Regional cartels and a review of developments in the cement industry

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Abstract

This paper provides a preliminary assessment of developments in cement markets in southern and east Africa. It focuses in particular on the available evidence on the impact of entry in country markets as well as the ending of the SACU cement cartel arrangement. The arrangements between firms have been shown to have undermined rivalry between the largest producers in the region which have between them a history of cartel conduct in various countries and regions globally. Where there has been entry, such as in Zambia and South Africa, prices have decreased significantly for cement. Publically available data is used to demonstrate that prices have declined by as much as 85% in Zambia by 2015, and by around 70% in South Africa. The paper discusses the potential for greater rivalry and enforcement at the regional level to enhance gains to consumers in the cement sector.

1. Introduction

The production and consumption of cement is linked to infrastructure development and the growth of economies. As a primary building material, the price of cement contributes directly to the cost of construction and building projects which in most developing countries includes state housing projects and basic infrastructure for the poor. Access to cheaper inputs to the construction sector relies to a great extent on the competitive environment prevailing between producers. This can be distorted significantly by disruptions in the competitive process such that the levels of prices and output (and supply and demand) do not reflect those which would pertain in more competitive market conditions resulting in deadweight losses. These distortions can result from coordination between firms and unilateral abuses of positions of market power. It is especially concerning that anticompetitive behaviour has been shown to be present across various building materials markets in southern and east Africa ("the region"), with several collusive arrangements having been uncovered in South Africa in particular that have had effects across several countries southern Africa. This is true in the case of cement, steel products, concrete pipes and culverts, bitumen, scrap metal, construction and industrial gases, amongst others. Longstanding relationships of coordination between firms, several of which are linked to favourable government trade protectionism and legal cartels, and concentration in key industries within the region, is likely to have led to the strategic allocation of country markets between firms. There has however not been a competition law case brought against firms at a regional level with a view to addressing conduct which cuts across borders.

Very little is known about collusive arrangements between firms which cut across national borders in Africa. Jenny (2012) and others have studied international cartels in some detail including the famous potash fertilizer cartel which has affected the supply and price of fertilizer for decades across the world. There has also been some commentary about the longstanding market allocation relationship between the Castel and South African Breweries which cuts across the African continent (Jenny 2009).

This paper considers recent changes in the cement industry given entry of new competitors and the cessation of a cartel in southern Africa. While limited data is available which is public and comparable across countries, we have assessed available information on price changes in South Africa and Zambia in particular to provide a preliminary assessment of the positive impact of competition.

2. Collusion and regional coordination

Collusive practices allow firms to jointly exercise market power in a market through for example allocating quotas, prices, customers or geographic markets. This understanding between firms can be reached through direct (although secretive) communication or express agreement between firms, or tacitly where there is mutual understanding with no communication between firms at all. The collusive equilibrium is one in which prices are supra-competitive i.e., above the competitive price level. In this equilibrium a firm prices above and/or supplies quantities below those which would maximise its short run profits, however it is in the firm's interest to do so because of cartel profits and the likely reaction of other cartelist if it were to undercut (Harrington 2011; Motta 2004).

The 'plus' factors and characteristics of industries which make collusion easier to maintain and by which collusion can be identified in markets have been outlined by various authors (See, Motta 2004; and Harrington 2006). In general, cartel conduct is more likely to occur in markets where there is a high concentration of firms, relatively homogenous products, high barriers to entry, stable demand conditions, firm symmetry, multi-market contact between firms, and cross-ownership, and where there is sharing of disaggregated information (Bernheim and Whinston 1990; Motta 2004). Evidence on prices, quantities and discounting behaviour over time can be assessed, with collusion being likely when there is low variance in prices over time, there are high levels of price transparency, strong correlation in prices, high prices without an increase in imports, and highly stable market shares over time for individual firms (Harrington 2006).

Where coordinated arrangements exist they can affect patterns of trade, investment and the integration of markets whereby movement of goods between countries and rivalry between firms in different territories is restricted by an arrangement between major players. This has significant implications for regional integration and trade and potentially undermines attempts by regional economic communities ("REC") to enhance intra-regional trade, investment and industrial development. In those cases where the affected markets are for important industrial inputs, construction activity and infrastructural development in a country are also affected.

Most of the economies in the region are relatively small in size and domestic markets are in some cases insufficient in terms of demand for firms to achieve scale economies. This often means that the structure of country markets is fairly concentrated. The ability of firms to sell their products into new geographic areas in a larger regional market is critical to further growth.

At the same time, firms will seek to protect a position of market power within the regional market given its relatively small size as a whole, meaning that entry deterrence strategies are rational for large firms operating across the region.

In many cases, trade barriers and non-tariff barriers to entry and trade, including through protectionist policies, serve to further entrench the market power of incumbent firms domestically and in the region. Regional rivalry requires the presence of different firms in neighbouring countries as opposed to companies associated with the same groups, and the absence of coordinated arrangements, the reduction of trade barriers, and improved transport infrastructure (Robert et al 2014).

Producers in a cartel may export output in a coordinated manner. The legalised cartel between cement producers in Norway involved agreements on exports to other country markets in this way, just as it did in South Africa (see Röller and Steen 2006). Jenny (2012) refers to different types of export cartels – a 'government-directed or sponsored export cartel' arrangement occurring amongst a group of firms within a single country which is either mandated, sponsored or supported by the government; and a 'mixed private export cartel' which refers to situations where a national (single-country) export cartel has some effect at the domestic level, such as facilitating cooperation between exporters with respect to their domestic sales. Connor (2014) in a review of global studies that have estimated cartel overcharges denotes 'international' cartels as those having membership in more than one country, most of which had effects in more than one country as well (i.e. international in composition and geography).

Various cartels have existed in the cement industries of countries in Europe including Germany, Norway, Austria and Poland. In each case there has been a clear overlap in the firms that are involved in each country. Indeed the largest cement producers globally including Lafarge, Holcim and Heidelberg have operations and have been prosecuted for cartel conduct throughout the world (Connor 2014).[1] In southern and east Africa the same is largely true, with firms associated with Lafarge or Holcim being represented across various countries (Mbongwe et al 2014).

The most prominent finding against cement producers in the region was in South Africa, an arrangement which was effectively ended around 2009. For several decades the cartel operated as a legalised arrangement through exemptions from competition law scrutiny by government.

[1] Note that Lafarge and Holcim merged in 2015.

This relates to a long history in different countries of the state supporting coordination between firms for the purpose of developing domestic industrial capacity. Chandler et al (1997) discuss the role of governments in the facilitation and maintenance of coordinated arrangements between firms under the guise of industrial development. Importantly in sectors characteristised by high scale economies the need to achieve scale meant a tendency towards tight oligopolistic market structures. These conditions promoted the existence of tacitly interdependent firms, although in some cases firms came together explicitly through government-sanctioned or government-led coordination such as in the cement industry in South Africa. Viewed in this manner, 'cooperative capitalism' has historically formed part of the development strategies of countries in the developed world (see Wengenroth (1997) on coordination in Germany and Schröter (1997) on small European nations), and indeed there may be good economic reasons for governments to facilitate or protect cooperation arrangements between firms. In most cases, governments are required to have in place effective mechanisms for disciplining firms to ensure that the developmental objectives of the supportive arrangements are achieved (Amsden 1989).

The experience with the cement cartel in South Africa suggests that even legal arrangements if not controlled effectively can manifest secretive, hard-core cartels of the kind which is fundamentally detrimental to development objectives. The legal cartel in South Africa which had operated in different forms since the 1940s spawned an illegal arrangement from the late 1990s which affected not only South Africa but the entire Southern African Customs Union (SACU) area as well (which includes neighbours Namibia, Botswana, Lesotho and Swaziland) (Fourie and Smith 1994, Competition Commission 2015). The neighbouring countries to South Africa largely did not have significant production capacity themselves, while Lafarge which was involved in the cartel had a presence in Zimbabwe and Zambia as well (PPC also had a plant in Zimbabwe).

This paper is concerned with the regional aspects of the arrangement. The firms operating in countries in southern Africa in particular clearly had close market contacts throughout the region, and importantly had interactions in the largest market in this region in terms of capacity, South Africa. The premise of the assessment is that firms would have had incentives and the ability to coordinate not only the markets in SACU, but those in extended neighbours such as Zambia and Malawi as well. Indeed it is also expected that firms have developed their strategies at a regional level given the bulky nature of cement plants and the importance of securing sufficiently large 'localised' markets to ensure offtake and scale.[2] Investments are thus driven by proximity to markets and 'rivals' along with consideration of the location of limestone deposits to manage transportation costs for bulk primary inputs (Mbongwe et al 2014). The location of plants and allocation of customer markets can take place at a regional level (ignoring national borders), tacitly or explicitly, or simply through understandings not to compete in each other's territories. This has the effect of creating localised monopolies which when considered at a regional level may in fact be the product of region-wide coordination. During the SACU cartel, for example, PPC agreed with other members that they would not compete in northern KZN in exchange for Lafarge not competing with PPC in the Botswana market.[3] Members of the East African Cement Producers Association (EACPA), in which some of the same large global producers have an interest, appear to export into some countries and not others even where it appears economically feasible to do so which could be due to an arrangement between the firms (Mbongwe et al 2014). Furthermore, Lafarge has plants located in the south-west of Tanzania at Mbeya, and is unlikely to compete with their own plants in Ndola in the north of Zambia, and Lusaka further south (Mbongwe et al 2014). The presence of the same firms or their subsidiaries across several neighbouring markets in the region can lead to distortions in potential trade between countries as firms make decisions not to trade export into markets where they have a presence, or where they have agreed with other firms not to sell. Opportunities for arbitrage and trade due to price differences between countries are not optimised even where there are competitive transport rates and in the absence of high tariff protections.

3. Anatomy of the South Africa-SACU cartel

In South Africa, a legal cartel operated between cement producers from the 1940s to 1995 when the then Competition Board withdrew the exemption granted to producers (Competition Commission 2015). The collusion was initiated and sustained through a series of government exemptions from legislation including in 1986 from anti-collusion policy to facilitate the production and distribution of cement products (Fourie and Smith 1994).

[2] See, for example, Lafarge plans to coordinate their own investments across sub-Saharan Africa as a whole, available here.

[3] See Competition Commission Press Release, 'PPC confesses to being part of a cement cartel and gets conditional leniency' (11 November 2009), available here.

The cartel involved the three major producers Pretoria Portland Cement (PPC), AfriSam South Africa (AfriSam)4 and Lafarge South Africa (Lafarge)5, who also jointly owned Natal Portland Cement (NPC) which operated in the eastern regions of South Africa. Critically, each of the producers sold cement products throughout the Southern African Customs Union (SACU) area which includes South Africa and neighbouring countries Botswana, Lesotho, Namibia and Swaziland and the cartel was structured to maximise joint profits throughout this area. The penalties ultimately agreed to by the firms in settlement of the cases against them were a percentage of annual turnover not only in South Africa but the SACU area as a whole (Competition Tribunal 2011 and 2012).

The primary features of the lawful collusion included agreement on market shares for each producer based on respective production capacities across the southern and northern distribution regions in South Africa, the use of a centralised sales and distribution system whereby separate companies Cement Distributors (South Africa) (CDSA) and Cape Sales facilitated distribution and sales in the northern and southern region, respectively (Competition Commission 2015:9). At the end of an accounting period, proceeds from sales would be shared amongst the producers by means of a quota system based on a unitary pricing system called the ‘Twycross pricing model’ whereby the Lafarge factory in the now North West province of South Africa (in Lichtenburg) was used to determine the base price in the market. Actual prices to customers throughout the area would be determined based on this base price plus the rail costs to the customer.

Consistent with the recidivist nature of cartelists (see Connor 2010), arrangements were reinstated and continued until at least 2009 in the SACU region. The firms had been granted a grace period by the government until September1996 to terminate the lawful arrangement, during which period the cement producers had met again to agree a mechanism for sharing market shares going forward. The grace period was intended to allow the producers time to establish their own sales, marketing and transport functions, highlighting a favourable relationship between the state and producers (Competition Tribunal 2011).

The firms agreed market shares based on total production capacity, allocating 42-43% for PPC, 35-36% for AfriSam, and 22-23% for Lafarge (market shares for NPC were included in the shares of each of the three firms) (Competition Commission 2015:11). However, despite the

[4] Formerly Anglo Alpha Cement and under the global Holcim group until a sale to AfriSam Consortium in 2007.
[5] Formerly Blue Circle until it was acquired in 1998 by the French company Lafarge.

new agreement, PPC gradually accumulated market share through its various marketing efforts which prompted retaliatory actions from the other firms. A price war took place between the cement producers in the period between 1996 and 1998, and the firms met in 1998 to agree terms in order to stabilise the industry (Competition Commission 2015).

The agreement in 1998 (the ‘Port Shepstone agreement’), which was preceded by several discreet meetings between producers in hotels in Johannesburg, formed the basis for secretive and illegal collusion in the industry which lasted until at least 2009. The agreement provided for a continued collusive arrangement through various provisions including reinstating market share allocation for the entire SACU area and by region and province in line with shares under the legal cartel arrangement. The agreement also involved instituting pricing parameters for various cement products with a prohibition of discounting on certain high quality products, and the scaling back of marketing and distribution activities by individual firms (which had led to PPC gaining market share) including the closure of certain depots (Competition Commission 2015:13).

The agreement also included measures to monitor its implementation. As was the case during the period of the legal cartel, wherein the CDSA was used as a source of detailed cement sales data for the producers, an information sharing mechanism had been introduced and reinforced in 1998 for maintaining and monitoring market shares. Following the termination in 1995 of the CDSA which was managed by the South African Cement Producers Association (SACPA), the producers agreed from 1996 to share detailed sales data to Deloitte, an audit firm, appointed by the Concrete and Cement Institute of South Africa (C&CI) which succeeded the SACPA (Competition Commission 2015:14). This information was used to monitor market shares by region, end-user and imports, and was only brought to an end in 2009 when the Competition Commission had decided that the firms could only continue to share aggregated information on national sales.

Importantly, the secretive arrangement reached between the cement producers after 1996 constituted an illegal cartel arrangement (although the Competition Act only came into effect in 1999) which continued until around 2009 when information sharing ceased. In settling the antitrust matter with the Competition Commission, Lafarge and AfriSam made admissions to this effect (Competition Tribunal 2011 and 2012).

4. Estimating the benefits of entry: Assessment of market prices

There is some evidence to suggest that entry of new cement producers in markets in the region is leading to significant benefits for consumers. This is marked by decreases in prices in markets where there was joint or unilateral market power being exercised previously, such as in South Africa and Zambia. There is limited time series data which is centralised and available in the region on prices for key products such as cement, which is an important area for intervention. In the assessment below, we rely therefore on a combination of data from various public sources about the prices of cement in the different countries, where possible triangulating information from different sources to arrive at a consistent view on developments in different markets.

Zambia

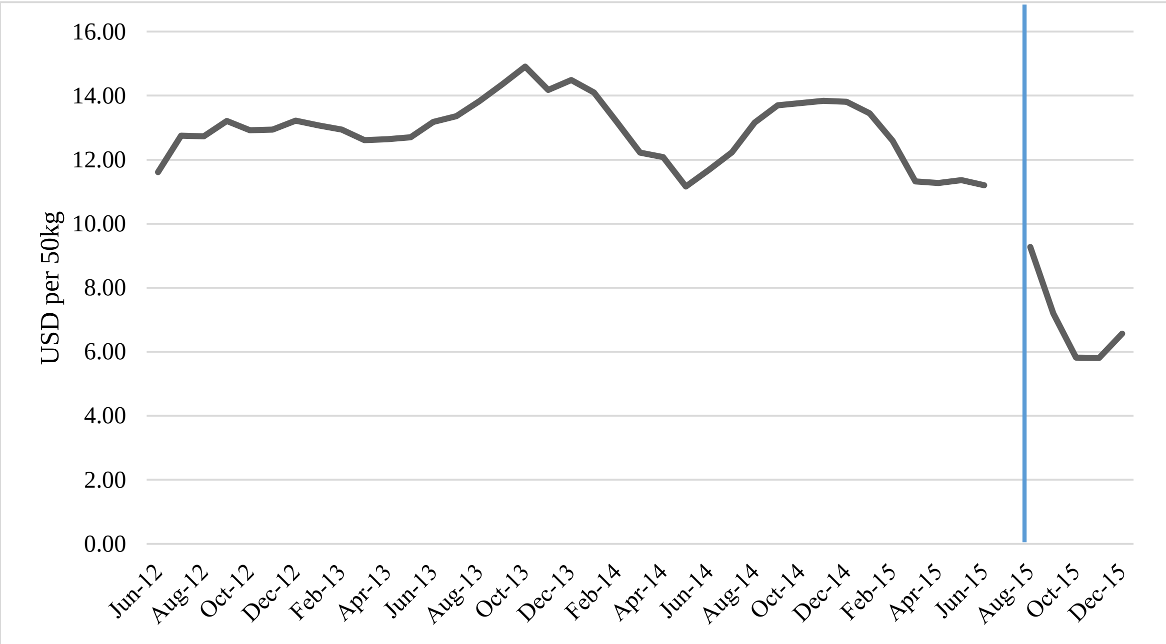
The Zambian market has not been shown through competition law findings to have been cartelised or directly affected by the cartel in SACU. The SACU arrangement is likely to have been facilitated (and restricted to some extent) by the bounds of the common customs union which makes the movement of goods between South Africa and its SACU neighbours more attractive (including relatively shorter transport distances) than transportation to other states in southern Africa. Nonetheless, it is unlikely that the presence of Lafarge and PPC plants in Zambia and Zimbabwe would not have featured in the discussions of cartel members at least in terms of agreeing on areas which would not be entered by the other producers or affected by the arrangement. On the other hand, in a country such as Botswana where there was no significant production capacity cement could be supplied from South Africa more easily.[6]

It appears then that the Zambian market for several years was controlled by Chilanga Cement (which was bought by Lafarge in the 2000s) although there was entry by Scirocco Enterprises in 2005 (now with limited capacity around 100000 tons per annum, largely self-supplying) and later Zambia Portland Cement in 2009 (now with capacity around half of that of Lafarge at approximately 500000 to 600000 tons per annum), both of which are unaffiliated with the large global operators. The entry of these firms is said to have had a temporal effect on prices (Mbongwe 2014). More recently the entry of Dangote Cement appears to have had a larger impact on the market overall.

[6] PPC had engaged with the government of Botswana in the 1980s to assist with the developing local production capacity although this was restricted to a partnership to operate a packaging and blending facility. See here.

Retail prices for cement in Zambia have decreased significantly following the launch of the Dangote Cement plant in Masaiti in the copperbelt region in August 2015.[7] The Dangote plant has a capacity of 1500000 tons per annum which is slightly more than the Lafarge capacity of 1200000 tons per annum. Prices during 2015 were lower and reached $6.56 per 50kg bag and the average price from August to December 2015 is $6.93 which is likely to be linked to the recent entry given information in various reports about significant undercutting by Dangote and pursuant decreases in price by incumbents.[8] The average retail prices were as follows for other years, indicating a more than 30% decline in prices from 2012 to 2015: 2012 - $12.77, 2013 - $13.52, 2014 – $12.91, and 2015 – $9.62. The decline in prices by 2015 is even more significant at nearly 85% when comparing the average price in 2012 with that in the second half (from August) of 2015 after Dangote Cement operations had commenced.

Figure 1: Retail prices of cement in Zambia, 2012 to 2015[9]



Source: ZamStats

Note: Vertical line indicates August 2015

Low prices may be promotional prices to gain market share, however the installed capacity of the new producer and newer plant technology suggests an ability to sustain investments and a

[7] See http://www.globalcement.com/news/item/3981-dangote-opens-masaiti-zambia-cement-plant
[8] See, for example, 'Namutowe, J. and Kangali, C. 'Cement prices fall' (9 July 2015), available here; Mulumbia, N. 'Cement prices fall' (29 June 2015), available here.
[9] Retail price data from Central Statistical Office website (monthly reports), available: http://www.zamstats.gov.zm/gen/monthly.php. Cement prices are estimated as part of the consumer price basket of 440 products based on over 23 000 quotations collected from the 1st to 10th of every month. Quotations are collected in all the districts in Zambia.

more rigorous competitive environment. The mark-up of the retail prices over the ex-factory prices collected from producers for 2012 (see Mbongwe 2014) is approximately 25%. Applying this mark-up conservatively to the available retail prices for 2013 to 2015, gives a wholesale or ex-factory price in 2015 of approximately $7.22 per bag which is significantly lower by around 30% than $10.22 in 2012.

In 2013, it was estimated that approximately 1400000 tons of cement was consumed in Zambia per year.[10] Assuming, conservatively, that demand remained constant and did not increase in Zambia from 2013 to 2015, and taking average retail prices per year in this period, we estimate significant gains to consumers. The decline in average prices means that consumers pay $13.5 million for cement in 2015 compared to $18.9 million paid at 2013 prices, for example. This is a significant saving of $5.4 million or ZMK 46 737 600 in 2015, using an annual average exchange rate for 2015.

South Africa

The International Trade Administration Commission (ITAC) in South Africa investigated whether there had been illegal dumping of output in the South Africa by exporters from Pakistan in the period 2010 to 2014 (ITAC 2015). The investigation led to the imposition of dumping duties in the range of 14.29% to 77.15% against several manufacturers from Pakistan. In 2013, the imports of bagged cement amounted to just over 1000000 tons which accounted for 98% of imports to South Africa in that year (ITAC 2015). Interestingly, the application was lodged by firms that had been involved in the SACU cartel, Afrisam, Lafarge, PPC and NPC on behalf of 'SACU manufacturers' which represent more than 90% of total SACU production.

Demand for cement in South Africa was approximately 16 million tons a year in 2014.[11] Assuming the same level of demand in 2013, the imports effectively amount to approximately 6.25% of domestic demand, even though the mark-down on the price of those imports (using the duties as a proxy for margin) were up to 77.15%. The effect of the imports was found to have been most significant in port regions, and KwaZulu Natal which houses the Durban port in particular.

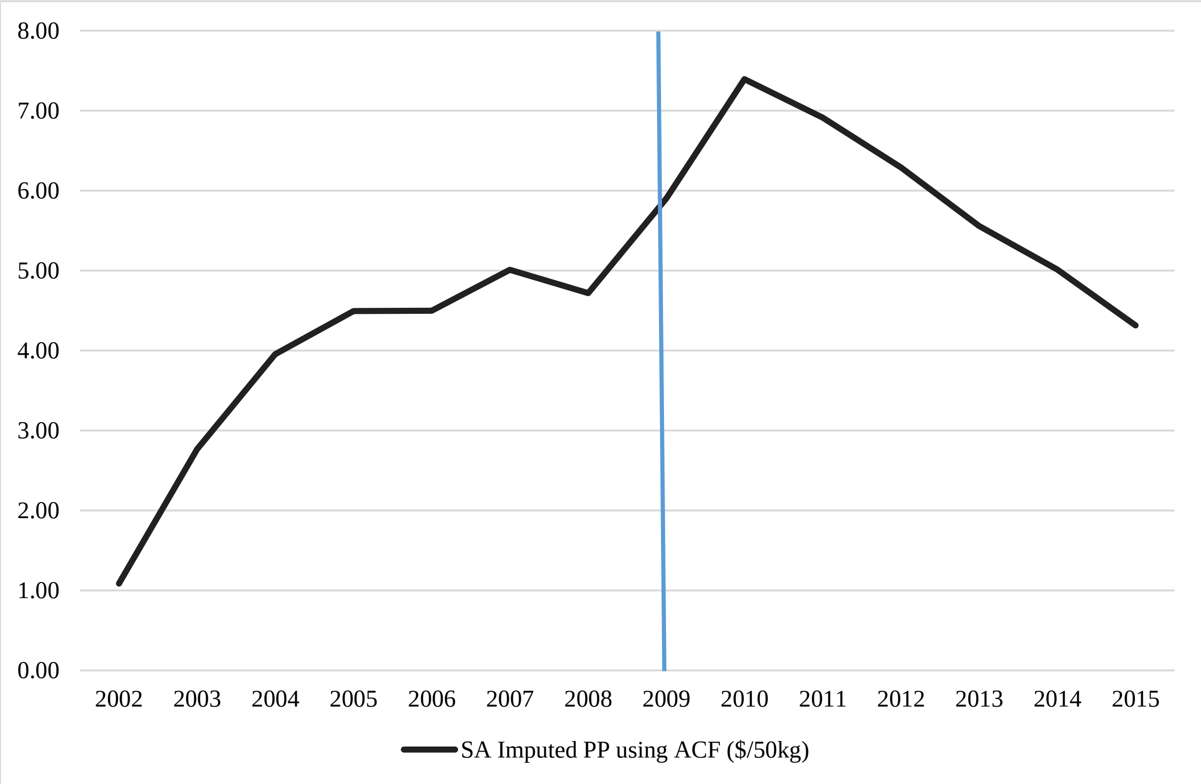
ITAC considered that there had been a cartel arrangement in the market until 2009 but found based on the decisions of the competition authorities in 2011 and 2012 that price competition had increased in the market following the cartel. The exporters had argued that the cartel

[10] See here.
[11] See here.

arrangement would have meant that prices in the market were already above competitive levels following the cartel and as such distorted the assessment of whether there had been a dumped price from importers.

It is widely accepted that there may be a lag between the ending of a cartel and the return to normal competitive market conditions (Khumalo et al 2014). Prices in South Africa appear to have declined significantly since 2010 which is just after detailed information sharing had ceased in 2009 (Figure 3).

Figure 3: Imputed ex-factory (producer) prices ($/50kg)



Source: Author's own calculation based on StatsSA data and Mbongwe (et al 2014)

Note: Imputation of the ex-factory has been conducted using an ex-factory price gathered in a previous study (Mbongwe et al 2014) for 2012, and the Producer Price Index data for ordinary and extended cement from StatsSA which was adjusted using exchange rate information. Vertical line indicates 2009 when the cartel arrangement in SACU is said to have ended.

Based on the above, imports from Pakistan had commenced from around this period as well which may be a signal of the opening up of the market after the cartel, which may have previously flooded the market to suppress any entry. However, based on the ITAC data, the level of imports in 2010 and 2011 was relatively low and only grew significantly in subsequent years (Table 1). This suggests that other factors may have contributed to a decline in prices from 2011 including the lagged effects of a disruption in the cartel.

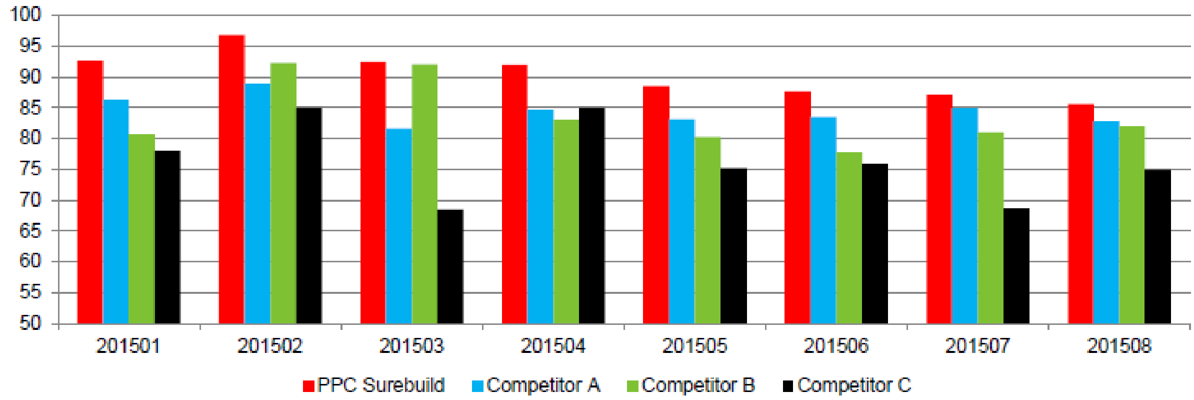
Table 1: Import volumes (tons), 2010 to 2013

	2010	2011	2012	2013
Pakistan	142 806	362 345	746 875	1 091 235
Other imports	40 734	80 916	16 044	17 798
Total imports	**183 540**	**443 261**	**762 919**	**1 109 033**

Source: ITAC (2015)

The entry of Sephaku Cement in the domestic market in 2015 has had a further impact on price of cement. Sephaku is 64% owned by Dangote Cement.[12] PPC recently presented the current market conditions in terms of price indicating a significant decline in the prices by all producers due to increased local competition. Although it is not indicated in the figure, it is likely that the declining prices are linked to recent entry, particularly given the restrictions placed on imports by ITAC. PPC's own price has come down by around R12.00 from February to August 2015 (about 12%).

Figure 4: Retail price of 42.5 cement, January to August 2015 in Rands



Source: PPC Presentation (2015) – 'Building PPC' at RMB Morgan Stanley Conference

PPC's view is that local producers have had to absorb rising input costs which have not been offset by higher selling prices. In 2014, prices in the South African market overall fell in the range R110.00 to R150.00 by PPC's own estimates (PPC 2014), while the range in 2015 was lower for the months provided in Figure 4. Figure 3 reflects ex-factory selling prices in 2015 that are approximately 70% lower in 2015 than they were in 2010 which is a significant decline. New entrant Sephaku has relied on introducing new production technologies to derive

[12] http://www.sephakucement.co.za/Shareholders.php

efficiencies in production in the domestic market where incumbent producers have apparently continued to rely on older equipment and plants that are less efficient.[13]

Comparison of average revenues across countries

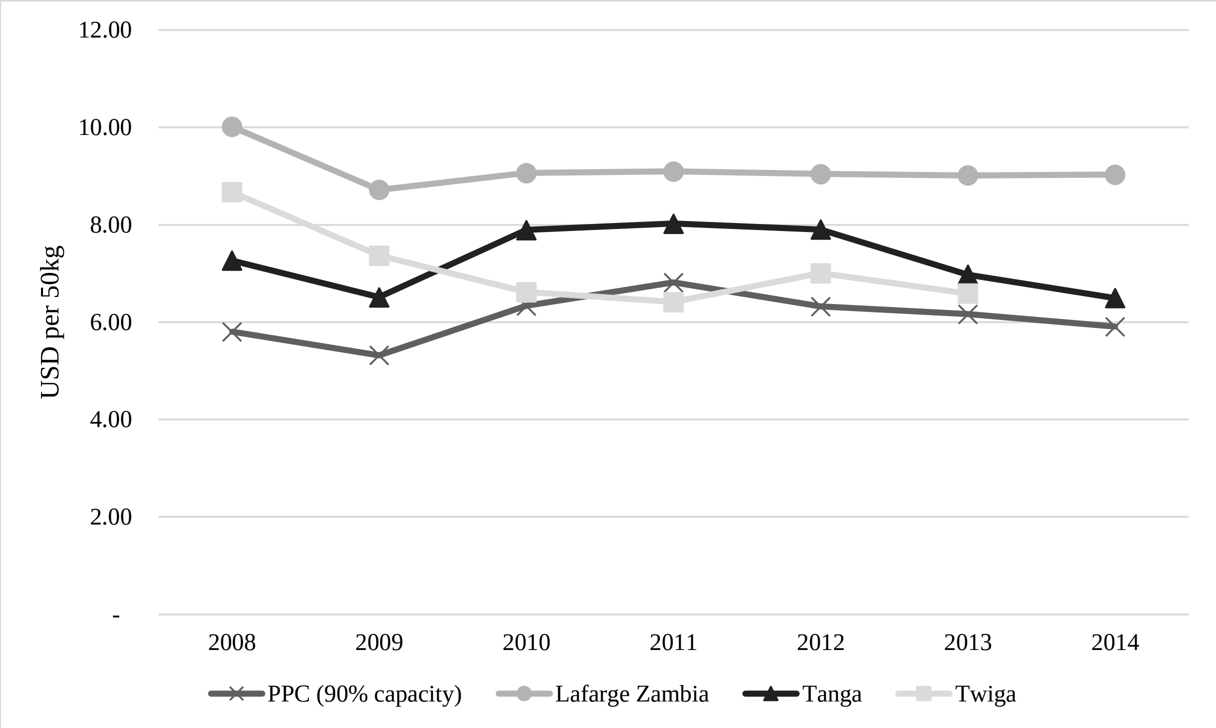
Given that a significant proportion of the sales of cement producers are of cement (rather than clinker and aggregates), it is possible to use the reported average revenues of those firms which are listed to draw a preliminary assessment of average prices (ex-factory, before inclusion of distribution and marketing costs) charged by those firms in different countries. The revenue data reflects the final prices paid to customers after discounting although of course detailed pricing data by product and customer would be required for a complete comparison. The available annual report data is compared for firms in South Africa, Tanzania and Zambia which in addition to Kenya are the largest cement producing countries in the region (see Mbongwe et al 2014).

Average revenues for Lafarge in Zambia are higher throughout the period than those in Tanzania and South Africa, both of which are arguably more competitive markets (Figure 5).

The South African market is expected to have become more competitive since the cessation of the cartel in 2009. The Tanzanian market has over time seen the entry of new firms which have made it more competitive relative to, say, the Zambian market where a single producer Lafarge controls more than 60% of the market based on production capacity. Twiga (Tanzania Portland Cement Company) is associated with Heidelberg, and Tanga Cement Company in Tanzania is a Holcim associate.

[13] See, for example, Charlton, S. 'Where there is a future, there is cement' (1 November 2013), *Engineering News*, available here.

Figure 5: Average revenue comparisons, 2008 to 2014



Source: Company annual reports

Absent information from 2015, it is difficult to assess from the above the extent to which lower market prices in South Africa in particular have affected returns. There is a gradual decline in prices from 2011 which is consistent with the assessment of Figure 3. Similarly in Zambia, the effect of Dangote Cement entry is most likely to be observed in 2015 and 2016 data consistent with when production commenced. These results were not available at the time of writing. Outcomes in Tanzania will also be affected in years to come by the addition of a plant under the Dangote Cement brand which will effectively double production capacity in the country.

5. Discussion: assessing developments in the region against markers of (regional) cartel conduct

In specific country markets there has evidently been benefits from competition in the cement industry. The entry of strong rivals with capital to invest in production capacity that is sufficient in scale to enable them to be effective competitors has been central to this. The ending of the cartel in SACU through effective competition law enforcement removed strategic entry barriers in the form of entry deterrence strategies by the cartel members, previously reinforced by regulatory protection of the arrangement. In Zambia, entry does not appear to have been constrained by similar barriers. In a developing country context, governments have an incentive to remove entry barriers to new firms and foreign investment given the potential long-term gains to economic growth, industrial development and consumer welfare.

Investments in the industry are large-scale and it is thus critical that plants can reach scale through achieving sufficient offtake. The Dangote Cement plant in Zambia involved an investment of $400 million.[14] It is therefore critical that barriers to growth and impediments to accessing markets are addressed either through competition law, to the extent that they involve entry deterrence and foreclosure by incumbent firms, or other policy tools including trade policy. Given the relatively small size of country markets in the region, the ability of firms to access neighbouring markets in the region is important. However as noted, trade restrictions and conduct by incumbent firms can prevent entry and expansion. For example, a regional market allocation agreement, tacitly or explicitly, between large producers can mean that firms do not export into one another's allocated territories. Furthermore, if firms associated with the same groups are present across the region then the incentive to compete across borders and between themselves is reduced. Trade barriers and protectionism in the region by different countries mean that competition across borders cannot take place anyway particularly if transport costs between countries were prohibitive also. Therefore there is potentially a conflict between country industrial development strategies (including erecting tariff barriers and investment incentives), and ensuring competitive outcomes although it is clear that targeted industrial policy strategies with sufficient disciplining mechanisms for firms can address this (see Banda et al 2015).

Competitive rivalry between cement producers may have been constrained, at least in the past, by regional agreements spanning an area wider than the SACU cartel between firms although this has not been tested in competition law proceedings. Hypothetically, such an agreement could have led to the allocation of certain country markets between firms such that local monopolies in the industry have the ability to engage in exploitative conduct within their allocated territories without fear of competitive discipline through entry or import penetration. In this case, what may be prosecuted by a competition authority as an exploitative abuse in a single country, such as the excessive pricing investigation that was initiated by the Zambian competition authority against Lafarge Zambia, could in fact form part of a broader allocation arrangement which operates undetected by individual competition authorities. There would therefore be a need for a competition enforcement regime to have oversight for cases involving

[14] See http://www.dangcem.com/Zambia

the exercise of market power by firms across national borders. The Common Market for Eastern and Southern Africa (COMESA) Competition Commission has made reference to the prospect that it would conduct enforcement actions at a regional level although this has yet to take place.[15] Regional investigations of this nature certainly fall within the legal ambit of the authority.[16]

Certain aspects of the cement industry make it liable to an assessment of market allocation and coordination at a regional level. Cement products are largely homogenous and barriers to entry are high given the large-scale investments required. Although there has been new investment in different countries a few large groups hold the largest share of the regional market (Mbongwe et al 2014). The same groups have had interactions and contacts between them in various collusive arrangements in different countries and regions globally including through the SACU cartel. It appears that there is transparency in prices in each country although it is less clear the extent of discounting between producers and large customers. The significant responsiveness (sustained decreases) in prices following entry in different countries as discussed herein suggests that cement prices in the different markets may have been above competitive levels. However, there is a clear gap in terms of the data which is collected and is available in a consistent form across countries which makes an assessment of price parallelism and price movements in different countries difficult.

Opening up markets for greater competition can be made possible through competition enforcement as well as aligned supportive policies such as those to reduce physical barriers to trade between countries. Rivalry need not be within country markets and is possible across national borders, particularly given the entry of different firms to challenge incumbent producers. Transport costs between key cities and locations in southern Africa, where the bulk of cement is likely to be consumed, are high but not necessarily restrictive and there have been improvements in transport infrastructure and regulation in countries such as Zambia (Ncube et al, 2014). Transport prices on some routes in the region have in fact come down over time although there is much room for improvement in terms of border delays when transporting goods between countries, such as at Beit Bridge between South Africa and Zimbabwe. Transport costs between countries can be affected by the availability of return loads, such that transportation would be cheaper on routes where truckers are assured that they have a load on both the outward and inbound route (Ncube et al, 2014). Affordable transport is likely to enable

[15] See Nkambule, N. 'Puma Energy mergers with Excel Swaziland' (7 October 2014). Swazi Observer.
[16] See summary of COMESA competition law provisions here.

firms to compete across wider geographic markets which can undermine the exercise of market power by large incumbents.

Gains from greater rivalry at a regional level in cement production and distribution has potential to result in significant gains to consumers. The developments in South Africa and Zambia illustrate this potential. While enforcement at a regional level is yet to commence in terms of restrictive practices, competition authorities have the opportunity to cooperate in terms of their enforcement against conduct which involves similar firms and violations of competition law. Importantly, authorities have scope to use their extensive powers to request the sort of price and volumes information which enables full assessment of harm and gains from competition. Alternatively data collection across countries, not only on cement products, can be prioritised as an area for cooperation between authorities or for technical assistance by international donors with an interest in antitrust matters. There are clear developmental gains from enabling markets to work within the region towards cheaper inputs and goods in particular. This is supportive of a regional industrialisation and harmonisation agenda. Competition law enforcement can thus contribute to the attainment of wider regional development goals through enabling lower prices and entry.

Assessing consumer gains and the impact of competition law enforcement by individual country authorities as well as regionally through bodies such as COMESA is an important area for further work.

References:

Amsden, A. H. (1989). *Asia's Next Giant*. Oxford University Press: New York.

Banda, F., Robb, G. and Roberts, S. (2015). 'Review Paper 2: The links between competition policy, regulatory policy and trade and industrial policies'. Centre for Competition, Regulation and Economic Development (CCRED).

Bernheim, B. D. and Whinston, M. D. (1990). 'Multimarket contact and collusive behaviour'. *The Rand Journal of Economics*, 1-26.

Chandler, A. D., Amatori, F. and Hikino, T. 'Historical and comparative contours of big business'; in Chandler, A. D., Amatori, F. and Hikino, T. (eds). (1997); *Big Business and the Wealth of Nations*. Cambridge University Press: UK.

Competition Tribunal of South Africa. (2011). Consent Order in the matter between the Competition Commission and Afrisam (South Africa) (Pty) Ltd, Case No. 93/CR/Nov11.

Competition Tribunal of South Africa. (2012). Consent Order in the matter between the Competition Commission and Lafarge Industries South Africa (Pty) Ltd, Case No. 23/CR/Mar12.

Competition Commission of South Africa. (2015). Referral of Complaint by Competition Commission of South Africa, Case No. 2008Jun3769

Connor, J. M. (2010). Recidivism Revealed: Private International Cartels 1990-2009. Competition Policy International.

Connor, J. M. 'Price-fixing overcharges: Revised 3rd edition' (February 2014).

Fourie, F. and Smith, A. 'The South African Cement Cartel: An Economic Evaluation', *South African Journal of Economics*, Vol. 62 (2), pp124.

Harrington, J. E. 'Behavioural screening and the detection of cartels'. EU Competition Law and Policy Workshop 2006 – Proceedings.

Harrington, J. E. (2011). 'Posted pricing as a plus factor'. *Journal of Competition Law and Economics*, Vol 7(1), p. 1-35.

International Trade Administration Commission of South Africa (ITAC). (2015). Report No. 495: Investigation into the alleged dumping of Portland cement originating in or imported from Pakistan – Preliminary determination.

Jenny, F. 'Competition Enforcement in Testing Times: beyond the national level'. Presented at Competition Principles Under Threat, IDRC Pre-ICN Forum on Competition and Development, Zurich, Switzerland, 2 June 2009.

Jenny, F. 'Chapter 6: Export Cartels in Primary Products - The Potash Case in Perspective', in Evenett, S. J. and Jenny, F. (eds), (2012), *Trade, Competition, and the Pricing of Commodities*. Centre for Economic Policy Research, London.

Motta, M. (2004). *Competition Policy: Theory and Practice.* Cambridge University Press (New York).

Mbongwe, T., Nyagol, B.O., Amunkete, T., Humavindu, M., Khumalo, J., Nguruse, G. and Chokwe, E. (2014). 'Understanding competition at the regional level: An assessment of competitive dynamics in the cement industry across Botswana, Kenya, Namibia, South Africa, Tanzania and Zambia'. African Competition Forum draft paper for presentation at pre-ICN conference, 22 April 2014.

Ncube, P., Roberts, S. and Vilakazi, T. (2014). 'Study of competition in the road freight sector in the SADC region – Case study of fertilizer transport and trading in Zambia, Tanzania and Malawi'. Centre for Competition, Regulation and Economic Development.

PPC. PPC Integrated Annual Report 2014.

Roberts, S., Simbanegavi, W. and Vilakazi, T. 'Understanding competition and regional integration as part of an inclusive growth agenda for Africa: Key issues, insights and a research agenda' (August 2014). Paper submitted for the Competition Commission and Tribunal 8th Annual Conference on Competition Law, Economics and Policy, 4-5 September 2014.

Röller, L. and Steen, F. 'On the Workings of a Cartel: Evidence from the Norwegian Cement Industry', *The American Economic Review*, Vol. 96, No. 1 (March 2006), pp321-338.

Schröter, H. G. 'Small European nations: Cooperative capitalism in the twentieth century'; in Chandler, A. D., Amatori, F. and Hikino, T. (eds). (1997); *Big Business and the Wealth of Nations*. Cambridge University Press: UK.

Wengenroth, U. 'Germany: Competition abroad – cooperation at home, 1870-1900'; in Chandler, A. D., Amatori, F. and Hikino, T. (eds). (1997); *Big Business and the Wealth of Nations*. Cambridge University Press: UK.