified further outcome concerns regarding a trend of increasing cement prices “generally” across the review period, suggesting that pricing increases were excessive. However, Hanson would draw the Commission’s attention to the detail of the Commission’s own work on cement pricing in Appendix 7.8, at Table 1. These overall conclusions on the exact amounts of annual average prices for CEM I set out the real terms pricing paid by independent customers across the industry. Table 1 shows average industry pricing falling in real terms across three consecutive years for each of 2009, 2010 and 2011, representing the majority of the years of the review period. Over the 5 years prices increase by only £2.80 a tonne in real terms – only 3.6% in total – under 1 percentage point per annum. This (alleged) increase in real prices is marginal and very weak evidence of any problem in the industry, particularly when it is questionable whether CPI is the appropriate measure of inflation to apply to cement (which has a substantially different basket of cost components and saw significant rises in key input costs during the period). In Hanson’s case, [§]. Hanson respectfully suggests that the Commission’s outcome statements regarding the ‘increasing levels of pricing across the review period’ should be substantially tempered in the context of the detail of the above evidence, since the impression they currently give can be highly misleading to any objective assessor.

Conduct

- 6.5.7 **Tit for tat and rebalancing:** The Commission’s empirical analysis of ‘tit-for-tat’ is fatally flawed. The Commission tests whether an increase in market share in one period is correlated with a reduction in market share in the following period(s). However, changes in market shares are, by their very definition, ‘negatively correlated’, where market shares are observed with an error. It is therefore mathematically inevitable that the Commission will find changes in market share to be ‘negatively correlated’. The Commission’s test therefore merely states what is mathematically obvious and inevitable, but does not provide in any way useful evidence of coordination. This is particularly serious in the context of the Commission’s reliance upon such ‘negative correlations’ as supposed evidence for adverse outcomes and a model of coordination.

The analysis contained in this Response – which applies standard unit root tests – finds conclusively that there is no evidence of ‘tit-for-tat’ patterns consistent with coordination or market share ‘rebalancing’.

- 6.5.8 **Price leadership:** Hanson also notes that the key evidence used by the Commission to prove that Lafarge acts as a price leader is extremely weak. The Commission draws attention to the fact that Lafarge was the first to announce price adaptations on 5 out of 9 occasions. This fact alone is wholly insufficient to prove price leadership. Statistically there exists a 43% probability that one firm would be first to announce price adaptations in a market where 3 firms (the number in the alleged coordinating group) compete over 9 periods. To use the occurrence of this statistically probable outcome as meaningful evidence to show a “partial pattern” is wholly inadequate and falls a very long way short of proper professional standards of mathematical and statistical analysis. It cannot reasonably be held that this chronology of events is mathematically distinguishable from randomness on any meaningful, impartial or objective level of statistical significance.
- 6.5.9 In order to demonstrate even the above so-called ‘pattern’ of Lafarge announcing first ‘most often’, the Commission first alters the five year review

period to moving back into the time prior to 2007 (2007 being the first year of the reference period). However, if one reviews the Commission's own analysis of price increases (as shown at Table 1 in Appendix 7.11), during the five year period from the commencement of the economic downturn:

- (a) Cemex was the first to announce price increases on five of the nine occasions (Autumn 2008, March 2010, January 2012, September 2012 and January 2013);
- (b) Lafarge went first only twice (January 2009 and January 2011);
- (c) Tarmac and Hanson each went first once (January 2010 and August 2008 respectively).

6.5.10 On such a basis, it is, with respect, extremely difficult to see how the Commission's express reliance on such statistical analysis in formulating its conclusions is anything other than unsafe and partial *in extremis*.

6.5.11 Furthermore, in the context of the number of times, as shown above, that Cemex actually seems to have issued customer letters first in the market, the Commission's suggestions in the PFs and in previous working papers on the subject, that Cemex tended to go 'last' with the highest increases, seem equally questionable as an established and claimed pattern on which the Commission seems to base concerns regarding pricing patterns in the market.

6.5.12 Equally, the Commission's general focus and identification of stated concerns regarding the effects of such price increase letters seems highly unusual and disproportionate in the context of the Commission's own conclusions elsewhere in the MIR which shows, after adjustments for inflation are made, that industry average annual prices were *falling* across as many as three of the five years of the reference period. In such circumstances, any stated concerns regarding the impact or adverse effects of such price letters must be of limited value, to say the least.

Market Structures

6.5.13 **Importers:** Competition from importers is dismissed as forming part of a "competitive fringe", and not affording a sufficiently significant competitive constraint. However, this is fundamentally inconsistent with the Commission's conclusion that the "competitive fringe" has an incentive to undercut the price of the coordinating group. It is also inconsistent with the success of importers winning (and losing) market share from all of the Majors and in increasing their share significantly over time to what is today more than 14%.

6.5.14 **Tarmac:** The competitive constraint (formerly) posed by Tarmac (and now on an increased basis by HCM) is dismissed primarily on account of its strategy of focusing on self-supply. However, the Commission's own switching evidence shows Tarmac winning and losing contracts from all of the Majors, implying that it is actively competing for business. [X]. In consideration of this and the fact that Tarmac increased its capacity and market share clearly shows that it actively and successfully competed against the other GB producers. This suggests that Tarmac's market behaviour constituted a significant competitive constraint on the remaining players' market conduct and pricing, suggesting the Commission has worked instead to deliberately understate and discount the impact of Tarmac as a competitor, despite very clear evidence to the contrary.

6.5.15 Indeed, the evidence submitted to the Commission by Hanson as long ago as summer 2012 (in the form of the Top 10 customer accounts analysis, with regard to which Hanson spent nearly a year chasing the Commission asking them repeatedly again and again to read it and consider its contents) sets out direct evidence, when looking at Hanson's Top 10 Independent Ready Mix customers for 2011, of [REDACTED]. The Commission's claims that Tarmac can rightfully be discounted as a meaningful competitor appear to be nonsensical and entirely false in the face of such clear evidence to the contrary – [REDACTED] This is further clear evidence of the highly unsatisfactory quality and the partial approach of the Commission's work and analysis in the MIR, showing not only how fragile the Commission's general analysis is, but also suggesting that the Commission ignores critical evidence that might suggest the opposite of the case that the Commission has set out to prove against the GB cement industry.

6.5.16 **Vertical integration:** The Commission argues that vertical integration itself has adverse effects and facilitates coordination through: i) reducing the size of the addressable market; ii) increasing inter-dependence between majors and the flow of information / opportunity for 'punishment' actions through cross-sales; iii) independents being left with no buyer power, and iv) the majors not being sufficiently focused on such customers.

6.5.17 The evidence clearly shows however, taking each point in turn, that:

- (a) **Addressable Market** - the importers share has grown rapidly and they continue to grow successfully; this has been at the same time as the capacity of the majors has declined – importers have taken very significant market share of at least 14% (for 2012), a higher number for CEM1 bulk sales, and with an estimated 60% of cement purchases being by independents. The size of the addressable market (e.g. 55% of RMX plants are not owned by the five 'Majors')³⁶ is not a binding constraint for importers (in the landmark *Airtours* decision an addressable market of 40% was held to be sufficient).
- (b) **Excessive Cross-Sales with adverse effects** - Hanson considers it extraordinary that the Commission's work still focuses on the adverse effects of cross-sales (such as transparency, punishment tendencies etc), when the reference period of five years has seen a fundamental change in the vertical integration model across the industry, with Hanson leading the industry to independence in moving away from its historic model of *inter*-dependence (when it was 100% supplied by others for cement when it had no cement production capacity) to the exact opposite model of 100% self-supply. After Hanson's [REDACTED], a series of internalisations occurred across the industry, each company rejecting the historic model and invested instead in self-supply as a permanent characteristic of the market. Except for reviewing these fundamental developments from the perspective of trying to find evidence of market shares rebalancing and 'punishments' (by focusing on the unsuccessful attempts of the market leader to prevent the internalisation from happening), the Commission omits all proper consideration of this fundamental shift in market dynamics through this time as Hanson and others sought to maximise the clear benefits of vertical integration and move to *independence*. Hanson suggests that the Commission omits such recognition, as it is so difficult to reconcile the developments against the Commission's claims that the market was one of stable equilibrium and that the majors were, according

³⁶ PFs, paragraph 7.26(a).

to the Commission, in effect content to be inter-dependent, when the evidence clearly shows the market doing the exact opposite as producers worked to seize the *benefits* of vertical integration.

- (c) **Insufficient Independents' Buyer Power** - Hanson suggests that the Commission's conclusions regarding insufficient buyer power are not justified on the evidence. This is because the independent market already accounts for an estimated 60% of the cement sales market and buyers are already particularly strong in switching suppliers regularly and multi-sourcing, as the detail of the switching data shows. Buyers successfully led the market to the advent of importers who have now taken a share of at least 14% of the market. It was this move in particular that saw cement customers driving the considerable price reductions seen in the industry for three consecutive years from 2009, through 2010 and 2011. As such, Hanson suggests that there is very considerable and indeed overwhelming evidence to suggest *strength* in buyer power, as opposed to weakness referred to by the Commission.
- (d) **Majors insufficiently focused on the independent market** - Again Hanson does not understand how this conclusion of the Commission can be stated fairly: Independent customers provide the majority of Hanson's revenue and Hanson is committed to servicing its valued independent customer base as a priority. Hanson notes that the Commission and the OFT's previous theories of harm accused the majors of possibly working to foreclose the market by excluding independent customers. This previous theory was without merit and was finally dropped by the Commission without explanation. For the same reasons, Hanson suggests that it makes little sense to suggest that Hanson is not focused on such customers when they account for most of Hanson's revenue and we go to enormous lengths to retain their valued custom.

6.5.18 In the context of Hanson's statements set out above in response to the Commission's four specific detailed conclusions regarding the adverse effects of vertical integration, and in the context of the Commission completely failing to recognise the fundamental sea change from one extreme of the vertical integration model to the other that has occurred during the exact years of the reference period, and in the context of the Commission failing to assess in any manner the very clear benefits of vertical integration, Hanson submits that the Commission's work and stated concerns with regard to the adverse effects of vertical integration are wholly unsafe and unreliable, and that they cannot possibly be used as they have been by the Commission as a key foundation for a case setting out a claimed model of coordination in the market.

6.5.19 Indeed, Hanson is particularly concerned that the Commission has been completely unable to offer any cogent or consistent analysis with regard to the concept of vertical integration:

- (a) On the one hand, the Commission has done what it can to identify disadvantages and grave concerns with regard to the model of vertical integration (all of which are shown above to be extremely questionable) and the Commission is stating that it wishes to pursue remedies to *reduce* vertical integration in view of such perceptions;

- (b) But on the other hand, the Commission is actively taking direct and express actions to *increase* the degree of vertical integration in the market:
 - (i) First, by its very recent creation of Hope Construction Materials, the Commission having only just established Hope as *the most vertically integrated player in the entire market* given the enormous number of ready-mix sites the Commission saw fit to award to that new entrant and given Hope's resulting position as having the highest VI ratio of all GB operators;
 - (ii) And secondly, by the Commission now working towards the creation of a further company (just like the entrant the Commission has only just created) in the form of its principal market remedy - Remedy C1 - being the divestment of a cement plant with ready mix assets attached.

6.5.20 With such fundamental questions and inconsistencies apparent from the Commission's work to date on vertical integration, Hanson suggests that the Commission's continuing apparent attempts to select an arbitrary number to be used as a cap against a company's vertical integration level would appear to be made from a position that is as uninformed as it is perilous. Hanson contends that it ought to be obvious to the Commission that no such ratio could possibly be applied in a manner that was not fallacious, with companies such as Lafarge, numerous cement importers and Castle Cement Limited all having operated very successfully at the lowest end of the ratio, and other companies operating successfully at the opposite end of the ratio, and even with companies moving very quickly and fluidly (as with Hanson in 2007) along the ratio from one end to the other.

6.5.21 By way of background to the Commission's work on vertical integration, the Commission cites a single academic paper in support for this theoretical proposition. However, even the quoted paper does not conclusively assume the Commission's thesis, but instead shows that the impact of vertical integration on coordination can in many cases be 'ambiguous'. Additionally, the Commission fails to give any weight to the significant benefits that derive from vertical integration, and thus does not reach or even attempt a balanced view on efficiencies. The Commission is obligated to undertake a balanced objective assessment and weigh up and consider any perceived harm against countervailing aspects of the features, and consider the efficiencies and mitigating features, prior to forming conclusions. As described above, this has in no manner been carried out, with conclusions having been formulated without the benefit of undertaking such considerations.

6.5.22 **Hope:** The Commission does not analyse the impact HCM has on the alleged tacit coordination. The following statement is remarkable, however: "*As the CC recognized in the Anglo-Lafarge JV report, it is unlikely to be possible to predict the full implications of these recent developments with certainty. The competitive conditions that result from these developments will depend on a variety of factors that are difficult to predict, including the strategies of Lafarge Tarmac, Cemex, Hanson and HCM*"³⁷. The Commission has had significant access to the strategy materials for each of the companies named. Yet, with this huge information advantage, the Commission claims that it finds it difficult to predict how the cement producers will compete over the next few years. It is unclear how the

³⁷ PFs, paragraph 7.220.

Commission squares this view with its allegation that the Majors are able to coordinate their strategies through predicting each others' responses. The Commission's statement serves to illustrate that the market faces very significant instability and uncertainty, which is a factor that is long established through the relevant literature to undermine the possibility of effective tacit coordination. The issue of recent market changes which significantly alter the market dynamics, including the impact of HCM, is dealt with in more detail in Part IV below. Hanson contends that the Commission has only just implemented the entrance of HCM into the market as a deliberate and express measure to counter the alleged coordination in the market that the Commission found existed whilst conducting the Lafarge Tarmac merger, and as such Hanson finds it difficult to comprehend how the Commission, when it has only just levied such a severe remedial measure, can now seek to justify levying a second remedy in exactly the same form. The Commission has omitted all due consideration of the huge market instability, upheaval and uncertainty from its creation of HCM in its findings and in formulating its conclusions, despite it being such a weighty factor within the defining economics of coordination models, and despite these characteristics having been raised with the Commission through the MIR, and despite the Commission having only just deliberately implemented such a measure as a result of its express findings at the Lafarge Tarmac merger stage that the market was susceptible to coordination.

Regulation

- 6.5.23 **Carbon credits:** The Commission dismisses the importance of carbon permits through its claim that it is more profitable for GB cement producers to produce cement than to sell carbon allowances. This misunderstands the difference between average and marginal profitability. Whereas the *average* profitability of producing cement is greater than the average profitability of selling carbon credits, profits are maximised where the *marginal* profitability of producing an additional unit of cement (which increases with production) is equal to the marginal profitability of selling a carbon allowance. [X] the Commission has declined to recognise the obvious asymmetry, and the Commission has also declined to recognise the tremendous level of uncertainty brought to the market by the changing impacts of the carbon legislation and the associated trading arrangements.

Mechanism for coordination

- 6.5.24 The Commission opportunistically adopts its theory on the alleged mechanism(s) for coordination. For example, the Commission, observing that national market shares appear to be less volatile than regional market shares, concludes that national market shares provide the focal point for coordination. Similarly, the Commission acknowledges that firms have differing incentives, but does not conclude, as would be standard and conventional, that this makes coordination more difficult to reach and sustain³⁸ (DG COMP's recently appointed Chief economist Motta noted: "*[w]hile asymmetries might have a different impact on the mechanisms affecting the incentives to collude, there is a robust result that says that firms' asymmetries hinder collusion.*"³⁹), instead it attributes different roles to different firms (a price leader and price follower dynamic in a coordinating group, and a competitive fringe).
- 6.5.25 The Commission acknowledges that for coordination on market shares to be effective there needs to be: (1) a tacit understanding on target market shares, and (2) a tacit agreement to limit price competition. However, no evidence is provided in support of either contention. Indeed, there is very

³⁸ See e.g. EC Horizontal Merger Guidelines paragraphs 44 to 48.

³⁹ Motta, Fabra, 'Coordinated Effects in Merger Cases', 25 February 2013, p.33.

considerable evidence to the contrary. For example, Lafarge's market share (in particular) has declined very significantly over time, and the declines in Hanson's market share [§<] during the review period being inexplicably omitted from the Commission's detailed assessments, despite Hanson having repeatedly brought such movements to the Commission's attention, and the Commission instead preferring to focus on twelve month averages in order to remove the changes in market share that would otherwise serve as evidence that is directly contrary to the Commission's own theory and coordination model), whilst there is evidence of firms competing to grow and win back market share (which is consistent with effective competition), there is no evidence ever of any firm's deliberately giving up market share to allow market shares to be "rebalanced" as the Commission has suggested is the mindset and model⁴⁰.

- (a) The Commission has reviewed some fifteen thousand emails relating to the everyday relationships between Hanson, Lafarge and Cemex and has gone to enormous lengths to examine the detail of such emails in their search for any useful evidence that may support their model of coordination, but the Commission has not found a single email where staff are ever told to refrain from competing in order to allow such a rebalancing to occur.
- (b) Nor is there a single example of staff ever being generally directed not to compete in order to avoid any disruption to a balance that might have been established, as the Commission states is the common mindset and practice.
- (c) Instead, on the contrary, there are some fifteen thousand emails before the Commission that show sales persons carrying out normal commercial practice and working hard in their daily work to win business from competitors and protect their own customer accounts from competitors' actions by way of price reductions. Rather than acknowledging such emails and weighing them up as part of any objective evaluation, the Commission merely conveniently dismisses them all in a single sentence saying that they represent only 'competition within bounds' (whatever that may mean) and that such strong evidence of fierce competition in no manner impacts the Commission's findings, as it is 'within bounds' and furthermore because the Commission's financial analysis on profitability and other stated outcomes is so 'safe and compelling'.
- (d) The Commission also accepts that there is no kind of evidence of coordination on price.

Balancing of facts

6.5.26 **Selective reporting:** In many places the Commission has been selective in its presentation of the facts causing evidence to be misrepresented. For example, in its evidence on the correlation between wins at time t and losses at time t, t+1 and t+2, the Commission only presents that portion of evidence which shows a significant positive correlation (consistent with its theory) and fails to consider the remainder that shows the opposite. Furthermore, the Commission omits to note (when any other assessment would do so in line with suitable established professional standards) that many of the stated observations are not mathematically or statistically significant and therefore

⁴⁰ Hanson notes that in a similar situation, the Commission previously recognised that it needs to base its findings on adequate evidence of such nature: "*while the [market players]' internal papers clearly indicated consideration of the interaction of their decisions on their competitors, and how competitors would react, [the Commission] did not detect evidence that any [market player] shied away from actively competing with rivals as a result*" Rolling Stock Leasing, paragraph 5.33

irrelevant. The Commission commonly refers throughout the PFs to 'negative correlations' that are mathematically insignificant. The Commission also fails to draw attention to the very substantial internal inconsistencies in this evidence e.g. Hanson's wins are correlated with Lafarge losses, but not vice versa, again calling into question the fundamental objectivity and soundness of such economic analysis.

- 6.5.27 **Bias:** The Commission acknowledges that there is evidence of both competition and coordination during the period. But the Commission has elected to rely heavily on the various alleged negative outcomes to justify formulation of its conclusions that the evidence consistent with coordination should carry more weight than the evidence consistent with competition⁴¹. However, not only does this show a very significant degree of selectivity and confirmation bias (as outlined above) but given that the evidence of negative outcomes is fundamentally flawed, the Commission relies in its outcome-dependant evaluation of evidence on faulty grounds.
- 6.5.28 **Internally Inconsistent:** The examples cited in Non-Confidential Annex 1 – Analysis of Inconsistent Evidence of Coordination, demonstrate how the Commission's analysis of coordination and outcomes is internally inconsistent. This shows clearly that, during certain periods, the Commission has satisfied itself that coordination was taking place when the outcomes evidenced during that period were *inconsistent* with coordination.
- 6.5.29 **Burden of proof:** The Commission acknowledges that it found a lot of evidence consistent with both competition and coordination (e.g. that "competition within bounds" was taking place). Therefore the Commission needs to be careful in its assessment of the market situation. It is required to reach a conclusion on the basis of adequate amounts of evidence to substantiate its theory that coordination outweighed competition on a significant scale (particularly in view of the proportionality requirement in relation to the Commission's consideration of divestment remedies). As will be explained in this response, the market outcomes evidence is always either incorrect or inconclusive, and key analysis (e.g. on tit-for-tat) is plainly wrong. Considering the absence of these fundamental pillars on which the Commission's theory rests, it lacks any useful proof of tacit coordination.

However, even before addressing these flaws underlying the Commission's theory, Hanson points out that it has significant concerns that the Commission reached its conclusions without direct evidence on key points of its tacit coordination thesis: "Whilst there is, in our view, direct evidence of many aspects of this mechanism for coordination taking place (for example, tit-for-tat retaliation and monitoring of shares), there is less direct evidence for some other aspects (for example, cross-sales being used to re-establish shares of sales when these changed). However, in relation to these latter aspects of the mechanism for coordination, we have found evidence that there are opportunities for the members of the coordinating group to behave in the way we have suggested. We think it unrealistic to expect to obtain direct evidence as to whether or not these opportunities are in fact exploited, given the nature of the behaviour concerned and our inevitable lack of complete information about the markets we are investigating"⁴² (emphasis added).

⁴¹ For example, PFs paragraph 8.32 explains: "The nature of documentary evidence of this kind is that it cannot give a complete view of particular events ... The evidence is by its nature anecdotal. Therefore, it was important to apply an element of judgement in evaluating what the body of documents as a whole demonstrated about the extent and nature of rivalry within the GB cement market... our assessment of what the documents tell us about rivalry in the GB cement markets does not turn on individual emails; rather it is based on all the documents in the round. We considered that the documents must be interpreted in light of the evidence on market outcomes ... that competition in the GB cement markets was not working effectively". (emphasis added)

⁴²PFs Summary, paragraph 22(b).

- 6.6 The above serious concerns undermine the economic foundations of the Commission's case and the Commission's conclusion is fundamentally flawed.
- 6.7 There are also errors in the detail of the Commission's analysis; errors that Hanson has explained to the Commission throughout the working paper stage, but that have not been resolved or in any manner addressed in the PFs.
- 6.8 For example, the Commission's measurement of variable cost is too narrow:
- 6.8.1 It is extremely short-run in nature, excluding many components of cost that can be (and in fact were) varied within a short period (e.g. under a year). There is significant evidence that different producers quickly flexed their cost base during the recession in different ways; and
- 6.8.2 It excludes the opportunity cost of carbon permits. Carbon permits influence a producer's decision on whether or not to produce an extra unit of cement (an extra unit of cement will mean forgoing the revenues that could have been earned from selling the carbon permit used). This opportunity cost is part of the marginal costs of cement. The value of the carbon permit were highly volatile over the period, introducing additional uncertainty into cement production and creating further asymmetries in the different strategies of the cement producers [✂].
- 6.9 The Commission, however, did not correct its measurement of short run variable cost. This undermines the accuracy of these figures, but also introduces heavy bias into the variable profit margins (which are calculated based on these numbers). The Commission relies heavily on the (alleged) stability of these variable profit margins. But by assuming away and deliberately excluding all those factors that create volatility in the marginal costs (both over time and between producers), the Commission is, of course, going to find more stability, but its ceases then ceases to be objective.
- 6.10 Hanson now provides more detail on some of the above concerns.

7. DEFINITION OF COORDINATION

- 7.1 The Commission defines coordination as:
- “Coordinationmay arise because suppliers are aware and take into account that competition with rivals (for example, to undercut their prices in order to win more business) will lead to competitive responses by rivals, with the result that their profits will ultimately be lower than if they avoided or limited competition.”*
- 7.2 This definition is deficient in two respects:
- 7.2.1 The Commission definition is incapable of distinguishing between standard competitive behaviour (short-run profit maximisation) and coordination.
- For competition to be effective it is rational for suppliers both to be aware of and to take into account reactions of competitors. Indeed the short-run profit maximising condition requires a firm to estimate its rivals' reaction functions. This includes an estimate of the conjectural variation. As noted previously to the Commission, EU case law also makes it clear that firms have the right to adapt themselves intelligently to the existing and anticipated conduct of their rivals.
- 7.2.2 Deviation from short-run profit maximisation is a necessary, but not a sufficient condition for coordination.

For example, long-run profit maximising behaviour, such as firms setting prices at average total cost, should not be deemed to be anti-competitive as it does not lead to excessive long-run prices or profits.

- 7.3 The weakness of the definition creates a near impossibility for the affected market players to rebut the Commission's finding that the market is not well-functioning. On the one hand normal competitive behaviour is in fact considered to amount to coordinated activity, while the counterfactual (ie the disregard of competitors' market behaviour) would suggest the existence of significant market power⁴³.
- 7.4 The Commission further argues that evidence of competition (which it finds to be present) is not in fact refuting coordination (it is 'not inconsistent') as it holds that competition takes place only "*within bounds*"⁴⁴ – without defining the bounds. This affords the Commission significant discretion to ignore evidence of even aggressive competition for customers. The Commission furthermore does not present any evidence of instances when it believed restricted competition occurred, or indeed how it ascertains that competition is limited in magnitude. It merely refers to a possible example where such restricted competition *could* take place (for the most profitable customers). However, the Commission even fails to substantiate its own example and does not refer to a single instance when it has seen limited competition for a particular customer or customer group (Hanson also notes that customers' profitabilities differ for each producer due to e.g. delivery costs).
- 7.5 From the outset, the deficiencies in the definition of coordination make testable hypotheses difficult to form. The Commission instead forms beliefs (unfounded in economic theory) about how market shares and margins should respond in a downturn if competition is effective. The definition affords the Commission significant discretion to either overlook competitive behaviour or actually cite that competitive behaviour as confirming its theory of harm.
- 7.6 Finally, Hanson notes that the deficiencies in the definition create uncertainty about how coordination will be tested in future investigations and what business strategies will now fall foul under this definition.

8. OUTCOMES

- 8.1 The Commission's case rests on three outcomes: stability of variable profit margin; stability of market shares; and excess profitability. Hanson explains in detail, in Part III – Profitability, why the Commission is wrong in its conclusions on profitability. However, the Commission's position fails also on both of the other outcomes.

Variable profit margins

- 8.2 The Commission fails to explain, and Hanson fails to understand, on what basis the Commission believes that evidence of relatively constant variable profit margins is more consistent with coordination than competition (in the context of a slump in demand). As Hanson has previously explained⁴⁵, standard economic theory predicts that stable margins are not consistent with coordination - when there is a demand shock, a profit maximising coordinating group (which can be thought of as a

⁴³ The European Court has defined a dominant market position as: "a position of economic strength enjoyed by an undertaking which enables it to prevent effective competition being maintained on the relevant market by affording it the power to behave to an appreciable extent independently of its competitors, customers and ultimately of consumers" (emphasis added). Case 27/76 *United Brands v Commission* [1978] ECR 207.

⁴⁴ PFs paragraph 8.134: "... we think a degree of competition between GB cement suppliers within bounds is compatible with coordination...". Hanson notes that where the Commission sets out its thinking on 'competition within bounds' - PFs paragraph 8.176 – the Commission's decision to overlook evidence of competition for profitable customers is founded on evidence that market outcomes were (in its view) consistent with coordination.

⁴⁵ See Hanson' response to the Coordinated Effects Working Paper, paragraph 2.8.

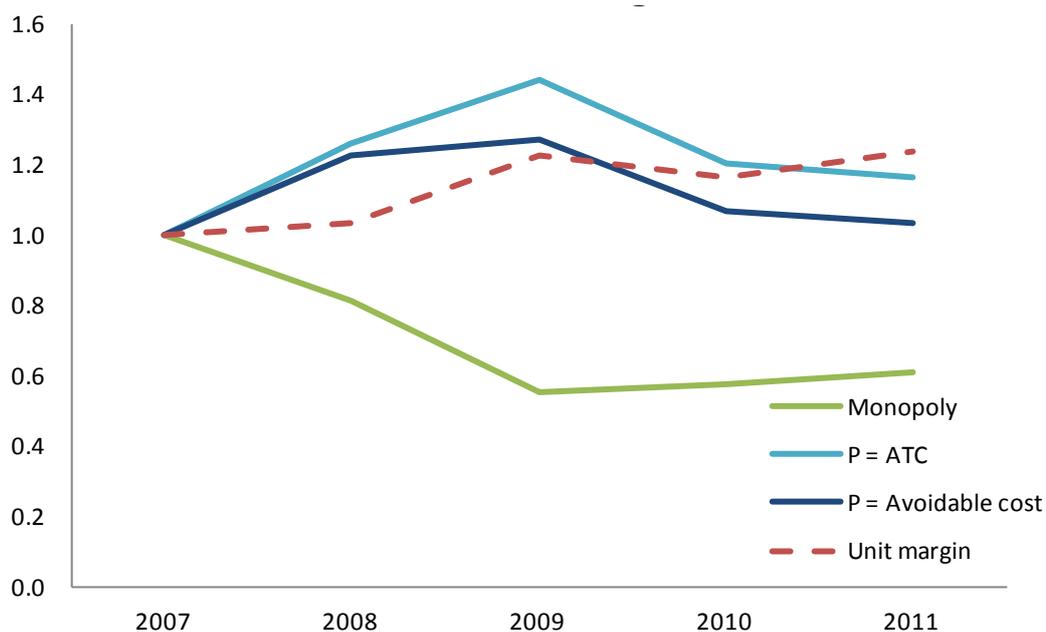
monopolist) will respond by lowering prices with the result the variable profit margins will fall significantly.⁴⁶

- 8.3 To put this into context, with linear demand functions and constant marginal costs, a 36% reduction in the demand for cement would be predicted to lead to a 24% reduction in prices⁴⁷. Variable profit margins would fall from 33% to 17%.
- 8.4 If there is a contemporaneous increase in marginal costs then the predicted fall in variable profit margins would be even more dramatic. For example, a 36% decline in demand coupled with a 10% increase in marginal costs would be predicted (under monopoly) to lead to variable profit margins falling from 33% to only 8%.
- 8.5 If players are coordinating their behaviour, i.e. acting like a monopolist, we would therefore expect to see very large reductions in both prices and variable profit margins in the face of a decline in demand and rising marginal costs.
- 8.6 In contrast, where there is effective competition prices tend to fall by a smaller amount in response to a price shock for the simple reason that prices are initially closer to marginal cost (so there is less scope for prices to fall). For example, in a symmetric four firm Cournot model – a standard benchmark for effective competition – prices would be predicted to fall by only 12% (or 5% if there is a contemporaneous 10% increase in marginal costs).
- 8.7 Different models of competition generate different predictions. However, as a general rule, the more competitive the market, the lower will be the predicted reduction in variable profit margins following a demand shock.
- 8.8 To illustrate this further Hanson has simulated the predicted effect of the demand and cost shocks on prices and margins using the Commissions' data for Hanson's variable and fixed costs, applied to different economic models. The details of this simulation are presented in Non-Confidential Annex 2 – Simulation of Price and Margins.
- 8.9 Three different models of competition are simulated: monopoly (coordination), price = average avoidable cost (effective short-run competition), and price = average total costs (effective long-run competition). (The results of this simulation are illustrated in Figure 1 below).

⁴⁶ It is of course possible to think of exceptions to this, for example, if marginal cost functions are (steeply) downwards sloping over the relevant output range. However, the Commission's analysis suggests that there are significant efficiency differences between different cement plants which suggests that industry marginal costs are upwards sloping (as is conventionally assumed).

⁴⁷ For illustration, Hanson assumed that the initial price cost margin is 33%.

Figure 1: Simulated indexed margins, 2007 to 2011



- 8.10 The simulation shows that margins would first fall sharply before stabilising under monopoly. However, under more competitive models (Price = AAC, Price = ATC), margins would increase before stabilising. As shown in Figure 1, the Commission’s actual observed trajectory of margins for Hanson more closely tracks the predicted paths under effective competition than it does the path under effective coordination.
- 8.11 The Commission appear to have a very particular model of competition in mind where capacity in the market is fixed (in the medium term) and a reduction in demand causes prices to fall from long-run to short-run marginal cost. When capacity is taken out of the market prices then return back towards long-run marginal cost.
- 8.12 The evidence in the Commission’s report provides no support for this model. What is striking is how rapidly cement producers reacted to the reduction in demand by taking capacity and “fixed” costs out of the market. Between 2001 and 2008 spare industry capacity varied between 1.4 million and 2 million tonnes. In 2009, spare capacity increased to [X], but it was reduced to [X] in 2010 and [X] by 2011.⁴⁸ Most of the capacity reduction occurred in the space of 1 year. Hanson’s “fixed” costs fell by [X]% between 2008 and 2009 and a further [X]% the following year.⁴⁹
- 8.13 Hanson also noted that the Commission’s definition of “fixed” costs includes many costs which are semi-variable, such as labour, and which can, and have been, reduced quickly. Where capacity can be reduced as rapidly as was observed in the market, it would be expected that fixed and semi-variable costs affect pricing decisions. This is in line with the increasingly wide economic literature on two-stage games where firms first choose capacity, and then compete on prices (or quantities)⁵⁰. It is also in line with standard business pricing models where pricing decisions are taken on costs that are variable in the medium term (as opposed to the very short-run).

⁴⁸ PFs, Appendix 7.2, Figure 2,

⁴⁹ PFs, Appendix 6.5, Table 2.

⁵⁰ For example, Novshek, W. 1985. On the existence of Cournot equilibrium. *Review of Economic Studies* 52, 85–98; Kreps, D.M. and Scheinkman, J.A. 1983. Quantity precommitment and Bertrand competition yield Cournot outcomes. *Bell Journal of Economics* 14, 326–37. Davidson, C. and Deneckere, R. 1986. Long-run competition in capacity, short-run competition in price, and the Cournot model. *RAND Journal of Economics* 17, 404–15.

- 8.14 However, even if the Commission considers that the appropriate competitive model is one where capacity is inflexible (prices and variable profit margins) would be predicted to fall significantly under both competition and monopoly (coordination). More precisely, prices would fall to the level of the short-run variable costs of the marginal plant which is £[~~£~~] per tonne.⁵¹ Under monopoly (coordination) Hanson estimates that prices would fall to a comparable level. Although a monopolist prices above marginal costs prices, the marginal cost for a monopolist are likely to be significantly lower at approximately £[~~£~~] tonne due to the lower level of output.⁵²
- 8.15 Clearly it is possible to debate both the appropriate economic model and the parameters of that model. However, Hanson illustrates here that prices and variable profit margins are always predicted to fall very significantly under monopoly. In most economic models the prices fall more significantly in a monopoly context than under effective competition. In the Commission's model, price changes are slightly greater in a competitive market than in a market distorted by coordination, but the predicted variable profit margin changes are likely to be comparable. There is, however, no model that Hanson is aware of in which variable profit margins would be stable under conditions of coordination. This makes the Commission's expectation unfounded and untestable. If the Commission is aware of such a model it has failed to specify it in the PFs.
- 8.16 Finally, Hanson notes again its concerns that undue and disproportionate reliance has been placed on purely variable margins analysis, particularly in light of:
- 8.16.1 The relative lack of significance such an assessment has in comparison with the profitability assessment based upon ROCE / WACC;
 - 8.16.2 The ever present uncertainties and level of professional debate regarding what should properly constitute variable as opposed to fixed costs. As noted, Hanson believes there are certain costs that can be varied quickly that are not included in the Commission's very narrow definition of variable;
 - 8.16.3 When reviewing stability of margins generally, the obvious disconnect when fixed costs and then EBIT margins are taken into account, which show the opposite of stability, with margins then showing (in accordance with the MIR's CCA criteria) moves from peak profitability in 2007 to two consecutive years of EBIT losses in 2008 and 2009 and even a third year of loss in 2010 (when excluding carbon from the margins analysis), hardly a flat or stable trend; and
 - 8.16.4 The key margins driver of cement pricing showing three consecutive years of real price reductions for the years 2009, 2010 and 2011, moving from some [~~£~~] – this contradicts the public announcements of the Panel Chairman who announced increasing prices [~~£~~].
- 8.17 Indeed, Hanson notes that for much of the MIR the Commission focused erroneously on other aspects of variable costs, publishing papers and also claiming publicly within the UIS that Hanson prices were 'increasing unacceptably beyond variable costs inflation'. The previous theories were unusual in any [~~£~~] but were also unusual in that the Commission was appearing to suggest that companies had no regard to recovering fixed costs in setting their prices. Indeed, case law expressly recognises that it could be irregular in competition law for a company to set its prices *without* working to recover fixed costs. Hanson asked the Commission to confirm what literature or economic theory the Commission in mind in formulating such theories of harm. None were forthcoming. Hanson demanded that these theories be completely

⁵¹ PFs, Appendix 6.5, Figure 12. Reproduced in graphic form in Confidential Annex B – Production Costs and Sales Volume Analysis.

⁵² Ibid. The marginal cost of a monopolist will depend upon the (unknown) slope of the demand function so we cannot precisely estimate the expected reduction in marginal cost. However, the Commission's evidence shows that there are significant differences in the efficiency of different production sites.

removed from the MIR, despite the many months of work of the Commission in working to formulate such analysis, and Hanson notes that these theories now do appear to be completely absent from the PFs, although there is no explanation by the Commission as to why these theories have suddenly been withdrawn. Hanson remains concerned that such serious theories were ever formulated in the first place when there was no basis for such conclusions. The Commission having spent months and months working on and publicising such theories has withdrawn them without either candid acknowledgment or any form of confirmation that that the theories proved without merit.

Market share volatility

- 8.18 Hanson is unclear on what basis the Commission is able to conclude that it would expect market share volatility to be greater than what was observed.
- 8.19 Hanson is not aware of any economic model or any empirical evidence which suggests that market shares are more volatile in competitive markets than under coordination⁵³. Hanson has raised this point on numerous occasions as a matter of economic theory but the Commission has repeatedly declined to engage or respond, which is extraordinary given the weight the Commission attaches to this specific theory.
- 8.20 In the PFs, the Commission simply states that it would expect market shares to be more volatile if the market was competitive⁵⁴. This is unsatisfactory. If the Commission has an economic model in mind, it should state it candidly, and seek to test it empirically, which would be usual practice in coming to such views.
- 8.21 Without such a model there is no benchmark to test how volatile one would expect market shares to be in an effectively competitive market. Is, for example, the 4% reduction in Lafarge's market share between 2007 and 2011, or the 3% increase in the share of imports and the 3% increase in Tarmac's share, over the same period, greater or less than one would expect if competition was effective?⁵⁵
- 8.22 Hanson's market share moved by some [X]. The Commission's statement that Hanson moved from 22% in 2007 to 19% share at end of the review period in 2011 is a gross understatement and Hanson has repeatedly pointed out to the Commission the seriousness of the inaccuracy, but the Commission has, again, repeatedly declined to comment or respond. For example, Hanson's share was not merely 22% in 2007, [X] in February 2007 and more than [X]% for several months during 2007. Hanson therefore suggests that the Commission's statement of its market share in 2007 as only 22% is incorrect and understated, which given the seriousness the Commission attaches to such shares (on the basis of its coordination model being based upon market shares stability) would appear to be an unjustifiable position.
- 8.23 Other share movements in the industry are notable, with Tarmac growing by at least 3% through the review period, and importers growing by at least 5% from 8% in 2007 to as high as 13% in 2011, and then continuing to grow last year to a share in excess of 14% for 2012, thus an increase of at least 6%. The attempts by the Commission to first deduct from presentation of the imported cement volumes all that cement imported into the UK by AI, and then deny the continuing growth and successes of the

⁵³ Hanson had noted previously to the Commission that the academic literature explains: "this feature [market share stability] does not by itself make it possible to distinguish collusion from competition, since market share stability can be consistent with competition as well as collusion. To see this in a simple way, it suffices to consider any situation where firms face symmetric supply and demand conditions. Firms would then have the same market share, both in the most profitable collusive outcome and in the competitive one, whatever the scale of demand. A shift in demand thus has no impact on the firms' relative market shares." (Patrick Rey, 'On the use of economic analysis of cartel detection', 2006).

⁵⁴ PFs paragraph 8.3 - The Commission bases this statement on its expectation that: "the period of our assessment was a period with very large changes in demand as well as changes in relative efficiencies of the GB cement producers because of various plant closures. We would therefore expect that this would result in large changes in market shares during this period."

⁵⁵ PFs, Appendix 7.1, Table 3.

importers, suggests the Commission is deliberately working to downplay the role of importers in general, since their rapid growth to a market share of at least 14% (from a footprint of zero) over the last two decades undermines and contradicts the Commission's theoretical model of coordination.

- 8.24 The changes in production shares are especially notable for their significant changes: Cemex growing from 16% to 24% of the national production market in the decade to 2011, Tarmac's share nearly quadrupling in six years alone from 3% in 2003 to 11% in 2009; and Lafarge's capacity share reducing from some 54% to 43% in 2011. These changes in production shares are significant and do not suggest a stable equilibrium model. Hanson submitted a great deal of data to the Commission on movements in monthly market shares of [X] though each of the various years of the review period. Hanson demonstrated how through every one of these years, the various changes in market share were not followed in the subsequent month or indeed second month in the manner suggested by the Commission with any reversals, the new positions enduring for many months without seeing any retaliation or reversals consistent with the rebalancing exercises upon which the Commission bases its model.
- 8.25 The Commission has sought to counter Hanson's evidence but reversing the chronological analysis, pointing to previous market positions and instead suggesting that the movements identified by Hanson were in fact the rebalancing exercises, in reversing previous contrary gains. With respect, Hanson contends that the Commission's suggestion that each of the movements in Hanson's market share represented deliberate national strategic exercises to rebalance market shares is speculative. The common movements in monthly market shares across the years reflect the successes and failures of the continuum of business wins and losses and the results of a combination of different business strategies in place from time to time. The market share movements are not driven by the continual rebalancing speculated by the Commission. The movements in Hanson's own shares are understated as described above, often being rounded to '12 month averages' by the Commission to remove visibility of the month on month volatilities and to give the impression of a more stable equilibrium than would be visible from a detailed month on month review.
- 8.26 With regard to the historic 'relative' market shares between the GB producers (which the Commission has suggested was in effect the real focus of the coordination):
- 8.26.1 it is notable that these moved very differently, for example with Cemex remaining flat or even increasing in relative terms, and Hanson seeing the swings and the significant declines as described above; and
- 8.26.2 despite the Commission's claims that the relative shares was what mattered to the industry, whatever periodic reviews were undertaken by Hanson's cement business with regard to market share between the majors, such 'relative' shares were not the common matrix used or visible to the Hanson cement business, as evidenced across the emails before the Commission - not a single one of which ever attempts to assess any kind of 'relative' share. On the occasions in any business review that importers were excluded when considering shares, this was for the express purpose of monitoring the ever growing share of imported cement, not the regular monitoring of monthly share claimed by the Commission. Accordingly, the Commission's references in the MIR to industry following 'relative' shares appear muddled, in the context of all of the evidence showing the opposite (entire industry) form of share analysis being used.

Predicting volatility

- 8.27 Hanson has sought to establish such a benchmark by building a simple model of effective competition. The key assumptions are:

- 8.27.1 Hanson assumes that there are five competitors in the market (Lafarge, Cemex, Hanson, Tarmac and Imports).
 - 8.27.2 Market shares at 2007 are actual market shares of sales of bulk cement.⁵⁶
 - 8.27.3 Competition takes the form of an intensively competitive bidding market - contracts are put out to tender and each cement producer bids (non-collusively) for every contract.
 - 8.27.4 Hanson assumes that each month 1.33% of cement sales become subject to a competitive tender, this is equivalent to approximately 1% of contracts changing hands every month (the CC finds that [✂]⁵⁷ of all external sales are switched each month).⁵⁸⁵⁹
 - 8.27.5 Each of the five market players has an equal chance of having one of its contracts being put out to tender, and an equal chance of winning contracts that are tendered.
- 8.28 This model has a number of features that are designed to establish a highly competitive benchmark:
- 8.28.1 Hanson assumes that this is a non-collusive bidding market; and
 - 8.28.2 If a firm wins a contract, its market share increases permanently. Importantly, there is no “rebalancing” or any other tendency for market shares to revert to the mean (technically, market shares in the model follow a “random walk”).
- 8.29 Hanson follows the Commission’s approach of measuring market share volatility by comparing the starting market share in 2007 with market shares in 2011.
- 8.30 Hanson simulated which firms win which contracts using a Monte Carlo analysis with 5,000 iterations (i.e. 5,000 different scenarios of how the market shares movements may pan out over time). This allows us to predict the evolution of market shares over time. As market shares are assumed to follow a random walk (no “rebalancing”) there is a natural tendency for market shares to diverge (i.e. fan out) over time. There is a 90% chance that market shares lie within the illustrated range. The outcomes of this simulation are illustrated in Figures [2 to 6] below.

[Figure 2 – Lafarge]

[✂]

[Figure 3 – Hanson]

[✂]

[Figure 4 – Cemex]

[✂]

⁵⁶ As per PFs appendix 7.1, Table 3

⁵⁷ PFs, Appendix 7.9, Table 7.

⁵⁸ An incumbent with a 25% market share would expect to win 25% of the 1.33% of sales that are assumed to be tendered each year. The number of contracts that switch is therefore $0.25 * 1.33\% = 1.0\%$ of contracts.

⁵⁹ Hanson assumes that there are 4 tenders every month – one for each producer.

[Figure 5 – Tarmac]

[✂]

[Figure 6 – Imports]

[✂]

- 8.31 Figure 7 below compares the actual volatility of market shares that one observes with the market share volatility predicted by the competitive model.

Figure 7 – Actual and predicted market share volatility

Producer	Expected change in market share (90% confidence)	Actual change in market share	Likelihood of a gain/loss of this magnitude or less in the competitive benchmark
Lafarge	[✂]	[✂]	[✂]
Hanson	[✂]	[✂]	[✂]
Cemex	[✂]	[✂]	[✂]
Tarmac	[✂]	[✂]	[✂]
Imports	[✂]	[✂]	[✂]

- 8.32 Hanson's model of competition predicts that there is a 90% probability that a cement producer's market share would change by less than [✂]% by the end of a five year period.
- 8.33 The actual market shares of Lafarge, Tarmac and Importers all lie outside this range. In other words, the observed market share volatility is significantly greater than we would expect in a competitive market. Hanson's modelling results show, for example, that there is only a 2% chance of getting market share volatility that is greater than what is observed in Hanson's competitive benchmark model.
- 8.34 For Cemex and Hanson, there is less variation in market shares. However, Hanson's model predicts that there is only a 31% chance that the actual variation in Hanson's market share would be greater than what we observe. For Cemex the comparable figure is 42%.
- 8.35 Hanson's competitive benchmark model shows that there is actually a relatively high level of market share volatility in the market – the precise opposite conclusion to that reached by the Commission.

Testing Rebalancing

- 8.36 In the Commission's theory market shares do not follow a random walk, but market shares are "rebalanced". It explains varying market shares by way of "competition within bounds", and finds that market shares have a tendency to revert back to the mean.
- 8.37 This provides Hanson with a testable hypothesis: If there is evidence of "rebalancing" then market shares should revert to their trend value over time; if there is no evidence of "rebalancing", then market shares will follow a random walk. Hanson tests this

hypothesis using the augmented Dickey-Fuller procedure. Hanson's approach and the full results of Hanson's analysis are presented in Non-Confidential Annex 3 – Statistical Tests for Evidence of Market Share Co-ordination.

- 8.38 The statistical tests find no evidence of market share “rebalancing”. One is unable to reject the null hypothesis that market shares follow a random walk (technically, market shares are “non-stationary”) even at the 10% significance level.
- 8.39 This result, together with Hanson's Monte Carlo analysis, shows:
- 8.39.1 The observed level of market share volatility is consistent with a competitive market; and
- 8.39.2 There is no evidence of any “rebalancing” of market shares.

National versus regional

- 8.40 The Commission finds that market shares display limited variation by sole reference to GB national market shares. A cursory glance at the raw data shows, however, that there have been significant movements in national market shares over time, with Tarmac, Cemex and importers all gaining market shares at the expense of Hanson and Lafarge.
- 8.41 There is far greater market volatility at the regional level; a point the Commission acknowledges. There are also some striking patterns. For example, Hanson's market share in the [X] has fallen from [X]% and it now has a market share in the region which is lower than that accounted for by importers. There have been some very substantial movements in market shares in regions such as [X]. These charts are presented in Confidential Annex B – Production Costs and Sales Volume Analysis.
- 8.42 It is surprising that the significant market share variability at the regional level did not cause the Commission to question its conclusions on the stability of market shares.
- 8.43 In summary, the Commission's expectation that national market shares would have been more volatile is a ‘belief’ not grounded in economic theory. The Commission does not test its observation of ‘stability’ against any robust benchmark. As Hanson has shown, a degree of stability is expected in highly competitive markets. Hanson also notes that the Commission does not put sufficient weight on the evidence that shares at regional level have been highly volatile.

Customer Switching

- 8.44 The Commission's own work acknowledges that customer switching trends have the potential to undermine a theory or model of coordination. Hanson suggests that the three consecutive years of falling prices in real terms as discussed above demonstrate the successes of the switching practices and the strong countervailing buyer power in the market. Accordingly, rather than suggesting that customer switching trends represent an ‘adverse market outcome’, the Commission must candidly acknowledge the high levels of switching observed. Indeed, the Commission's work is expressly acknowledged to understate the levels of switching, in that:
- 8.44.1 It does not fully include the statistics from mid-year short-term and mere threatened switching; and
- 8.44.2 It only includes assessment with regard to just three of the importers and so by definition understates the switching.
- 8.45 Hanson suggests that it is clear from the detail and express statements of the Commission's own work and statistical analysis on customer switching that:

- 8.45.1 Larger customers generally switch supplier every two or three years, and small customers switch even more regularly;
 - 8.45.2 2008 saw very high levels of switching across the industry, as did 2009;
 - 8.45.3 The Commission has also expressly acknowledged in the detail of its own work that 2010 saw 'high' levels of switching for both Hanson and Cemex; (therefore so far that shows three of the five years of the reference period with 'high levels of switching' according to the detail of the Commission's own statements on the subject). Tarmac's customer saw high levels of switching for 2009, 2010 and 2011;
 - 8.45.4 Customers switch regularly between Lafarge and Hanson, and 2009 was especially notable for Hanson winning customer accounts from Lafarge, which is a very unusual statement in the context of the Commission's suggestions elsewhere that 2009 was more characterised by Lafarge's 'punishment' of Hanson after Hanson's leadership of the market to internalization and independence in self-supply; in other words, the detail of the Commission's own work proves without doubt that rather than Hanson ceding business to Lafarge after the internalisation as the Commission seems to be suggesting was the case, the switching data shows the exact opposite occurring, again calling into question the objectivity and soundness of the Commission's analysis; errors and inconsistencies such as these are not mere unfortunate statements of the Commission that ought to have been better phrased – they instead constitute erroneous conclusions on key assertions that are then used as unsafe cornerstones by the Commission in an attempt to build a conclusion of coordination in the market and in turn use those conclusions as the basis for levying further remedies beyond what the Commission has only just required at the Lafarge Tarmac stage;
 - 8.45.5 More than 80% of customers have not merely sourced from 'more than one supplier' as the Commission refers to in the PFs – they have in fact switched from more than at least three suppliers during the five year review period, with more than 60% having switched from at least four suppliers;
 - 8.45.6 Even at a jobsite level, most customers had not restricted themselves to a single supplier;
 - 8.45.7 Customer switches to importers far exceed the gains from importers;
 - 8.45.8 All bar one of the five review years show high (double digit) losses of external customers as a proportion of total sales, ranging from 10% to 35%; and
 - 8.45.9 If 2011 as a single year showed lower levels of customer switching from Hanson, this was clearly explained by Hanson's lower pricing that year, as visible from the Commission's own work on annual average pricing for 2011 at Appendix 7.8 of the PFs, which shows 2011 industry average annual pricing for independents buying [£], in comparison with [£] per tonne, a differential Hanson suggests the Commission ought properly to classify as pricing consistent with a well-functioning market. Such pricing provides a further layer of supportive evidence in relation to the Top 10 customer case study that Hanson provided, which showed Hanson having to take very defensive action to protect its key accounts.
- 8.46 The Commission has caveated its statistical analysis by stating its win/loss data may be 'imprecise' and wrong. The Commission also claims in Appendix 7.9 that they "observe no obvious systemic pattern". Hanson would suggest, that when one views the statistics and observations of the Commission's work at a macro level, in the

manner shown above, it becomes difficult to suggest the results are 'inconclusive' or can be meaningfully relied upon to suggest 'consistency with coordination'.

- 8.47 Instead, Hanson respectfully suggests that the Commission's own statistical data points to the existence of countervailing buyer power, with independent customers switching suppliers between majors and importers in order to reduce or negate attempted increases, leading to lower prices. The detailed micro-conclusions of the Commission's own work therefore suggest levels of switching that are often high and consistent with a well-functioning market. They also suggest that the switching behaviour within the market led directly to lower pricing as buyer power was successfully exercised. Conclusions such as this are simple to come to from the data and evidence before the Commission, but the Commission instead regularly avoids a candid acknowledgment of what is clear to an objective assessment.
- 8.48 Hanson provided a case study to the Commission in July 2012 showing the switching patterns and necessary defences Hanson took in 2011 with regard to its own Top 10 customer accounts in ready-mix and concrete products sectors. [X]. Instead of acknowledging the factual evidence that is clear on the face of it in the Top 10 Hanson Customers Case Study, the Commission instead seeks to suggest that it must be exaggerated and therefore subject to fabrication, or at least disproportionate as the Commission speculates that there is likely to be a lot more competition for larger accounts and this would explain the very high levels of market competition that are evident on such accounts (according to the Commission). As with the Commission's attempts to characterise other key evidence of strong competition as mere 'competition within bounds', such an assessment by the Commission [X] appears to be similarly inadequate and partisan.
- 8.49 Hanson spent nearly a year asking the Commission to review the results of such study since submission to the Panel in July 2012, as it shows the highly competitive activities as they occur in practice in the field on Hanson's key accounts, with Hanson routinely losing significant business / offering major discounts / annulling price increases with regard to all of its top accounts after competition from importers / cement majors. Only at a very late stage in the MIR and a long time after the formulation of its conclusions does the Commission now seek to attempt to document some form of review of such data, and rather than acknowledging the common presence of switching and price reductions when under pressure from both majors and importers (which is what the evidence undoubtedly and very simply demonstrates), the Commission seeks merely to dismiss it out of hand and suggest it must somehow be disproportionate or fanciful.
- 8.50 It seems unsafe and unusual for the Commission to label such accounts as 'disproportionate', when the Commission has suggested elsewhere in the study that there is a strong degree of concentration among customer accounts, with the top two dozen cement customer accounts accounting for the vast majority of cement revenue. These are the very accounts that represent such revenues; there is clear evidence on every such account of regular attacks from the other majors, from Tarmac and from importers, but the Commission instead prefers to discard such competition on the basis of its being 'competition within bounds', suggesting Tarmac had no role in the market and that the importers only ever took the pricing of the majors and never served as constraints. Hanson trusts that it has become apparent how unsafe and partisan the Commission's conclusions are in the face of such clear evidence to the contrary.
- 8.51 Hanson suggests that the Commission's conclusions in the face of such evidence are inconsistent with that evidence, and moreover that the manner in which the Commission has treated such evidence is, with respect, consistent with a partial and selective approach on the part of the Commission.

8.52 In the light of the numerous fundamental concerns raised above by Hanson with regard to alleged market outcomes, Hanson suggests it is perilous and far from satisfactory of the Commission to:

8.52.1 Rest its analysis, in relation to the enormous body of emails and Internal Documents submitted, on the express assumption that the market outcomes are all entirely adverse, thus removing the Commission's need to undertake an accurate and balanced assessment of such submissions; and

8.52.2 State that, again because of the Commission's express reliance upon such market outcomes being adverse, there is no need to define or assess what might constitute "competition within bounds", or to assess the balance between the clear strong competition in the market and that which the Commission claims may be more consistent with a model of collusion.

9. CONDUCT

Tit-for-Tat

Basic Tit-for-Tat analysis

9.1 The Commission relies fundamentally on its alleged evidence of tit-for-tat and share rebalancing to underpin its mechanism of coordination in cement⁶⁰.

9.2 The Commission relied on a "well-established mechanism" of tit-for-tat (and cross sales) for rebalancing shares to rebut the academic literature that shows that a coordination focused on market shares is unlikely to succeed unless complemented with side payments between the coordinators. Hanson submits that the fact that there is no evidence of side-payments in the markets investigated⁶¹ in conjunction with the literature presented, casts significant doubt on the Commission's thesis⁶².

9.3 Whilst the Commission's approach to tit-for-tat is flawed in economic theory, the empirical test used by the Commission to nevertheless 'prove' tit-for-tat is biased (to the extent that it is not predictive as a test).

9.4 From an economic theory perspective: in game theory literature the expression "tit-for-tat" is used to describe a punishment strategy/signalling device that is designed to encourage competitors to adhere to a coordinated outcome.

9.5 Although the Commission uses the term in this sense, it expands its definition of 'tit-for-tat' to also include behaviour that is aimed at 'rebalancing' market shares⁶³.

9.6 Crucially, if 'tit-for-tat' behaviour includes 'rebalancing' of market shares as well as retaliatory behaviour, it cannot be a credible punishment/signalling strategy.

9.7 The fundamental problem is the following: suppose a producer is coordinating with its rivals. If it wins a contract from a rival, the rival will react by subsequently taking back another contract. The question then arises how should this reaction be interpreted? Is it:

9.7.1 a punishment strategy (tacit agreement has been breached)?; or

9.7.2 a 'rebalancing' strategy (tacit agreement has *not* been breached)?

⁶⁰ PFs paragraph 8.218.

⁶¹ The Commission only refers to side-payments in connection with cross-sales. It concludes: "*We found that the implied revenue differentials were not large and did not display any regular patterns, ie the results of this analysis were not consistent with the use of cross-sales for side payments between the Majors*" (PFs paragraph 7.203).

⁶² PFs paragraph 8.222.

⁶³ The Commission states that "'tit-for-tat' retaliation....can be used to punish deviation from a coordinated approach or to 'rebalance' the volumes of business or market shares enjoyed by the Majors" (PFs paragraph 8.69).

- 9.8 This categorisation is important as a coordinating firm must be able to easily and quickly ascertain whether it is subjected to punishment for deviating from the coordinated outcome or whether the activity is simply intended to rebalance in accordance with the coordinated outcome. An inability to do so quickly means that tit-for-tat has no signalling power, and is thus not working as a punishment strategy.
- 9.9 The confusion over the message sent is complicated by the undefined bounds within which the tacit coordination is to take place. How much competition is permitted? In a tacit coordination scenario, how does a company know the extent of the tolerated bounds?
- 9.10 The Commission shows the presence of tit-for-tat strategies by reference to scenarios whereby an increase in a cement producers' market share in one period is correlated with a reduction in its market share in the following period. It finds 'evidence' that changes in market shares are negatively correlated (2 out of 4 producers are found to have a statistically significant negative correlation when comparing consecutive months, and 3 out of 4 are statistically significant when comparing changes in shares in the following two months).
- 9.11 This test is however fundamentally flawed. As the Commission acknowledges there is not full transparency over market shares of sales and so they will inevitably be observed imperfectly (i.e. there is measurement error). Yet, even if market shares were observed perfectly, market shares would still fluctuate at random from month to month due to variations in sales to existing (and new) customers.
- 9.12 The problem resulting from imperfect market monitoring can be explained by way of the following example: consider a cement producer has an average market share of 25%, but a share that fluctuates randomly between 24% and 26%. If its observed monthly market share falls from 25% to 24% one month, it would be expected that its market share increases in the following month (remember, the average market share is 25%). An observed loss in one month would be expected to result in a gain in market share in the following month. Conversely, if its observed market share rises from 25% to 26% in one month, it would be expected to fall back to 25% in the following period, so, once again, an increase in market share in one month is likely to lead to a loss in market share in the next.
- 9.13 Mathematically (with no random walk) changes in market shares are thus automatically negatively correlated. When market shares also follow a random walk, this dilutes the effect of the observational error, but there remains an automatic tendency towards finding a negative correlation. This will be shown in greater detail within Non-Confidential Annex 3 – Statistical Tests for Evidence of Market Share Co-ordination.
- 9.14 What this shows is that the Commission's test is strongly biased to finding a negative correlation between changes in market shares in one period and the next. It does not therefore prove that the observed movements in market share are tit-for-tat behaviour or 'rebalancing' of market shares. Therefore, with key evidence of tit-for-tat undermined, the Commission's mechanism is undermined.
- 9.15 Finally, Hanson noted at the working paper stage to the Commission that if, as it argued, there was significant and ongoing evidence of tit-for-tat, then the alleged coordinating group must continuously punish. That means there was continuous deviation and coordination was continuously broken, and competition taking place. The Commission responds in paragraph 8.200 that it disagrees with Hanson because, in its view, tit-for-tat could be going on continually as a rebalancing strategy (which as noted above is logically flawed because it undermines the ability of the strategy to act as a punishment mechanism) and because "*a degree of competition is not incompatible with coordination*". The latter reason, in Hanson's view, again illustrates bias – evidence of competition being deemed by the Commission as evidence of coordination.

Internal documents do not confirm tit for tat

- 9.16 The Commission relies on internal documents to prove the existence of a tit for tat punishment/signalling strategy. In light of the outcome dependent selection of the documents (as noted above in Part I - Procedural Flaws and Due Process Concerns) this approach suggests a circularity of the Commission's argument (it selects the documents according to the outcome, and proves the outcome by reference to the documents). Hanson already noted that the Commission's pre-selection of the underlying evidence leads to a distortion of the data and is therefore of only limited informational value.
- 9.17 From a pool of thousands of documents reviewed by the Commission (not any documents chosen at random, but rather representing the specific results of an extremely focused key word search against the emails from the computers of the key cement commercial and senior management teams that were either with or in relation to other cement majors) the Commission attempts to substantiate its tit for tat theory by reference to only a tiny number of documents that do not even come close to representing 1% of the focus emails. Even this selected material must, however, be considered in its context and in the light of the totality of the evidence. Hanson notes that the Commission has inexplicably ignored Hanson's various corrections and explanations, suggesting instead that it was neither necessary to reassess the errors on what supply lines or products were being discussed, or to assess the remaining 99% of the emails which show evidence of regular commercial dealings and strong competition between or in respect of the three cement producers, choosing to discard such evidence but rely instead on 'outcomes' conclusions, that Hanson suggests are now shown to be highly questionable. The complete set of (unselected) evidence clearly shows that strong competition across the cement market takes many different forms and that Hanson does not pursue a systematic approach towards its competitors as claimed by the Commission – apart from fiercely competing with them for customers.
- 9.18 The Commission has worked to disregard that body of some 16,000 emails, and instead works to understate their significance, by suggesting that a limited number would have examples of regular or strong competition – since those emails were not the general emails of the business, but were rather expressly categorised from a very short list of key search words and the names of the specific cement majors, Hanson suggests that such an approach represents a severe understatement of the significance of such emails and Hanson suggests that the Commission was obligated to weigh up properly and assess the clear evidence of strong competition from their contents, prior to formulating conclusions and merely discarding them within the undefined and unquantified category of 'competition within bounds'.
- 9.19 The Commission attempts to establish tit-for-tat behaviour as an institutionalised or systematic approach to competition between GB cement producers. However, the Commission merely points to a few de-contextualised e-mails showing direct attacks (i.e. intensified competition by way of undercutting prices offered by competitors) and treats colourful language used by individual sales staff as evidence of a firm-wide policy⁶⁴. As noted above there is in fact much more overwhelming evidence showing a variety of ongoing and continual attacks amongst the cement market players, a clear proof of continuous competition, although the Commission has confirmed it has chosen not to review the clear evidence of competition apparent within such emails, choosing instead to depend upon 'outcomes' and electing to classify those emails within the wholly undefined and unquantified category of "competition within bounds".

⁶⁴ Hanson notes that the Commission submitted in paragraph 8.137 of PFs, "*that our observations here are not focused on the language of 'retaliation' rather the substance of observing tit-for-tat behaviour*". However, the Commission's use of evidence shows that this was not followed in practice.

- 9.20 The contextualisation of the relevant documents relied upon by the Commission⁶⁵ remain discarded by the Commission, and Hanson highlights the Commission's misuse of evidence as a result of its outcome-dependent approach.
- 9.21 Hanson notes that the Commission only "identified some evidence of certain GB cement producers: (a) planning or anticipating taking tit-for-tat retaliation against competitors [...]; (b) perceiving themselves to be experiencing such tit-for-tat behaviour [...]; and (c) anticipating that it will be subject to such tit-for-tat retaliatory behaviour because of recent gains it has made vis-à-vis another GB cement producer."⁶⁶ Indeed, the Commission relies on mere assumptions and indirect interpretations. By its own implicit admission the Commission has therefore not found any evidence of past or actively applied tit for tat behaviour.
- 9.22 In support of its tit for tat theory the Commission cites certain e-mails which it finds to constitute particularly strong evidence. For example, it cites e-mails containing language such as "*get business back*" and "*attack*"⁶⁷. The focus on such linguistic features is however misguided and leads the Commission to use the evidence in a way which contradicts its own theory: for example, the same e-mail chain containing these colourful terms shows that Hanson [§]. It is unclear why the alleged tit for tat punishment/signalling strategy would have been applied in exactly the same manner (and indeed more so) against non-coordinating parties. The obvious and simplest explanation would be that it is not evidence of tit for tat amongst coordinating market players. Instead, colourful language was used to describe that Hanson's contemporary strategy lead to the loss of customers and that it thus had to adopt an even more competitive approach to "*take [business] quickly*"⁶⁸ from the full body of competitors. The emails tabled by the Commission show the common trend was one of attacking customers of the full spectrum of competitors, and it seems illogical and somewhat muddled to suggest that this was a strategy and mindset between the select trio of three GB cement majors, when the attacks on mutual customer accounts in similar fashion seem to have been continuing in exactly the same manner with import competitors.
- 9.23 Hanson finds that such a selective and partial approach contravenes the common notions of fairness, objectivity or reasonableness. Hanson invites the Commission to undertake a complete and due assessment of the evidence in its totality and weigh up the positive aspects of the competition which are so common on a daily basis throughout the market. This will lead the Commission to the inevitable conclusion that competition in the cement market is not restricted by systematic tit for tat practices.
- Competition does not take place "within bounds"
- 9.24 The Commission asserts that any strong "*evidence of competition taking place*"⁶⁹ can be conveniently ignored as it alleges that competition merely takes place within certain (undefined) bounds.
- 9.25 Hanson has difficulties to understand and the Commission has failed to explain what type of 'bounds' the Commission refers to, and whether these are defined by market shares or otherwise, and what type of economic theory or law might apply to such a category. The Commission also failed to establish how the parties would understand whether competition takes place inside or outside the (undefined) bounds.
- 9.26 In any case, Hanson strongly refutes the allegation that competition is "*constrained in magnitude*"⁷⁰. The internal documents evidence contradicts this unfounded and unsubstantiated theory. For example the Lafarge email referred to by the

⁶⁵ Hanson refers to its response to the relevant Working Paper, where it extensively commented on all such evidence.

⁶⁶ PFs, paragraph 8.116.

⁶⁷ PFs, paragraph 8.118.

⁶⁸ Ibid.

⁶⁹ PFs, paragraph 8.152.

⁷⁰ PFs, paragraph 8.176.

Commission⁷¹ suggests far-reaching competition. Whilst the Commission focuses on the internalisation aspect of the e-mail, the author describes how [§]. This e-mail suggests that Hanson repeatedly competes fiercely (regarding price and geographic coverage). Such competition cannot be regarded as taking place within self-imposed and self-regulating restrictions.

9.27 In addition to the internal documents showing unrestrained competition, the market share volatility experienced by Hanson during the investigated time period is wholly inconsistent with a cement market characterised by narrow bands of competition. As described in the main body of Hanson's response to the relevant Working Paper, Hanson's market share [§]

9.27.1 This large fluctuation intuitively contradicts narrowly banded competition (unless one holds that market share fluctuations of up to a quarter of Hanson's entire cement sales would be 'within the bounds').

9.27.2 The extraordinary market share movement of more than [§]% (particularly when considering monthly data) therefore greatly exceeds what would be expected and therefore questions the competition 'within bounds', however the Commission may be thinking of defining it.

9.27.3 Hanson has highlighted in its response to the Coordination in Cement Working Paper⁷² that significant month on month movements are taking place [§]. Such evidence of significant market share volatility is wholly inconsistent with the Commission's theory of restrained competition.

9.28 The Commission does not categorise the observed switching activities of cement customers: it is unclear when it finds a switch whether this amounts to competition within bounds, and when it is supposed to be a consequence of tit for tat punishment or rebalancing. Adding to the complexity of ascertaining whether an act is punishable or not, would be the dynamic market trends. By the Commission's own admission "*coordination in cement is not constant and unchanging but [...] is influenced by external conditions.*"⁷³ This would suggest that the demarcations of the competition bounds are equally fluctuating.

9.29 Coordination in such an uncertain context contradicts the European Commission Guidelines according to which "*coordinating firms should be able to interpret with some certainty whether unexpected behaviour is the result of deviation from the terms of coordination*"⁷⁴. It further notes that "*the threat [of the deterrent mechanism] is only credible if, where deviation by one of the firms is detected, there is sufficient certainty that some deterrent mechanism will be activated*"⁷⁵. It is further noted that retaliation which "*is not certain to be activated, is less likely to be sufficient to offset the benefits from deviating*"⁷⁶. This makes it clear that there must be clarity as to what constitutes 'acceptable' and 'unacceptable' competition for tacit coordination to arise.

9.30 The Commission has failed to establish the workings of its theory of competition within bounds and has not presented any evidence that supports it. None of the documents it refers to suggests the existence of an understanding between the parties or even an appreciation within the GB cement producers as to the 'bounds' of such 'permissible' competition.

9.31 The Commission has however reviewed, and been presented with, a significant amount of evidence showing that competition takes place in various forms, as shown for example by the significant amount of switching activities and customers securing

⁷¹ PFs, Appendix 8.2, paragraphs 103-107.

⁷² Hanson's response to Coordination in Cement Working Paper, paragraph 6.35.

⁷³ PFs, paragraph 8.230.

⁷⁴ EC Horizontal Merger Guidelines, paragraph 50.

⁷⁵ EC Horizontal Merger Guidelines, paragraph 52.

⁷⁶ EC Horizontal Merger Guidelines, paragraph 53.

better deals through threats to switch. For example, this is acknowledged by the Commission in relation to the 2012 documents: "*The documents include many examples of price competition taking place with GB cement producers noting that they have been undercut by other GB Cement producers or importers and have either lost accounts or had to reduce their price to defend*"⁷⁷. In this context Hanson reminds the Commission that the International Competition Network stated that competition authorities should recognise "*that it may be difficult to accurately discern between a competitive market and a market characterized by a frequent pattern of deviation and punishment*"⁷⁸.

9.32 Hanson submitted extensive evidence for ongoing and significant amounts of customer switching in response to the Working Paper on Cement Customer Switching. The principal points raised were:

9.32.1 The switching data complements Hanson's empirical exercises with regard to its Top 10 Customers and the emails and Internal Documents reviewed by the Commission, all of which show regular and commonplace switching in GB cement sales;

9.32.2 Hanson has shown how each of the years (except 2011) [REDACTED]

9.32.3 The data clearly shows that switching led to a significant increase of importers' market shares in GB cement; and

9.32.4 Customers typically have sourced from [REDACTED]

9.33 Hanson also submitted multiple sources of evidence on customer switching and threats to switch by customers by Hanson. This was highlighted in Hanson's response to the Working Paper on Coordinated Effects⁷⁹, and is summarised here for ease of reference:

9.33.1 The switching data presented by Hanson in response to the market questionnaire at Annex 41C, which provided a sample analysis of its biggest grey cement customers in each of the RMX and Concrete Products key customer segments to determine the recent competitive threats to Hanson's supplies to those customers⁸⁰. This shows the regular targeting of Hanson's customers by competitors (be they domestic or the UK arms of global/international producers), and Hanson either losing business to such competitors or having to improve its offer and reduce price in order to retain the customer. The Commission purports to have conducted some analysis of this data⁸¹, and appears to be implying that not all customers who threatened to switch achieved a price reduction (2010 vs 2011 prices). This misses the point: in the context of cost-related proposed price increases, [REDACTED] - this would not have shown up on any analysis based on the transactions data.

9.33.2 The sample e-mail analysis conducted by Hanson in respect of the 2010-2012 e-mails and presented in Hanson's UIS Response in paragraphs 6.5 to 6.10. This shows that, during the first six months of 2012, even this limited sample of e-mails revealed that [REDACTED]

⁷⁷ PFs, paragraph 8.150.

⁷⁸ ICN report, paragraph 45.

⁷⁹ Hanson's response to Coordinated Effects Working Paper, paragraph 4.28.

⁸⁰ This was also provided in Hanson's response to the UIS, Annex 3, paragraphs 6.3 and 6.4.

⁸¹ PFs, paragraph 7.160, footnote 60.

- 9.33.3 The analysis presented in Hanson's response to the 2010-2012 Cement Documents Working Paper⁸² showed a constant state of continuing competition between Hanson and Cemex, two of the supposedly coordinating group. It is crucial to note from such [§<]. The fact that mutual customer attacks are clearly taking place between Hanson and Cemex month on month as each major attacks the other company's customers, cannot possibly be safely labelled as tit-for-tat in a collusion model. In collusion models, competition is absent, and retaliation occurs only where deviation occurs. When 'deviations' and counter attacks are constant, they cease to represent any form of coordination but become instead fierce competition. The Hanson response to the Internal Documents paper includes analysis demonstrating how such attacks are continual month on month, they cannot be safely categorised as collusive, nor can they be conveniently discarded as 'competition without bounds', whatever the phrase may be intended to mean.
- 9.34 Hanson repeats this data in this Response as it appears that the Commission has not carried out a balanced assessment of the data. The data shows competition for a wide spectrum of customers from numerous competitors. The customers affected range from small independent RMX operators to Hanson's largest customers, and are spread geographically. No discernible pattern exists in respect of such data. It certainly does not comply with any concept of competition limited by particular bounds and/or fit in with any pattern of retaliation or rebalancing.
- 9.35 Hanson also considers that the Commission's analysis of switching is flawed. For example, it does not reflect that cement customers negotiate and obtain reduced pricing arrangements by way of threatening to switch suppliers (notably the European Commission held that "*a credible threat to switch*" undermines the sustainability of coordinated behaviour⁸³)⁸⁴. The Commission acknowledges that there is no analysis of threats to switch, but notes: "*we observed that our analysis of average cement prices to all customers showed that cement prices had generally increased between 2007 and 2011 (with some reductions in 2009 compared with peak levels at the end of 2008). This suggested that customers who did not switch (whether or not they threatened to switch) did not on average achieve large price reductions.*"⁸⁵
- 9.36 This statement ignores the context of significant cost inflation during the period. Even if it is accepted that prices increased during the period in question, this was against the backdrop of rapidly rising costs. It can not safely be assumed that a trend of rising prices means that customers were not securing better deals by threatening to switch. The empirical evidence presented by Hanson suggests the contrary.
- 9.37 In summary, the evidence reviewed by, and presented to, the Commission provides a picture of continuous and wide-ranging competition in the GB cement market, which can not be categorised into either 'tit for tat' behaviour or rebalancing (the continuous and widespread nature of competition would suggest that any coordination is not working well) and/or 'competition within bounds' (as there are no discernible patterns or limits to the competition). The evidence is, in short, consistent with a competitive market. In concluding that the level of competition seen fits with a theory of 'competition within bounds', the Commission is merely seeking to confirm its preliminary views of the market, without giving weight to the evidence.
- 9.38 The Commission seeks to support its theory by reference to potential price discrimination between customers. For example, the Commission notes that: "*[t]here was significant variation in the prices of bulk cement charged to different customers, even when we controlled for delivery distance (by looking at ex-shipping point*

⁸² See the Annex therein entitled 'Hanson vs. Cemex: Targeting each others' key customers month on month'

⁸³ M.5950 - Munksjo / Arjowiggins paragraphs 93-95.

⁸⁴ PFs, paragraph 7.98, "*Customers whose threats to import their own cement were particularly credible were able to gain unusually favourable terms for GB cement supply.*"

⁸⁵ PFs, paragraph 7.160.

prices)"⁸⁶. The Commission notes that the level of dispersion between customers means that competition for customers who switch does not mean more competitive terms for others.

- 9.39 It is notable that high levels of price dispersion are generally characteristic of markets subject to competition, not coordination. Recent academic evidence suggests that price dispersion is a powerful predictor of whether a market is characterised by competition or coordination. For example, Blanckenberg *et al* (2012), in a study of eleven cartels, find that price dispersion is significantly greater in time periods where these markets were characterised by competition. Bolotova *et al* (2008) report a similar link between competition and price dispersion, while Carlson and McAfee (1983) and Carlton (1986) demonstrate that price dispersion is greater in less concentrated markets.⁸⁷ These and similar studies all strongly make it clear that price dispersion typically increases when there is greater competition in a market.
- 9.40 The key factor in relation to any price dispersion is that the choice of competitors for every customer and the willingness of competitors to supply a range of customers (as shown by the data presented above) means that all customers have a choice of suppliers and may exercise the bargaining power provided by that choice to secure favourable supply terms.

Price announcement letters

- 9.41 The Commission acknowledges that there are legitimate reasons for price announcement letters and that "*to an extent the similarities between producers in the dates for their price increases could be expected as 1 January increases are standard in many industries*"⁸⁸. Despite these benefits, and despite being consistent with normal business practice, the Commission draws the conclusion that these letters serve an anti-competitive purpose. In particular, it is alleged that Lafarge acts as a price-leader in announcing first, with others in the coordinating group then accommodating its price increase. The Commission then relies on this leadership to reinforce its conclusions on tacit coordination by claiming "*there is recent economic literature which emphasizes the role of leadership in facilitating coordination*"⁸⁹.
- 9.42 The Commission's conclusions are, however, unfounded. Specifically:
- 9.42.1 The Commission's finding that "*In most cases, once a GB producer had announced price increases for a certain date, the other GB producers also announced similar increases within one or two months*"⁹⁰ is exactly what would be expected in a highly competitive market.

As the Commission acknowledges producers have similar input cost drivers so it is hardly surprising that producers would choose to pass on cost changes to consumers at a broadly similar time. The fact that cement exhibits a degree of homogeneity reinforces the need to react to price changes of competitors to ensure that you remain competitive. Moreover, in many businesses it is standard practice to make announcements at the beginning of the year.

The Commission also fails to acknowledge the cases of long delays between one party announcing a price increase and others 'following'. If coordination

⁸⁶ PFs, paragraph 7.152(a).

⁸⁷ Blanckenburg, K.v., Geist, A. and Kholodilin, K.A. (2012). The Influence of Collusion on Price Changes: New Evidence from Major Cartel Cases, *German Economic Review*, 13(3), 245-256. Bolotova, Y., Connor, J. M. and Miller D. J. (2008): The Impact of Collusion on Price Behavior: Empirical Results from Two Recent Cases, *International Journal of Industrial Organization*, 26, 1290-1307. Carlson, J. and McAfee, R. (1983): Discrete Equilibrium Price Dispersion, *Journal of Political Economy*, 91 (3), 480-493. Carlton, D.W. (1986): The rigidity of prices, *American Economic Review*, 76, 637-658.

⁸⁸ PFs, paragraph 7.170.

⁸⁹ PFs, paragraph 8.13.

⁹⁰ PFs, paragraph 7.173.

were taking place parties would wish to follow relatively quickly to signal to each other quickly that a price change would be supported to avoid triggering a price war.

- 9.42.2 The Commission's finding that "[t]he other partial 'pattern' that emerges is that, in five out of the nine price announcements, Lafarge was the first mover. Hanson often acted second and either Tarmac or Cemex came next."⁹¹ is, in fact, not a statistically significant pattern.

The pattern of one firm in a group of 3 (the alleged coordinating group) being first to announce 5 times (or more) over 9 periods would be expected to arise 43 times out of 100 by complete randomness. The observed pattern is therefore entirely what Hanson would expect to see if each firm had an equal (33.3%) chance of announcing first, and is clearly not statistically significant.

- 9.43 Hanson notes that the Commission places limited or zero weight on the fact that the alleged coordinating group very seldom achieved the announced price increase. However, achieved increases were often below general inflation in many cases (as demonstrated by the *falling* real prices in the market in the second half or last three years of the reference period). Hanson notes the Commission also found that the degree of price dispersion varied between announcement rounds; and that "[t]his suggests that announced price increases do not, on their own, provide clear information about each individual customer's price increase"⁹². This indicates the price letters were not having any effect on coordinating prices.
- 9.44 There is therefore no evidence with which to conclude that there is price "leadership". And without this evidence the Commission's model of tacit coordination is further undermined.
- 9.45 **Summer 2008 Price Increase** - The Commission spent an enormous amount of time reviewing the summer price increases of 2008, speculating that there must have been inappropriate market conduct and possible collusion on the basis that there was a mid-year price increase and that price announcements were issued in the same days and week. Those suggestions and inferences still appear in the PFs. Hanson has already proved using contemporaneous evidence, all submitted to the Commission, that:
- 9.45.1 The business and indeed the global economy was facing unprecedented and enormous cost inflation in the weeks up to the end of Q2 2008, in the form of concerns regarding the price of coal having tripled, the price of electricity having doubled, the cost of diesel and kin oil rising by nearly 40% and the cost of gas then being project to double;
- 9.45.2 [✂]
- 9.45.3 Hanson has shown how in the context of the extraordinary costs inflation in the weeks prior to the end of Q2, an expedited price increase to decide before the end of the financial half year (and communicate the same to customers prior to the second half of the financial year) was normal commercial practice and indeed the natural and correct decision to expedite at that exact time for any business in those circumstances, given the extraordinary pressure of the costs inflation in the short space of time prior to the half year end.
- 9.46 Despite having submitted the above detail and also the necessary contemporaneous supporting evidence to the Commission, the Commission instead chooses to discard it completely and refrain from publishing the natural explanation, instead preferring to

⁹¹ PFs, paragraph 7.172.

⁹² PFs, paragraph 7.184.

simply infer and speculate that there must be something both unusual and inappropriate about the timing and existence of such increases. The evidence Hanson has submitted has shown that those increases were nothing more than normal commercial practice. The Commission has elected to ignore all of that evidence, and instead rests its findings on speculative assessments whilst discarding the evidence before it.

The Hanson Internalisation of Self Supply 2008/ 2009

- 9.47 During the early stages of the MIR, the Commission also undertook an enormous amount of work over several months in relation to Hanson's Internalisation, characterising the process at various times as:
- 9.47.1 the total breakdown of relations between Hanson and Lafarge;
 - 9.47.2 an unspecified punishment mechanism by Hanson; and
 - 9.47.3 a demonstration of the model of market collusion working in practice, as Lafarge sought to punish Hanson in an attempt to deter it from the move to supply independence.
- 9.48 Hanson has provided huge amounts of data, commentary and evidence on the subject at the Commission's request. It is striking how much time and focus the Commission has spent on reviewing the minutiae of Hanson's internalization process, and further how the Commission has worked to see the move as some kind of sinister move in the market that might somehow provide evidence of a collusion or coordination model, or indeed some other form of competition issue worthy of regulatory assessment.
- 9.49 The Hanson Internalization was none of the above. It was, quite simply, [REDACTED]. Although the scale of the cement supplies to move back in house was large, it was a move that was entirely natural to Hanson (or indeed anyone else in such a position) and was one that was contemplated as an objective and synergy of the Hanson acquisition in Q3 2007.
- 9.50 Despite the attempts of the Commission to seek to characterise the internalization as a significant factor somehow evidencing a model of collusion, the following observations and assessments are far simpler and more obvious to any fair or objective assessment:
- 9.50.1 The move was a natural step [REDACTED]
 - 9.50.2 It came as a simple result and objective of the Hanson acquisition by Heidelberg;
 - 9.50.3 [REDACTED]
 - 9.50.4 It provided Lafarge with enormous but understandable uncertainty given the scale of Hanson's purchases as a customer of Lafarge prior to the move (since previously obviously Hanson had no cement operation);
 - 9.50.5 It was perhaps not unnatural for Lafarge to do what it could to try to dissuade Hanson, given the scale of the business loss at the time;
 - 9.50.6 [REDACTED]
 - 9.50.7 Despite the enormous pressure from Lafarge, Hanson expressly rejected the attempts to retain unnecessary interdependence and cross supply reliance, and went ahead with the move in any event to suit its own interests and in favour of its own independence, given the scale of the rewards perceived by Hanson;

- 9.50.8 The overall general trend in market share changes that Hanson saw, was that its own market share simply continued to decline through 2008 and 2009, [REDACTED]
- 9.50.9 It led to a series of moves to internalise across the industry, as other majors, whether inspired by the Hanson move or not, decided to take similar steps each in their own interests irrespective of the financial impact on their suppliers, and to maximise their own profits;
- 9.50.10 As these internalisations each occurred, they brought continuing instability and uncertainty, but ultimately they represented the market's rejection of interdependence;
- 9.50.11 It led to an end in the cross-supply dependency that was more common prior to Hanson entering the cement industry.
- 9.51 Instead of reaching the above simple objective conclusions with regard to what the internalization meant, the Commission has sought to ignore every single one of those most basic observations, presumably since each and every one of those simple facts provides evidence that directly undermines different criteria that sit within the economic definition of a collusion or coordination model.
- 9.52 The Commission declines to recognise or weigh up the various efficiencies and countervailing aspects of such a fundamental sea change in the market and its model of vertical integration, but instead focuses purely on Lafarge's desire to deter Hanson and restore its own volumes, on the basis that such a description, limited and incomplete as it is, is more likely to be useful in supporting a theory of collusion.
- 9.53 Hanson contends that the Commission has omitted to recognise what was a fundamental change in the market's model of vertical integration during the reference period, as majors moved away from historic inter-dependence (such as Hanson's historic dependence on Lafarge from times when Hanson had no cement operation of its own) to a model of independence in self-supply. The internalisations followed across the industry, and rather than proving to be temporary measures, the period has seen investments (such as [REDACTED]) which have made these changes permanent. Clearly the Commission should have recognised the instabilities and upheavals such internalisations have brought about during the review period and also the benefits and independence they have brought for the market and its future outlook. The Commission has omitted recognition of such changes in the market, either due to negligent analysis, or because such changes and characteristics clearly undermine and are inconsistent with its stated model of coordination.

10. MARKET STRUCTURE

Barriers to Entry - GB Cement

- 10.1 The Commission has not in any manner analysed the possibility of producing cement in GB by grinding imported clinker domestically.
- 10.2 Clinker is a widely available commodity from various markets which have excess capacities (including Ireland, Spain, Belgium, Greece, Sweden, Norway, Portugal and Turkey). [REDACTED]
- 10.3 HeidelbergCement itself benefits from the international shipping and sold about [REDACTED] to grinding mills [REDACTED]. Evidently sourcing clinker within the EU has the advantage of avoiding all import duties, which provides a natural advantage for imports from the EU.
- 10.4 It seems extraordinary that the Commission has considered barriers to entry in cement purely in the context of the hundreds of millions of pounds of investment required to establish *clinker production*, when for a [REDACTED] of the cost, clinker grinding can be readily

established. Put simply, the effect of this is to overstate the barrier to entry by a factor of [X], suggesting additional unnecessary costs for a new entrant of some £[X]. Despite Hanson's repeat comments on this throughout the MIR, the Commission has inexplicably chosen to avoid proper consideration or detailed analysis on this issue, choosing instead to readily dismiss the prospect on the basis that it would be likely to be deterred by the same penalty costs as cement importers, with a basic conclusion suggesting that it is not deemed plausible, despite the fact that it is often today the common route for a new entrant and the first consideration within the global cement industry, [X] furthermore, despite the fact that such perceived 'penalty' costs have not in any manner discouraged the long list of cement importers coming in recent times as new entrants to the GB market to take at least one seventh of the entire bulk market (even that share is materially understated if one were to exclude the purchases / supplies of the GB majors and so assessing importer share of the *independent* market). The so called 'penalty-costs' that the UK Competition Commission has said (without analysis) would act as a barrier and deterrent have not in any way deterred the establishment of new cement operations across the world which have opened on such a basis. This is no minor omission, but rather represents a gross overstatement of the barriers to entry, a key factor that is always a fundamental consideration *in limine* in the assessment of any market.

- 10.5 The Commission very much understates the advent of the numerous new entrants into the GB cement market in recent times and erroneously states imports have ceased market share growth. Some two decades ago, Hanson understands the importers had a market share that did not even approach 1%. They have since established market share of one seventh, or in excess of 14%, despite the Commission's attempts to play down their share and suggest a figure of only 9% by excluding one of the main import sources, and by not recognising the 2012 figures which are freely available. The importers have flourished and grown to enormous *capacity* (a huge 6m tonnes according to the European Commission), whilst the capacity of the GB producers has declined significantly through the same period. The Commission used exactly the same comparison and test in order to draw its overall conclusion that the RMX market was well-functioning (by comparing the growing capacity and market shares of independent RMX outlets relative to the declining capacity of the cement majors) – however the Commission refrains from candidly offering the same simple observation with regard to the cement industry.

Vertical integration

- 10.6 It is well established in the academic literature and case law that vertical integration can deliver legitimate pro-competitive benefits to customers. Within the cement industry it delivers material financial benefits by reducing transactions costs and unlocking supply chain efficiencies. It also carries enormous environmental benefits, by reducing transport emissions and lorry traffic in rural communities. Indeed, the European Commission readily recognised the benefits for vertical integration when it approved, at Phase 1 and with no concerns about coordination, the acquisition of Hanson by HeidelbergCement; for example citing the benefit:

“First and foremost the merged entity would be able to select a more efficient mix of inputs which would tend to reduce its downstream price for ready-mix concrete which would result in an efficiency benefitting final customers”⁹³ (emphasis added).

- 10.7 The vertically integrated structure in the UK – mirrored in markets across the world – is a natural consequence of firms pursuing efficiency in their supply chains.
- 10.8 Indeed, the Commission itself recognised the importance of vertical integration to effective competition.

⁹³ Case No COMP/M.4719 – Heidelberg Cement/Hanson, paragraph 114.

- 10.9 Hanson disagrees with the Commission's concern that vertical integration has caused a material and incremental increase in any alleged collusion, one that outweighs the substantial customer benefits. Hanson has already described above the concerns it raises with regard to the Commission's analysis on vertical integration. To further address the Commission's points:
- 10.9.1 The Commission has worked to avoid any recognition or assessment of the possible benefits of vertical integration, and the facilitation of supply independence in preference to reciprocal interdependence. The Commission has made no recognition of such benefits, and has not in any manner assessed or weighed up the possible positive aspects of integration prior to formulating its conclusions, rendering the Commission's conclusions on this issue unsafe.
- 10.9.2 There is no evidence to support the Commission's claim that vertical integration increases barriers to entry to cement by reducing the size of the "addressable market" in RMX. Independent RMX players account for [X] of the consumption of bulk cement in the UK; a proportion that is growing. Both (vertically integrated) importers and Tarmac have rapidly increased their market shares in this addressable market without issue. The independents have very successfully taken an enormous share of this market, suggesting that the stated restriction or high barrier based on market volumes and size is not a fair conclusion to reach in the face of such a large number of entrants. In addition, there is no evidence to suggest that economies of scale are an obstacle to importers' entry and expansion; there are several examples of importers competing successfully on a small scale. Hanson notes also that the Commission found very little documentary evidence to support its view that producers were using vertical integration to protect the market from importers. In this context it should be noted that in its *Airtours* decision the Court of First Instance held that an addressable market which was 40% of the size of the overall market was held to be sufficient: "*40% of all package holidays sold are not sold in agencies controlled by the large tour operators, smaller operators are [therefore] likely to gain access to distribution on favourable enough conditions to enable them to expand their capacity significantly in order to take advantage of opportunities*"⁹⁴. Hanson notes that [X]% of bulk-cement is sold to the independent RMX and concrete products sectors.
- 10.9.3 There is almost no academic literature to support the Commission's contention that vertical integration may enhance the internal sustainability of a coordinating group. The Commission recognises this but does cite a single article by Nocke and White (2007) which it argues supports its claims. The article looks at various opposing forces that result from a vertical merger and finds, in the context of the model in the paper, that on balance a vertical merger may facilitate coordination. What is clear, however, is that a balancing exercise is needed. And that there are circumstances where the effects become more difficult to determine (even ambiguous) e.g. where, as in the cement industry, there are multiple vertically integrated firms. There is insufficient evidence that the Commission has undertaken this balancing exercise. The paper is also entirely theoretical – there is no empirical support for the Commission's contention.
- 10.9.4 Hanson accepts that having a presence in the RMX market sometimes gives cement producers a degree of information about downstream supply and demand conditions. However, precision and reliability of such information is subject to qualification, and the incremental value of this information is small as (a) price quotes, if obtained from other majors may not be at all representative of the deals those Majors are doing with other RMX players,

⁹⁴ *Airtours v Commission* (T-342/99). paragraph 259.

clearly limiting the transparency of such quotations; and (b) RMX markets are highly localised, which means the downstream RMX business's observations based on its own experience may not be at all representative of performance in the wider market.

- 10.9.5 Hanson notes the strong market moves in recent years and overall trend to switch from reciprocal dependence and cross supply to self-supply and the resulting significantly reduced cross-supply between GB cement producers. The Commission acknowledges that "*there had been a shift in the Majors' purchases from each other over the period 2007 to 2011 towards greater self-supply, apart from in areas where logistics implied that purchases from other Majors might be more economical.*"⁹⁵ Hanson led the market in such a move, its own internalisation being the first of many moves across the market which have together ended all historic dependency on cross supply, rendering the Commission's stated conclusions regarding vertical integration in the context of facilitating cross supply and excess transparency unfounded as a factor in assessing market outlook.⁹⁶ In other words, the factor that has caused such concern to the Commission with regard to vertical integration (namely a high degree of reliance on cross-sales) has already disappeared from the market during the reference period and is no longer a characteristic of note. Therefore, since the Commission's conclusions rely to a large degree on the existence of such a characteristic, there must be very considerable doubt with regard to how objective and meaningful such conclusions can be, when the underlying structural characteristic no longer exists.

Imports

- 10.10 The PFs contain a substantial body of evidence where it is clear, within the detail, although not in any candid / overall observation from the Commission, that importers provide a very significant competitive constraint on GB cement producers. In particular:
- 10.10.1 Imported cement is fully substitutable with GB-produced cement⁹⁷.
- 10.10.2 Customers told the Commission that they were able to regularly use quotes from importers and/or the threat of importing in their negotiations with the GB producers⁹⁸.
- 10.10.3 Documentary contemporaneous evidence all shows that the Majors regard imported cement as providing an important competitive constraint.
- 10.10.4 The Commission finds that there are no significant barriers to expansion for importers.
- 10.10.5 Importers have increased market share from 6% to 9% (excluding AI) nationally between 2007 and 2011. When one duly includes the import share of AI into the calculation, there has been a seismic increase in the GB share of importers, increasing from [X]% in Q2 2007 to [X]% in Q4 2011 and over 14% today (even despite the market downturn). This means that importers have gained over 14% market share from zero since the 1990s. Their market share is even higher if one removes the majors purchases from the shares analysis and assesses only the independent market (in that circumstance perhaps, rightfully then excluding the AI share) and becomes even yet higher if one restricts the analysis to purely bulk CEM1 as the relevant market. It is difficult to characterise this as 'marginal' or mere

⁹⁵ PFs paragraph 7.202(d).

⁹⁶ PFs, paragraph 7.202(d).

⁹⁷ PFs, paragraph 7.94.

⁹⁸ PFs, paragraph 7.98.

‘fringe’ (especially if one considers the 16% production capacity of HCM, see Part IV below). The Commission’s statements throughout the MIR regarding the market shares of importers and the limits of their effect in the market are, in Hanson’s opinion, neither objective nor candid and are rather formulated to downplay the successes of the importers, in order to present market structure and trends in a manner that appears to be more consistent with the Commission’s stated model of coordination.

- 10.10.6 Importers market share is as high as [X]% in some regions of the UK, and, in some areas the importers share is greater than those of the Majors.
- 10.10.7 The Commission’s analysis of switching⁹⁹ shows that importers win and lose market share from and to all of the Majors. For example, the Commission’s evidence shows that [X]% of Hanson’s lost sales are won by one particular importer.
- 10.10.8 The prices of importers are closely correlated with those of the majors. Indeed, Lafarge’s prices are more closely correlated with Importer A and Importer B, than between Cemex or Hanson (despite the Commission’s allegation that Cemex and Hanson follow Lafarge’s lead in setting prices).
- 10.11 The Commission acknowledges some of this evidence in its competitive assessment – notably the documentary evidence, low barriers to expansion, and increase in GB market share. However, the Commission fails to acknowledge some extremely high regional market shares of imports, the high proportion of wins by importers from the Majors, or that importers prices’ are more closely correlated with the Majors than the Majors are with each other. As this evidence is redacted from the PFs, the failure of the Commission to highlight this evidence allows it to present a partial and unbalanced view of the evidence.
- 10.12 Despite this evidence of competitive constraints (ie external restraints undermining any attempt to coordinate), the Commission concludes that importers do not provide a significant competitive constraint on the basis that they face a cost disadvantage (higher variable and total costs) than GB producers. It states:
- “In our view (which was confirmed by several cement importers—see paragraph 7.94), cement importers were likely to be cautious about significantly undercutting the prices of the GB producers, as cement importers were able to anticipate the ability of the GB producers to react by pricing a particular importer out of the market more generally. We found that the cement importers therefore had incentives to price their cement just below the price of GB-produced cement.”¹⁰⁰*
- 10.13 This is an extraordinary statement. Importers were directly responsible for the falling prices for in the market for three consecutive years from 2009 through 2011, when annual average real pricing fell from some £88 per tonne in 2009 to only £80 per tonne for 2011, [X]. Even if it were true, as the Commission claims, that cement importers have an incentive to (just) undercut the prices of GB producers, it is difficult to see how the Commission could reach the conclusion that imports do not offer a competitive constraint, particularly where it acknowledges that there are no significant barriers to expansion.
- 10.14 The statement is also extraordinary in that it directly contradicts the Commission’s description of importers as being part of a “competitive fringe” that is not part of the alleged coordinating group.
- 10.15 In the economics literature, the “competitive fringe” is used to describe a group of very small firms who both individually and collectively have no market power. As such, these firms are typically modelled as “price takers”, i.e. they take the price of the

⁹⁹ PFs, Appendix 7.9, Tables 1,2,3 and 4.

¹⁰⁰ PFs, paragraph 7.90.

alleged coordinating group as given and choose a level of production so their price is equal to their marginal costs of production.¹⁰¹ However, the Commission's statement suggests that importers are not price takers, but instead act *strategically*. That is, they choose to price higher than they would otherwise in order not to provoke an aggressive response from the Majors. This however is the same definition of coordination that the Commission uses to describe the alleged coordination of the Majors.

- 10.16 This is an important point. Either importers are price takers that have no market power and which lie outside the coordinating group (and pose a limited competitive threat), or importers do pose a competitive threat and are either actively constraining the price of cement (as Hanson argues), or are acting strategically as part of a coordinating group. The Commission's provisional position on this appears to be self-contradictory and, at the very least, must be reconsidered and clarified.
- 10.17 **Importer 'Penalty' Costs** - The alleged cost disadvantage of importers is distorted and greatly inflated by the Commission. The data seen by external advisors, as well as information obtained by consultants clearly show that the Commission's calculations of variable costs and unit costs are grossly distorted and unsafe. While it is alleged that importers' FOB costs are on average £[§] (average of the price obtained by all importers) with shipping costs of £[§], this does not reflect the actual costs obtained [§] importers¹⁰² which operate [§]% of all import volume. Hanson notes, as it already did in the response to PRs, that the Commission completely disregards the fact that independent importers, which do not form part of a group which produces its own cement (in effect, wholesalers) are responsible for only a fraction of overall cement imports to GB. The average of their FOB costs (2007-2011) is ca. £[§] have shipping costs of £[§]. The market reality therefore is that importers' variable costs are (including port dues) just slightly more than £[§] (not £[§]). Given the overseeable fixed costs incurred by importers (wholesalers) cement importers have significant leverage to compete with the Majors average ex works prices (£[§]).
- 10.18 Crucially, the Commission's own work shows real cement prices in the independent CEM1 market falling over three consecutive years for three of the five years of the review period 2009, 2010, 2011, from £88 a tonne, down to £78m in 2011. All data before the Commission, whether emails, Internal Documents, Switching Data, Top 10 Case Study etc, shows how this decline in pricing for three consecutive years was strongly influenced by the Spanish and Irish importers, Hanson and the rest of industry having to reduce prices very significantly in order to compete with the importers across three of the five years of the review period, suggesting that the Commission's statements throughout the MIR that the importers 'always take the majors' prices' are fallacious and partisan.
- 10.19 Hanson now turns to the question as to whether importers are, as the Commission suggests, less efficient than GB producers. It is difficult to respond to this issue in detail as the evidence is redacted from the Commission's PFs¹⁰³. However, broadly, the Commission's stated figures suggest that importers' total costs were, on average, approximately [§]% higher than those of GB producers.
- 10.20 The Commission's analysis, as a matter of accounting, is flawed as it compares the average cost of an importer with the average costs of a GB supplier. However, there are very large differences in the costs of individual importers. More pertinently, there are very large differences in the costs of GB producers' individual plants. For example, the Commission reports that Hanson's costs vary from £[§] in 2011¹⁰⁴. In a competitive market, prices are determined by the costs of the marginal plant. It is clear

¹⁰¹ See, for example, the classic article, "On the Stability of Collusive Price Leadership", D'Aspremont, Jacquemin, Gabszewicz, Weymark, *The Canadian Journal of Economics*, Vol. 16, No. 1, Feb 1983, pp. 17-25.

¹⁰² [§]

¹⁰³ Hanson's advisors had access to this information in the Commission's Data Room, but were not permitted to remove any data related to Importers from the data room.

¹⁰⁴ PFs Annex 6.5, Figure 12, and also reproduced in Confidential Annex B – Production Costs and Sales Volumes Analysis

from the Commission's own figures that importers' total costs, while appearing higher than GB producers average total costs of production across their plant portfolio, are often *lower* than the total cost of production at the GB producers' marginal plant.

10.21 **Flawed Reliance on Distorted 'Variable' Costs Comparisons** - A crucial part of the Commission's argument and comparison throughout the MIR has been that importers have significantly higher *variable* costs than the Majors, largely because an importer is effectively a wholesaler of cement who has to pay for the total cost of production, and not the marginal costs. Hanson makes three points on this:

10.21.1 In a competitive market with high fixed costs, prices are dictated by average total (or average avoidable) costs. Therefore, it would not be sustainable to cut prices down towards variable costs to keep importers out of the market for any significant period of time as this would prevent the Majors from recovering their fixed costs. Importers, however, are able to use 'hit and run' entry into the UK. There are a large number of import terminals available, these terminals have excess capacity, and importers can be effective competitors on even a small scale. Therefore, if an importer were pricing aggressively and the Majors sought to push it out of the market by cutting down toward variable costs, the importer may scale back but could quickly flood back into the market as soon as the Majors sought to increase their prices to recover their fixed costs.

10.21.2 As Hanson has shown, much of the costs deemed to be "fixed" by the Commission can, and have been varied within the course of a year. These are semi-variable costs, and it is reasonable to assume that they will have a role in price setting; indeed established case law makes it clear that pricing based on variable costs alone would be distorted and unrealistic.

10.21.3 **Importer ex-UK Internal Profits Ignored** - The key importers are vertically integrated into cement production and overseas majors in their own rights, but are run in the UK as separate but wholly owned legal entities. This means that significant internal transfer prices can be expected to have been applied, for accounting purposes, on an arm's length basis (meaning that they include considerable / maximum margin), whereas, in an economic sense at least, such costs and profits are merely notional (profits can then be generated and taken offshore at the domestic production or the wholesale level in Ireland, Greece etc). Therefore, the fact that the variable costs for an integrated importer appear 'high' in the *UK* books will simply mean that the parent company (in Greece or Spain etc) has decided to earn or maximise the margin offshore and therefore within the domestic jurisdiction of Ireland / Greece and so on at the cement production level. By selectively deciding to analyse only the import arms of non-GB majors, but not the accounts of the non-GB majors themselves, the Commission has not taken into account the fact that the non-GB majors have already made very considerable margin on their internal sales of cement to its importer subsidiaries in the UK, leaving the UK importer legal entity with a naturally inflated cost base in its UK accounts and also meaning in effect that the importer itself does need not to make any margin whatsoever, since the economic group's profit has already been generated, maximised and booked in Greece, Ireland, Spain etc. Indeed, if the non-GB major sells to the importer at market prices, the UK importer might even be content to accept a *loss* being made by the importer legal entity. Given the profits already generated offshore and further that it might be prepared to sell at very marginal cost in order to benefit from the EU ETS regime¹⁰⁵.

¹⁰⁵ PFs, Appendix 6.6, paragraph 23, the Commission notes Hanson's comments on UK transfer pricing rules between two distinct companies within a group and that it "*would expect similar transfer pricing rules to apply to the cross-border transactions between [an importer and a non-GB major]*". Hanson would agree with this statement and considers that it supports the point it has been making. The cross-border transfer pricing rules would generally require cement to be

- 10.21.4 In other words, the trading arms of major foreign cement producers (such as CRH, CPV, Holcim and Titan) do not need to achieve any independent (second) margin in the UK, as their cement production operation already makes the (first) margin offshore through the sale of cement it produces¹⁰⁶. Previously Hanson noted that the addition of a second (UK) margin inflates the costs of trading arms of major foreign cement producers, and indeed such purchase costs would be booked as ‘variable’ costs in the accounts of the UK legal entity, although the sale prices will in practice cover both the variable *and* fixed costs of operations and production in Greece, Spain and Ireland etc. The Commission’s work throughout the course of the two year MIR has relied upon comparisons of GB vs importer financial costs on the basis of showing high / disadvantageous importers costs models (which include purchase prices that cover *all* overseas production costs including fixed costs) against lower GB variable costs (where the Commission first *excludes* GB fixed costs).
- 10.21.5 These unusual and distorted comparisons have been used by the Commission to present the importers as suffering higher ‘penalty’ costs relative to the supposed ‘lower cost models’ of GB production. The comparisons are misleading and devoid of all meaningful value and render the entirety of the Commission’s conclusions on ‘importer penalty costs’ as unsafe *in limine*.
- 10.21.6 Just like domestic cement producers, foreign cement producers need only achieve one margin through the sale of cement. To also require the import trading arm of major foreign cement producers to make a (second) margin distorts the variable costs of and the cost disadvantage of importers.
- 10.22 In short, Hanson suggests that the detail of the Commission’s workings shows that their assessment and statement of importer “penalty” costs is not only incomplete in terms of failing to cover the right companies, but rather understate GB costs and very much overstates the importer costs since in effect, the *full* transfer pricing of the intra-group arrangements in the non-UK arrangements is included. Not only is that pricing subject to distortion and high intra-group pricing as described above (not in any manner assessed by the Commission, although it may lead to the booking of high revenue outside of the UK) but also significantly:
- 10.22.1 There is absolutely no need for the importer to operate under a limited liability company in the UK, as Greek, Irish and Spanish enterprises have unfettered free trade rights under European law to set up branches of the overseas offices in the UK to trade directly, so any internal sale, financially desirable though it may be for the importer’s head office company overseas, is an unnecessary inefficiency leading to unnecessarily high costs being recorded and stated in the books of the importer legal entity in the UK;
- 10.22.2 As described above, what is stated as a ‘variable’ cost in the books of the UK importer includes the full internal transfer price of the overseas group, which of course is priced on both the operation’s fixed and variable costs, so the Commission’s analysis throughout the MIR (based on comparing the importer “variable” costs (but priced to *include* coverage of overseas operational fixed costs) with only the GB variable costs (excluding the fixed costs of production) makes for a fundamentally unsafe and disproportionate costs comparison, which has been the express basis throughout the history

sold on arm’s length prices (although there may be some scope for inflating prices marginally); such arm’s length terms would include a margin for the non-GB major, meaning that the GB import business would not, as a matter of group economics, need to make a separate margin. Therefore, the cement importer could decide to take the margin at the upstream level (and, indeed, would be required to do so by transfer pricing rules), but could also decide not to take a second margin at the importer level. As a result, the Commission’s analysis of only the importer’s costs and margins would present a distorted picture.

¹⁰⁶ In its PFs the Commission explicitly states that its reference to FOB costs for importers include the margins achieved by the foreign cement producers.

of the Commission's analysis of the costs comparisons, leading to the formulation of conclusions that are equally unsafe and contradict so clearly the notable successes of the importers in coming to the UK markets in recent year.

- 10.23 Hanson and Heidelberg Cement have operations across the world. In Europe these are in some fifteen different countries, although admittedly not in Greece or Ireland. Hanson does have operations however in Spain, although these are aggregates and RMX, as opposed to cement. Hanson does however have very accurate information on the fixed costs models of its operations across the European countries and they are of extreme interest in comparing the fixed costs models of European operations with those of the UK, as described below.
- 10.24 In effect, European cement operations in the HC Group fall into three distinct bands according their fixed cost per tonne of cement:
- 10.24.1 [REDACTED]
- 10.24.2 [REDACTED]
- 10.24.3 [REDACTED]
- 10.25 [REDACTED]
- 10.26 That would leave the GB fixed costs per tonne of cement [REDACTED] in Spain, Ireland or Greece, which is why Hanson and Heidelberg Cement continue to maintain such a high degree of doubt that the Commission's financial analysis (which is acknowledged to be limited in coverage) is neither meaningful nor safe if it is to be used to prove that importers suffer from costs disadvantages, when Hanson knows that the opposite is the case.
- 10.27 The Commission's dependency on the assessments of importer "penalty" costs, when compared to the costs of GB producers, forms the basis for so many of the Commission's different assessments of the market and conclusions regarding the limited impacts of the importers, that such conclusions are rendered unsafe and misleading.
- 10.28 As noted above, Hanson further fails to understand the logic of the Commission's point that higher variable costs causes importers to soften price competition. This presumes importers act strategically, which implies that they have individual or collective market power, in which case they are part of the coordinating group (something the Commission has explicitly assumed they are not). Hanson also cannot follow the Commission's calculations leading to an inability to undercut the prices of GB producers (which would be based on the distorted variable cost calculation). Trading arms of major foreign cement producers would have significant leverage to undercut GB cement producers' prices (as shown in the above calculations). This explains why importers have significantly expanded their market shares. It also clarifies why the internal documents frequently show that importers (significantly) undercut the prices of GB cement producers. As the Commission finds that importers do not form part of the coordinating group (and thus do not compete at a coordinated price) and in consideration of the reasonable profitability of the GB cement producers (see Part IV) it is evident that the market price and market behaviour is the result of competition in a well-functioning market.
- 10.29 This is supported by the fact that, as the Commission itself acknowledges that importers have (a) been able to achieve a 14% market share of a homogenous goods market, (b) consistently earned profits (even as wholesalers), and (c) increased consumers bargaining power (through the threat of switching to imports). Importers can, and are, able to compete effectively with domestic cement producers.

- 10.30 For example, Hanson estimates that since 2009, [X] To suggest that importers constitute a mere competitive 'fringe', completely undermines the actual influence exerted on the market. These gains, when combined with the growth of CRH and Quinn (as discussed below) exemplify that importers are competing effectively and will do so to an even greater extent in the future.
- 10.31 The Commission also seeks to establish that the GB Majors intentionally targeted cement importers in order to contain the "*the threat from cement imports (including consideration, and in some cases taking, of specific steps: to restrict the supply of cement to importers; to acquire import terminals and/or importers; to leverage contacts with importers in other markets; and to target lower-priced cement selectively at customers of cement importers.*"¹⁰⁷ Hanson first notes that there would only be a need to "contain importers' activities" if they imposed a real competitive constraint (so the Commission's concerns immediately seem at odds with their statements elsewhere). Hanson further notes that the evidence made available to the Commission, and indeed, the evidence exhibited by the Commission does not support the Commission's allegation of specific action being taken against importers. Moreover it demonstrates the substantial competitive challenge that importers pose within the GB market.
- 10.32 For example, the Commission refers to a Lafarge e-mail¹⁰⁸ that discusses losses of Lafarge to [X] and its associated response to these losses in respect [X]. The Commission cites this e-mail to show "*strategic steps being considered or taken by certain GB producers to seek to contain or undermine individual importers or importers generally which would appear to go beyond normal competition on the merits*". However, the last sentence of the email is crucial in that [X]. The e-mail clearly shows that Lafarge did not regularly or specifically target [X] customers. If Lafarge would have intended to act intentionally against [X] by reason of it being an unwelcome importer, it clearly would have had plentiful opportunities to (unfairly) act against it and outmanoeuvre it frequently – but obviously had not done so. This e-mail therefore proves the contrary to what the Commission seeks to rely upon. This email more generally is illustrative of both the growing impact of importers within the market but also that there was no systematic strategy to act against importers.
- 10.33 The Commission has also suggested that the Internal Documents include other evidence of Hanson working to 'undermine importers' in a manner that is not consistent with normal commercial practice. These suggestions have included:
- 10.33.1 A supposed strategy to buy up the import terminals and ports around the UK in order to prevent imports. Hanson notes that the UK is an island without any shortage of ports, and that such a theory, in so far as it is claimed to describe a serious or realistic objective for any enterprise, is fallacious.
- 10.33.2 A supposed strategy to act against [X] to bar them from imports, on the basis of Hanson having discussions with its parent company in Germany, who was exporting cement directly to such Hanson competitors at a far cheaper price than was available in the UK, enabling both these two competitors to significantly undercut Hanson and win business. As Hanson is in the same economic and corporate group as the relevant Heidelberg German cement subsidiary, Hanson had every right to hold such discussions and they cannot possibly be said to represent conduct going beyond normal commercial practice. No company can possibly be expected to carry capital costs only to compete against itself and destroy its own value and this kind of assessment and tenuous use of evidence by the Commission represents yet further evidence of the Commission's analysis being partisan in suggesting it represents some kind of sinister strategy to undermine importers.

¹⁰⁷ PFs, paragraph 7.97.

¹⁰⁸ PFs Appendix 8.2, paragraph 52.

10.33.3 The Commission will note further that Heidelberg continued to export cement in any event, [X] case leading to very significant unpaid sums on account for cement purchases. Furthermore, rather than working to remove such importers from the market, Hanson met with both of them to supply back up / additional cement supplies directly from the UK operations, although Dudman informed Hanson at the relevant meeting that he could source cheaper cement from abroad.

10.33.4 [X]

11. MECHANISM FOR COORDINATION

11.1 The Commission alleges that three major GB cement producers: Lafarge, Cemex, and Hanson, form part of a coordinating group. A fourth GB major, Tarmac (now HCM), is considered to not be part of that coordinating group, although with insufficient impact to stimulate competition. Imports are similarly considered to lie outside the coordinating group, forming part of a competitive ‘fringe’, but again without material impact.

11.2 The focal point of coordination is alleged to be shares of sales of bulk cement. However, the Commission does not consider there to be strict adherence to a market share target. Instead, it alleges a “competition within bounds” – producers are free to compete with each other for contracts provided that (presumably) market shares are “rebalanced”, and returned to target levels.

11.3 At the same time the Commission alleges that Lafarge has taken a ‘price leadership’ role through the reference period of 2007 to 2011, with Cemex and Hanson following its lead. The Commission does not, however, believe in any coordination on price. Rather, it suggests that the alleged price leadership is more about signalling the direction of prices rather than coordinating on prices *per se*.

11.4 Hanson has a number of very serious concerns about the way that the Commission has devised this alleged mechanism for coordination. These include:

11.4.1 The Commission acknowledges that different firms in the market have very different incentives (which would usually be inconsistent with coordination).

11.4.2 It deals with these asymmetric incentives by attributing three different roles to the players in the market: price leader, price follower, and competitive fringe. However, the evidence does not support the way that firms are assigned these roles.

11.4.3 There is no evidence of any market share targets being agreed – implicitly or explicitly.

11.4.4 There is no evidence of “rebalancing” towards these targets.

11.4.5 The Commission’s focus and weight attached to ‘price leadership’ concerns and ‘signalling to facilitate price increases’ seems unusual and disproportionate in the context of cement prices having been *falling* for the last three years of the five year reference period.

11.5 Hanson hereafter looks into the first two issues, the other two concerns have been discussed above.

Firms have different incentives

11.6 For coordination to be effective (and stable) the incentives of firms need to be compatible. If they are not, coordination will break down as firms fail to reach a tacit agreement, or choose to exit or join the coordinating group. Where firms are similar

(symmetric) incentives are more likely to be compatible. But, as the Commission suggests, this is not a pre-requisite for coordination, and it instead opportunistically reverts to a price-leader follower dynamic as an alternative mechanism for coordination.

- 11.7 However, the Commission makes a number of statements which appear to suggest that – contrary to almost all legal and economic thinking - differing incentives even facilitate collusion. For example:

*“The different incentives of the GB producers (arising, for example, from differences in their size and in the extent to which they made external sales of cement) explained the different roles they adopted in the market, which in turn explained why shares of sales had not been perfectly stable despite the coordination which had been occurring in the market. Their different incentives also explained why asymmetries in their shares of sales, capacity and degree of vertical integration did not prevent—and might even facilitate—coordination.”*¹⁰⁹

- 11.8 This is an extraordinary statement. The Commission first acknowledges that the members of the coordinating group have different incentives, which heavily undermines any theory of coordination. It then goes on to state that this undermining market feature explains another (second) alleged market outcome (price leadership), which is commonly regarded as inimical with coordination. The Commission does not find, however, any coordination on prices. It therefore uses the (second) alleged market outcome to explain inconsistencies in its theory of its (first) market outcome (coordination), such as the unhelpful market observation (share variation) and the undermining market feature (asymmetric incentives). In this twisted way the Commission finds that the undermining market feature actually facilitates (ie strengthens) its theory.

- 11.9 This opportunism is further evidence of the Commission fitting unsupportive facts into its illogic theory.

Assigned roles

Evidence that Lafarge is a price leader

- 11.10 The Commission focuses on two pieces of evidence to support this. First, it announced price changes first on 5 out of 9 occasions. Second, its market share fell, which, the CC argues, is consistent with it taking on the costs of coordination. In addition it cites some internal documents.
- 11.11 As was shown above, there is a 43% chance that one firm out of a three firm group, would announce first on 5 or more out of 9 occasions. It is therefore highly likely that Hanson would observe this pattern of price announcements by chance. The pattern of price announcements therefore provides no evidence of price leadership.
- 11.12 The Commission cites some novel economic literature which states the idea that coordination may not result from symmetric behaviour but instead results from price-leader/price-follower models (contrary to the widely accepted mainstream thinking). According this literature, asymmetric firms have different views on the optimal level of price and output so that they seek to earn different profits. Therefore, bargaining is taking place within the coordinating group as to which market player takes a “share of the pain”. When referring to this theory (and literature), the Commission overlooks two key aspects:
- 11.12.1 It is based on explicit (i.e. cartels), rather than implicit coordination. The ability to communicate is essential for the required bargaining to take place, but the internal documents do not show any evidence of such necessary explicit coordination.

¹⁰⁹ PFs, Summary, paragraph 43.

11.12.2 It is the least efficient firm in the market (and not, as the Commission states, the largest firm) that is predicted to take the highest share of the pain as they have the most to lose by the break-up of the coordinating group. But, Lafarge is the largest, and by the Commission's analysis, the most efficient firm in the coordinating group. Therefore, in the cited economic literature, Lafarge would take the least, and not the most share of the pain. Its market share would therefore be predicted to grow not fall.

11.13 The novel literature cited by the Commission is not, therefore, consistent with the evidence presented by the Commission. Hanson is unclear which model of coordination suggests that the most efficient firm in the market would choose to concede market share to its lesser efficient rivals.

Are Cemex and Hanson price followers?

11.14 The Commission focuses on attempting to demonstrate that Lafarge is a price leader. In doing so, it neglects the need to demonstrate that Hanson and Cemex follow the prices set by Lafarge.

11.15 The evidence in the PFs (redacted and not alluded to in the Commission's overall assessment) provides no evidence that Cemex and Hanson are following Lafarge's (alleged) lead. Indeed, the evidence points to the contrary. In particular:

11.15.1 Lafarge's prices (de-trended) [✂]

11.15.2 Hanson's (de-trended) prices [✂]

11.15.3 Lafarge's prices (de-trended) [✂]

11.15.4 The Commission therefore failed to substantiate its theory of price following.

11.15.5 Indeed the concept of 'price leadership' by Lafarge becomes muddled in the context of the Commission having published separate conclusions showing how [✂]

PART III: PROFITABILITY

12. INTRODUCTION

- 12.1 The Commission places significant weight on its findings of ‘excessive profitability’ (on a continuing cost basis) during the reference period. It uses this finding as a key underpin to its concerns about tacit coordination and to estimate the alleged £180 million in customer detriment. However, the Commission’s profitability analysis is fundamentally flawed. A series of errors in the Commission’s approach invalidate all concerns about excessive profitability and customer detriment.
- 12.2 This section explains where the Commission’s approach is deficient, inconsistent and biased. It is structured in four parts:
- 12.3 Firstly, Hanson summarises the Commission’s position.
- 12.4 Secondly, Hanson explains that **even if** the Commission’s profitability figures were accurate (which they are not), they do not provide any basis for the Commission to conclude that the market is characterised by excessive profitability. In particular:
- 12.4.1 The Commission errs in its treatment of impairment losses, in having omitted to deduct impairments from EBIT for the purposes of calculating ROCE. Correcting this error removes all evidence of excessive profits for the industry. The Commission charges industry on the basis that the Commission’s own calculations suggest that industry did not suffer financially despite the economic downturn; but in order to reach this conclusion, the Commission first excludes from its calculations those exact costs that *were* the principal costs that industry suffered that were caused by the downturn (namely the significant impairments and losses arising from matters such as plant mothballing etc).
- 12.4.2 The Commission fails to acknowledge the acute sensitivity of its results to small changes in its input assumptions; even its own sensitivity scenarios show profitability falling substantially when critical assumptions are flexed. The Commission provides very little evidence to justify some of the critical assumptions it relies upon; acknowledging that certain assumptions are “necessarily imprecise” and not empirically tested.
- 12.4.3 The reference period of 5 years is too short to fairly evaluate the returns on long-lived assets. This means that the Commission needs to set a high hurdle if it is to establish evidence of excessive profitability.
- 12.4.4 The Commission draws conclusions about ‘industry profitability’ where this profitability relies fundamentally on the performance of one Major. This Major alone accounts for all of the alleged customer detriment. [✂]
- 12.4.5 The Commission finds a margin above the cost of capital which is an unprecedentedly low one on which to reach a conclusion of excessive profits. In other inquiries, the Commission has concluded that such a margin would not justify adverse findings or intrusive intervention.¹¹⁰
- 12.5 Thirdly, Hanson explains why the Commission’s approach is fundamentally flawed at a conceptual level. In particular:
- 12.5.1 The Commission errs in its extensive use of and reliance upon the Byatt Report that forms the foundation of its analysis. The Byatt Report was prepared to guide ex ante pricing for a nationalised monopoly (price setter),

¹¹⁰ For example, the Commission’s market investigation into multiple grocery retailers.

not for ex post evaluation of profits in an industry where there are competing firms.

- 12.5.2 The Commission's approach to depreciation is unrealistic and not supported by empirical evidence.
- 12.5.3 The Commission's estimate of the Modern Equivalent Asset ("MEA") value is excessively conservative.
- 12.5.4 The Commission uses a biased test to justify its concerns about weak profits in the downturn.
- 12.6 Finally, Hanson lists a series of smaller, but material, inconsistencies in the Commission's approach, conclusions, and failure to take account of comments submitted by Hanson at the Working Paper stage.
- 12.7 Considering the arguments outlined above, there is no basis for the Commission to conclude there is evidence of excessive industry profitability. Importantly there is no reason to assume that there will be any excess profitability on a forward-looking basis and this should remove any requirement for remedies. The revenues from carbon credits have reduced significantly and acquiring carbon credits will become an actual cost weighing down profitability in future.
- 12.8 Hanson notes also, as a point of process, the Commission prevented Hanson's economic advisors from seeing the underlying spreadsheets in which the Commission undertook its profitability analysis. There is insufficient data in the PFs to recreate the Commission's analysis. This prevented Hanson's advisers from validating the accuracy of the Commission's calculations or from running any sensitivity analysis on its figures to supplement the two sensitivity scenarios reported by the Commission. On such a critical piece of analysis, Hanson would have expected greater disclosure.

13. THE COMMISSION'S POSITION

- 13.1 The Commission first estimates a representative weighted average cost of capital ("WACC"). In its view this will lie in the range between 8.2% and 11.5% (although most of the Major's WACCs fall in the range 9.5% to 11.5%). The Commission chooses to use 10% as the benchmark, which is marginally above the midpoint of its range, although represents the lower end for the majors.
- 13.2 The Commission assumes that, in a well functioning market, companies would earn normal returns, where normal returns are in line with WACC.
- 13.3 It considers returns over the five year reference period (2007 to 2011).
- 13.4 The Commission considers that the return on capital employed ("ROCE") estimated based on the continuing costs of supply provides "*the best measure of profitability...as it governs how prices would be set in a competitive market*"¹¹¹. The Commission further argues that firms in competitive markets should achieve Financial Capital Maintenance ("FCM").
- 13.5 The Commission estimates the MEA based on an integrated 1 megatonne, dry-process cement production facility constructed on a brownfield site; the Commission believes this would have cost £170 million in 2007 prices.
- 13.6 The Commission estimates the MEA values for the actual active plants in the industry by depreciating the plant according to its age along a convex "declining balance" depreciation profile. The Commission draws extensively on the Byatt Report to explain the foundations for this declining balance profile. The Commission concludes that this

¹¹¹ PFs, paragraph 7.138.

profile is appropriate because two (of four) relevant factors predict this shape; although it accepts that the other two factors do not. The Commission assumes a 3.5% diminution rate to determine the shape of the curve.

- 13.7 Once the MEA 2007 values are determined for each plant, the Commission then varies the value of these plants over the five year period on the basis of industry clinker production. Where industry clinker production falls, MEA values are impaired (resulting in impairment losses against profits). When clinker production rises (in the last years of the reference period), MEA values are written up and impairment “gains” are recognised. Given the decline in the industry, on aggregate, there are very substantial impairment losses over the five year period 2007 to 2011.
- 13.8 In calculating continuing costs of supply the Commission excludes the revenues earned from sales of carbon permits (as these were exceptional) and impairment losses (on the grounds that these were unexpected).
- 13.9 The Commission finds evidence that “[p]rofitability based on the continuing costs of supply... exceeded the cost of capital throughout the period of review”¹¹².
- 13.10 The Commission’s main scenario estimates an average pan-company continuing costs ROCE for the reference period of 13.3%, compared to a mid-point WACC estimate of 10.0%. This is a difference of only 3.3 percentage points (and less than 2 percentage points based on the top end of the WACC range identified by the Commission). On the Commission’s ‘all costs’ basis (i.e. taking account of carbon revenues and impairment losses) the difference is even narrower. If impairment losses are added to the continuing costs measure, the average industry ROCE falls to 9.3%, which is below the mid-point WACC estimate.
- 13.11 The Commission is particularly concerned that profits in 2011 returned to pre-crisis levels.
- 13.12 Hanson’s ROCE on the Commission’s approach is estimated at only 6.1% on a continuing costs basis (and 3.7% on an all costs basis); very significantly below the cost of capital.
- 13.13 The Commission presents two sensitivity scenarios in the PFs Appendix on Cement Profitability (although these are not acknowledged in the body of the PFs). In each, it changes only one of several possible input assumptions. Changing the MEA value to £200 million causes ROCE on a continuing costs basis to fall to only 11.4% (within the Commission’s own WACC range). And changing the declining balance depreciation rate to 2.5% leads to a ROCE on a continuing costs basis of 12.1%. The Commission does not consider any further sensitivities or combination of sensitivities.
- 13.14 Finally, the Commission argues its conclusions are conservative because (a) it says it has not adjusted for the higher operating costs of “*undoubtedly*” older and less well-located plants, and (b) it has observed profits during a recession when profits would have been depressed in any event.

14. **INSUFFICIENT EVIDENCE ON WHICH TO CONCLUDE EXCESS PROFITABILITY**

- 14.1 Hanson believes that even if the Commission’s figures and approach were assumed to be accurate (which it is not) they would not provide any basis on which to conclude that the industry exhibits excessive profits.

Fundamental and unacceptable errors in treatment of impairment losses

- 14.2 The Commission elects to *exclude* impairment losses from its calculation of ROCE on a continuing costs basis. This has a material impact on the Commission’s results

¹¹² PFs, paragraph 8.3(b).

because, as noted above, under the Commission's approach to determining asset values based on industry clinker production, aggregate impairment losses for the industry are very substantial over the five years.

- 14.3 The Commission's treatment of these impairment losses is inconsistent, absolutely incorrect and creates an unacceptable bias towards excess profits and is completely unrealistic.
- 14.4 Conceptually, the Commission's calculation of ROCE on a continuing cost basis uses a numerator and denominator that are *inconsistent* with each other. The denominator, capital employed, is calculated after the asset base has been impaired. The numerator, however, excludes the associated impairment charges i.e. return is calculated before a charge for impairments in the period is recognised, but is then expressed as a percentage of an asset base calculated after the same charge for impairments has been deducted. This is devoid of mathematical sense and creates an immediate upward bias to distort and inflate the ROCE.
- 14.5 The treatment is also contrary to and inconsistent with FCM, the Commission's own stated approach, where "*the whole of the expected change in the value to the business of its assets (after allowing for acquisitions and disposals) must be charged to the profit and loss account to reflect the continuing costs of supply.*"¹¹³ Hanson agrees that FCM is the correct approach to adopt when assessing profitability, as "*no commercial competitors would come into an industry if they did not expect to be able over the longer term to recover the decline in value of their assets, as well as earn a normal profit*"¹¹⁴. However, the entirety of the change in value to the business of its assets – expected and unexpected – needs to be charged to the profit and loss account to calculate profitability on a continuing costs of supply basis. The Byatt Report defines the FCM depreciation charge as "*equal to the total change in real terms in the amounts at which assets are stated in the balance sheet adjusted for purchases and sales during the year.*"¹¹⁵ (emphasis added)
- 14.6 Furthermore, the Byatt Report itself also describes how impairment charges should be considered as part of continuing costs:
- "Most unexpected changes in the real value of assets, when they are recognised, will occur in the ordinary course of business and should be taken through the profit and loss account immediately. They form part of continuing costs..."*¹¹⁶
- 14.7 The Commission is therefore incorrect in its treatment. This can be illustrated further by the unrealistic outcomes that would occur if economic profitability is measured on the Commission's approach – according to this approach: on the same day as demand for cement is so bad that investors take the painful decision to impair assets (and so accept they will not be able to recover the costs of their investments), the company could be declared super-profitable (because of the reduction in asset base without an associated impairment charge). In the Commission's world, impairing assets would be cause for investor celebration and would justify regulatory intervention. This is clearly nonsensical.
- 14.8 Figure 9 shows that if one corrects for the Commission's treatment of impairment charges – i.e. calculate continuing costs including impairment charges – concerns about excess profits disappear on all scenarios. For the Commission's main scenario, the average pan-company continuing costs ROCE for the reference period (2007-11) falls from 13.3% (3.3 percentage points above the Commission's mid-point WACC estimate) to 9.3% (0.7 percentage points below the Commission's mid-point WACC estimate). For both of the Commission sensitivity scenarios, the average ROCE falls below 8% when impairment costs are included.

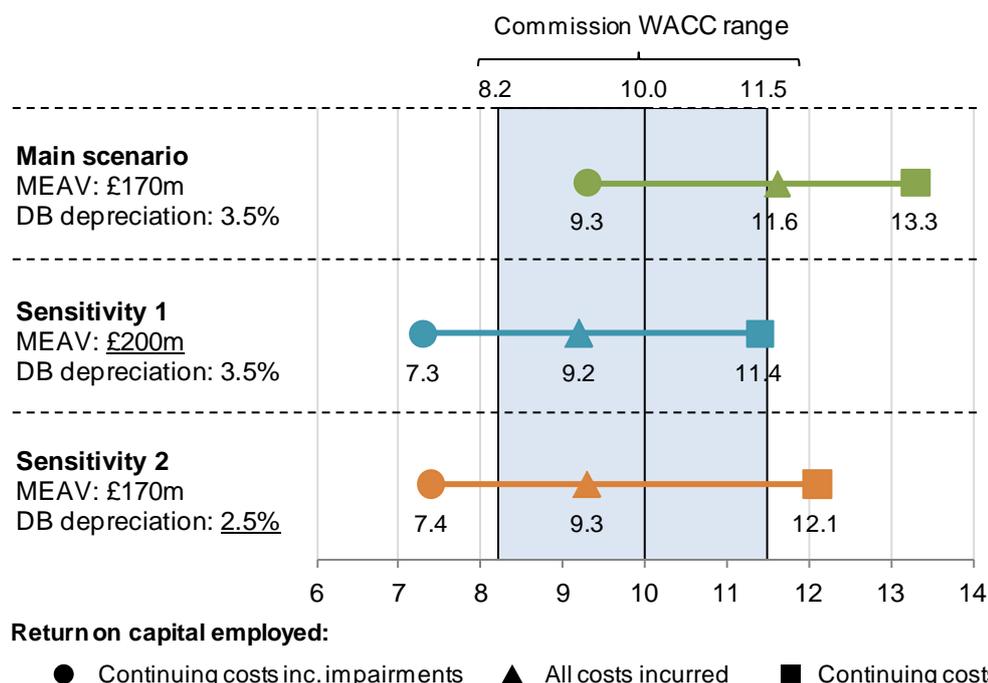
¹¹³ PFs, Appendix 7,7, paragraph 86.

¹¹⁴ PFs, Appendix 4.1, paragraph 78.

¹¹⁵ Byatt Report Volume II, page 136.

¹¹⁶ Byatt Report Volume II, paragraph 4.47.

Figure 9: Commission main scenario and sensitivities of pan-company return on capital employed compared to WACC, (2007-2011 average, %)



* Continuing costs ROCE is as stated by the Commission in the PFs. This is an incorrect, inconsistent and biased measure of profitability.

Source: Hanson analysis, Commission

The reference period is not representative

- 14.9 The Commission considers the period 2007 to 2011 – 5 years. This reference period is too short taking into account (a) the long lived nature of cement plants, an issue recognised in the Guidelines; (b) the Commission’s own thought-experiment with respect to depreciation; and (c) the extra-ordinary market change that took place during the period.
- 14.10 The Commission recognises that cement plants have very long useful economic lives: “of the order of 50 years but with no sharp cut-off”¹¹⁷. The 5-year reference period therefore, at most, considers the returns over only 10% of a plant’s life. In a competitive market, normal returns would be expected over the whole of the plant’s life, anticipating of course that over that life there would be periods of above normal and periods of below normal profitability. Therefore, a window extending only up to 10% of an asset’s life cannot be sufficient to form a clear view on whether observed returns are excessive.
- 14.11 Indeed, the shape of the depreciation curve used by the Commission means that firms need to recover capital invested in a cement plant on a non-linear and declining basis. Under such a profile, the depreciation charged against earnings changes materially over the course of an asset’s life. Looking at profitability over such a small part of the asset life cannot give an accurate picture of whole life plant profitability.
- 14.12 Hanson notes that the Guidelines describe that a “*situation where profitability of firms representing a substantial part of the market has exceeded the cost of capital over a sustained period could be an indication of limitations in the competitive process*”¹¹⁸ (emphasis added). Within the reference period, on all the Commission’s measures

¹¹⁷ PFs, Appendix 7.7, paragraph 114.

¹¹⁸ The Guidelines, paragraph 118.

there are periods where profitability falls within the Commission's WACC range (and, on the all costs incurred basis, significantly below it).¹¹⁹

- 14.13 Hanson notes that the Guidelines recommend that the period over which profitability is assessed should consider the unique circumstances of the industry in question. In particular, the Guidelines state that “[w]here investment is characterized by large one-off expenditure...it may be desirable to consider profitability over a relatively long period of time”¹²⁰. At the profitability working paper stage the Commission acknowledged the size and lumpiness of investment: “The analysis has highlighted the fact that in order to compete successfully in this market, a very large lumpy investment, currently of the order of £200 million, is required in an asset with a potentially very long asset life which is ideally operated at full capacity.”¹²¹
- 14.14 Furthermore, the actual reference period chosen by the Commission covered a time of extraordinary economic volatility, which is not representative of normal trading conditions in the GB cement industry. The Commission has recognised this:
- “We therefore consider that the period of review (FY07 to FY11) has not been fully representative of either the competitive conditions which had been sustained prior to the downturn in 2007 or the competitive conditions in this mature market which may exist under more stable demand conditions.”*¹²²
- 14.15 During this period, the UK experienced its deepest post-war recession and the cement industry, in particular, realised temporary exceptional profits from a carbon trading scheme that will soon cease. However, the Commission appears to be comfortable using profitability measured over this extra-ordinarily unrepresentative period to conclude on likely profitability in more normal market conditions and, potentially, to impose remedies on this basis. The Commission cannot use evidence from such an exceptional period to inform decisions that are intended to remedy problems supposed to be present in the cement market in normal conditions.
- 14.16 If the Commission is to use the chosen reference period to establish whether there is evidence of excess profitability, given the issues with the reference period Hanson outlined above, a much higher hurdle than is currently used needs to be adopted.
- Industry profits depend entirely on one Major
- 14.17 Analysis of the Commission's company-level profitability estimates indicates that industry profitability (on the Commission's continuing costs basis) is driven overwhelmingly by returns in excess of the cost of capital at only one producer (see Confidential Appendix C – Pan-company Profit and Clinker Production Analysis, for a company-level breakdown of industry profitability estimates). [REDACTED]
- 14.18 Excluding the most-profitable Major reduces the average industry ROCE (on a continuing costs basis) to a level where excess profits disappear completely i.e. there would be no evidence that the other Majors were contributing to any customer harm.
- 14.19 Hanson notes [REDACTED]. This suggests that the chosen asset valuation methodology may be unduly influencing the profitability estimates under the Commission's chosen approach.
- 14.20 In addition, an industry in which a single firm generates a high level of excess profitability while the remaining firms generate more “normal” returns can be entirely consistent with effectively functioning competition. For example, the high profitability Major may benefit from cost advantages from being relatively efficient, either due to structural (e.g. the location of its plants gives it a competitive advantage) or temporary

¹¹⁹ We discuss the appropriateness of comparing profitability levels between periods further below.

¹²⁰ The Guidelines, Annex A, paragraph 10.

¹²¹ CCA Profitability Working Paper, paragraph 14.

¹²² PFs, Appendix 4.1, paragraph 4.1.

(e.g. it is the first-mover in implementing a new, more efficient production technology) factors¹²³. The Commission does not consider any of these alternative explanations to the observed patterns in profitability.

Acutely sensitive assumptions

- 14.21 Given the highly stylised model applied by the Commission to estimate depreciation and model changes in MEA values, the results of the analysis depend critically on the input assumptions.
- 14.22 The Commission conducts only two sensitivity scenarios, varying only one assumption underpinning the analysis in each case. Both sensitivities show profits falling significantly, which casts substantial doubt on the robustness of the Commission's main scenario. At the working paper stage Hanson asked the Commission to conduct further sensitivities – e.g. changing two variables simultaneously – but the PFs dismiss this request, judging it unnecessary¹²⁴.
- 14.23 The Commission presents insufficient evidence to support the judgments it makes on the levels it includes in its analysis.
- 14.24 Three assumptions are particularly material:
- 14.24.1 The shape of the depreciation profile;
 - 14.24.2 The diminution rate used in the chosen profile; and
 - 14.24.3 The 2007 MEA value.
- 14.25 Hanson discusses each of these three assumptions in turn.

Shape of the depreciation curve

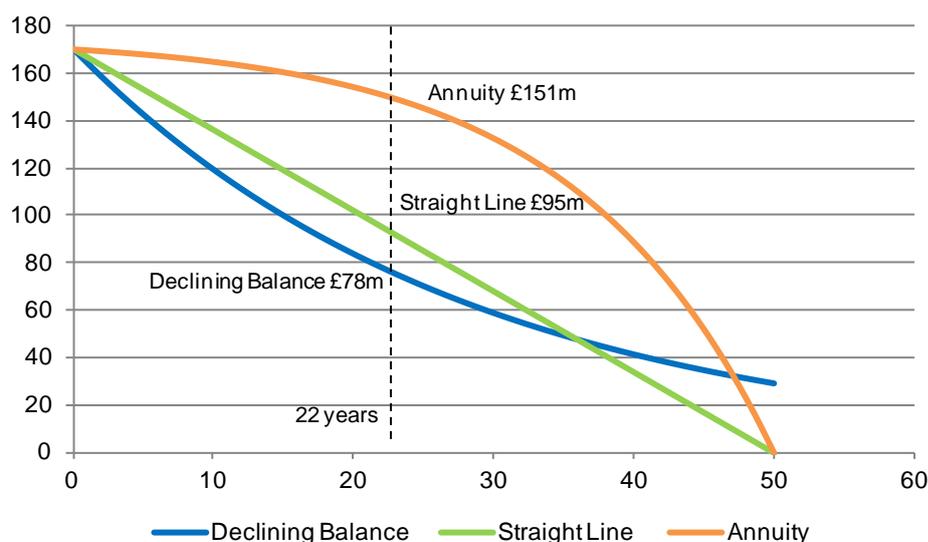
- 14.26 The Commission chooses a declining balance depreciation curve (rather than a straight line or annuity curve).
- 14.27 This is a critical decision because the shape of the curve has a very material impact on the analysis. Figure 10 illustrates that the difference in depreciated asset values for a 22-year old asset¹²⁵ with a £170 million replacement cost under different shapes of the depreciation curve. The difference in values is material: at 22 years, the depreciated asset value under an annuity approach is almost double that under the declining balance approach.

¹²³ Efficiency and profitability in the context of competitive markets is discussed further below.

¹²⁴ PFs, Appendix 7.7, paragraph 184 notes: "We have considered these comments [about undertaking further sensitivity analysis] and concluded that in the first instance emphasis should be placed on firming up on the evidence supporting each input rather than performing extensive, and at times contradictory, sensitivity analysis. The evidence supporting input values was likely to come only from those with expertise in the cement industry".

¹²⁵ Based on Commission analysis (PFs Appendix 7.7, Table 7), the average age as at the beginning of 2007 of the GB cement plants still in operation in January 2013 was 22 years.

Figure 10: Alternative depreciation methods (£m, real 2007 prices)



Note: Declining balance based on 3.5% annual decline; straight line based on 50-year economic life; annuity based on 50-year economic life, nominal WACC of 10% converted to real WACC using assumed inflation of 2.5%; all approaches based on £170m asset replacement cost. Source: Hanson analysis

- 14.28 The Commission makes a significant judgment in choosing its declining balance profile:

“[W]e chose a declining balance ‘convex’ depreciation profile, declining at 3.5 per cent per year in perpetuity. Two of the four factors which taken together determine this profile (and asset lives), namely rising running costs and technical progress, predicate a convex profile, the third factor, expected output levels, predicates a straight-line depreciation profile and the final factor, the opportunity cost of capital, predicates a concave profile”¹²⁶.

- 14.29 With regard to the assertion of rising running costs, Hanson have previously submitted that cement plant running costs have in fact fallen over time¹²⁷. This further weakens the appropriateness of the depreciation curve adopted by the Commission.

- 14.30 The Commission also caveats its choice (and indicates it is still under review):

“We acknowledged that our chosen depreciation profile was based on empirical observation rather than a mathematical synthesis of all the factors likely to influence the loss in value over time of a cement plant. In particular we considered that emphasizing only one of these factors’ influence on the depreciation profile, such as the time value of money, would not necessarily take account of the best information available taken all together. We are therefore considering developing a custom depreciation profile to refine our analysis of GB cement producers’ profitability”¹²⁸.

- 14.31 Further, the Byatt report suggests that an annuity approach may be appropriate for long-lived assets (such as cement plants):

“[I]f interest cost is an important factor, as it is with long lived assets, it is strictly necessary to take this into account in profiling the depreciation through time to get an accurate estimate of the current value of the asset.”¹²⁹

¹²⁶ PFs, Appendix 7.7, paragraph 112.

¹²⁷ Hanson’s response to CCA Profitability Working Paper, paragraph 3.9.

¹²⁸ PFs, Appendix 7.7, paragraph 118.

¹²⁹ Byatt Report Vol II, paragraph 2.44.

- 14.32 Given the uncertainty associated with the appropriate depreciation profile, one would expect to see the Commission consider the profitability impact of different depreciation profiles.

3.5% diminution rate

- 14.33 The only justification given for the annual diminution rate of 3.5% used by the Commission in the declining balance depreciation profile it adopts is that *“it did not appear to result in an unrealistically high MEA value for older assets and was consistent with a realistic expected useful asset of the order of 50 years but with no sharp cut-off.”*¹³⁰ Even small changes in this assumption have a significant impact on the industry profitability estimates (as evidenced by the Commission’s own sensitivities). Further, the chosen combination of the shape of the depreciation profile and diminution rate leaves a material amount of capital that is never recovered under the Commission’s approach to depreciation. This issue is discussed in further detail below.

The 2007 MEA value

- 14.34 The Commission considers a range of data sources to inform its view that a modern equivalent cement production facility capable of producing 1Mt of clinker per annum would cost £170 million at a January 2007 price level. These include the cost of actual investments made in the reference period, the bottom-up replacement cost estimates submitted by Hanson, and estimates provided by each of the Majors.
- 14.35 The key data points relied upon by the Commission in forming its estimate are presented in Confidential Appendix 3 – Pan-company Profit and Clinker Production Analysis. In arriving at the £170 million MEA plant estimate, the Commission has put most weight on the costs of Irish Cement’s Platin plant *“as it was the investment in the British Isles closest to the start of the period of review, 1 January 2007, and the investment is properly supported by a breakdown of the costs actually incurred”*¹³¹.
- 14.36 In its response to the Commission’s Profitability Working Paper, Hanson questioned the Commission’s reliance on the Platin example – a single data point, from a different country, opened significantly after the crisis had begun. Further, Hanson questioned why:
- 14.36.1 The Commission’s discounts of the plant commissioned in Rugby in 2000 for £300m in 2007 prices (£231 million when normalised to 1Mt output¹³²). The Commission fails to explain why it dismisses the Rugby estimate from the group of comparators, beyond a footnote noting that the Rugby plant *“is not a dry process plant”*¹³³ (the Commission assumes that the modern equivalent asset is a dry process plant). However, given the very significant difference between £231 million and £170 million Hanson believes that more robust reasoning is required.
- 14.36.2 The Commission discounted the evidence submitted by the parties that it would cost significantly more than £170 million to build a new plant and would take several years (increasing costs further). The Commission actually relies on this evidence elsewhere in forming its view that entry barriers are high¹³⁴.

¹³⁰ PFs, Appendix 7.7, paragraph 114.

¹³¹ PFs, Appendix 7.7, paragraph 62.

¹³² Based on the assumption of annual clinker output 1.3 Mt for the Rugby plant. The Commission state that the Rugby and Platin plants are of *“similar scale in terms of capacity”* (Appendix 7.7, paragraph 30) and that the Platin plant has a production capacity of 1.3 Mt per year (Table 4, Appendix 7.7).

¹³³ PFs, Appendix 7.7, footnote 10.

¹³⁴ PFs, Appendix 7.4.

14.36.3 The Commission fails to recognise that the bottom-up cost estimates supplied by Hanson were conservative because they excluded certain important assets.

14.37 The Commission also assumes that the MEA plant is located “*on or adjacent to an existing (brownfield) site.*”¹³⁵ Hanson notes that the Commission define the MEA plant as “*the plant that a new entrant could have bought had it entered the market.*”¹³⁶ It is not clear to us that a new entrant would be able to easily secure a brownfield site for development into a new cement plant. If a new entrant was required to develop a greenfield site, besides the costs listed by the Commission that are avoided by the development of a brownfield site¹³⁷, the new entrant would face additional significant costs related to securing planning permission. All of these factors would increase the costs of a new cement plant that a new entrant would face relative to the MEA value used by the Commission.

Uncertainty of assumptions

14.38 At several points, the Commission notes how certain key assumptions are imprecise, untested, and based on judgment over conflicting factors. Examples include:

*“...Whether on balance such sophistication in the analysis is material in the light of necessarily imprecise assumptions concerning asset lives and use patterns is an empirical matter...”*¹³⁸

*“We do not have detailed insight into all the factors influencing decisions on economic useful lives and their associated depreciation profile for individual (groups of) cement assets. This detailed insight can only come from deep experience of commissioning and operating a portfolio of cement works ...”*¹³⁹

*“We acknowledged that our chosen depreciation profile was based on empirical observation rather than a mathematical synthesis of all the factors likely to influence the loss in value over time of a cement plant. In particular we considered that emphasizing only one of these factors’ influence on the depreciation profile, such as the time value of money, would not necessarily take account of the best information available taken all together. We are therefore considering developing a custom depreciation profile to refine our analysis of GB cement producers’ profitability”*¹⁴⁰.
[emphasis added]

14.39 Given this level of uncertainty, the Commission cannot reasonably reach a conclusion of excess profitability when there is such a small margin between the Commission’s own (flawed) measure of industry return on capital employed and the estimated WACC.

An unprecedentedly low differential

14.40 The Commission concludes there is excessive profitability based on a 3.3 percentage point differential between the average industry ROCE and its WACC estimate. This is an extremely narrow gap, especially when the sensitivity of the figures is considered. Hanson notes that previous market investigations have identified larger differentials, in equally concentrated markets, and yet concluded that profitability was in no way excessive.

14.41 The Commission’s final report into the supply of groceries in Great Britain, for example, found that the multiple grocery retailers had “*received average returns over*

¹³⁵ PFs, Appendix 7.7, paragraph 43.

¹³⁶ PFs, Appendix 7.7, paragraph 22.

¹³⁷ PFs, Appendix 7.7, paragraph 41.

¹³⁸ PFs, Appendix 7.7, paragraph 109.

¹³⁹ PFs, Appendix 7.7, paragraph 111.

¹⁴⁰ PFs, Appendix 7.7, paragraph 118.

the period 1993 to 1999 of 4.0 percentage points above their cost of capital”¹⁴¹ yet concluded “that the overall profitability of the multiple grocery retail industry cannot be considered excessive now, or to have been excessive since 1996”¹⁴².

14.42 Indeed, Hanson notes that at the working paper stage the Commission recognised the narrowness of this differential: “... we estimate that profitability across the four GB cement producers has been in excess of their cost of capital over the period, although not exceptionally so”¹⁴³ (emphasis added).

14.43 Further, there may be several reasons why a positive differential may be justified and not necessarily inconsistent with competitive markets.

14.44 The Guidelines address this point:

“Firms in a competitive market would generally earn no more than a ‘normal’ rate of profit ...In practice, a competitive market would be expected to generate significant variations in profit levels between firms and over time as supply and demand conditions change, but with an overall tendency towards levels commensurate with the cost of capital of the firms involved. At particular points in time the profitability of some firms may exceed what might be termed the ‘normal’ level. There could be several reasons, including cyclical factors, transitory price or other marketing initiatives, and some firms earning higher profits as a result of past innovation, or superior efficiency”¹⁴⁴ (emphasis added).

14.45 The Byatt Report also notes:

“While some projects or activities will only earn normal returns (i.e. only cover their cost of capital) some will earn higher profits. This may occur for a number of reasons. Some firms or managers may be more than usually efficient and enterprising. Their costs may be low or they may be ahead of other firms in the search for new profitable activities. They may have special advantages in their markets or they may have special access to cheap resources, e.g. supplies of raw materials”¹⁴⁵ (emphasis added).

14.46 Periods of higher profitability may also reflect firms making up for past periods of insufficiently high or negative profitability. For example, in a recession prices may fall to a level at which long run average costs are not fully recovered (e.g. prices result in recovery of short run marginal costs only). If firms are to be able to achieve financial capital maintenance in the longer term, this period of pricing below long run average cost recovery must be “made up” for. This would result in period of above “normal” levels of profitability, but would not be inconsistent with firms generating a “normal” level of profitability over the longer term.

Concerns about returns at the end of the reference period

14.47 The Commission describes how at the end of the reference period “*the profitability of three out of four cement producers (on all the bases we analysed) rose to levels beyond those at that start of the period, despite the continued adverse trading conditions.*”¹⁴⁶ The Commission also comment that two cement producers made “*returns in excess of their cost of capital in the most recent year...analysed.*”¹⁴⁷

¹⁴¹ “*Supermarkets: A report on the supply of groceries from multiple stores in the United Kingdom*”, Competition Commission, 2000, paragraph 2.152. Profitability in the supermarkets market investigation was measured using IRR rather than ROCE, but both measures are comparable to the cost of capital.

¹⁴² *Ibid*, paragraph 2.154.

¹⁴³ “*Current cost accounting profitability assessment for cement*”, Competition Commission, paragraph 7.

¹⁴⁴ The Guidelines paragraph 117.

¹⁴⁵ Byatt Report, Vol II, paragraph 3.16.

¹⁴⁶ PFs, Summary, paragraph 33(b).

¹⁴⁷ PFs, paragraph 7.141.

14.48 With respect to the Commission's estimates of profitability prepared on a current cost basis, the approach to modelling impairments that the Commission has adopted means that analysing year-on-year changes in profitability is not informative of underlying trends in profitability. The Commission acknowledges this point when they state that "*profitability assessed on the aggregate of [impairment losses] is more meaningful than looking at the values calculated for each year.*"¹⁴⁸

14.49 As a result, statements regarding trends in profitability measured on a current cost basis across the reference period are misleading. Even if it was appropriate, the Commission's statement that profitability was higher at the end of the reference period than the beginning is biased, as it disregards the intervening period of reduced – and even negative on some bases – profitability.

15. **FLAWED METHODOLOGY APPLIED**

15.1 The profitability analysis heavily references the Byatt Report¹⁴⁹ – the report is cited a total of 19 times in the PFs. However, the Commission misapplies the report.

A different purpose

15.2 A key issue is that the Byatt report was not prepared to evaluate *ex post* economic profitability in multi-firm competitive markets. The Byatt report was written to improve published accounts to assist regulators with *ex ante* price setting for national monopoly businesses that were subject to regulation and in many cases price control. The Byatt report terms of reference describe the report's purpose:

"To advise the Treasury how, and to what extent, accounting policies (especially in relation to depreciation and asset valuation) might be developed so that the accounts of nationalised industries can provide appropriate measures of economic cost"¹⁵⁰.
[Emphasis added]

15.3 This difference in purpose is important. When setting prices on a forward-looking basis for a regulated or nationalised monopoly it would be appropriate and possible to model a declining balance depreciation curve on which to base prices. If market circumstances changed, it would be possible to re-evaluate and re-balance prices – for example, at a future price control. In addition, market conditions facing nationalised monopolies are relatively stable and easily forecastable (for example, demand in the water industry). As can be seen from the large shifts in demand over the reference period, the same cannot be said for the cement industry.

15.4 When the declining balance curve is fitted to explain historic, actually observed data, it implicitly and incorrectly assumes that (i) the owners of the assets had the precise shape and asset life in mind when setting prices over the life of the asset as the curve now assumes and (ii) in the period before the reference period the owners were able to actually achieve the prices implied by the curve and, as such, earned a normal profit. As this period is not considered as part of the analysis, Hanson is not able to conclude that this in fact the case.

Approach to depreciation

15.5 In forming its view on an appropriate depreciation profile to use, the Commission reproduces the convex asset value curve from the Byatt Report presented in Figure 11 below. The Byatt Report argues that modelling depreciation using such a curve is appropriate when "*the real replacement costs of assets are falling as a result of technical progress in capital goods*"¹⁵¹. Hanson contrasts this to the Commission's

¹⁴⁸ PFs, Appendix 7.7, paragraph 13.

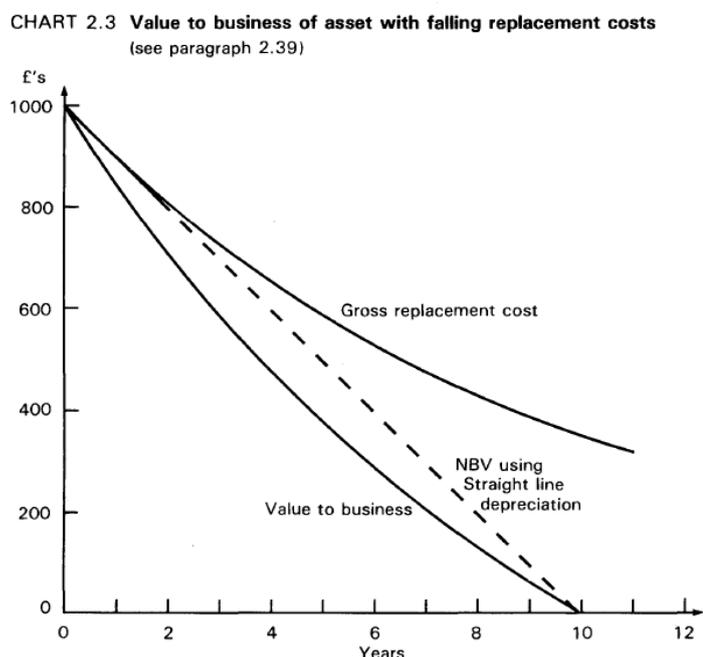
¹⁴⁹ Accounting for Economic Costs and Changing Prices: A Report to HM Treasury, 1986.

¹⁵⁰ Byatt Report Vol I, page 3.

¹⁵¹ Byatt Report Vol II, paragraph 2.36.

statement that “the capital cost of new, more efficient, kiln technology has risen continually in recent years”¹⁵².

Figure 11: Convex asset value curve



Source: Byatt Report Vol II, page 21.

- 15.6 The Commission support the use of a “*declining balance ‘convex’ depreciation profile*”¹⁵³ primarily because it is consistent with cement plants having “*very long economically useful asset lives*”¹⁵⁴ and “*no clear use-by date*”¹⁵⁵. This is clearly an entirely different justification for a convex depreciation profile than that advanced in the Byatt Report.
- 15.7 Hanson agrees with the Commission that cement plants have long useful economic lives. They are not, however, infinite, as the Commission’s approach to depreciation implies. The approach is also not consistent with the Commission’s statement that “*there was no evidence to suggest that cement assets have anything other than a finite useful economic life*”¹⁵⁶.
- 15.8 Hanson notes that an asset being depreciated on a 3.5% declining balance basis retains 17% of its original value after 50 years (the Commission’s “*realistic expected*” asset life¹⁵⁷). Even at 60 years, the asset is still worth 12% of its original value. Under the Commission’s approach to depreciation, the full amount of capital invested in an asset is never completely recovered.
- 15.9 Furthermore, if depreciation was actually shaped in line with the Commission’s assumed profile, there would be a large spike in depreciation (see Figure 12 below) when an asset did actually reach the end of its economic life. This profile implies that producers would incur a large impairment charge at the end of the asset life. For FCM to hold, it is necessary for investors to recover all their capital costs, including this end of life impairment cost implied by the Commission’s methodology.

¹⁵² PFs, Appendix 7.7, paragraph 99.

¹⁵³ PFs, Appendix 7.7, paragraph 112.

¹⁵⁴ PFs, Appendix 7.7, paragraph 113(a).

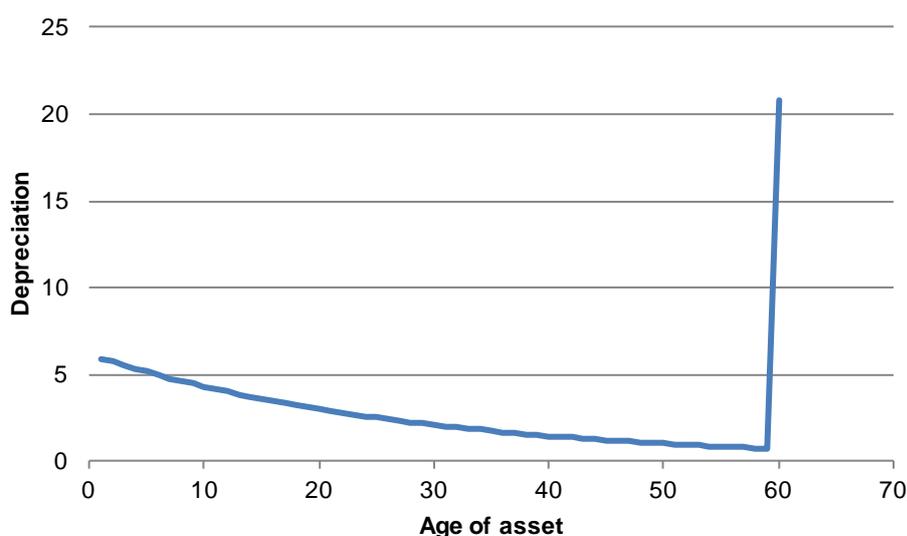
¹⁵⁵ PFs, Appendix 7.7, paragraph 113(b).

¹⁵⁶ PFs, Appendix 7.7, paragraph 117.

¹⁵⁷ PFs, Appendix 7.7, paragraph 114.

- 15.10 As this element of capital recovery is simply not included by the Commission in its calculation of ROCE, the Commission's profitability estimates are further biased upwards. To consider the potential size of this bias, Hanson calculated the additional uplift (or 'tilt') in depreciation required for a £170 million asset (with an actual useful economic life of 60 years that is depreciated on a 3.5% declining balance basis), to be fully depreciated after 60 years (i.e. such that capital is fully recovered). Hanson estimate that the required uplift to standard declining balance depreciation in each year is c13%. Uplifting CCA depreciation in each year by this amount reduces the pan-company 2007-11 average ROCE (on a continuing costs basis) by approximately 40 basis points.

Figure 12: Depreciation profile required to fully recover a £170 million investment with a 60-year useful economic life and 3.5% declining balance depreciation in years 1 to 59 (£m)



Source: Hanson analysis

16. WIDER CONCERNS ABOUT PROFITABILITY ANALYSIS

No consideration of Intangible assets

- 16.1 Hanson notes that the Commission has not included intangible assets in the estimates of capital employed used in the profitability analysis. While intangible assets will make up a relatively low proportion of the overall asset base (when compared with the levels of tangible fixed assets) for a cement business, they do exist and it is unreasonable simply to assume that they have a zero value. The Commission's failure to include any allowance for intangibles results in a further source of bias, as calculated levels of profitability are inevitably higher than their true levels. This should be taken into consideration by the Commission when it interprets its results, particularly given the relatively small gap between its ROCE estimates and the WACC.

A focus on the profitability of the cement majors only

- 16.2 The Commission acknowledges that focussing only on the profitability of the Majors may raise issues of 'survivorship bias', which "*may suggest that large, successful firms are likely to exhibit profitability levels that are not representative of the profitability of smaller, and potentially less successful, firms in the market*"¹⁵⁸.

¹⁵⁸ PFs, Appendix 4.1, paragraph 32.

- 16.3 In response to this concern, the Commission conduct a separate assessment of the profit margins (on an EBITDA basis) of the medium-tier operators compared to those of the Majors.¹⁵⁹ As margin analysis takes no account of the level of capital employed in a business, this approach is not a substitute for a proper ROCE-based profitability assessment. As conceded by the Commission, “*different margins could reasonably be expected for operations with different capital intensities.*”¹⁶⁰
- 16.4 The Commission’s comparative analysis of margins suggests that the margins of the Majors “*were at significantly higher levels than the margins generated by any of the medium-tier independents.*”¹⁶¹ If margin analysis is to be used as a proxy for profitability analysis, as the Commission appears to be arguing, lower margins for the medium-tier independents suggests that they also have lower overall profitability. As a result, if they were to be included along with the Majors in profitability analysis of the wider industry, overall industry profitability would fall. This would reduce further any argument for excess profitability in the cement industry, particularly given the small margins between industry ROCE and WACC in the Commission’s current analysis.
- 16.5 Based on the margin analysis, the Commission comment that the Cement Imports Divisions of the medium-tier independents are at a cost disadvantage to the Majors. However, as the Commission has focussed on EBITDA for its analysis of margins, there is no consideration of the relative capital costs faced by the independents and Majors. Importers are certainly at a cost disadvantage in terms of the relatively high transport costs they face. However, they are also at a distinct advantage when considering capital costs. As described by the Commission. “*a greater amount of capital is employed in the production of cement than is employed in importing cement.*”¹⁶² Because the Commission has not conducted a full like-for-like profitability analysis of the Majors and medium-tier independents, statements regarding relative cost advantages need to be interpreted with extreme care.

¹⁵⁹ PFs, Appendix 6.6, paragraphs 28-34.

¹⁶⁰ PFs, Appendix 6.6, paragraph 33.

¹⁶¹ Ibid.

¹⁶² Ibid.

PART IV: MARKET CHANGES

17. THE LEGAL BASIS

- 17.1 The Guidelines provide that the external sustainability of coordination may be affected by the number, size, cost and profit margins and output expansion capability of non-coordinating firms (the competitive fringe) in the market—in particular the existence of a 'maverick' (i.e. a firm that has capacity to take significant share from the coordinating group of firms, but has substantially different incentives from the firms in that group)¹⁶³.
- 17.2 For this reason the Commission considers the *"effects [of market developments] and expected development over time. Although there may be circumstances in which analysis can be conducted only on the basis of the current state of the market, the CC always considers how a market may evolve"*¹⁶⁴. Similarly the Guidelines state that relevant market characteristics include *"recent competitive developments and any significant changes that are anticipated in the market in the foreseeable future"*.
- 17.3 In the merger context, the driving force behind the development of the coordinated effects theory, a similar *ex ante* approach is taken: the EC will assess whether the merger makes *"the existing degree of tacit coordination easier, more stable or more effective for the three firms concerned either by making such coordination more robust or by permitting firms attain even higher prices"*¹⁶⁵.
- 17.4 The European Court of First Instance held that a market analysis must not be confined to *"a fixed point in time...but must also assess it dynamically, with regard in particular to its internal equilibrium"*¹⁶⁶. It is *"necessary to envisage various chains of cause and effect with a view to ascertaining which of them is the most likely"*¹⁶⁷.
- 17.5 The Competition Commission, in market investigations, is also intended to be a forward looking body. It is implicit in the Commission's note on the Anglo American/Lafarge Joint Venture that the Commission will not be looking backwards but looks at the structure of the market generally and the nature of competition. This is only possible if it takes into account the market structure at the time of its decision rather than looking to historic, outdated and irrelevant information.

18. THE COMMISSION'S ACKNOWLEDGEMENT OF RECENT KEY DEVELOPMENTS

- 18.1 The Commission recognises that key developments that it *"considered were of sufficient scale that they might have had a readily observable impact on the coordination"*¹⁶⁸ have taken place in the GB cement market since 2007. In particular, it *"considered the impact on [its] competitive assessment of the GB cement markets of two key market developments in early 2013 because these developments had the potential to affect competition in these markets [...]. These two market developments were: (a) the formation of Lafarge Tarmac as a result of the Anglo–Lafarge JV; and (b) the formation of HCM and its entry into the GB cement markets using assets formerly owned by Lafarge"*¹⁶⁹.
- 18.2 The Commission noted that *"the divestiture would replace Tarmac with a competitor with different characteristics from Tarmac in terms of key competitive variables such as size of plant, prospects for future expansion and, to some degree, the extent of its vertical integration. Some of these factors—in particular the size of the cement plant—might increase, relative to Tarmac, the external constraint posed by the new*

¹⁶³ The Guidelines, paragraph 255.

¹⁶⁴ The Guidelines, paragraph 38.

¹⁶⁵ *ABF/GBI Business* (M.4980), paragraph 144 (c).

¹⁶⁶ *Airtours v Commission* (T-342/99), paragraph 192.

¹⁶⁷ *Bertelsmann AG and Sony Corporation of America v Impala and Commission* (C-413/06), paragraph 47.

¹⁶⁸ PFs, paragraph 8.225.

¹⁶⁹ PFs, paragraph 7.213.

competitor on any coordinating group"¹⁷⁰. In its Lafarge Tarmac JV clearance decision, the Commission also stated that the large cement plant, "combined with the strategic uncertainty associated with the entry of a new player into the UK cement market, has some potential to undermine coordinated behaviour [and] might result in a more competitive situation"¹⁷¹.

- 18.3 However, in the current MIR, the Commission states that these crucial developments "were not [...] taken into account in [its] analysis"¹⁷². It thus fails to adequately consider the entry of the new major market player, HCM, despite forcing its creation through the divestment remedies in the Lafarge Tarmac merger clearance. The Commission merely holds that "this development is too recent to observe any resulting effects in the evidence available"¹⁷³.
- 18.4 The Commission merely notes that "the formation of Lafarge Tarmac and HCM might be expected to change the structure of the relevant markets, with potential implications for suppliers' competitive strategies and future market outcomes"¹⁷⁴. Interestingly, the Commission made the same statement in its Lafarge/Tarmac JV Working Paper, followed by (the now omitted note) that "It is likely that our understanding of the full implications of these very recent developments will evolve during the remainder of our investigation"¹⁷⁵.
- 18.5 Over one year ago, the Commission had provided that HCM's entry "had some potential to undermine coordinated behaviour" but that the "competitive conditions [...] were difficult to predict with certainty"¹⁷⁶. Despite having several months time to look into the effects of HCM's market entry, "much of the evidence on which these provisional findings are based relates to 2012 and earlier years"¹⁷⁷.
- 18.6 In the present circumstances, responding to, and taking into account developments as they happen within the market is of far greater significance to the Commission's findings than any historical data could ever be. Hence, Hanson suggests that the Commission redefines the focus of its analysis on these lines.
- 18.7 Despite announcing that it had "formed a view of the weight to be attached to the most recent evidence about the current operation of the market as well to evidence about how markets operated in the past"¹⁷⁸, the Commission fails to do so. The only substantive analysis of evidence it undertakes is noted in PFs paragraphs 7.223 and 7.224:

"In relation to HCM, we have no experience of its past competitive behaviour on which to form any expectation of its future strategy. As noted above, we reviewed the initial business plans for HCM, although we were also mindful that these plans might be subject to change in the light of experience as the new company's owners and management developed their view about the strengths and weaknesses of HCM's operations and about their strategic options in the markets in which they participate."

- 18.8 The Commission is nevertheless confident that "HCM will be quite similar to Tarmac prior to January 2013, in terms of its market position in cement and RMX, but will have some additional cement capacity and a significantly smaller aggregates business. [It] considered three possible scenarios for HCM's future behaviour as part of [its] competitive assessment of the GB cement markets (see paragraph 8.266)"¹⁷⁹.

¹⁷⁰ PFs, Appendix 7.15, paragraph 25.

¹⁷¹ Lafarge/Anglo-American JV report, May 2012, paragraph 8.144-8.145.

¹⁷² Ibid.

¹⁷³ See also PFs, paragraphs 3.1, 4.35-4.37, 7.220, 8.225ff.

¹⁷⁴ PFs, paragraph 4.37.

¹⁷⁵ Lafarge/Tarmac Working Paper, paragraph 63.

¹⁷⁶ PFs, Appendix 7.15, paragraph 28.

¹⁷⁷ PFs, paragraph 4.35.

¹⁷⁸ PFs, paragraph 4.37.

¹⁷⁹ PFs, paragraph 4.37 and paragraph 8.266.

- 18.9 It then considered three possible scenarios for HCM's future behaviour, holding that "*[a]t this stage, it is not possible to say which of these scenarios is likely to prevail.*"¹⁸⁰ It goes on to explain, however, that "*the evidence and analysis available [...] indicated that the structural susceptibility of these markets to coordination, and the behaviour of market participants seeking to exploit this susceptibility, had existed over a number of years, and had been resilient to other large changes in market conditions [...]. Therefore we considered that the replacement of Tarmac (a single plant producer which we had found to be outside the coordinating group of firms without coordination breaking down as a result) by HCM (which is also a single-plant producer—albeit with some additional capacity compared with Tarmac) as the smallest GB cement producer was likely to be insufficiently market disrupting on its own materially to reduce our concerns about coordination in the GB cement markets*"¹⁸¹.
- 18.10 In reaching this conclusion, the Commission overlooked evidence of HCM's market behaviour – HCM [X] - and HCM's significantly larger presence in cement than Tarmac (+60%), making it a market player of similar size to Cemex and Hanson. The Commission has also completely disregarded the possibility that HCM could act as a maverick in the GB cement market.
19. **THE TRUE IMPACT OF THE COMMISSION'S RECENT EXPRESS AND DELIBERATE REMEDIAL MEASURE (HCM) ON THE GB CEMENT MARKET**
- 19.1 The Commission has only just implemented a deliberate and express remedy for the purpose of countering a model of coordination in the GB cement market in the form of the creation of HCM as a response to its concerns reached during the Lafarge Tarmac JV merger.
- 19.2 It seems extraordinary that having only just implemented this extremely severe structural measure at the start of the second year of the MIR, the Commission has then, only weeks after implementation of the first remedial measure, seen fit to conclude that its findings now require it to implement exactly the same remedy but for a second time. Certainly, as the remedy has only just been implemented by the Commission, it is impossible to see how a repeat of exactly the same remedy could in any way be held to be proportionate.
- 19.3 During the Lafarge Tarmac merger, the Commission reviewed the cement market and expressly considered the possibility of a model of coordination. Having worked to assess the criteria for such a theory and having reviewed the market, the Commission set out its conclusions in the JV process (the same conclusions that the Commission has now repeated for the purposes of the MIR), namely that:
- 19.3.1 The Commission found that there is considerable evidence in the GB cement market that is consistent with a model of coordination;
- 19.3.2 The Commission found that the GB cement market is susceptible to and adversely affected by coordination; and
- 19.3.3 The Commission found that appropriate remedies ought properly to be implemented.
- 19.4 Having identified the above issues and concerns during the merger process and having reached those same conclusions, and having considered what appropriate course of action should be taken as a result of those findings, the Commission decided to implement a severe structural divestment at the beginning of this year that was expressly designed for the stated purpose of countering the coordination that the Commission had concluded was present in the GB cement market.

¹⁸⁰ PFs, paragraph 8.267.

¹⁸¹ PFs, paragraph 8.281.

- 19.5 In other words, it is clear that the work, considerations and steps taken by the Commission during the Lafarge Tarmac JV went beyond restricting the lessening of competition in the market, and set about seeking to identify any underlying issues in the market and then implementing severe structural divestments to allow the alleviation of such concerns.
- 19.6 To maximise the effects of that remedial measure, the Commission very deliberately established a business that was structured differently from Tarmac, with a much larger cement capacity allowing for far greater surplus in cement, in order to maximise competition in the market and also maximise constraints on pricing.
- 19.7 The express remedy the Commission put in place at the beginning of this year is already achieving exactly what the Commission wanted it do to, in terms of winning market share and volumes and constraining pricing.
- 19.8 Accordingly, Hanson suggests that since the Commission has only just given effect to such a severe structural measure that is bringing about the exact impacts that the Commission intended when it required its establishment, it seems extraordinary for the Commission to now decline to recognize those changes that are already visible to the market and instead claim that the market remains characterised by a model of coordination that requires yet more of the same remedies.
- 19.9 The express remedy levied by the Commission was extremely severe and has only just been effected this same year. The introduction of a fourth major player in this manner, together with the growing role of importers and particularly of the brand new national footprint in cement taken in recent weeks by the listed FTSE100 company CRH plc are sufficiently significant factors in the context of their change and upheaval brought to the market to further undermine and counter the Commission's model of coordination.
- 19.10 Rather than recognising the significance of such weighty factors, again the Commission prefers to simply discount the pair of them and play down their significance.
- 19.11 According to the Guidelines, the external sustainability of coordination may be affected by a firm that *"has the capacity to take significant share from any group of firms that tried to coordinate without its participation but also has substantially different incentives from those of the coordinating group...such a firm is sometimes referred to as a "maverick"."*¹⁸²
- 19.12 It does not seem, however, that the Commission has undertaken any effort to ascertain whether HCM would in fact be such a maverick, as it merely states that *"the smallest GB cement producer was likely to be insufficiently market disrupting on its own materially to reduce our concerns"*. HCM is, however, a very different and much larger market player than Tarmac.
- 19.13 Firstly and as described above, HCM has a significantly larger market share than Tarmac. It has the ability to produce enough cement to reach a 16% market share capacity in cement. This compares with a 10% market capacity of Tarmac. It therefore increases the GB cement output of a non-coordinating market player (in the Commission's view) by 60% (it is surprising that the Commission calls this only *"some additional cement capacity"*¹⁸³).
- 19.14 This considerable capacity increase has an even greater impact on the GB cement market, considering HCM's lower RMX vertical integration ratio¹⁸⁴ than Tarmac. As HCM has only 2% more RMX plants than Tarmac¹⁸⁵, HCM will produce a significant

¹⁸² The Guidelines, paragraph 255(c).

¹⁸³ PFs, paragraph 7.224.

¹⁸⁴ Defined by the Commission being RMX cement consumption as a percentage of cement production.

¹⁸⁵ See PFs, Tables 3.10 and 3.12.

amount of additional cement available for sales to independent RMX customers (the Commission is reminded of the fact that Tarmac was a net purchaser of cement).

- 19.15 Unlike Tarmac, Hope is therefore significantly 'longer' in cement. Tarmac's cement plant was largely concentrated on internal supply, whereas Hope has significant excess capacity to supply independent customers - the net effect has been to introduce a new major player into the supply of cement to the independent RMX sector¹⁸⁶.
- 19.16 HCM therefore has a completely different customer base (and therefore incentive) to operate on the cement market. It also gives HCM a great competitive advantage over the other majors, as it can be very flexible on price and aggressively target competitors' clients - as seen in HCM's market behaviour, which the Commission failed to consider.
- 19.17 In this context, Hanson already drew specific attention to the different approaches taken, and the opposing conclusion being reached by the Commission in a similar market investigation (*Movies on Pay TV*; final report issued on 2 August 2012) that changing market dynamics indicated that no AEC had arisen. In that investigation, the Commission took into account the emergence of Netflix and LOVEFiLM during the course of the investigation as alternatives to Sky Movies. This led the Commission to revise its provisional views. Although the Commission recognised the lack of empirical evidence as to the probable impact of the new services, it concluded that there was likely to be increased competition to Sky Movies going forward (despite the very strong position of Sky Movies and the very small position established by the competing services at the time of the final report in this investigation) and used this factor to dismiss an AEC.
- 19.18 The similarities between the current MIR and the *Movies on Pay TV* investigation require addressing:
- 19.18.1 Like Hope, LOVEFiLM as a new entrant to the market had been purchased recently (July 2011 – i.e. 13 months before the final report was issued) by a very experienced entrepreneurial enterprise (Amazon) but one which had no sector specific experience;
- 19.18.2 Sky Movies, like Hanson and the other majors, had previously held very strong positions within their respective markets; and
- 19.18.3 Whilst the advent of new competitors entering the market was not beyond expectation, the effects that these new entrants would have was far from certain or foreseeable.
- 19.19 As previously stated in Hanson's response to the Working Paper, *the Lafarge/Tarmac joint venture and the acquisition by Mittal Investments Sarl of Hope Construction Materials*, Hanson already pointed out the detail of both investigations. It noted that within the cement, RMX and aggregates markets, a 16% market share (on a capacity basis) now vests in an entity new to the market under the management of one of the world's most successful business empires. In the *Movies on Pay TV* investigation, the Commission fundamentally revised its analysis and the scope of investigations on the basis that Netflix, as a new entrant, had acquired just a 9% market share. Given that Hope now has the largest cement production plant in the market and is already competing very aggressively to win Hanson's customers, Hanson requests that the Commission explains why it is not expressly recognising the clear competitive impact of the new entrant, and why the Commission is not following the precedent it

¹⁸⁶ This was recognised by the Competition Commission in the *Anglo/Lafarge* Decision, paragraph 8.106: "*The Hope cement plant to be divested is significantly larger than Tarmac's Tunstead plant. If the purchaser of the divestiture package runs Hope at its capacity, then concentration may be expected to decrease on some commonly-used indicators—for example, the three firm concentration ratio.*"

previously set in the *Movies on Pay TV* investigation and adjusting its investigations and stated concerns in this study¹⁸⁷.

- 19.20 In *Movies on Pay TV* the Commission, contrary to the current proceedings, dedicated an entire section to the market developments through the course of its investigation, while these developments are to a large extent ignored in the current investigation.
- 19.21 Secondly, the Commission has failed to consider the business strategy HCM has pursued during the course of the last few months. Not only has Hanson [✂]
- 19.22 On the market, including the sale of GGBS, HCM has already shown different business behaviour to Tarmac. [✂]
- 19.23 Thirdly, the Commission has not taken adequate notice of HCM's management team, group structure and corporate culture. These strongly suggests that HCM will be a very active market player:

In the Lafarge Tarmac decision the Commission stated that "*the acquirer of the divestiture business [...] might be expected to create a similar degree of uncertainty to Tarmac for any cement producers seeking to achieve a coordinated outcome. It is also conceivable that such uncertainty might increase following divestiture... compared with the situation before the proposed JV. This is for two main reasons:*

(a) First, the Hope plant has never been operated on a stand-alone basis and any purchaser of the divestiture package will not have a track record of operating a similar facility within the UK. The strategy of the new competitor may therefore, to some degree, be more uncertain than might otherwise be the case.¹⁸⁸ The extent of such uncertainty may be affected by the identity of the purchaser of the divested business.

(b) Second, the acquirer of the divestiture package would operate a larger cement plant than Tarmac has done to date, such that any uncertainty about its strategic behaviour might potentially affect a larger share of the market."¹⁸⁹

- 19.24 Regarding the first factor, which would increase the uncertainty in the cement market (e.g. the acquirer's identity) and thus undermine any alleged coordination, it is pivotal to look into HCM's management. The board is chaired by Amit Bhatia, a former private equity fund leader and Morgan Stanley banker. His appointment clearly suggests that HCM seeks to maximise profits and market presence – indeed HCM plans to embark upon an 'optimisation phase'. The remainder of the management team is constituted by former executives of Lafarge, Anglo American and Tarmac, who bring a vast mixture of knowledge and experience to the board.
- 19.25 The fact that Hope is ultimately owned by an investor (Lakshmi Mittal and Mittal Investments) who has world leading experience in steel manufacture, but no experience in cement manufacture, brings considerable uncertainty as to its strategic behaviour. For example, the ultimate owner of Hope Construction has a reputation for bringing world leading process improvements and efficiency investing in logistics. This could bring a differentiated approach to GB cement production and supply. Arcelor Mittal leads the world's steel industries in research and development as well as in very significant CO2 reduction techniques, and Hanson believes Mittal Investments may look to similar leadership and change going forward in cement. In

¹⁸⁷ The Commission has set for itself a clear precedent that in situations such as this, new developments (even those absent empirical calculation) have to be considered in order for the Commission to reach a fair, balanced and duly reasoned conclusion. The *Movies on Pay TV* market investigation is particularly relevant here given the parallels between the two investigations.

¹⁸⁸ The Commission also noted that HCM's "*larger cement plant than the Tarmac plant [...] combined with the strategic uncertainty associated with the entry of a new player into the UK cement market, has some potential to undermine coordinated behaviour.*" A report on the anticipated construction materials JV between Anglo American PLC and Lafarge S.A, 1 May 2012, paragraph 8.144.

¹⁸⁹ A report on the anticipated construction materials JV between Anglo American PLC and Lafarge S.A, 1 May 2012, paragraph 8.113.

this context it is noteworthy that Mittal's entry into the cement market is of a significant size, and that the purchase price for HCM paid by Mittal Investments included a contingency of up to €37m dependent on the performance of HCM in the next three years.

- 19.26 Similarly worth considering is a factor which the Commission conveniently overlooked in both the PFs and the Working Paper. There is the distinct possibility that Hope could leverage the international spread and financial resources of its group to produce clinker overseas and grind it in GB. In particular, Hope's supply chain within the wider Mittal group gives it a significant competitive advantage over its rivals. Likewise, Hope's access to Arcelor Mittal's network of steel plants in Continental Europe will allow significant imports of GBS for grinding into GGBS in Hope's mill.
- 19.27 In light of the characteristics of HCM, the very significant investments made by Lakshmi Mittal's investment group and HCM's market behaviour, it is not logical for the Commission to reach its conclusion that "*HCM will be quite similar to Tarmac*". In doing so, the regulator even ignores its own suggestion that the "*identity of the purchaser of the divested business*"¹⁹⁰ would be one of two crucial factors which could increase uncertainty and thus undermine any coordination.
- 19.28 The Commission not only fails to recognise the identity of HCM and its market conduct, both of which strongly suggest that HCM is a major competitive force and different to Tarmac, but the Commission also fails to take adequate account of HCM's business plans: It "*reviewed the initial business plans for HCM, although [it was] also mindful that these plans might be subject to change*"¹⁹¹. Hanson reminds the Commission that in the landmark *Airtours* judgement, the European Court of First Instance strongly rejected the EC's decision that "*none of these companies is likely to be able to challenge the major operators in the foreseeable future*"¹⁹² and instead relied on the parties' "*clear intention [...] to take advantage of any opportunity afforded by the market*"¹⁹³. Indeed in *Airtours* the European Court of First Instance, in its *ex ante* assessment, specifically relied on the fact that "*operators have made it clear that they intend to increase their market share*"¹⁹⁴.
- 19.29 HCM's business plan was not made accessible to Hanson's external advisors in the Commission's data room, but the public statements made by HCM's leadership show that the firm has the clear intention to make a major impact on the market:
- 19.29.1 HCM's Chairman Amit Bhatia said: "*The formation of Hope Construction Materials is evidence of our belief that there is an opportunity in the marketplace to re-define the service provided by businesses*"¹⁹⁵.
- 19.29.2 CEO Chris Plant said: "*Hope is the first major new name in the British building materials sector for more than a decade. We have a rare opportunity to take a different approach to customer service, bringing in new ideas, innovative products and services, and better ways to meet the needs of the construction industry. We have specifically designed the company to encourage fresh thinking and bring an entrepreneurial, partnering spirit to the industry*"¹⁹⁶.
- 19.30 In pursuance of its business plan, HCM already enhanced Hope's pre-existing workforce and increased its number of employees in the business by 33%. Indeed, CEO Plant mentioned that "*they were not just motivated, it turns out, but brimming with ideas on how to help the business - for example, early on, rather than await their*

¹⁹⁰ A report on the anticipated construction materials JV between Anglo American PLC and Lafarge S.A, 1 May 2012, paragraph 8.113.

¹⁹¹ PFs, paragraph 7.223.

¹⁹² *Airtours v Commission* (T-342/99), paragraph 221.

¹⁹³ *Airtours v Commission* (T-342/99), paragraph 222.

¹⁹⁴ *Airtours v Commission* (T-342/99), paragraph 220.

¹⁹⁵ <http://www.constructionenquirer.com/2013/01/08/mittal-breathes-hope-into-heavy-side-materials/>

¹⁹⁶ *Ibid.*

*instructions, many delivery drivers offered up lists of who they had been delivering to*¹⁹⁷.

19.31 Therefore, despite the Commission's lack of experience of HCM's past behavior, there is, in addition to HCM's business plan, a plethora of clear evidence showing the company's clear intention to fiercely compete on the cement market. Furthermore, and at least as importantly, the Commission can revert to HCM's parent company's past conduct which shows that it has always ensured that its investments were highly competitive, be it *inter alia* in the oil, gas or steel industries. On this basis alone the Commission has persuasive reference regarding the relevant undertaking's past market behaviour and history of business turnarounds. The Mittal group is internationally renowned for the rationalisation of businesses it acquires, leading to the creation of highly efficient market players.

20. THE TRUE IMPACT OF THE LAFARGE TARMAC JV ON THE GB CEMENT MARKET

20.1 "*We expect Lafarge Tarmac to follow broadly similar competitive strategies in cement to those pursued by Lafarge prior to 2013, at least in terms of all the key factors that contribute to the mechanism of coordination we have described*", because "*its market positions in cement and RMX were broadly similar to those of Lafarge*"¹⁹⁸. The Commission "*expected, at least in the period following its formation, Lafarge Tarmac to follow broadly similar competitive strategies to those pursued by Lafarge up to 2012*"¹⁹⁹.

20.2 These assumptions are based on a superficial look at the evidence. To start with, it is suggested that a similar market position, which as a supposition is itself subject to ongoing scrutiny, is not an indicator that strategies will go unchanged in the new JV. The Commission did not, however, look into any evidence during the period of the MIR (contrary to *Movies on Pay TV*), and thus failed to test these mere assumptions against the available evidence of market conduct.

20.3 From a structural perspective, the Commission acknowledges that Lafarge Tarmac has a significantly larger aggregates business²⁰⁰ and less cement capacity compared with the separate entities Tarmac and Lafarge before the creation of the JV. However, the Commission fails to appreciate the size of the divergent cement capacities (-6% of the overall cement market) and the extent to which the RMX networks are different (the Commission merely notes that they are "*similar sized*"²⁰¹, not recognising that Lafarge Tarmac has 16% less fixed RMX plants and 75% more on-site plants). The new Lafarge/Tarmac entity therefore has a different cement and RMX profile to that of either of the legacy companies.

20.4 Similarly, the Commission, although mentioning that the JV was "*likely to seek to exploit some synergies*" it seemingly did not consider the structural implications this would have on operation flows, production lines, and sales. The Commission also disregarded the changed incentives of the JV due to altered cost structures and efficiencies.

20.5 Importantly, the Commission has completely failed to consider the impact of the JV on the behavior/modus operandi of the new entity²⁰². For example, the JV brought together Lafarge UK, which employed 2,800 people, and Tarmac UK, which employed 4,500 people. This means that, according to the Commission, 62% of all JV employees have never operated in a coordinated manner and instead fiercely

¹⁹⁷ <http://www.nce.co.uk/news/business/hope-springs-for-plant/8645345.article>

¹⁹⁸ PFs, paragraph 7.222.

¹⁹⁹ PFs, paragraph 7.222.

²⁰⁰ PFs, paragraph 6.112.

²⁰¹ A report on the anticipated construction materials JV between Anglo American PLC and Lafarge S.A, 1 May 2012, paragraph 7.218.

²⁰² The Commission merely "*noted that its operations and employees were drawn from both Lafarge and Tarmac*".

competed in a hostile marketplace. This naturally alters the sales mentality and operations of what once was Lafarge UK. In this respect, Tarmac's undisputed competitive culture and history cannot be ignored.

20.6 Lafarge Tarmac also operates as an independent JV, with its own board of directors, led by an independent chairman and an executive management team drawn in part from non-colluding Tarmac and Anglo-American. The JV is thus run as an independent standalone business with a new management team formulating business strategies (there are even market speculations that the shareholders plan to eventually float the JV).

20.7 Furthermore, the 50/50 ownership structure of Lafarge Tarmac suggests that both firms have an equal vote (including with regard to the annual budget and strategic business plan) in the operation of the company. Hence, the Commission cannot assume that the Joint Venture would simply function as a continuance of Lafarge's business.

21. OTHER KEY DEVELOPMENTS THE COMMISSION FAILED TO CONSIDER

21.1 The Commission has taken account of several (but not all) key developments it identified since 2007, but has overlooked some of the most significant market changes in recent years.²⁰³

21.2 Regarding cement importers, the regulator has not realised the ongoing trend for formerly independent market operators to integrate into foreign cement majors (because the wholesale cement import/export business is no longer viable). As has been outlined in the section on cement importers (see Part II – Undue Findings of Coordination in Cement – Market Structure) the Commission fundamentally misunderstands the prevalent market dynamics. It does not distinguish between the cement import wholesale businesses and trading arms of major foreign cement producers.

21.3 The Commission completely disregards the fact that independent importers, which do not form part of a major international group which produces its own cement (in effect, wholesalers) are responsible for only a fraction of overall cement imports to GB. The vast majority of independent cement imports²⁰⁴ currently take place through the trading arms of major foreign cement producers (such as CRH plc, CPV, Holcim and Titan). In fact, only two of eight cement importers are wholesalers²⁰⁵. It is apparent that the Commission has inexplicably weighted the focus of its analysis on importer costs towards these wholesalers, and this has distorted the conclusions. The Commission aggregates importer's data and therefore does not recognise the significant difference between the market position of larger vertically integrated importers.

21.4 Most cement wholesalers have realised that they struggled to compete with efficiently run foreign cement producers and have therefore joined them as their import trading arm (three wholesalers in the last six years)²⁰⁶. Dudman, which has refused to integrate into a foreign cement producer, is currently in administration and its assets are integrated into Irish cement major CRH plc.

21.5 At the same time, the global recession led to the collapse of local cement demand in several European countries, including Ireland, Spain and Greece. As a consequence, cement producers in these countries have been particularly incentivised to export their products into better functioning economies (as reflected in the internal documents). To facilitate these exports, some market players have become particularly keen to quickly penetrate the GB cement market by purchasing existing importers.

²⁰³ Including a number of fundamental points raised in a letter to the MIR Chairman dated 28 November 2012.

²⁰⁴ i.e. excluding imports by GB majors.

²⁰⁵ These are Sherburn and Thomas Armstrong.

²⁰⁶ Dragon Alfa Cement, Premier Cement, and Southern Cement.

- 21.6 For example Irish cement major CRH plc, exclaims its "*strategic vision [...] to become an international leader in building materials [...] while reducing its dependence on individual markets and achieving a balance in its geographic presence*"²⁰⁷. The FTSE 100 multinational has therefore massively expanded its cement imports into GB. In 2013 it added Southern Cement (previously owned by Spanish firm CPV) to its Premier Cement trading arm, Dudman's import terminals in Ellesmere Port, Montrose, Howden Dyke, Garston and Lowestoft, and will (as is widely expected) acquire more import assets of Dudman. Today, CRH plc is a new cement giant in GB, with higher cement sales than AI and so creating the 6th major.
- 21.7 As discussed in the Remedies Response, CRH plc will have an increased advantage on the market, being able to use virtually limitless supplies of cement from Ireland (in contrast to Dudman) and reduced transport costs (in contrast to CPV).
- 21.8 The Commission has claimed that there is no difference between CRH plc's establishment in the UK and that of the Greek import operation Titan and as such the Commission should not be obligated to have regard to any impact of CRH plc in the UK market. Hanson does not understand how such views can safely be stated:
- 21.8.1 Titan operates with a single import terminal out of Hull.
- 21.8.2 CRH plc has just established a *network* of ports and terminal terminals around the whole of the UK, with a new network of ports and terminals beyond their existing operation, spreading from Scotland to the North West, the North East and down to Suffolk.
- 21.8.3 When the difference between the two establishments is so very remarkable, it seems that the attempt to categorise them as 'one and the same' is proof of both a lack of understanding of the market and / or the preference for a partisan approach that is devoid of all objectivity.
- 21.9 In pursuit of a similar strategy, Irish cement major Quinn has commenced to import its bagged and palletized cement to GB, both by ferry and via import terminal. [✂]

22. CONCLUSION ON MARKET CHANGES

- 22.1 Hanson submits again²⁰⁸ that the Commission has not given due evidential consideration to very significant market changes. Hanson suggests that the evidence provided by the advent of Lakshmi Mittal to the GB market ought to be assessed by the Commission as a key factor suggesting that any model of suggested or sustainable coordination is extremely unlikely. The introduction of Mittal was also the remedy that the Commission expressly designed to counter coordination at the JV stage, which makes it difficult to see how the Commission can conclude that the market suffers from collusion today and requires a remedy, when only weeks earlier the Commission implemented a remedy expressly designed to counter the same concerns it had. Similarly, the market developments in the area of the growing capacity and shares of the cement importers and particularly the emergence of CRH plc as yet another GB cement major are key developments that the Commission must consider in the MIR, but which remain omitted from the study.
- 22.2 Hanson repeats its suggestion that these developments should encourage the Commission to revisit its analysis on coordinated effects, as it is required by its Guidelines and its own precedents, as well as European case-law. The Commission must recognise that recently emerged cement majors have greatly strengthened the previous competitive fringe, which now more than ever, has the ability and incentive to

²⁰⁷ <http://www.irishcement.ie/about/crh/>

²⁰⁸ In its response to the UIS and the Working Paper Hanson already highlighted that the Commission acknowledge that further work was to be done on the impact of the Lafarge/Tarmac JV and the Hope divestment.

undermine and prevent coordination (should it be held to exist) on the GB cement marketplace.

PART V: UNDUE FINDING REGARDING GBS/ CEMENT SUBSTITUTE REGEN

23. INTRODUCTION

- 23.1 The following section will show that the Commission lacks any due reasoning for its provisional findings in relation to the exclusivity contracts for the production of GBS and the cement substitute REGEN (GGBS) in GB.²⁰⁹ The Commission has not provided any analysis that adequately proves these contracts lead to an AEC or otherwise any detriment to customers in the cement market.
- 23.2 Furthermore in its response to the relevant Working Paper²¹⁰, Hanson noted that the publication of the Commission's concerns in relation to REGEN was clearly premature. The Commission's concerns appear to have been considered and formulated prior to issue of the relevant questionnaires (one of which has only been issued as recently as 26 June 2013).
- 23.3 The Commission has failed to develop its analysis substantially beyond its preliminary views, with much of its 'analysis' simply repeating statements made in the Commission's Working Paper. Despite Hanson repeatedly highlighting its concerns with the Commission's investigation into the REGEN market, the Commission has offered no analysis whatsoever of Hanson's arguments, merely summarising them in passing in an annex to the PFs.
- 23.4 The formation of preliminary conclusions without proper consideration of the market and without consideration of the views and data of the operators in the market inevitably calls into question the Commission's analysis of the GBS supply agreements.
- 23.5 The Commission's failure to reason its decision, in conjunction with the erroneous conclusion it draws, show that the Commission has failed to carry out its assessment according to the standard required by a public authority. According to English law, a decision may be characterised as unreasonable in this sense if it "*does not add up - in which, in other words, there is an error of reasoning which robs the decision of logic*"²¹¹.
- 23.6 The following section will show that the PF's are inadequately and insufficiently reasoned, are formed without analysis, and when compared against the evidence presented by Hanson, have not been formulated logically or with due consideration of the facts.

24. THE COMMISSION'S FINDING OF AN AEC REGARDING UK REGEN

- 24.1 The Commission alleges that the combination of two specific factors were the features that gave rise to an AEC in the GB cement market and also resulted in higher prices for cement than might otherwise be the case:
- i. the exclusive agreements in product market(s) which include GBS and/or GGBS – which is a product market distinct from the GB cement market under investigation²¹²; and
 - ii. the participation of the GBS/GGBS exclusivity holders in the distinct GB cement market²¹³.

²⁰⁹ The PFs also cover the slag supply agreements between Lafarge Tarmac and the relevant steel producers. Hanson has limited visibility of these agreements, and so comments in this Response on the GBS supply agreements.

²¹⁰ Hanson's response to GGBS/PFA Working Paper, paragraph 1.3.

²¹¹ *R v. Parliamentary Commissioner for Administration, ex p Balchin*.

²¹² PFs, paragraph 5.38.

²¹³ PFs paragraph 12.8.

- 24.2 However, it remains completely unexplained and unclear how or why the combination of these two factors lead to any AEC in GB cement. Hanson strongly refutes this provisional finding and cannot follow the Commission's superficial conclusions in reaching it. Indeed, it is not even clear how the Commission reached its conclusion that GBS and/or GGBS form a feature of the cement market.
- 24.3 The Commission has simply rushed to follow foreign (so-called) legal precedents without knowing any detail of their background or underlying industries and the Commission then relies on terminology such as 'monopoly' and 'exclusivity' without any form of due professional analysis and is now working purely to justify conclusions formulated *in limine*.
- 24.4 In the PFs, the Commission finds that GGBS is not part of the relevant market for cement. In light of this finding the Commission rectifies its inclusion of GGBS into the MIR, by stating that "*Hanson and Tarmac are active in the supply of cement and are also active in the GGBS supply chain in GB. Therefore their conduct in relation to the supply of GGBS can be considered by the CC under its terms of reference of 18 January 2012*"²¹⁴. This makes for an extremely confusing analysis.
- 24.5 The Commission refers to Section 131(2)(b) of the Enterprise Act a feature of the relevant market is defined as including "*any conduct (whether or not in the market concerned) of one or more than one person who supplies or acquires goods or services in the market concerned.*" However, the Commission omits to specify which conduct it finds leads to GBS and GGBS supplies becoming features of the relevant cement product market. Its argumentation and analysis therefore falls short of the threshold test set by the Enterprise Act.
- 24.6 Furthermore, as Hanson has highlighted in this Response, the Commission's has not adequately proven the existence of any coordinated effects in cement market. The Commission must accept that if its concerns as to coordinated effects in cement are unfounded, then there can be no AEC in relation to GGBS. The Commission's continuous comparison in the PFs between cement and GGBS of prices, volume and margins accept this point. The Commission's analysis of GGBS appears to be inextricably linked to and dependent upon its provisional findings in the cement market.
25. **THE COMMISSION DID NOT ANALYSE THE MARKET AND RELEVANT ARRANGEMENTS PRIOR TO FORMULATING CONCLUSIONS**
- 25.1 The Commission has not undertaken the necessary analysis before formulating its conclusions and PFs regarding the markets and arrangements governing GBS and REGEN in GB. The extremely limited quantity of analysis and assessment relative to the ca. 1300 pages long PFs (only ca. 2 pages as part of the competitive assessment of cement, supplemented by a short 20 page Annex) suggests that the Commission merely dealt with GGBS as a marginal side issue to the MIR (an impression which is confirmed by the Commission's superficial and unsubstantiated findings outlined above). Hanson suggests that the Commission's work on REGEN and the associated cementitious / substitute markets has been unacceptably superficial and light prior to formulating conclusions and that the Commission's attempts to now rush to attempt some analysis unfortunately taints the process as it can no longer be either impartial or objective.
- 25.2 Rather than establishing exactly how the combination of exclusivity and roles of the market players leads to any AEC, the Commission submits that:

²¹⁴ PFs, paragraph 7.126, footnote 41.

"[t]he main 'possible' competitive problem linked to the exclusivity [the nature of the contract] is that Hanson has market power in the supply of GGBS in GB, leading to higher prices and/or lower availability of GGBS than would otherwise be the case"²¹⁵.

- 25.3 The Commission found alleged competitive problems relating to exclusivity, market power and prices on the basis of: (i) a note "that two other European regulatory authorities had 'expressed concerns' about the supply of GGBS in their jurisdictions"²¹⁶, and (ii) an analysis regarding the "trends in Hanson's GGBS sales volumes and prices from 2007 to 2011 [also] compar[ing] the volumes and prices for Hanson's GGBS sales to other Majors with its sales of GGBS to non-Majors [and] look[ing] at how Hanson's GGBS volumes, prices and margins compared with Hanson's cement volumes, prices and margins"²¹⁷.
- 25.4 Clearly the basis for the Commission's analysis in this regard is fundamentally flawed:
- 25.4.1 First, as will be shown below, the foreign proceedings in relation to GGBS lack any equivalence and are irrelevant to the situation in GB; if anything and following their precedents and upon a review of the detail of those decisions, they clearly suggest the contrary in that it would be entirely *inappropriate* to intervene in the UK REGEN and cement substitute markets.
- 25.4.2 Second, there is no reason to use Hanson's prices, volumes and margins as a proxy for the overall GGBS market, simply because Hanson holds a "large share" (presumably) in the sales of GGBS.²¹⁸
- 25.4.3 Third, it is legally and economically nonsensical to benchmark prices and margins in one market against what the Commission holds to be another, separate and distinct product market – particularly when any reference for the use of such comparator is missing, and especially given the severe shortcomings in the Commission's analysis in relation to cement (as shown above in Part III – Profitability). The Guidelines acknowledge that "[i]here is also a risk that using a notional benchmark in effect assumes the existence of significant market power as part of the framework within which the competitive assessment is being undertaken"²¹⁹. To assess the competitive situation in this independent product market which includes GGBS, it would be required to at least (i) define the relevant market and (ii) analyse the competitive situation fully and systematically, which includes a robust profitability analysis (Hanson notes that even the EC felt obliged to undertake full-fledged profitability analyses as part of its review into the extent of competition in the payment cards and retail banking industries in the EU²²⁰).
- 25.4.4 Fourth, the Commission conducts a margins comparison where it should conduct a profitability analysis. The Commission then appears to conclude based on margins that price must be too high (although in this instance, unlike for cement where the margins concerns were based upon *variable* margins, the Commission now seeks to express its concerns on the basis of fixed margins). However, the Commission stated in the Margins Working Paper for cement: "*The purpose of our margin assessment was not to determine whether margins could be deemed high or excessive. Such analysis forms parts of our profitability assessment, in which return on capital employed is compared against an appropriate competitive benchmark*"²²¹.

²¹⁵ PFs, paragraph 7.127.

²¹⁶ Ibid.

²¹⁷ PFs, paragraph 7.128.

²¹⁸ The Commission noted that "Due the [sic] large share held by Hanson [] per cent —see Table 7.9), we have analysed Hanson's prices, volumes and margins." see PFs section 7 footnote 42.

²¹⁹ The Guidelines paragraph 139.

²²⁰ European Commission (2006), 'Interim Report I: Payment Cards', 12 April and 'Interim Report II: Current Accounts and Related Services', 17 July.

²²¹ Margins Analysis Working Paper, paragraph 7.

Indeed, the Commission has acknowledged that “*different margins could reasonably be expected for operations with different capital intensities*”²²².

25.5 Finally, in this instance, the apparent reliance upon the relationship between Hanson's pricing and margins in GGBS and those in cement is not relevant and forms a highly unsafe basis for coming to a conclusion. Even on the Commission's own methodology, [§]

26. As shown below, the Commission's underlying understanding in relation to the GGBS market is misconceived. It is therefore unsurprising that its conclusions are also fundamentally unsound. The Commission appears to be selecting supporting details in order to try to justify a pre-existing, but entirely inaccurate conclusion. Clearly this is far from satisfactory.

27. THE COMMISSION'S RELIANCE ON UNSAFE REASONING/EVIDENCE

27.1 The analytical process undertaken by the Commission is equally fallacious. For example, the regulator bases its analysis on the mere *assumption* that Hanson holds market power (in a market however that is completely undefined and also based upon grossly understated and incorrect volumes for PFA). In its first reference to the essential point of market power in its competitive analysis regarding GGBS, the Commission notes that Hanson's argument in relation to competitive restraints imposed on the supply of GGBS in GB “*is not sufficient to show that there is no market power.*”²²³ The authority thus unduly reverses the burden of proof on the establishment of market power, assuming its existence, by noting that Hanson has not rebutted its **presumption**. This is contrary to the requirements of the Commission's own Guidelines²²⁴ and a fundamental error vitiating the Commission's entire conclusion regarding GGBS.

27.2 It is similarly unacceptable that the Commission presumed that Hanson holds ‘market power’ regarding the market including GGBS without even defining this relevant market. As a consequence, the Commission's ‘highest-level-only’ competitive analysis of GGBS supply in GB takes place outside of any established legal and economic frameworks and leads to an unsystematic and unsubstantiated decision-reaching process²²⁵. Indeed, given the regular wins and losses and customer switching between the REGEN / PFA / CENIN / limestone / imported GGBS sales within the cement substitutes market, Hanson does not agree with the Commission's approach.

27.3 This has led to the Commission taking an incomplete and extremely superficial study into the competitive constraints imposed on the sale of GGBS in GB, whether in relation to GGBS importers or substitutable materials, such as cement, PFA and limestone.

27.4 For example, the Commission notes that “*the constraint imposed on GGBS by PFA did not appear sufficient to offset any competition problems in the supply of GGBS*”²²⁶. As Hanson finds this competitive constraint particularly important (even the Commission noted that “*prices of PFA are much lower than those of GGBS and cement*”²²⁷), it highlights in the following paragraphs the Commission's shortcomings in assessing the substitutability of these two materials (an assessment of the

²²² PFs, Appendix 6.6, paragraph 33.

²²³ PFs, paragraph 8.290.

²²⁴ The Guidelines, paragraphs 178, 180, 185.

²²⁵ According to the European Commission's Notice on the definition of the relevant market, paragraph 2, “[t]he main purpose of market definition is to identify in a systematic way the competitive constraints that the undertaking involved face. The objective of defining a market in both its product and geographic dimension is to identify those actual competitors of the undertakings involved that are capable of constraining those undertakings' behaviour and of preventing them from behaving independently of effective competitive pressure. It is from this perspective that the market definition makes it possible *inter alia* to calculate market shares that would convey meaningful information regarding market power”.

²²⁶ PFs, paragraph 8.288.

²²⁷ PFs, Annex 7.5, footnote 6.

substitutability can be found below in paragraph 28.12 'PFA is a readily available replacement of GGBS').

- 27.5 The Commission formulates its conclusions relying upon the following four factors²²⁸, namely:
- 27.5.1 PFA sales were only a fraction of GGBS sales and play no constraining role as a result;
 - 27.5.2 Hanson has 'market power' leading to higher prices and/or lower availability of GGBS in GB;
 - 27.5.3 Other European regulatory authorities have seen fit to take action (unspecified) with regard to the supply of GGBS in their jurisdictions and the Commission should rightfully follow suit; and
 - 27.5.4 Internal documents (in the form of a statement made to an internal audit request) constitute an admission by Hanson that it has the competitive advantage as importers suffer 'cost disadvantages'.

Taking each of these factors in turn:

Insufficient analysis of PFA and limestone

- 27.6 The Commission compares the sales volumes of PFA and GGBS. This comparison has no informational value in the context of analysis of substitutability, unless the Commission sought to establish capacity constraints regarding the production of PFA – which it does not, since the Commission has erred in grossly understating the size of the PFA market relative to the REGEN volumes rendering the Commission's statements of the market and subsequent conclusions unsafe.
- 27.7 The Commission provides no rationale for the comparison of production volumes between PFA and GGBS. Notwithstanding, even if one assumes that this comparison is the correct methodology, the Commission has used grossly inaccurate data to establish its conclusions. The PFA figures grossly understate what ought to be stated as very much more significant PFA volumes, and do not therefore reflect (even remotely) the actual production volumes of PFA. Indeed, the Commission admits that its figures might be "*incomplete*"²²⁹ and neglect various PFA sales, in particular those of Drax power plant (producing up to 1 Mt of high-quality PFA - equivalent to around 70% of overall GGBS supply in 2011 in GB).
- 27.8 Furthermore, the comparative volumes of GGBS and PFA should not be based solely on figures for sales on a standalone basis, as this ignores the sales of PFA and limestone within blended cements which is a common form of product offering for PFA. This has particular significance as Hanson almost exclusively sells REGEN on a standalone basis (to be blended by the customer), whereas its competitors increasingly sell blended CEM II cements (including PFA or limestone), or even blended CEM III with imported GGBS. Therefore, a very significant proportion of PFA and limestone supplies would be excluded from the Commission's calculations.
- 27.9 Indeed, Hanson's own conservative 2012 estimates suggest that the amount of PFA supplied as part of CEM II in GB is around 336,000 tonnes; the equivalent figure for limestone is thought to be at least 200,000 tonnes²³⁰, leaving the contribution of those

²²⁸ See cross references in PFs, paragraph 8.288 to paragraphs 7.122, 7.127, 7.130.

²²⁹ PFs, paragraph 7.121.

²³⁰ This has been based on 2012 MPA data for CEM II (PFA based) and CEM II (limestone based) sales, and Hanson's estimate of the average inclusion rates for PFA/limestone. The MPA data indicates 1.3m tonnes of CEM II (PFA-based) and 1.2m tonnes (limestone based). Hanson have used conservative estimates for the PFA and limestone inclusion rates: 25% average for PFA (despite the fact that PFA can be used up to at least 35%, for example for high sulphate resisting product); and 17% for limestone).

materials to the relevant markets as understated by the Commission by a factor of 100%. Whilst the Commission has acknowledged that its own figures may represent something of an under-estimate, it has not sought to undertake the easy exercise of showing the PFA/limestone element of CEM II sales.

- 27.10 When added to the standalone figures for PFA supplies quoted by the Commission (500,000 tonnes), this would mean that total PFA and limestone supplies are in the region of 1 million tonnes.
- 27.11 This figure is not equivalent to "*about a third of the size of total sales of GGBS*"²³¹ which is the express basis of the Commission's conclusion, [§]. This is even before alternative materials such as Cenin and Cemergi have been taken into account, which would be likely to take the total of cement substitutes beyond Hanson's own sales of REGEN. – see further below.
- 27.12 This is a very substantial difference to the picture presented by the Commission in the PFs. This Response highlights below how the Commission appears to have misunderstood the markets, misunderstood the role of PFA (and other cementitious materials) as a substitute to clinker, CEM I and GGBS, misunderstood the size of the relevant components of these markets and also misstated the claimed limitations on the availability of PFA.

Failure to define source of market power

- 27.13 As regards the point on market power, strikingly, the Commission seeks to prove the non-existence of competitive constraints (i.e. a key test for market power) by reference to its own statement that Hanson holds market power – a clear circularity without any probative value. The Commission does not recognise (or offer any meaningful analysis) of the commercial reality – GGBS is a part of a large (and import influenced) cement substitute market. Hanson customers regularly use PFA, imported GGBS or additional cement (from the significant surplus available) instead of Hanson produced GGBS. The Commission's focus on Hanson's 'market power' does not reflect the reality or common practice of the market, based upon the multiplicity of products available to customers.

Ignoring directly relevant precedent in favour of irrelevant overseas decisions

- 27.14 As regards the reliance on overseas proceedings, Hanson cannot accept and struggles to understand the Commission's tenuous and ill-considered references to foreign proceedings in Bulgaria and Germany, particularly as it completely disregards much more relevant decisions and assessments of the UK market by the pan-European regulator (notably the Heidelberg/Hanson decision in case COMP/M.4719) – this suggests an unduly selective and indeed fundamentally erroneous approach by the Commission.
- 27.15 Furthermore, Hanson notes that the Bulgarian decision proved extremely costly and futile for the Regulator, the national industry and for most importantly for the national customer base as the entire market then collapsed, leaving the Bulgarian steel market dependent upon imports.
- 27.16 The situation in Germany was in fact the exact contrary to the industrial structure in the UK, with the Commission's admission that "*[t]here is very little in the public domain on how the German General Cartel Office (GCO) has intervened in the supply of GGBS in Germany*"²³². It is, however, known that the situation in Germany was ultimately resolved voluntarily by the relevant market players *without* judicial order, thus the case is no 'legal' precedent in the manner claimed by the Commission. The Commission conceals its consideration of the situation in Germany by redacting five

²³¹ PFs, paragraph 7.122.

²³² PFs, Annex 7.6, paragraph 54.

out of six paragraphs, so that Hanson is not able to follow the Commission's reasoning²³³. There is no reason for doing so – the redaction is unacceptable.

- 27.17 Indeed, the German steel industry is estimated to be many times larger than the UK's, given the very different economic and successful manufacturing profile prevalent in German industry. The steel industry there consists of numerous majors and regional operators. This is the exact opposite of the situation in the UK, where the market has been in very significant decline, and a single dominant producer is left, who is thought to be at risk of closures in this country.
- 27.18 Therefore the German steel market was the exact opposite of the UK model – it is based upon a dozen or so players with a successful national manufacturing economy, all the exact opposite of what is in place in the UK. It would be perilous given those differences for the Commission to base intervention in the UK upon the German review of downstream concentration.
- 27.19 The Bulgarian steel industry structure was more similar to that of the UK, based upon a single dominant legacy producer from the Soviet era, who faced the same demand and fragile financial problems as the UK steel industry. The fragility of that industry became apparent, the dominant producer falling into insolvency, and closing some time after the decision of the Bulgarian authorities to intervene. Despite a series of attempts to auction the assets and re-establish itself, Hanson understands that the national operation has failed to find suitable investment or recommence national supply and the whole episode and insolvency were ultimately disastrous for Bulgarian consumers; thus Hanson sincerely hopes for the sake of the market and its customers that the Commission does not 'follow the example of Bulgaria', as it seems to have proclaimed to wish to do so.
- 27.20 Hanson has already noted the fundamental flaws in relying on these overseas decisions in its Response to the Remedies Notice²³⁴ and it is highly unsatisfactory of the Commission to seek to rely on these cases, when the detail of both of these cases suggests the *exact opposite* of what the Commission has claimed it ought to consider in the UK.
- 27.21 The European Commission on the other hand *has* already reviewed the UK GGBS industry and its findings are superior in weight and detail to those of the Bulgarian regulator. Hanson suggests the Commission would be better advised to refer to the EC decision, rather than its misguided attempt to refer superficially to the opposite events in Germany and the disastrous intervention in Bulgaria.

Misinterpretation of Internal Documents

- 27.22 As regards the reliance on internal documents, which allegedly "*noted [...] the competitive advantages that Hanson's position in GGBS conferred on Hanson*"²³⁵, the Commission has denied Hanson the possibility to comment on the documents as a whole - Hanson's external advisers were not allowed to access an unredacted version of Appendix 7.6 (despite their request) to visit the relevant documents. The Commission has repeatedly refused Hanson access to its documents and workings on REGEN (if any) without any suitable explanation. Hanson suggests that this is simply because the Commission does not wish to allow Hanson to see how limited its analysis and work has been on GGBS and related markets at this late stage in the MIR.
- 27.23 [✂].
- 27.24 [✂]

²³³ PFs, Annex 7.6, paragraphs 54 to 59.

²³⁴ Remedies Response, paragraphs 6.7-6.13.

²³⁵ PFs, paragraph 7.130.

Other Failings in the Analysis

- 27.25 **No analysis to show 'Market Power'** - Apart from the PFA substitutability, other key competitive restraints proposed by Hanson surrounding GGBS supplies in GB are discarded by the Commission without review, by way of the Commission's summary statement that "*the existence of an upper limit on pricing (for example, from GGBS imports or cement made principally from clinker and/or PFA) is not sufficient to show that there is no market power*"²³⁶.
- 27.26 The Commission does not offer any explanations for this finding. Not only is it undue to reverse the burden of proof on the establishment of market power, but the Commission's submission is unsubstantiated. The usual applicable analytical steps are omitted (or, at least, remain unexplained), such as the finding that the competitive constraints merely establish a price ceiling.
- 27.27 **Cement Pricing Constraint** - the Commission has offered no analysis with regard to the obvious pricing constraint that is provided by CEM1 itself. Customers benefit from the secure national access to GGBS that the existing arrangements allow Hanson to guarantee. The price of GGBS is naturally constrained by the changing cement prices, since customers would simply switch to CEM I if they believed REGEN to be overpriced in any way.
- 27.28 Indeed, Hanson notes that the Commission appears to be actively pursuing a market remedy in the form of a cement asset divestment. Although Hanson disagrees with the Commission in its findings and also with regard to whether such a remedy would be effective in reducing cement price, if, hypothetically that remedy (Remedy C1) were effective in constraining price, it is obvious that such a measure would by its very definition also serve to be effective in constraining the pricing of GGBS, given the nature of REGEN as a cement substitute.
- 27.28.1 Therefore, since there is no doubt and the entire market knows that GGBS pricing is constrained by cement, the express remedy the Commission is already proposing (Remedy C1) would be the single most effective measure to constrain GGBS pricing, *if* the Commission were successful in that Remedy. Accordingly, levying any further remedy against GGBS production would be unnecessary in such circumstances, since the most effective and least onerous remedy would already have been implemented, albeit indirectly.
- 27.28.2 Hanson understands that a submission before the Commission now claims that a remedy at the level of GBS / GGBS production could work as an effective remedy in the grey bulk cement market itself, by bringing surplus GGBS into the market which could somehow temper cement prices. This would appear to be a nonsensical and potentially misleading suggestion: as noted above, it is the price of grey cement which constrains the price of GGBS and not vice versa. In addition, the suggestion that bringing any supposed surplus GBS onto the market as GGBS is based on the false assumption that Hanson is somehow not maximising the sales of REGEN in the market. This is patently not the case: the massive investment by Hanson in REGEN means that it is incentivised to maximise REGEN sales, and indeed, it devotes huge resource to the promotion of REGEN as an alternative. Hanson has in the past sold huge quantities of GGBS into the market (around 2.2 million tonnes in 2008): the decline in its GGBS sales have been a result of losses to CEM I, PFA and other substitutes, as well as the decline in market demand generally. Hanson works very hard to create demand for GGBS, and it would not be rational for it then not to serve that

²³⁶ PFs, paragraph 8.290.

demand. There is, of course, already a very considerable surplus of cement and associated capacity, and so the claims made could not possibly have the effects stated.

- 27.29 **Buyer Power** - Nevertheless, the Commission moves on to note that *"regardless of the size of buyers, countervailing buyer power would only exist where purchasers had access to a sufficiently attractive alternative to purchasing GGBS"*²³⁷.
- 27.30 This shows that the Commission either assumes (i) that GGBS is not substitutable with other materials (evidently incorrect and contradicting other statements, such as the comparison of PFA and GGBS volumes; and also in express contradiction to the EC's findings in case COMP/M.4719). or (ii) that there is a capacity constraint of substitutable materials (the Commission does not seem to try to establish this; also, as the regulator did not define the relevant market, it remains unclear which materials would be considered substitutable for GGBS).
- 27.31 The Commission then goes on to state *"[i]n addition, buyer power exerted by some GGBS purchasers would seem unlikely to protect all buyers from higher prices, given the bilateral and confidential nature of purchase negotiations."*²³⁸
- 27.32 This statement is wholly unfounded. As the Commission knows, buyer power depends *inter alia* on the customers' ability to switch to other suppliers (again, this would depend on which materials could be supplied as substitutes). It is generally accepted that buyer power is sufficiently effective, unless it only ensures that *"a particular or limited segment of customers is shielded from the market power of the dominant undertaking"*²³⁹. Again, the Commission merely assumes such limited countervailing buyer power without analysing the regular switching to PFA and even surplus cement.
- 27.33 In addition to the Commission's unsubstantiated finding of market power, the Commission also fails to establish why this led *"to higher prices and/or lower availability of GGBS than would otherwise be the case"*²⁴⁰. The Commission seems to have reached this conclusion without undertaking the required economically sound profitability analysis and modelling. Instead the Commission unreasonably benchmarked prices, profits and volumes in what it holds to be two entirely separate markets. It also does not explain why it holds the cement market to be the appropriate comparator industry. The Commission's provisional finding of what appears to be either an excessive profitability or foreclosure issue lacks any form of reasoning, analysis or evidence.
- 27.34 Indeed the Commission's concern regarding prices and capacity is stated as a mere one line speculative 'either/or' possibility, as opposed to any proper conclusion formulated after proper empirical analysis and quantification. This is not satisfactory, to say the least.
- 27.35 Hanson also notes that there is a great risk of error when economic assessment merely *assumes* that exclusivity will lead to higher prices²⁴¹. Indeed, even a proper profitability analysis would have to be complemented with further evidence, and to be seen in conjunction with other indicators of market power.
- 27.36 **Customer switching / buyer power – GGBS** – Hanson would point the Commission to the [X] reductions in GGBS volumes (and operating income) through the reference period, from a [X] pa in 2007, to the current position of something approximately [X]

²³⁷ PFs, paragraph 8.290.

²³⁸ Ibid.

²³⁹ Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, paragraph 18.

²⁴⁰ PFs, paragraph 7.127.

²⁴¹ As has been seen for example in *The Football Association Premier League Limited, The Football Association Limited, The Football League Limited (And Their Respective Member Clubs) -v- British Sky Broadcasting Limited, British Broadcasting Limited* [2000] EMLR 78.

- 27.37 Prime reasons for that decline in volume was the strong buyer power and the customer ability to switch, as customers (for example Cemex, AI etc) switched to self-supply and imports, as well as making use of the very significant quantities of surplus cement that were available. This drastic decline in volumes and profitability for GGBS has been particularly notable across the last few years of the reference period.
- 27.38 **No evidence of abuse** - The Commission has failed entirely to show that Hanson had abused its alleged market power leading to an AEC in the cement market. Hanson submits that the Commission acknowledges that even if the exclusivity agreements conferred market power upon Hanson in relation to GGBS (which Hanson denies and suggests that the Commission failed to establish), that there would be no reason to remedy the situation. There is no evidence that Hanson has ever taken any unfair advantage of its position, for example by ever limiting capacity or demanding the bundling with other products etc, and the evidence before the Commission is only of satisfied customers who have only ever benefitted from the existing arrangements which have allowed Hanson to supply customers with cheaper blends.
- 27.39 The Commission has failed entirely to show that Hanson had abused its alleged market power leading to an AEC in the cement market. Hanson submits that the Commission acknowledges that even if the exclusivity agreements conferred market power upon Hanson in relation to GGBS (which Hanson denies and the Commission failed to establish), that there would be no reason to remedy the situation. There is no evidence that Hanson has taken any unfair advantage of its position, for example by ever limiting capacity or demanding the bundling with other products etc, and the evidence before the Commission is only of satisfied customers.
- 27.40 According to published documents, no concerns or significant complaints have ever been expressed to the Commission during the course of the MIR over the availability or pricing of GGBS. Indeed, in the Hearing Summary²⁴² for Aggregate Industries, it is noted with clarity that: "*AI was comfortable that it could obtain domestically produced GGBS if it required it*", suggesting no concern from any major downstream operator. The only (published) comment on pricing by a GGBS customer in the PFs notes: "*[Breedon] believed that it got a competitive price for GGBS from Hanson*"²⁴³.
- 27.41 Possibly due to the failure to establish the lacking detrimental effects of the GGBS situation, the Commission was not able to quantify the damage flowing from the alleged AEC, in breach of its obligations in coming to such findings.
- 27.42 Hanson suggests that rather than work to try to establish detriment in the market as a result of the existing GGBS arrangements, the Commission should candidly assess the simple benefits to customers from the existing arrangements, which have: i) allowed continuing national production in the face of the extreme supply risks in the steel industry that were assumed by Hanson; ii) given customers the benefit of continuing access to cheaper blends; and iii) seen Hanson having worked to win the trust and confidence of its customers that its supply lines would be kept open and invested in and without any form of abusive practice.

28. **COMPETITIVE CONSTRAINTS IMPOSED ON GGBS – THE MARKET REALITY**

- 28.1 As outlined above, the Commission's analysis of the competitive situation regarding the supply of GGBS is inaccurate and defective. In the following paragraphs, Hanson submits a brief overview of the actual competitive dynamics regarding GGBS and relevant market characteristics.
- 28.2 The Commission's failure to accurately define the relevant market has fundamentally distorted the Commission's analysis. The Commission should reconsider its formulation of the relevant market in the manner explained below. Such an approach

²⁴² Aggregate Industries Hearing Summary paragraph 31.

²⁴³ PFs, Annex 7.6, paragraph 10.

will identify in a systematic way the competitive constraints faced by the relevant market players.

- 28.3 Furthermore, Hanson will summarise its previous submissions that have extensively analysed the GGBS market²⁴⁴. In contrast, the PFs merely note that the Commission has been "told" by Hanson why "it was not able to exercise market power in relation to GGBS in GB"²⁴⁵. This statement is in no way representative of the full, detailed and comprehensive evidence submitted by Hanson. It is unequivocally clear that the Commission has not taken adequate account of Hanson's arguments and Hanson is concerned that it has been unduly prejudiced *in extremis* by the Commission having already worked to formulate conclusions without any form of due or professional analysis with regard to GGBS.
- 28.4 In its final report the Commission is obliged to "take reasonable steps to acquaint with relevant information"²⁴⁶ so "to produce convincing evidence" and this includes an assessment of "the weakness of any competitive pressure that might be exerted by other operators"²⁴⁷. As required by case law, the Commission must reach rational decision that based upon adequate evidence²⁴⁸ which is of probative value.²⁴⁹ The Commission has already reached decisions – in reality, it has not attempted a proper detailed evidential assessment but is now merely looking for evidence that might assist in supporting prior conclusions.
- 28.5 Therefore the Commission is seeking now at this late stage (*after* PFs and in the closing weeks of the MIR) to start work to be seen to considering Hanson's detailed submissions on GGBS, since only by that the Commission will seek to claim that it has been acting fairly and proportionately and has come to a decision based on evidence²⁵⁰.

The substitutability of cementitious products – a single product market

- 28.6 The EC has previously held that one could "easily switch to cementitious products other than GGBS (fly ash or grey cement), within a short period of time and through little additional costs. Switching from one cementitious product to another would be all the more foreseeable as concrete producers' methods in the UK are specific to continental concrete producers in so far as in house blending is a common habit [emphasis added]."²⁵¹ Therefore, "a vast majority of respondents to the market investigation agreed with a product market including at least all cement additives (GGBS and fly ash [PFA])"²⁵².
- 28.7 Hanson also submits that cementitious products such as GGBS and PFA are clearly substitutable for the three types of cements. In GB, the primary users of GGBS and PFA are RMX and concrete block producers who blend them with CEM1. As the Commission rightly notes, (up to 80%²⁵³ of) cement is frequently replaced by GGBS or PFA, and at least 80% of all RMX sold to end customers contains these substitutes (some estimate the figure to be as high as 95%²⁵⁴).

²⁴⁴ See Hanson's responses to the UIS and the GGBS/PFA Working Paper.

²⁴⁵ PFs, paragraph 8.289.

²⁴⁶ See *Secretary of State for Education and Science v. Tameside MBC* [1977] AC 1014, 1065B, per Lord Diplock. *Tesco plc v Competition Commission* [2009] CAT 6, at [114].

²⁴⁷ *Airtours v Commission* (T-342/99), paragraph 63.

²⁴⁸ *IBA Healthcare* [2004] EWCA Civ 142 [2004] 4 All ER 1103 at [45], [93]. See also *British Sky Broadcasting plc v. The Competition Commission* [2008] CAT 25, at [66].

²⁴⁹ *BAA v Competition Commission* [2012] CAT 3 at [20(4)].

²⁵⁰ See Competition Commission document CC4 General Advice and Information.

²⁵¹ Case COMP/M.4719 *HeidelbergCement/Hanson*, paragraph 19.

²⁵² Case COMP/M.4719 *HeidelbergCement/Hanson*, paragraph 20.

²⁵³ Case COMP/M.4719 *HeidelbergCement/Hanson*, footnote 8.

²⁵⁴ GGBS/PFA Working Paper, footnote 3.

- 28.8 As the Commission recognises²⁵⁵, GGBS and PFA are cheaper alternatives to CEM1 in the production of RMX or concrete blocks. Indeed, price is the main driver for the use of GGBS and PFA. For this reason manufacturers frequently switch between the use of materials, so that even a supplier with a strong position in both GGBS and PFA would not be able to exercise market power. The cement price therefore constrains the pricing of its substitute materials²⁵⁶ and the price of RMX is determined by the commercial channels within the RMX level, not by the pricing of GGBS as an input or intermediate product for RMX purposes.
- 28.9 Whilst there are limits to the extent to which CEM1 can be replaced by GGBS or PFA (these limits may vary depending on the application), there are no limits for the (increased) use of cement, despite the fact that the use of GGBS and/or PFA is preferred by some for the production of very exceptional downstream applications.²⁵⁷ This view was shared by the EC, which held that "GGBS as such is not a critical component absolutely necessary for the production of concrete products and its use, with few exceptions, does not entail a significant product differentiation in the downstream markets. [...] in the final blend, the proportions of cement, fly ash and GGBS can vary and are substitutable each other [sic] to a certain extent. [...] GGBS can in practice be even entirely substituted by cement or by fly ash, a possibility which, despite the differences in characteristic and prices (in any case fly ash is cheaper than GGBS) constitutes a real threat"²⁵⁸.
- 28.10 The EC further recognised that cement could be used to substitute GGBS and fly ash to such a degree that it held the import of cement to constitute a real constraint on the price of cementitious products. The EC specifically noted that "any attempt to coordinate [in relation to cementitious materials] may be destabilised by the increasing constraint of imports, either by other competitors or by some customers"²⁵⁹. The EC expressed this view in the HeidelbergCement/Hanson merger decision in 2007. Since then cement imports have further increased by another 30% (from around 9% in 2007²⁶⁰ to over 14% today) so that the price for imported cement serves to constrain the pricing of cementitious products in GB even more today and on a daily basis.
- 28.11 The EC made these findings specifically in relation to the United Kingdom. Any reasonable and competent competition authority investigating the same market should either adopt these recent findings, or insofar as it deviates from such findings, base such deviation upon compelling contrary evidence. To date, the Commission has provided no analysis of why it disagrees with the EC and Hanson invites the UK Competition Commission to identify and publish what it is that it thinks that the European Commission erred in its (detailed) assessment.

PFA is a readily available replacement for GGBS

- 28.12 PFA is used as a cheap substitute for CEM I and REGEN, whether as an input or intermediate product in the production of RMX and concrete blocks. The large extent to which PFA and GGBS replace one another as cement substitutes is referred to

²⁵⁵ PFs, Annex 7.5, footnote 6; see also Updated Issues Statement, paragraph 53: "The main driver for the production of blended cements, ie cements made with PFA (CEM II) and GGBS (CEM III), is cost, in that PFA and GGBS are cheaper than clinker."

²⁵⁶ See e.g. an e-mail sent in August 2010 where a largely rebated offer was made (see Hanson Working Paper summarizing CC review of internal documents (cement), paragraph 84). See also e-mail of 27 June 2012 which Hanson provided as part of the cement documents request.

²⁵⁷ There are certain specialist applications for which GGBS is used such as an input into Calumite, a glass fluxing agent.

²⁵⁸ Case COMP/M.4719 HeidelbergCement/Hanson, paragraph 107.

²⁵⁹ Case COMP/M.4719 HeidelbergCement/Hanson, paragraph 88: "Currently there are 20 cement terminals in Great Britain allowing for the discharge of cement and cement additives, not only owned by the major players but also by those with smaller presence, such as Titan or Holcim or by independent undertakings or customers. According to the parties, over the last 9 years 11 new terminals have been set up in the UK. The capacity of all these import terminals accounts for around 6 million tonnes (representing around 35% of the cementitious market) and it is only used at about 25%."

²⁶⁰ <http://www.mineralproducts.org/sustainability/cement-production-data.html>.

above. In this section, Hanson shows that PFA and GGBS are particularly interchangeable.

- 28.13 RMX and concrete producers can switch between these two cementitious products within an extremely short period of time and without any adverse cost consequence. The producer would be able to switch its production within weeks from one product to the other. The switching process would incur no material adverse costs, as most RMX and concrete producers already have the relevant aeration machines to facilitate regular swaps between GGBS and PFA²⁶¹.
- 28.14 RMX producers frequently and easily switch between the use of either GGBS or PFA. For example, in the Commission's Internalisation putback paper sent to Hanson, there is a reference to historic correspondence with Cemex revealing Cemex's intention (as a concrete producer) to switch supplies away from GGBS to PFA²⁶². The PFs note that RMX producer Breedon shares the view that "*cement blended with PFA was a suitable substitute for blended cement produced using GGBS*"²⁶³ and that it would always switch between the two materials "*if there were any problems of availability of supply*"²⁶⁴.
- 28.15 Indeed, the majority of applications expressly permit the use of either GGBS or PFA as additives for the production of RMX or concrete products. In the PFs the Commission noted that "*in many cases*" RMX will be produced using some PFA or GGBS²⁶⁵. Only in very exceptional cases will customers indicate a preference for one of the two additives ("*some parties*"²⁶⁶ believed that GGBS had superior cementitious properties) and in Hanson's experience, when this does occur, it occurs inconsistently. The EC shared this view: "*[p]roduct standards do not require choosing a certain product mix and for all classes of concrete (except from certain specialties rarely traded) either GGBS or fly ash can be used. Even if for a given application the use of GGBS were to be necessary, the possibility of switching to cement or fly ash in other applications would constitute a real threat for the Parties.*"²⁶⁷ Therefore numerous companies have already chosen to increase their use of PFA as part of major construction projects²⁶⁸.
- 28.16 For these reasons the price of GGBS is very much constrained in practice not merely by the price of CEM I, but particularly by the price of PFA. Similarly the price of cement blend CEM II (PFA-based) thus also exerts price pressure on GGBS and GGBS-based products. Hanson generally considers and reviews its own GGBS pricing in the light of prices of PFA and PFA-based CEM2 blend²⁶⁹.
- 28.17 There are a number of major suppliers of CEM II (PFA-based) or PFA on a standalone basis. These include Lafarge Tarmac, Cemex, ScotAsh, Power Minerals, Matrix Materials and Al/Paragon. The majority of these are not linked to the three GB cement producers supposedly forming part of the coordinating group and PFA supplies and products are always available from them.
- 28.18 Perceived concerns by some parties regarding long-term availability, counter-cyclicality and quality variations of PFA should be discounted. In reality, the immediate and short term supply risks for GB produced supply relates to GGBS (in the view of the extreme fragility of the steel industry) and not to PFA.

²⁶¹ The few independents that operate old machinery without aeration capabilities would be able to purchase additional aeration machinery for about £[REDACTED].

²⁶² As reported in the Internalisation putback paper, [REDACTED].

²⁶³ PFs, Annex 7.6, paragraph 10.

²⁶⁴ Ibid.

²⁶⁵ PFs, paragraph 7.110.

²⁶⁶ PFs, paragraph 7.111.

²⁶⁷ Case COMP/M.4719 *HeidelbergCement/Hanson*, paragraph 108.

²⁶⁸ For example, Hope has recently changed its use of GGBS to PFA. Hanson is aware that, for the recent construction of a natural gas power station in Pembroke, RWE npower chose to use fly ash cement, working with Celtic Ash and Lafarge/Tarmac's cement plant at East Aberthaw, by utilising fly ash produced at one of its South Wales power stations.

²⁶⁹ [REDACTED]

- 28.18.1 PFA is a pozzolanic material and as such remains inert until activation. The substance can thus be stored for over a year in silos, domes and other bulk storage facilities without issue. It would be misleading to suggest that its availability and usage are purely seasonal. RMX producers typically handle PFA in the same way as ordinary cement. PFA, just like cement, is therefore available all year round. Additional storage costs are limited, given that all Majors (the only market players who source PFA directly from power stations) already have requisite facilities, while independents obtain the material from intermediaries with their own storage facilities. Furthermore, any additional costs for the storage of PFA should be offset by the low price of PFA compared to GGBS.
- 28.18.2 It is easy and simple to obtain good quality PFA for RMX and cement producers. PFA is sufficiently available and can be sourced at a consistently high quality from power stations such as Drax. Indeed, the Commission notes that "[t]he raw ash produced by one of the power stations in GB (Drax power station) is of cementitious quality and does not require further processing to make it suitable for use in cementitious applications."²⁷⁰ The Commission also showed that at least three parties have access to the Drax plant, and that this power station alone "could produce up to 1m tonnes of cementitious quality PFA per year"²⁷¹. This is a very substantial volume of PFA, considering the MPA's estimate of 1.7m tonnes total sales of cementitious products and cement in 2011.²⁷² In addition to sourcing readily available high quality PFA such as that produced by Drax, RMX and cement producers could also choose to purchase the even more widely available processed raw PFA from one of many on-site processing plants. PFA of cementitious quality can be obtained without problems.
- 28.18.3 There should be no concerns over the supply of large quantities of PFA. For example, the PFs indicate the potential availability of up to 1m tonnes of cementitious quality PFA per annum at Drax alone (equivalent to around 70% of GGBS supply in 2011 in GB). This is potentially a very significant and secure source of PFA supply. Drax, which operates the largest coal-fired power station in GB (and the second largest in the EU), is highly unlikely to exit the market in the near future²⁷³. Its corporate documents show that it is seeking to meet more stringent environmental regulation through a variety of methods: the use of biomass, the use of carbon capture and storage and efficiency improvements to its turbines (the latter two of which envisage continued coal-fired generation).
- 28.18.4 This mid-long term security of supply for PFA material compares very favourably to the uncertainties surrounding the supply of GBS (the raw material required for the production of GGBS) given the insecurity of steel production in GB (which hangs on a knife-edge and is affected by the extreme volatility in international steel demand), the lack of a suitable UK manufacturing base to support a proper national steel industry and the corporate priorities of international steel producers – by way of contrast, the demand for electricity in GB, and for coal-fired generation (in particular in light of the energy gap anticipated for a few years time) is very stable. The steel industry in the UK could close in months, ending GB GGBS production, in stark contrast with coal fired power stations (which allow the continuation of PFA production), which will continue to contribute to the UK's energy portfolio into the long term.

²⁷⁰ PFs Annex 7.6, paragraph 3.

²⁷¹ PFs Annex 7.6, footnote 7.

²⁷² PFs Annex 7.6, paragraph 23.

²⁷³ Whilst it is looking to convert some of its generation capacity to biomass, it is likely to rely on coal for the foreseeable future. For example, in 2012, it completed a major upgrade to three of its low pressure turbines in one of its generation units (at a cost of around £100 million) in order to improve the efficiency of its coal-fired generation capacity (See http://www.draxpower.com/media/press_releases/?id=173439).

Alternative substitutes

- 28.19 Cement blend CEM II (limestone-based) can substitute CEM2 (PFA-based) and GGBS for a wide variety of applications. Given the very low costs of limestone, such blends also constrain the pricing of the other cement blends. Suppliers of limestone include Omnia and Buxton Lime.
- 28.20 Hanson's GGBS business also faces strong competition from Cenin, a company based in South Wales which has developed a cement substitute made from recycled materials (based on a secret patented waste processing and production process). Cenin has for example successfully replaced some Hanson's GGBS supplies [REDACTED]
- 28.21 In addition, Cemergi, a material produced by Lafarge Tarmac is also directly substitutable for GGBS and PFA.
- 28.22 Not only has the Commission underestimated the impact of PFA, but it has also not considered the availability of these other alternatives as part of the same cementitious market that is very much in effect in the UK. The availability of such a range of alternatives fully substitutable for GGBS, supplied by a large number of suppliers means that customers have significant choice and buyer power, and they are able to exercise that choice (and do so regularly) to undermine any perceived strength of Hanson in GGBS.
- 28.23 Accordingly, the statements made by the Commission that the UK REGEN market constitutes a 'monopoly' fall short of due analysis, when one considers what the true market is for cement substitutes in this country. Hanson notes that the Commission has omitted all due assessment of such considerations, and in the only instance where the Commission does consider the impact of PFA, the Commission dismisses it altogether after understating the size of that market by several hundred thousand tonnes per annum, or by a factor of some 100%.

Imports of GGBS

- 28.24 GGBS can be, and indeed is, imported to GB on a significant scale. Hanson competes in GB with a number of Continental European GGBS suppliers. Spanish GGBS suppliers offer "*cheaper*"²⁷⁴ alternatives and many RMX and cement producers source their input material from Germany²⁷⁵. Hanson understands that Lafarge, Cemex, Paragon (AI), Aggregate Industries and Ecocem (and, formerly, Dudman) all regularly import GGBS to GB and that it is often cheaper than GB produced REGEN. The proper and detailed market investigation conducted by the EC "*has confirmed that European continental cement, fly ash and GGBS exporters exert a price pressure as regards the UK*"²⁷⁶. [REDACTED]
- 28.25 Despite these strong competitive forces, Hanson holds a high market share only on the supply of GB produced REGEN, supported by its competitive offers and the quality product it delivers. Hanson's customers expressly appreciate the competitive pricing offered by Hanson: the PFs mention buyers who expressly praise Hanson for selling its GGBS at "*a competitive price*"²⁷⁷. There is never any suggestion of abuse or any capacity constraints.
- 28.26 Hanson continues to be concerned that to date the Commission has not taken account of any relevant evidence on the successes of GGBS importers and the strong market share they have gained in a relatively short period of time in GB. Similarly Hanson believes that the Commission should give due regard to the threat posed by potential overseas competitors for the supply of GGBS in GB. GGBS producers based in Continental Europe could at any time increase or begin to import material to GB.

²⁷⁴ PFs, paragraph 7.116.

²⁷⁵ In its response to the Updated Issues Statement, Hanson mentioned the following examples showing that [REDACTED]

²⁷⁶ Case COMP/M.4719 *HeidelbergCement/Hanson*, paragraph 31.

²⁷⁷ PFs, Annex 7.6 paragraph 10.

- 28.27 Competition could be further increased if GBS would be imported from steel plants in Continental Europe and ground into GGBS in the UK. [X]. This demonstrates how imports of GBS can lead to competitive *advantages* which are absent from GB produced GBS.
- 28.28 This GGBS production method is particularly interesting in the context of Hope Construction / the Mittal investment corporation, which has a direct interest in the GB cement and RMX markets and has (as part of the world's largest steelmaker Arcelor Mittal) wide and unlimited access to GBS in numerous countries well suited for export to GB (e.g. Belgium, The Netherlands, France, Spain, Portugal etc). In light of the significant savings and process efficiencies resulting from the import of high quality GBS (e.g. from Belgium or France), Hanson requests that the Commission place sufficient emphasis in its assessments on the competitive threat posed by imported GBS which can easily be grinded to produce GGBS in GB.

Efficiencies linked to the long-term exclusivity

- 28.29 The Commission has listed out some arguments put forward by Hanson in relation to the efficiencies arising out of the GGBS agreements²⁷⁸.
- 28.30 However, the Commission has not even attempted in any manner to take them into account or give them consideration or assessment. It merely notes "*that any efficiencies that might arise were not sufficient to prevent authorities elsewhere in Europe taking action to bring to an end similar exclusivity arrangements for GGBS in other jurisdictions, though we note that there may be some differences between GGBS arrangements in these other jurisdictions and in GB*".²⁷⁹
- 28.31 In other words, in a similar fashion as the Commission did for cement (when it substituted the need for a proper evaluation of competition by way of preferring instead to depend upon express reliance on claimed market 'outcomes'), here the Commission suggests that instead of considering the evidence presented by Hanson, it will instead prefer to rely on the misguided decision of the Bulgarian regulator, or indeed on the events in Germany where the underlying steel industry was in fact the exact opposite of what is left of a steel industry in the UK.
- 28.32 Hanson has already outlined that it does not agree that either the Bulgarian decision or the German voluntary agreement has any persuasive value whatsoever for the UK Commission authority and in fact suggest that, when reviewed in detail, both those decisions show it would rather be *inappropriate* for the UK regulator to review the markets, on the basis of the findings and industry structures underlying those two decisions. In particular, Hanson finds it extraordinary that the Commission rushes to rely on such tenuous and inappropriate overseas situations, whilst working to ignore the UK-specific findings of the pan-European and superior regulator in relation to GGBS.
- 28.33 The long-term exclusive agreements were justified due to the very significant level of capital investments made by Civil & Marine (the company acquired by Hanson in 2006), and the ongoing commitment of Hanson to GGBS supply, in the context of the highest level of market risks and the inherent uncertainties surrounding the supply of input raw material. Unusually high levels of risk were involved in the investment, in relation to a) the uncertainties regarding the UK steel industry (which continues to hang on knife edge) and its future supply ability for the granulate, b) to what extent the UK construction industry would understand and be willing to work with GGBS, and c) the very long wait before any return could be made on the investment. Hanson points to its submissions in its response to the GGBS Working Paper and its Response to Possible Remedies for extensive clarifications of the GGBS agreements in the context of the time in which they were struck (which the Commission failed to consider).

²⁷⁸ PFs, Annex 7.6.

²⁷⁹ PFs, Annex 7.6, paragraph 7.

- 28.34 By way of summary, Hanson has developed, and invested very heavily in, the GGBS business over a number of years. Its investment has included very significant capital investment in the establishment and construction of GGBS grinding operations (located close to the sources of supply and effectively dedicated to the grinding of GBS). [§], Hanson has also made substantial market investment in promoting GGBS as an alternative to cement in the concrete production process (at the time of the investment, GGBS had gained limited traction as an alternative to cement).
- 28.35 Despite the enormous risks taken by Hanson, Hanson has continued to further invest in the national UK industry and production of GGBS by i) making GGBS available to and marketing its uses to the wider Hanson customer base; ii) introducing GGBS into the superior and more extensive Hanson Cement transport and distribution network; iii) protecting the industry and ensuring its survival with the financial ability to absorb associated mothballing costs and impairments to react to the various closures the steel industry has seen; and iv) investing in various upgrades on sites, for example the construction of bridges for better site access, new IT platforms etc all to bring the national industry into the modern era despite very challenging circumstances as volumes and operating income have collapsed and some of the extreme risks from the steel industry actually materialised.
- 28.36 These investments by Hanson (including Civil and Marine) have all been on the basis of the long exclusivity granted under the GBS supply arrangements, in order to provide a basic security of supply for entering the cement substitution market and competing with cement and PFA. The exclusivity provided Hanson / Civil and Marine with the essential security that it could maintain a national production model and in turn continue with a national offering to customers, and eventually recover its investment, albeit over a long term period, given the very long wait before returns could be made against the following risks:
- 28.36.1 The extreme raw material supply side risks caused by considerable/ever-present operational uncertainty in the UK steel industry are well known. The closure of the Llanwern steelworks [§] and the temporary closure of the Teesside steelworks [§] demonstrate this. The continued uncertainty of the UK national steel industry²⁸⁰ (which continues to hang on a knife-edge in the face of the combined pressures from ever low UK demand and more recently the falls in demand from the East) further demonstrates the uncertain environment in which Hanson continues to operate. Producers and downstream sellers / agents for steel in this country now find themselves in crisis as they consider which operations, national offices and sites to close given the collapse in GB and also global steel demand;
- 28.36.2 The commitment to the market needed by Hanson and the demand-side risks faced in trying to promote an substitute/alternative to cement given the relatively low acceptance of GGBS at the time of the investments; [§]; and
- 28.36.3 Without the risk of other producers 'free-riding' on the back of the efforts of Hanson in promoting GGBS and gaining acceptance of it as a viable alternative to CEM I.
- 28.37 The exclusivity granted under the GBS supply agreements formed the basis for Hanson's / Civil and Marine's extremely high investments [§] and the high/pioneering risks undertaken in offering a product to the market on such a national scale. Without the grant of long exclusivity, Hanson / Civil and Marine simply would not have made these investments and/or undertaken the commitments/risks it did.
- 28.38 The exclusivity arrangements have proven absolutely essential to allow continuance of a national model of production to the benefit of customers and allow them continuing access to cheaper cement blends as a direct result.

²⁸⁰ <http://www.thesundaytimes.co.uk/sto/business/Industry/article1261379.ece>

- 28.39 In the face of the extreme fragility of UK steel production and its ever present and very real risk of imminent closure, [REDACTED], with Hanson having had some degree of ability to maintain the national production model as steel operations have in turn been closed and mothballed.
- 28.40 It is this continuum of the national production model, [REDACTED] that in turn has ensured the continuing availability of a national offering to customers, who in turn have directly benefitted from such arrangements with continued access to cheaper cement blends from GGBS / REGEN sales.
- 28.41 [REDACTED]
- 28.42 Evidently, as the steel sites could close at any time, the risk profile from having invested in such enterprises remains extremely high, and [REDACTED]
- 28.43 [REDACTED], with Hanson able to absorb a closure to some degree whilst still maintaining a national offering, [REDACTED]
- 28.44 Therefore the benefit of the existing contractual arrangements and exclusivity has most of all been to customers, who have been afforded continuing national access to GGBS and who have been able to maintain a degree of confidence in the continued GB supply of the a cheaper cement substitute.
- 28.45 [REDACTED]
- 28.46 The Commission also raises the question whether similar efficiencies could be realized with up to three different exclusive contracts with different players²⁸¹. The mere posing of this question shows that the Commission has not duly appreciated the substantial risks Civil & Marine/Hanson was exposed to when entering into the contracts. [REDACTED]. By contrast Hanson's three production sites enable it to switch and rotate its production and supply between the various facilities and thus counter-balance lost productions.
- 28.47 **EC approval** - The agreements were fully disclosed to and visible to the EC at the time it assessed the merger between HeidelbergCement and Hanson. The EC reviewed the arrangements (as recently as in 2007) and had no concerns regarding the arrangements or otherwise requiring remedial actions or any form of undertakings. To the contrary, the EC approved the relevant merger in Phase I. In the context of assessing the impact of the vertical relationship of the newly created entity on the supply of GGBS in the UK, the European regulator held "the evidence gathered by the Commission indicates that the merged entity will not have either the incentive or the ability to foreclose its competitors, and, even if implemented, it is highly unlikely that such behaviour would have a significant impact on the final customers."²⁸² Similarly, the EC held that the downstream market for ready-mix concrete / other concrete products would not be affected by the Agreements as Hanson "would have neither the ability nor the incentive to foreclose its rivals."²⁸³ Hanson again points to the fact that the Commission has not presented any evidence that consumers are in any manner detrimentally affected either by the Agreements or by any alleged conduct on the part of Hanson. Hanson is not aware of any complaints by GGBS customers about its supply or pricing (to the contrary - all comments on its GGBS pricing were positive).
- 28.48 Hanson is a model supplier of GGBS and it is Hanson's policy to supply its products widely and to price its products competitively. Indeed, in view of the ability to substitute GGBS with cement or PFA, and in view of the product's place and role in the market as an input product into RMX sales (RMX prices are set independent of the pricing of GGBS), Hanson does not believe it would be possible or plausible to attempt

²⁸¹ PFs, Appendix 7.6, paragraph 30(b).

²⁸² Case COMP/M.4719 HeidelbergCement/Hanson, paragraph 98.

²⁸³ Case COMP/M.4719 HeidelbergCement/Hanson, paragraph 112.

to engage in any conduct that may even remotely be seen as improper or discriminatory with regard to its GGBS sales.

- 28.49 In its (limited) assessment of GGBS, the Commission has not appreciated the efficiencies arising from the exclusive supply arrangements, and has not set out why it appears to be taking a contrary view to the EC, which considered the structure of supply of GGBS in GB closely and effectively identified no concern over the link with cement, a concern which the Commission now appears to be making the focus of its 'case against GGBS'.
- 28.50 **Conclusion** - In conclusion, given the extraordinarily high risk and special circumstances of the UK steel industry, Hanson respectfully suggests to the Commission that the most effective way to guarantee and maximise the continuing supply of cheap cement substitutes / cheap GGBS to customers for the medium to long term is to leave the arrangements as they are on an exceptional basis, [X].

NON-CONFIDENTIAL ANNEX 1

ANALYSIS OF INCONSISTENT EVIDENCE OF COORDINATION

1. The Commission concludes that:

*“There was some evidence that there were periods when coordination was more successful, and periods when it was less successful (for example, in 2009 following one Major’s large internalization of cement volumes).”*²⁸⁴
2. However, the Commission fails to point out the substantial inconsistencies in its evidence as to when coordination was more and less successful. For example:
 - 2.1.1 The Commission considers industry profitability to be relatively low in 2008²⁸⁵, but it suggests (based on evidence in internal documents) that this was a period where coordination was most likely to be taking place²⁸⁶.
 - 2.1.2 The Commission finds less evidence of switching in 2011²⁸⁷, but also increasing price dispersion²⁸⁸.
 - 2.1.3 The Commission’s evidence on “tit for tat” behaviour (which includes “rebalancing of shares”) is also deemed to be strongest in 2009, but it concludes that 2009 was a period when coordination was least successful.
3. The key evidence presented by the Commission in its provisional findings report is presented in Figure A below. Time periods where the Commission concludes that there is evidence of competition are coded, in green, and coordination in red.
4. What Figure A shows is that the Commission’s conclusions are internally inconsistent and it fails to identify any time period where the majority of the evidence points to coordination taking place.

Figure A

	2007	2008	2009	2010	2011	2012
Profitability		8.226c	8.7			
Switching		8.226e		8.175		
Change in price dispersion		8.226d			8.226d	
Market share volatility		8.226a				
		7.8				
		8.3c				
Tit-for-tat behaviour			8.76			
Evidence of coordination vs. competition		8.229	8.227			8.229

²⁸⁴ PFs, paragraph 41.

²⁸⁵ PFs, paragraph 8.22(c).

²⁸⁶ PFs, paragraph 8.229.

²⁸⁷ PFs, paragraph 8.226(e).

²⁸⁸ PFs, paragraph 8.226(d).

NON-CONFIDENTIAL ANNEX 2

SIMULATION OF PRICES AND MARGINS

Introduction

1. The aim of this simulation is to compare how prices and margins in the GB cement market would be predicted to change in the period 2007-2011 under different models of competition. This annex sets out the assumptions and data that Hanson have used to perform this simulation. Throughout, Hanson have used the Commission's definitions of costs, prices and outputs and used the Commission's data on Hanson's GB cement division.

Choice of economic models

2. Hanson have chosen the following economic models:
 - 2.1.1 Perfect competition
 - 2.1.2 Monopoly
 - 2.1.3 Cournot (4 firms)
 - 2.1.4 Price = average avoidable costs
 - 2.1.5 Price = average total costs
3. These models were chosen to provide as wide a range as possible of different competitive conditions. Perfect competition is the standard theoretical benchmark for a highly competitive market. At the opposite end of the spectrum, the monopoly model, also provides a proxy for a coordinated outcome (consistent with joint profit maximisation). The Cournot model was chosen as the most widely used and tractable model of non-cooperative oligopoly. These models all focus on short-run profit maximisation. Hanson therefore included price = average avoidable cost / average total cost as models which are consistent with longer term effective competition. These pricing conditions are compatible with a large number of dynamic economic models.

Choice of demand function

4. Hanson assumes that all cement manufacturers produce an identical product and charge the same price.
5. Hanson assumes that the (inverse) market demand function is linear. Linear demand functions have two parameters to be estimated: the slope, and the intercept.
6. Predicted prices and margins are not affected by the slope of the demand function in any of Hanson's chosen economic models. Hanson therefore do not need to make any assumptions as to the value of this parameter.
7. The assumed intercept of the demand function affects the absolute levels of predicted prices and margins only in the Cournot and Monopoly models. However, the predicted change in prices and margins is not affected by the assumed value of this parameter in any of Hanson's models.
8. As Hanson's focus is on the predicted change in margins (are margins predicted to rise, fall, or be stable), Hanson's choice of assumption does not affect Hanson's analysis. For illustrative purposes, Hanson has assumed that the intercept takes a value of 300.

Choice of cost function

9. As Hanson only has information on its own costs, Hanson assumes that all cement producers have identical costs (both fixed and variable) to Hanson.
10. Hanson uses the Commission's definition of fixed and variable costs. Hanson uses the Commission's estimate of average variable costs as a proxy for marginal costs. Hanson further assumes that marginal costs are constant.
11. Hanson assumes that site fixed costs (which largely comprise of labour and repair and maintenance) are avoidable. All other fixed costs are assumed to be non-avoidable.
12. Hanson's cost assumptions are summarised in Table 1 below:

Table 1: Cost Assumptions for simulation of prices and margins

Cost	Source	Definition	Calculation (where necessary)
• <i>Variable costs</i>	CC data (Hanson)	The following are included: <ul style="list-style-type: none"> • Materials • Production costs • Non-cash variable costs 	•
• <i>Fixed costs</i>	CC data (Hanson)	The following are included: <ul style="list-style-type: none"> • Site fixed costs • Divisional fixed costs • Central costs • Depreciation and Amortization 	•
• <i>Avoidable costs</i>	CC data (Hanson)	The following are included: <ul style="list-style-type: none"> • Site fixed costs • Variable costs 	A + B(i)
• <i>Marginal costs</i>	CC data (Hanson)	Variable costs per unit of output	A/F
• <i>Total costs</i>	CC data (Hanson)	Fixed costs and variable costs	A + B
• <i>Output</i>	CC data (Hanson)	Total sales volumes (external and internal)	•

Prices

13. Actual prices are taken from the Commission's calculations of Hanson's average prices. These are based on net revenues (net of distribution costs) per unit of sales. Net revenues include both internal and external revenues.

NON-CONFIDENTIAL ANNEX 3

Testing for market share co-ordination

1. Introduction
 - 1.1 The Commission argues that if market shares were being coordinated it would expect to observe that a producer that increased its shares of sales in one period would be more likely to experience a reduction in market shares in the following period. The Commission argues that this implies that changes in market shares in consecutive periods would be expected to be negatively correlated if firms were coordinating around market shares.
 - 1.2 The Commission's test is fundamentally flawed. The problem is that changes in observed market shares are automatically negatively correlated. Even in a highly competitive market where market shares follow a random walk (and have no tendency to revert to mean or target values) the Commission's test is likely to find a negative correlation between changes in market shares. The Commission's test is therefore biased to accepting the null hypothesis that that market shares are coordinated.
 - 1.3 The conventional means of testing the Commission's hypothesis is to test whether changes in market share have a unit root (follow a "random walk") using the Dickey Fuller test. When Hanson carried out this test, Hanson found that it cannot reject the hypothesis that market shares have follow a random walk. In other words, there is no evidence that market shares have a tendency to return to mean levels. The data therefore provides no evidence that GB cement producers are following a "tit for tat" strategy or that market shares are being "rebalanced".
 - 1.4 In this annex Hanson first set out why the Commission's test is biased. Hanson then carries out the conventional test of whether changes in market shares have a unit root and report Hanson's results.
2. The Commission's test (autocorrelation of changes in market shares)

- 2.1 Hanson can illustrate the inherent bias in the Commission's test by first considering a highly competitive market where firms compete aggressively for market share, and where each firm's expected sales wins are equal to its expected losses. In this model, each firm's market share would follow a random walk. Formally, its (true) market share in time period t is equal to its (true) market share in the previous period, $t-1$, plus a random term variable, ω_t :

$$S_t^{TRUE} = S_{t-1}^{TRUE} + \omega_t$$

where ω_t is a random variable with an expected value of 0 and a constant variance.

- 2.2 If *true* market shares could be measured, then the Commission's test would make sense. The null hypothesis would be that market shares followed a random walk, in which case it would expect to find that changes in market share in consecutive time periods would be uncorrelated.²⁸⁹ If a statistically significant negative correlation is observed, then the Commission would reject the null hypothesis. A finding that true changes in market share are negatively correlated could be consistent both with coordination and effective price competition.²⁹⁰

²⁸⁹ In the random walk model, the change in market share in one period (ω_t) is uncorrelated with the change in market share in the following period (ω_{t+1}) by assumption.

²⁹⁰ There are, of course, competitive explanations for market shares to have a tendency towards the mean. For example, if a firm who loses market share is left with excess capacity or stocks, it may have a greater incentive to compete more aggressively in the following period. Conversely, the firm that increased its market share may face capacity constraints and have an incentive to compete less aggressively in the following period. This means that a

- 2.3 However, Hanson does not observe the true value of market shares. As the Commission accepts, shares of sales are not fully transparent, so market shares are observed with an error. Moreover, observed market shares will vary from period to period for a number of reasons that do not reflect changes in true market shares, e.g. if a large sales order is made on the last day or the first day of the next month. The observed market share will differ from the true market share by a random error, i.e.

$$S_t^{\text{observed}} = S_t^{\text{true}} + \varepsilon_t$$

where ε_t is a random variable with an expected value of 0 and a constant variance.

- 2.4 What the Commission actually estimates is the correlation coefficient between the *observed* change in market share between time period t and $t-1$, and the observed change in market share in the following period. These two series can be written as:

$$S_t^{\text{observed}} - S_{t-1}^{\text{observed}} = \varepsilon_t - \varepsilon_{t-1} + \omega_t$$

$$S_{t+1}^{\text{observed}} - S_t^{\text{observed}} = \varepsilon_{t+1} - \varepsilon_t + \omega_{t+1}$$

- 2.5 Crucially the error term, ε_t , enters into both time series, once as a positive term, and once as a negative term. This means that changes in market share will be automatically negatively correlated.
- 2.6 The size of the estimated correlation coefficient will depend upon the relative magnitude of a) the movement in the true market share between periods (ω_t), and b) the error in measuring the true market share (ε_t). However, unless the error term is very small compared to the size of the true movement in market share then Hanson would expect to find a statistically significant negative correlation between changes in market share between one period and the next.
- 2.7 This illustrates that the Commission's test is biased. Even where market shares follow a random walk (and there is therefore no evidence of "tit for tat" or market share "rebalancing") the estimated correlation coefficient is likely to be both negative and statistically significant.

3. The Unit Root Test

- 3.1 If the Commission's hypothesis of coordination were true Hanson would expect to find empirically that market shares return to their mean value following a random perturbation. Conversely, if market shares have a unit root (follow a "random walk") there is no evidence of coordination.
- 3.2 It is first important to note that, even without coordination on market shares, the market share of a major in one month would be expected to depend upon the market share in the previous month, because only a limited volume of cement supply contracts are tendered each month. The simplest generic underlying process describing the evolution of market shares (either with or without coordination) can therefore be expressed as follows:

$$S_t = \alpha + \rho S_{t-1} + \varepsilon_t$$

- 3.3 In this framework, if the Commission's hypothesis were correct, the coefficient, ρ , would take a value <1 meaning that the market share always returns to a long run average value i.e. α . Alternatively, in the absence of coordination, ρ would be equal to 1, meaning a Major's market share would simply be the same as the previous month

finding of a negative correlation between changes in market shares is consistent with competition as well as coordination.

plus net contracts won or lost in that month. In other words, market share would be expected to follow a random walk.

- 3.4 The standard and most widely accepted method of testing the null hypothesis that ρ is equal to 1 using time series data is to use an augmented Dickey-Fuller test.²⁹¹
- 3.5 Hanson has run the augmented Dickey-Fuller tests on the quarterly market shares (by sales volumes) for 2007 to 2011 for the three largest majors, computing market shares both with and without imports²⁹². There are 17 observations.
- 3.6 The results of Hanson's test are presented in Table A1. In all cases, Hanson is unable to reject the null hypothesis that their market shares are *non-stationary*, even at the 10 per cent significance level.

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- 3.7 Although such results need to be treated with caution given the sample size, they do illustrate that the observed changes in market share from one period to the next is consistent with market shares following a random walk. There is therefore no evidence of coordination.
- 3.8 Hanson would have liked to have tested the robustness of Hanson's results to alternative model specifications, including testing the relationship between changes in market share in consecutive months rather than in quarters. This would be appropriate if the Commission believes that the lag between observing a change in market share and “tit for tat” and “rebalancing” of market shares is relatively rapid. However, it is not apparent that the alleged lag could be this short given the time taken to observe a change in market share (with some confidence), win a new contract, and record new sales from that contract. While monthly data would increase the sample size (increasing the statistical power of the test) it is also likely to introduce more noise. It is thus far from clear that an analysis of monthly data would show a different result.

²⁹¹ See, for example: Wooldridge, J. M. (2009) *Introductory Econometrics: A Modern Approach*, Edition 4e, Chapter 18.2

²⁹² The Commission has monthly sales figures but this data was not shared with Hanson's advisors.

[CONFIDENTIAL ANNEX A]

SELECTIVE TREATMENT OF DOCUMENTARY EVIDENCE

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[CONFIDENTIAL ANNEX B]

Production Costs and Sales Volume Analysis



[CONFIDENTIAL ANNEX C]

PAN-COMPANY PROFIT AND CLINKER PRODUCTION ANALYSIS

