

THE ASCENSION OF MULTILATINA CEMENT PRODUCING COMPANIES IN THE GLOBAL ECONOMY

ascensão das Multilatinas cimenteiras na economia global

Leandro Bruno Santos *

Resumo

A partir dos anos 1990, houve um aumento significativo dos fluxos de Investimentos Estrangeiros Diretos (IED) provenientes de países periféricos, com impactos importantes na configuração espacial mundial e produção de novas assimetrias espaciais. No bojo deste processo, surgiram grandes empresas multinacionais latino-americanas, Multilatinas, que têm realizado IED nas várias escalas espaciais, especialmente nos países da própria região e em ramos e circuitos de ramos relacionados à exploração e à transformação de recursos naturais. Este texto analisa este processo tendo como recorte analítico as estratégias corporativas dos principais grupos econômicos latino-americanos produtores de cimento, Cemex, Votorantim, Camargo Corrêa e Cimentos Argos. Para tanto, há o destaque à estrutura de mercado da indústria de cimento, às origens e à consolidação do ramo na América Latina, além da importância dos grupos selecionados, seus espaços de atuação e principais formas de inserção internacional. Os procedimentos metodológicos consistiram, basicamente, na revisão bibliográfica e na compilação e sistematização de dados secundários.

Palavras-chaves: Mundialização; Dinâmica econômica; Indústria de cimento; América Latina; Multilatinas.

Abstract

From the 1990s, there was a significant increase of Foreign Direct Investment (FDI) flows from peripheral countries, with significant impacts on the global spatial configuration and the production of new spatial asymmetries. During this process a set of powerful Latin American Companies, Multilatinas, emerged, who have made investments abroad, especially in countries of the region itself and in sectors related to exploitation of natural resource. This paper analyzes this process and focuses on the major Latin-American cement producing business groups, Cemex, Votorantim, Camargo Corrêa and Cimentos Argos. It shows the market structure of the cement industry, the outlook for Latin America cement industry and the importance of the selected groups, their spaces and areas of action and main forms of international integration. The methodology was supported by the use of statistical data and literature review.

Key words: Globalization; economic dynamics; cement industry; Latin America; Multilatinas.

Resumen

Desde los noventa, se incrementaron los flujos de Inversiones Extranjeras Directas (IED) realizados por los países periféricos, con impactos importantes en la configuración espacial mundial y producción de nuevas asimetrías espaciales. Emergieron un conjunto de poderosas grandes empresas latinoamericanas, Multilatinas, que han hecho inversiones en el extranjero, sobre todo en los países de la propia región y en rubros vinculados a la explotación de recursos naturales. Este trabajo busca analizar este proceso teniendo como recorte los principales grupos económicos productores de cemento, Cemex, Votorantim, Camargo Corrêa y Cimentos Argos. Se demuestra las características principales del rubro cementero, el panorama de la industria del cemento en Latinoamérica, además de la importancia de los grupos seleccionados, sus espacios y rubros de actuación y las principales formas de inserción internacional. La metodología fue apoyada por el uso de datos estadísticos y la revisión de la literatura.

Mots- Clés: Mundialización; dinámica económica; industria del cemento; América Latina; Multilatinas.

(*) Lecturer on the Geography Postgraduate Programme at the Instituto de Ciências da Sociedade e Desenvolvimento Regional, Universidade Federal Fluminense - Av. dos Trabalhadores, n. 179, Jacuecanga, CEP: 23914-360, Angra dos Reis (RJ), Brazil. Tel.: (+ 55 24) 3365-1642 - leandrobrunogeo@hotmail.com

INTRODUCTION

From the 1990s onwards it became common to publicize, be it through specialized means of communication, or through international institutions, the increase in the importance of Direct Foreign Investments (IED) coming from underdeveloped countries, especially those located in Asia, Latin America and Eastern Europe. With regards to this process, it is important to emphasize that as time progresses, there have been different cycles of expansion and contraction of IED flows, as well as changes in the importance of underdeveloped regions.

Until the 1970s, Latin American countries, especially Argentina and Brazil, were the main investors. However, as a consequence of the economic crisis of the 1980s, Asian countries overtook Latin American countries and acquired a greater relevance among underdeveloped countries. After the 1990s, with the increase in competition coming from policies seeking to open markets up and the process of restructuring, Latin American IEDs increased, especially of large companies which act in economic sectors and circuits within these sectors marked by a mature technology (standardized) and linked to natural resources.

The main objective of this text is to indicate elements which help to understand the widening of the spatial circuits of production of the Cemex, Votorantim, Camargo Corrêa and Cementos Argos economic groups in the field of cement and sub products, mainly aggregates, concrete and mortar. To achieve this objective the corporative and territorial strategies adopted by these economic groups are analyzed, that is, the different form of international insertion (mergers, acquisitions, new investments), the spaces chosen, the reasons for carrying out the IEDs, the territorial integration of activities, etc.

This article is divided into three parts, beyond the introduction, conclusion and bibliography. In the first, the focus falls upon the characteristics of the cement industry, among them competition standards, spatial location, entry barriers and international commerce. The second analyzes the origins and consolidation of the cement industry in Latin America and demonstrates some of this sector's data with regards to some countries in the first years of this century. The third part analyzes the corporative and territorial strategies of the four economic groups chosen, stressing the spaces of accumulation, the different forms of insertion, etc. At the end, some conclusions and references are presented.

THE MARKET STRUCTURE OF THE CEMENT INDUSTRY

The cement industry is part of the set of industries which produce what are known as intermediary goods and has certain characteristics which set it apart from other economic branches, such as: the high costs associated with the transport and storage of the product, excessively high minimum scales of competitive production, standardized (especially machines and equipment) production technology available in the market (dry kilns), the high capital demands for the entry of new competitors, the recovery of capital invested in the medium and long terms (HAGUENAUER, 1997). All these aspects act as powerful barriers to the entry and the exit of competitors.

Simonsen (1988) stresses that due to the underlying aspects of the cement industry it is natural that it is characterized by a high concentration in the main consumer and producer markets, where a few economic groups control the production and offer the same homogeneous product. In the main regional markets, the sector is concentrated in the hands of a small number of economic agents. The Votorantim group holds more than 40% of the Brazilian market, while Camargo Corrêa controls 20%. In Mexico, the second main market in the region, the Cemex group commercializes 54% of the cement consumed in the country (GARZA; GARCÍA, 2011). Camargo Corrêa, through its subsidiary Loma Negra, leads the Argentinian market, where it is responsible for more than half of the consumption. A similar situation happens in Colombia, where Cementos Argos controls more than 50% of the local market.

The main global producers of cement are also present in the main Latin American markets. The second largest group, the Swiss Holcim, is present in the most important Latin American markets, being the largest producer in Ecuador, holding the second position in the Mexican and Argentinian markets and the third position in Colombia. The French Lafarge, currently the most important group in construction materials (cement, lime, plaster, concrete and mortar etc.) in the world, while having an insignificant presence in Mexico is the second largest producer in Ecuador and the third in the Brazilian and Colombian markets.

However, when factors other than economic ones are considered, especially those related to geography, new elements allow one to understand the structure of supply in the cement industry. For example, in some countries with continental dimensions, including Brazil and Mexico, there are firms and groups (João Santos, Apodi, Cementos Moctezuma, Cruz Azul) with a significant regional relevance, who have become the main competitors of those with national or global capital at a regional level. Beyond the continental dimension, it is important to emphasize the importance of proximity to the consumer market, taking into account that transport costs increase relative to the distance covered by the product. These factors encourage regional competition in the sector (FERREIRA, 1999).

Since the last decades of the twentieth century, the movement of concentration at the various spatial levels has become an important characteristic within the cement industry. In the 1970s, due to the high economic growth of Latin American economies, the region received significant IEDs from the main European groups, especially from Lafarge and Holderbank (currently Holcim). In Brazil, more specifically, the two European groups have been present since the 1950s, while in Mexico Holcim was established in the 1960s but with a strong expansion in the following decade.

During the 1980s, known as the “lost decade”, the economic crisis in the region had a direct impact on the expansion strategy of these foreign groups, who directed their capital towards Asia. In the following decade, however, with economic stability, the return of economic growth and greater economic openness in the countries of the region, the main global cement producers restarted their investment, in the form of new buildings and the acquisition of local capital. In the first years of this century, Lafarge sold some of its holdings in some markets (Chile), but advanced in others which were more promising (Ecuador and Brazil), while Holcim sold mills in Panama, the Dominican Republic and Haiti, as well as maritime terminals in the Caribbean, to Cementos Argos, and announced investment to expand its production in Brazil (<<http://www.brasilmineral.com.br/BM/default.asp?COD=6429&busca=investimento&numero=616>>, accessed August 24th 2013).

Ayres; Daemon; Fernandez (1999), emphasize that, due to the reduction or elimination of barriers imposed upon foreign capital (sectorial controls for example), acquisitions and mergers in the cement industry have allowed large global economic groups to enter new markets. Such a process, however, not only reinforced the corporative and territorial strategies of the main global producers, it has also stimulated the emergence of new competitors- Cemex, Votorantim, Camargo Corrêa and Cementos Argos- that are consolidated in their markets of origin, where they have developed the distinctive capacities which allow and will allow them to compete directly with the greatest world producers on a regional and global scale (table 1).

After a series of acquisitions, Cemex and Votorantim, respectively, managed to position themselves among the main producers on a global scale. While Camargo Corrêa and Cementos Argos are not on the list of the twenty largest, they acquired a relevant role at a regional level, becoming bi-regional multinationals (RUGMAN 2005). Camargo Corrêa has a strong presence in the South American markets (Argentina, Brazil, Uruguay, Paraguay and Bolivia), Europe (Spain and Portugal) and Africa (Egypt and Mozambique) while Cementos Argos is a significant presence in Colombia, in countries of Central America (Panama, Haiti and Dominican Republic) and in the United States.

The four Latin American groups have competed among themselves in various markets and directly with the main world producers on various spatial scales. In fact, activity on various scales is



a sine qua non condition of remaining in the sector, because it allows these particular Latin American companies to reduce their disadvantages in relation to their counterparts from developed countries. Multi-territorial action allows companies and groups to use spatial differences (workforce, access to capital, exchange rates, economic cycles of construction etc.) in the movement of increasing the value of capital.

Table 1—Greatest World Producers of cement

Position	Group	Country	Capacity (millions of tons)	Number of factories
1	Lafarge	França	225	166
2	Holcim	Switzerland	217	149
3	CNBM	China	200	69
4	Anhui Conch	China	180	34
5	HeidelbergCement	Germany	118	71
6	Jidong	China	100	100
7	Cemex	Mexico	96	61
8	China Resources	China	89	16
9	Sinoma	China	87	24
10	Shanshui	China	84	13
11	Italcementi	Italy	74	55
12	Taiwan Cement	Taiwan	70	-
13	Votorantim	Brasil	57	37
14	CRH	Ireland	56	11
15	UltraTech	India	53	12
16	Huaxin	China	52	51
17	Buzzi	Italy	45	39
18	Eurocement	Russia	40	16
19	Tianrui	China	35	11
20	Jaypee	India	34	16

Source: Global Cement, 2013.

While Cemex displays a more horizontal action within the construction industry, its Latin-American competitors display a more diverse and related portfolio of activities, which gives them an advantage in periods when consumption falls as a consequence of economic crises. In this way, Cementos Argos belongs to Colombian owners through Inversiones Argos, whose share structure is complex due to the mixed participation with the Sura Group and local pension funds. Family-controlled Votorantim, is one of the ten greatest economic groups in Brazil and is marked by multi sectorial activity (cement, aluminum, zinc, orange juice, paper and cellulose, finance). Camargo Corrêa, also under family control, is an important Brazilian economic group acting in civil construction, energy distribution, road management, footwear, textiles and shipyards.

The territorial expansion of these groups on diverse levels has given impulse to the increase of international flows of cement. These groups and companies make use of spatial differences when they carry out imports and exports between different markets. Due to the high transport costs, the international commerce of the product is carried out through large groups such as Cemex, Holcim and Lafarge, with a spatial topology which covers the most important global markets and with control over subsidiaries in maritime transport, maritime terminals, complex logistic systems, control of lime, clay, plaster deposits, etc.

Prochinik, Perez, Silva (1998) emphasize that as it is a perishable, homogeneous product with low aggregate value, the international flows of cement demand a series of investments, which involve the distribution of industrial sites close to the coast and ports, the use of specific cargo ships and the installation of loading and unloading equipment, warehouses, etc. It can be said, further-

more, that the increase of cement exportation is directly linked to technological advances, which have resulted in the decrease of transport costs, the improvement of transport and storage systems, the increase in the size of ships, etc. Despite technical advances, it is still important to emphasize that costs increase in proportion to the distances travelled by the product, which strengthens the position of the larger producers as privileged agents in the commercialization of cement on a global scale (SANTOS, 2010).

According to Prochnik; Perez; Silva (1998), the international flows of cement can be regular and irregular. This occurs when there are differences in the cost of production that allow the group to make use of favorable mineral deposits and significant economies of scale and to export to distant markets; but, in many cases, this kind of commerce may be the result of the practice of dumping – the sale of the product in other markets for a price which is below the cost of production and commercialization in the market of origin. This is a common practice between countries that present a regular deficit in production and those which are traditional exporters of the product.

Between 2004 and 2006 Mexico was amongst the fifteen main global exporters of cement. At the end of the decade, with the economic crises which directly impacted the economies of the United States and Spain, two of the main importing markets, the exportations decreased from two million tons to only 500 thousand tons (SNIC, 2011). Mexican cement exports were destined mainly to the United States and Spain, two of the main global importers of the product and where Cemex maintains production and distribution resources (maritime terminals and distribution centers). Another Latin American country with a certain importance in exportation is Colombia, with the countries of Central America, the Caribbean and the United States being its main markets. Both Mexico and Colombia have, in recent years, displayed higher levels of cement production than consumption.

Finally, economic groups with a significant multi-territorial action can take advantage of the competitive superiority of certain locations and export to other places where the costs are greater or even take advantage of the accelerated increment of the civil construction industry in certain places and the consequent growth in the demand for cement (SANTOS, 2010, p. 68). As well as taking advantage of the cycles of the construction industry, the presence of Latin American cement producing economic groups in multiple territories allows them to capture capital at interest rates in similar conditions to producers from developed countries.

THE CEMENT INDUSTRY IN LATIN AMERICA

In Latin America, the origins of the cement industry go back to the last decades of the nineteenth century when there were many attempts to establish small manufacturing units in the region. In 1872, a small factory was opened in Rosario, Argentina, which only stayed open for a short time. In the same country there were other attempts to set up cement factories. In Brazil, after many starts, it was possible to build the Usina Rodovalho in the state of Sao Paulo, but the site suffered many interruptions (SANTOS, 2011, p. 78). The definitive installation of the cement industry in the region only occurred in 1895 with the functioning of a site in Havana, Cuba, set up by Spanish businessmen (TAFUNELL, 2007, p. 12).

Before the outbreak of the First World War, some Latin American countries, including Cuba, Guatemala, Mexico, Argentina, Chile, Colombia, Venezuela and Uruguay had already definitively established cement industries in their respective territories. Thus, in Mexico, the first kilns of the Compañía de Cementos Portland started work in 1909 (KUMARÁN, GONZÁLEZ, 2008). Likewi-



se, in Colombia, an industry began to be constructed in 1905, but the beginning of the activities of Industrias e Inversiones Samper only occurred in 1909 (CAÑÓN, 2008).

At the start of the twentieth century, Argentina and Brazil absorbed more than half the cement imports of the region. When countries such as Mexico, Cuba and Chile are considered, the main importers were responsible for more than 90% of the unloading of the product. During the years which preceded the First World War, Argentina and Mexico increased their participation to two thirds, while Chile and Cuba kept their relative share. Only Mexico lost its importance, due to the Mexican Revolution. At the end of the 1920s, Mexico no longer had any minimum relative importance and Argentina's percentage decreased at a slower rate. Brazil and Chile maintained their percentage levels, while Colombia and Venezuela ceased to have an insignificant importation and reached 7% and 8% respectively of the total for the region (TAUFNELL, 2007, p. 304-306).

With the start of the First World War the external supply was cut and there was an increase in the price per ton of the product, even so, the pioneering factories received stimulus from the increase in local demand and the favorable general context, with direct impact on the carrying out of new investments with the most modern technology of the period. During the conflict new producing countries emerged, among them Peru, Ecuador, Brazil and Bolivia. In most cases, foreign capital played a relevant role in the installation and functioning of industrial projects.

In this context, the Lone Star Cement Company from the United States opened many companies in the region, including the Compañía Cubana de Cemento Portland, Compañía Argentina de Cemento Portland and the Compañía Peruana de Cemento Portland, and absorbed industrial units situated in Uruguay. In Brazil, at the end of the 1920s there was the definitive installation of a cement factory controlled by the Companhia Brasileira de Cemento Portland (CBCP), with the capacity to produce sixty thousand tons and with the control of shares being exerted by Canadians (70%) and local capital (30%) (SANTOS, 2011).

From the 1930s onwards, due to the great economic depression and the impacts of the Second World War, the attempts to install and consolidate the cement industry increased, with the unconditional support of the State (credit, tax exemptions, exchange rates favorable for the import of capital goods, favorable transport conditions etc.). According to Tafunell (2007, p. 20) "If until then ISI had taken many steps forward without having sacrificed imports, thereafter there would be room for its substitution by internal production".

Santos (2005) emphasizes that the strengthening of the cement industry from the 1930s onwards was a response to four main issues, that is: 1) urbanization and the growth of the internal market; 2) the entry of foreign capital and technology; 3) the entrainment of capital coming from other economic sectors (export agricultures, textiles, flour etc.) promoted by local businesses; 4) and finally, the unconditional support from the State which acted through tax exemptions (upon transport, the import of machinery) credit etc. These four points were determinant for the consolidation of the cement industry and the process of import substitution (SI).

Despite the increase in domestic production, some Latin American countries still depended on the import of the product until the 1950s. Therefore, in Argentina, between 1950-1952 imports were more than 400 thousand tons and represented 20% of internal consumption (SCHVARZER; PETELSKI, 2005, p. 5) while in Brazil external purchases represented 10% of consumption (SANTOS, 2011). However, with the growth of the internal market and the impulse coming from the processes of industrialization and urbanization, the cement industry managed to expand over the whole territory and production advanced significantly.

Between 1940 and 1960, Argentine production increased from two to three million tons, at the same time that Mexican production increased at a rate of 10.2% a year, rising from 484 thousand tons to 3.1 million tons. The production of cement in Mexico went from 1.5 million tons in 1948 to something close to 3.5 million in 1960. In Brazil production grew from 700 thousand tons to 4.4 million in the same period.



These numbers support the idea that the expansion of the cement industry occurred alongside the process of industrialization of these countries and the integration of the national territory.

During the 1970s there were 170 factories producing cement in Latin America. In 1977 production reached 58 million tons and then 75 million tons four years later, showing an average yearly growth rate of 6.6 % (DÍAZ PONCE, 2012). Countries such as Argentina, Brazil and Mexico were responsible for about 70% of the regional production. Beyond this, in countries such as Colombia, Cuba, Chile, Ecuador, Peru and Venezuela the production of cement increased uninterruptedly during this period.

However, in the following decade, especially after 1982, the economic crises experienced by Latin American countries had a direct impact on the cement industry. There was a general decrease in both consumption and production, with the exception of countries such as Colombia, Ecuador, Mexico, Peru and Venezuela. Many companies suffered with the increase in the price of the barrel of petroleum, as 90% of the industry's installed capacity was based on the use of fuels such as oil and natural gas. Chile and Colombia were exceptions because they were already moving from fuels derived from petroleum to coal (DÍAZ PONCE, 2012).

The 1990s were marked by two distinct moments. In the first half of the decade, the consumption of cement in Brazil was at the same level as the 1980s and from 1996 it grew from 28.5 to more than 40 million tons (SANTOS, 2011, p. 82). In Argentina the production in 1999 (7.1 million tons) was a little bit lower than that of 1980. With the exception of the years of 1995 and 1996, other years were marked by an expansion of production (AFCP, 2013) (<<http://www.afcp.org.ar/publico/anuario/contenido.htm>>, accessed August 16, 2013). If one does not include the year 1995, when the financial crisis which hit Mexico directly impacted the production of cement (18.1% fall), the other years of the decade were favorable for the increase in production and consumption (VILLAREAL; MARTÍNEZ, 1999).

In the first years of this century, the production and consumption of cement in Latin America displayed a significant growth. In the region, Peru and Argentina revealed a greater relative advance in production and consumption respectively while Ecuador and Brazil had a growth of 54% and 53% respectively, for the period between 2003 and 2010, followed by Colombia (36%). At the same time, countries such as Mexico and Chile revealed a lower growth in production and consumption when compared to other countries in the region (table 2).

Despite its lower growth Mexico maintained itself as the second main cement producer and consumption market in Latin America. However, the small gap between Mexico and Brazil increased considerably in the first years of this century. In this period, Mexico remained the fifteenth world producer, while Brazil went from ninth to seventh position. Also, numbers indicate that Ecuador, after a few years of high production and consumption, became the seventh greatest market of cement in Latin America, overtaking Chile.

According to the executive president of the Mexican Cámara Nacional del Cemento (CANACEM), Osmín Rendon, "... The national market has not grown in an important way due to the lack of public policy and support in key sectors, such as infrastructure and housing, which represent the strongest challenge for the sector." , (<<http://www.milenio.com/cdb/doc/impreso/9132442>>. Accessed on 16 ago. 2013). For this reason, many companies and groups have sought a greater international insertion, especially through export.

It is worth emphasizing that the economic dynamic of the cement industry is closely linked to the increase in income and economic growth. In underdeveloped countries, the increase in per capita income has a positive effect on the consumption of civil construction products. State policies have a strong impact on consumption, especially those related to the construction of large-scale engineering products (hydroelectric power stations, transport infrastructure, etc.) and housing policy.

In Latin America, independent construction has a relevant role in the cement industry, that is, a large part of the production is destined for final consumers who buy cement through retail pur-



Table 2 – Production and consumption of cement in the main Latin American Countries between 2001 - and 2010 in millions of tons, variance and total percentages

Country	Production of Cement											Consumption of cement																										
	2001	2002	%*	2003	%	2004	%	2005	%	2006	%	2007	%	2008	%	2009	%	2010	%	2001	2002	%*	2003	%	2004	%	2005	%	2006	%	2007	%	2008	%	2009	%	2010	%
Brazil	38.938	38.027	-2,3	34.010	-10,6	34.413	1,2	39.190	13,9	41.895	6,9	46.551	11,1	51.970	11,6	51.747	-0,4	59.117	14,2	38.398	37.978	-1,1	33.785	-11,0	34.176	1,2	37.677	10,2	41.027	8,9	45.062	9,8	51.571	14,4	51.892	0,6	59.155	14,0
México	30.000	31.100	3,7	33.600	8,0	33.900	0,9	34.700	2,4	37.900	9,2	38.800	2,4	38.069	-1,9	35.100	-7,8	34.500	-1,7	27.700	28.800	4,0	31.600	9,7	32.500	2,8	33.200	2,2	35.900	8,1	36.800	2,5	35.844	-2,6	34.600	-3,5	33.900	-2,0
Colombia	-	-	-	7.340	-	7.822	6,6	9.980	27,6	10.038	0,6	11.068	10,3	10.586	-4,4	10.000	-5,5	10.240	2,4	-	-	-	5.441	-	5.730	5,3	7.796	36,1	8.013	2,8	9.090	13,4	8.959	-1,4	9.327	4,1	10.000	7,2
Argentina	5.545	3.910	-29,5	5.217	33,4	6.254	19,9	7.595	21,4	8.929	17,6	9.602	7,5	9.731	1,3	9.385	-3,6	10.423	11,1	5.451	3.838	-29,6	4.961	29,3	6.063	22,2	7.428	22,5	8.863	19,3	9.603	8,3	9.746	1,5	9.257	-5,0	10.194	10,1
Venezuela	-	-	-	5.237	-	6.268	19,7	5.759	-8,1	7.172	24,5	9.000	25,5	8.500	-5,6	-	-	7.100	-	-	-	-	2.982	-	3.600	20,7	4.700	30,6	6.000	27,7	9.003	50,1	8.100	-10,0	-	-	-	-
Peru	-	4.120	-	4.200	1,9	4.731	12,6	5.107	7,9	5.557	8,8	6.208	11,7	7.198	15,9	7.229	0,4	8.396	16,1	-	3.699	-	3.840	3,8	4.040	5,2	4.393	8,7	5.115	16,4	5.963	16,6	6.711	12,5	7.251	8,0%	8.480	16,9
Chile	3.512	3.461	-1,5	3.662	5,8	3.798	3,7	3.999	5,3	4.112	2,8	4.400	7,0	4.622	5,0	3.876	-16,1	4.456	15,0	3.587	3.683	2,7	3.874	5,2	4.023	3,8	4.379	8,8	4.261	-2,7	4.688	10,0	4.836	3,2	4.157	-14,0	4.210	1,3
Ecuador	-	-	-	3.450	-	3.300	-4,3	3.720	12,7	3.720	0,0	4.447	19,5	4.991	12,2	5.302	6,2	5.600	5,6	3.096	3.255	5,1	3.450	6,0	3.317	-3,9	3.744	12,9	3.737	-0,2	4.471	19,6	5.009	12,0	5.321	6,2	5.600	5,2
Others	-	-	-	14.931	-	16.891	13,1	17.128	1,4	20.229	18,1	23.251	14,9	21.036	-9,5	30.712	46,0	28.293	-7,9	-	-	-	18.112	-	20.920	15,5	19.344	-7,5	22.711	17,4	23.883	5,2	22.215	-7,0	30.693	38,2	32.608	6,2
Total	-	-	-	-	-	117.377	5,2	-	8,4	139.552	9,7	153.367	9,9	156.703	2,2	153.351	-2,1	166.000	8,2	-	-	-	-	-	114.369	5,9	-	7,3	135.627	10,6	148.563	9,5	152.991	3,0	152.498	-0,3	165.000	8,2

*VP: Percentage variation of production and consumption

Source: AFCP, ICH, CANACEM, INEI, SNIC (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011)

chases. The product is distributed in the form of sacks and in small quantities. In 2012 in Argentina, 64% of the product was commercialized in sacks and the remainder, 36% in bulk (AFCP 2013). In Brazil, the percentage destined to retail shops in the same year was 50.6% (SNIC, 2012). In Mexico, final consumers and small constructors accounted for 75% of the product (CANACEM 2013). Despite this dependence on the final consumer, companies have promoted the vertical integration of their activities, through investment in aggregates (sand, crushed stone, etc.), concrete, pre cast, fiber cement and mortar. Vertical action allows the offer of goods with a higher aggregate value.

THE INTERNATIONAL EXPANSION OF THE MULTILATINA CEMENT PRODUCING COMPANIES

The four largest Latin American cement producing economic groups initiated the process of internationalizing their production at distinct historical moments, but were motivated by similar factors, among them the contraction of the internal market, the increase in competition due to the opening of the economy, the decrease in their disadvantages in relation to the main world players etc. With the exception of Camargo Corrêa, the other groups are all the main producers in their market of origin.

Cemex started internationalizing its production in the 1980s when it entered the United States market (Table 3). Among the reasons for the expansion the following can be mentioned: a fall in consumption in the domestic market, due to the economic crises that took place at the start of the century; the increase in spare capacity, linked to the first motive; the opening of the economy and its integration into the North American Free Trade Treaty (TLCAN); the increase in the consumption of cement in the United States, one of the main global importers of the product (BARRAGÁN; CERUTTI, 2003).

As a result of the aforementioned reasons, Cemex adopted the corporative and territorial strategy of entering the United States market based on the formation of a joint venture with local producers and the acquisition of companies for import and distribution (with import terminals), production of concrete, etc. The group's main strategy consisted of the use of spare capacity in Mexico and the purchase of import companies which facilitated commercial flows between the subsidiary companies.

During the 1990s, Cemex established as a priority the entry into markets with a high potential for growth and the acquisition of companies that would allow it to use the "administrative schemes" used in the companies absorbed and restructured in Mexico (BARRAGÁN; CERRUTI, 2003, p. 18). Until half way through the decade, after an aggressive strategy of acquisition, it was successful in establishing itself vigorously in Central America and Venezuela. However, the most important investment occurred with the purchase of Spanish companies, which allowed it to compete directly with the main European producers, access the capital market in similar conditions to the main global producers and codify and standardize the process of acquisition-integration (LUCEA; LESSARD, 2010).

However, in the second half of the 1990s, the corporative strategy "Translated itself in the expansion in countries which were experiencing a strong demographic growth and whose per capita consumption of cement was below the global average." (LUCEA; LESSARD, 2010, p. 85). In this way Cemex carried out acquisitions in Latin America (Costa Rica, Dominican Republic) and Asia (Philippines and Thailand), markets previously served by the group's trading branch. After a successfully carrying out a restructuring of the resources absorbed in Spain, Cemex released shares on the financial market and boosted its external investments (BARRAGÁN; CERRUTI, 2003, p. 21).

In the first years of this century, two aspects have marked Cemex's internationalization strategy. First, the group has promoted a spatial reorientation with a greater emphasis on developed countries, where the profit margins are lower and the competition between the main global producers more intense. Second, it has incorporated not only resources linked to the cement industry, but also companies that allow a more integrated action in the construction industry, through incorporating companies that produce concrete, aggregates, mortar, etc.



Table 3 –Direct Foreign Investments of Cemex

Company	Type of Investment	Resources	Location of Resources	Price	Year
Southwestern Sunbelt Cement	Joint Venture	Maritime terminal and mill	United States	N.D	1986
Texas Sunbelt Cement	Joint Venture	Maritime terminal and mill	United States	N.D	1986
Southwestern Sunbelt Cement	Purchase	Maritime terminal and mill	United States	N.D	1989
Gulf Coast Portland Cement	Purchase	Maritime terminal and mill	United States	N.D	1989
Houston Shell and Concrete	Purchase	Concrete	United States	N.D	1989
Houston Concrete Products	Purchase	Concrete	United States	N.D	1989
Aggregate Transportation	Purchase	Importer	United States	N.D	1989
Pacific Coast Cement Corp	Purchase	Maritime terminal	United States	N.D	1990
Valenciana e Sanson	Purchase	Cement	Spain	1.840	1992
Vencemos	Purchase	Cement	Venezuela and Guiana	320	1994
CementoBayano	Purchase	Cement	Panama	60	1994
Trinidad Cement Ltd	Purchase	Cement	Trinidad and Tobago, Jamaica and Barbados	20%	1994
Cementos Nacionales	Purchase	Cement	Dominican Republic	N.D	1995
Cementos Sampler e Cementos Diamante	Purchase	Cement	Colombia	400	1996
Rilza cement company	Purchase	Cement	Philippines	30%	-
PT Semen gresik	Purchase	Cement	Indonesia	14%	1998
APO cement Corp	Purchase	Cement	Philippines	640	1999
Cementos Pacifico	Purchase	Cement	Costa Rica	85%	1999
Southdown	Purchase	Cement, Concrete and aggregates	United States	2.800	2000
Southdown Inc	Purchase	Cement and Concrete	United States	2.800	2000
Saraburu Cement Company	Purchase	Cement	Thailand	73	2001
uerto Rican Cement Company	Purchase	Cement	Porto Rico	250	2002
RMC Group	Purchase	Concrete	England and another 21 countries of Europe and Asia	5.800	2004
Rinker Group	Purchase	Cement, Concrete and aggregates	Australia, United States and China	15.300	2007
Cemex Venezuela	Nacionalization	Cement and Concrete	Venezuela	600	2008
Cemex Polska	New investment	Concrete and aggregates	Poland	514	2009
Rinker	Sale	Concrete and aggregates	Australia	1.640	2009
Cemex Peru	New investment	Cement	Peru	230	2010
5 factories	End of investment	Cement	Germany, England and Poland	N.D	2012

Source: Developed by the author from information coming from the group and specialized magazines.

According to Lucea; Lessard (2010), the prevalence of developed countries in Cemex's corporate strategies comes from the discovery of regions whose rates of growth are similar or superior to those presented by the whole range of developed countries. The same authors, with regards to the more integrated action, defend the idea that this decision came more from the importance of the capital involved than on the return from sales. However, two other aspects are important to explain the vertical integration. Firstly, in some developed economies, such as the United States and Canada, the main consumers of cement are the large civil construction companies, who require concrete and aggregates, etc. (BUGALHO, 2000). Secondly, as a result of the accelerated expansion promoted by Cemex in the United States, its acquisitions began to be assessed by the organisms which defend competition, which impelled the group to seek resources further up the value chain.

The Colombian group, Cementos Argos, linked to the Grupo Empresarial Antioqueño, started its productive internationalization in the 1990s (table 4). The group established a strategic alliance with Holcim in the markets of the Dominican Republic, Haiti and Panama (LONDONO-AVILA-2012) and participated in the process of privatization in Venezuela where it purchased Cemento Andino. More recently, it has suffered a setback in Venezuela where its resources were nationalized.

Table 4 –Direct Foreign Investment by Cementos Argos

Company	Form of Investment	Resources	Location of Resources	Price	Year
Cementos Andino	Purchase	Cement	Venezuela	81	1998
Southern Star Concrete	Purchase	Concrete	United States	245	2005
Conex	Purchase	Concrete	United States	12,5	2005
Ready Mix Concrete Company	Purchase	Concrete	United States	435	2006
Cemento Andino	Nationalization	Cement and Concrete	Venezuela	192	2007
Holcim	Purchase	Cement, Concrete and port terminal	Panama, Haiti, Dominican Republic, Saint Thomas, Saint Marten, Antigua and Dominica	157	2009
Grupo Kersten	Alliance	Mill and port terminal	Surinam	N.D	2010
Janssen de Jong	Alliance		Curaçao	N.D	2010
Lafarge	Purchase	Cement and Concrete	United States	760	2011
Lafarge Cementos Honduras	Purchase	Cement and Port terminal	Honduras	305	2013

Source: Developed by the author from information coming from the group and specialized magazines.

In the 2000s, Cementos Argos reinforced its strategy of territorial expansion in Central America and in the Caribbean through the acquisitions of resources from Holcim and Lafarge, as well as strategic alliances (Surinam and Curacao). This greater insertion in Central America and the Caribbean allowed it not only to strengthen its presence in a nearby “natural market”, but also to meet the demand for its product stemming from the enlargement of the Panama Canal. Additionally, the group carried out a strong insertion in the United States market, where it acquired cement, concrete and aggregate producing companies. It is important to emphasize that its first international insertion occurred precisely in the United States (LONDONO-AVILA 2012), in the 1950s, which is currently responsible for 80% of Colombian exports.

For Ochoa, Ríos Millán (2011), the internationalization of Cementos Argos can be analyzed through different theoretical lenses, that is, it can be understood simultaneously, under the perspective of combining essential competencies (logistical platform, privileging the core activity, the strategic acquisition and management of companies related to the core activity), that of gradual internationalization, that of domestic consolidation and accumulation of international experience and the theory of the expansion of small and medium sized companies (high management, economies of scale, competitiveness, rapid and opportune response to market possibilities, etc.). Despite the analyses of different theories, they make the following statement “Nonetheless, the process of internationalization would not have achieved its own characteristics without the leadership of the high management” (OCHOA; RÍOS MILLÁN, 2011, p. 56, our emphasis).

The Brazilian group Votorantim only carried out its international insertion after the year 2000 (table 5) when it took advantage of the enforcement of anti-trust regulations by the United States upon Lafarge and Cemex who were forced to dispose of assets so as to carry on with their territorial expansion strategies.

The Grupo Votorantim purchased the Saint Mary’s company, which belonged to Lafarge and resources (two factories, eight port terminals and two ships) belonging to Cemex. Through Saint Mary’s it started to act in the United States and Canada. In the following years, due to the peculiarities of the cement industry in the United States, it started a corporative strategy of purchasing



concrete producing companies (S & W Materials, Prestige and Prairie), which were integrated into the previously absorbed cement producing resources.

Table 5 - Direct foreign investments by Votorantim

Company	Form of investment	Resources	Location of resources	Price or %	Year
Saint Mary's	Acquisition	Cement and concrete	Canada	720	2001
Suwanee	Acquisition	Cement	United States	100 (50%)	2003
Badger Cement Products	Acquisition	Cement	United States	N.D.	2003
S&W Materials Inc.	Acquisition	Concrete	United States	N.D.	2004
Ativos da Cemex	Acquisition	Cement	United States	400	2005
Prestige	Acquisition	Concrete	United States	200	2007
Prairie	Acquisition	Concrete and aggregates	United States	500	2008
Bio Bio	Acquisition	Cement, concrete and aggregates	Chile and Peru	100 (15,2%)	2008
Avellaneda e Artigas	Acquisition	Cement, lime and concrete	Argentina and Uruguay	38%	2010
Cimpor	Acquisition	Cement, concrete and aggregates	Portugal and another 12 countries	21.3%	2010
Cemento Yguazú	Joint Venture	Cement	Paraguay	36,7	2010
Cementos Portland	Joint Venture	Cement	Peru	29.5%	2010
Camargo Corrêa	Exchange of resources	Cement, concrete and aggregates	-	-	2012

Source: Elaborated by the author based on information from the group and specialized magazines

After its insertion in North America, the group focused its expansion efforts in South America, where it became the majority shareholder in local companies in Argentina (Cemento Avellaneda) and Chile (Cemento Bio Bio). In Paraguay and in Peru, the group carried out an IED in the construction of new industrial sites in association with local and foreign companies. But the most important acquisition was becoming the majority shareholder of Cimpor, together with Camargo Corrêa so as to impede the entry of the Brazilian group CSN. Recently Votorantim and Camargo Corrêa entered into an agreement regarding Cimpor in which Votorantim kept resources located in America (Peru), Africa (Morocco, Tunisia), in Europe (Spain) and Asia (India and China).

According to Santos (2010a, p. 92-93) there were four motives leading Votorantim to expand its cement production spatial circuits. First the IED became a diversification alternative due to the different cycles of construction in Brazil. Secondly, it was a way to respond to the movement of concentration of supply on a global scale, including the advance of the main global producers on the local market. Thirdly, it allowed Votorantim to get round the high cost of access to capital in Brazil and be able to replicate the same conditions obtained by its main competitors. Finally, Votorantim sought to achieve a stability of revenue by selling in "strong", stable currencies (dollar, euro, etc.).

The Grupo Camargo Corrêa, entered international production in the cement sector, only in 2005, with the incorporation of Argentina's largest producer, Loma Negra (table 6). After the acquisition it carried out new investments in its Argentine subsidiary. Beyond this, it entered the Uruguayan and Paraguayan markets, through alliances with local companies, in African markets, especially those countries which have promoted investments in infrastructure (Mozambique and Angola), thanks to resources coming from petroleum exports and BNDES credit lines destined to the execution of projects.

Table 6 - Direct foreign investments by Camargo Corrêa

Company	Form of Investment	Resource	Location of resources	Price	Year
Loma Negra	Acquisition	Cement, concrete and aggregates	Argentina, Uruguay and Bolivia	1.025	2005
Loma Negra	New investment	Cement	Argentina	250	2008
Ancap	Joint Venture	Cement	Uruguay	130	2009
Cinac	Acquisition	Cement	Mozambique	N.D	2010
Cimpor	Acquisition	Cement, concrete and aggregates	-	1.380 (32.9%)	2010
Cemento Yguazú	Joint Venture	Cement	Paraguay	36,7	2010
Cement Palanca	Joint Venture	Cement	Angola	430	2013

Source: Elaborated by the author based on information from the group and specialized magazines

Sposito, Santos (2012) show that Camargo Corrêa carried out an IED in the cement sector due to the following motives: greater diversification of markets, a reduction in the impact of the contraction of the domestic market (especially in the first half of the 2000s), the equalization of competition conditions (access of capital) relative to the main global producers and more insertion in the competition between oligopolies due to the concentration of product supply on various spatial scales.

The four economic groups, with their corporative strategies of productive internationalization, widened their spatial circuits of production and cooperation through the control of factories, mills, concrete sites, maritime terminals, ships, etc. on various spatial scales. Cemex, despite acting in all regions (with the exception of Oceania) has a strong presence in the markets of North America (mainly Mexico and the United States), Europe (Germany, Spain and England) and less importance in the markets of Asia, South America and Africa. Beyond Colombia another important market for Cementos Argos is the United States. Votorantim has a more intense activity in the Brazilian and the United States market, while Camargo Corrêa is stronger in its actions in Brazil, Argentina, Portugal and Egypt.

At a regional level, Cemex and Votorantim respectively are the main producers on the American continent. Votorantim and Camargo Corrêa compete directly in some markets (Brazil, Argentina, Uruguay and Bolivia) but are strategic partners in Paraguay. Meanwhile in the United States there is a direct competition between Cemex, Votorantim and Cementos Argos. Currently, Cemex competes directly with the main global players (Lafarge and Holcim) in the most important markets on a global scale, while Votorantim competes in some regions (South and North America and Asia).

Due to the characteristics presented by the cement industry, especially related to structure and competition, the Latin American groups' main form of international insertion, in the number of cases and volume of investments, has been acquisition and mergers (centralization of capital). However, it is important to emphasize that Votorantim and Camargo Corrêa entered some markets (Peru, Angola and Paraguay) through forming joint projects with local capital. For Lucea; Lessard (2010, p. 91), Cemex opted for acquisition because this corporative strategy allowed it to use its ability to identify, acquire and quickly integrate resources, to standardize productive and administrative processes, to control all aspects of the company through an information and telecommunication system and strengthen its commitment to the constant increase in the value of the group's actions etc.

Finally it is worth emphasizing that the strategy of growth with a strong relationship between passive and active resources, that is, international advance through greater indebtedness, became Cemex's Achilles heel, as when faced with the economic crises and the fall in construction activity in the United States and Europe, it faced a fall in the demand for its products and of the value of its shares on the Stock Exchange, especially due to its difficulties in cost reduction, generating dividends and reducing debt (<http://www.cnnexpansion.com/negocios/2011/09/19/cemex-con-futuro-gris-por->



-eu-y-europa, accessed 20 December, 2011). Votorantim and Camargo Corrêa, despite carrying out large acquisitions, are not exposed in the same way in the financial market and have a diversified action, which allows them to counterbalance the oscillations in different markets and products.

CONCLUSION

Despite the diversity of explanations for the multi-territorial accumulation strategies of the main Latin American groups, underlying this text is the idea that the intensifying of capitalist competition on a global scale, especially in those sectors which are capital and technologically intensive, acts as a mediator of the imperatives of universality in the processes inherent to capital and the spatial and temporal particularity of the individual activities of companies and business leaders. It is competition that allows the nexus to be established between different specific movements of capital and their fractions with the behavior of the economy as a whole.

Therefore the cement producing Latin American economic groups have advanced overseas as a response to the advance of the main players in their spaces of activity and as a strategy to avoid the tendency of a fall in rates of accumulation. As specific capital, they respond to the potential of capital through amplified accumulation widening their spatial activity contexts, through recurrent construction-reconstruction and integration-disintegration of “particular territories of accumulation.”

The IEDs in the cement sector have been carried out, mainly, by large economic groups, marked by a diversified structure (with the exception of Cemex). Be it due to the complex local context (institutional arrangement, economic infrastructure, etc.) or due to economic policies (support or openness), these groups have developed distinct capacities to act on other scales and face the advance of competing oligopolies in their realm of action. In this way, the relative “success” and the permanence of these specific capitals as relevant economic agents on various spatial scales are related to their capacity to meet the general laws of capital, on the one hand, and the use of “distinctive capacities” constructed in their spaces of origin, which are used as change-forces of structures and standards of competition in the cement industry.

Multi scale activity is a sine qua non condition for permanence in the cement sector. The arrangement of different cycles of capital on different levels allows the Cemex, Votorantim, Camargo Corrêa and Argos groups to decrease their disadvantage in direct competition with the main global players (Lafarge, Holcim, Heidelberg Cement) in different markets. Through multi-territorial action these groups have used-produced spatial differentiation (labor force costs, access to capital, exchange rate variations, cycles of the construction industry, variations of taxes on profit, etc.) as the main component in the movement of increasing the value of capital.

Cemex is the only one to have a global topology, given its activity in all regions. Votorantim and Camargo Corrêa have a multi-territorial activity, being present in three regions. Argos, on the other hand, displays a bi-regional topology, given its important action in Central America and the United States. Cemex and Argos are characterized by a greater relationship with financial capital (shares offered on the stock exchange) and by an international insertion based, fundamentally, on the centralization of capital, while the cement companies belonging to the two Brazilian groups have the support of the holding, which manages a myriad of activities, with a territorial strategy of international insertion which is allied to different forms of investment (joint ventures, minority participation, acquisitions, etc.)

REFERENCES

AYRES, Mary L. A.; DAEMON, Ilka G.; FERNANDES, Paulo C. S. A indústria de cimento. **BNDES Setorial**, Rio de Janeiro, n. 10, p. 335 - 348, Set. 1999.



- BARRAGÁN, Juan I.; CERUTTI, Mario. Cemex: del mercado interno a la empresa global. In. Congresso Brasileiro de História Econômica e Conferência Internacional de História de Empresas, 5 e 6, 2003, Caxambu. **Anais...** Caxambu: ABPHE, 2003.
- BUGALHO, Adoniran A competitividade das indústrias de cimento do Brasil e da América do Norte. **Estudos econômicos da construção**, São Paulo, v. 4, n. 1, p. 139 – 175, 2000.
- CAÑÓN, Andrés L. **La industria del cemento en Colombia. Determinantes y comportamiento de la demanda (1996-2005)**. 2008. 53f. (Monografía em Ciências Econômicas) – Facultad de Ciencias Económicas, Pontificia Universidad Javeriana, 2008.
- DÍAZ PONCE, Olga A. **La evolución de la industria del cemento con énfasis en Latinoamérica**. 2012. 169f. (Monografía em Engenharia Civil) – Facultad de Ingeniería, Univ. de San Carlos de Guatemala, 2012.
- FERREIRA, Márcia A. A. M. **O Desenvolvimento Regional do Mato Grosso do Sul: o Caso do Cimento**. 1999. 206f. Dissertação (Mestrado em Geografia) - Faculdade de Ciências e Tecnologia, Universidade Estadual Paulista, Presidente Prudente, 1999.
- GARZA, Óscar J. de la G.; GARCÍA, Julio C. A. Análisis de la competencia de la industria cementera en México. **EconoQuantum**, Guadalajara, v. 8, n. 1, p. 73-89, 2011.
- GONÇALVES, Reinaldo. A empresa transnacional. In. KUPFER, David; HASENCLEVER, Lia (Org.). **Economia industrial**. Fundamentos teóricos e práticas no Brasil. Rio de Janeiro: Campus, 2002, p. 389-411.
- HAGUENAUER, Lia. A indústria de cimento. In: GARCIA, Fernando; FARINA, Elizabeth M. M. Q.; ALVES, Marcel C. (Org.), **Padrão de concorrência e competitividade da indústria de materiais de construção**. São Paulo: Singular, 1997, p. 134-170.
- KUMARAN, Ganesh B.; GONZÁLEZ, Saúl M. Evolución reciente de la industria de cemento: un estudio comparativo entre México y la India. **Portes, revista Mexicana de estudios sobre la Cuenca del Pacífico**, Colima, n. 3, p. 165-202, Ene./Jun. 2008.
- LONDOÑO-AVILA, Alejandro. Internacionalización de la empresa colombiana Cementos Argos: una mirada desde diferentes teorías. **Revista de negocios internacionales**, v. 5, n. 1, p. 29-43, Ene./Jun. 2012.
- LUCEA, Rafael; LESSARD, Donald. ¿Cómo mantienen su ventaja competitiva las multinacionales de economías emergentes? **Universia Business Review**, p. 76-97, Jan./Mar. 2010.
- OCHOA, Héctor; RÍOS MILLÁN, Ana M. Liderazgo, la competencia esencial que transformó una empresa colombiana en un gigante internacional: el caso de Cementos Argos. **Estudios gerenciales**, v. 27, n. 119, p. 13-32, Abr./Jun. 2011.
- PROCHNIK, Victor; PEREZ, Adriana; SILVA, Carla M. S. **A globalização na indústria de cimento**. Rio de Janeiro: 1998. Disponível em [www.ie.ufrj.br/cadeiasprodutivas/pdfs/aglobaliza caonaindustriadocimento.pdf](http://www.ie.ufrj.br/cadeiasprodutivas/pdfs/aglobaliza%20caonaindustriadocimento.pdf). Acesso em: 11 Mar. 2004.
- RUGMAN, Alan M. **The regional multinationals**. MNEs and global strategic management. Cambridge University Press: Cambridge, 2005.
- SANTOS, Leandro B. A indústria de cimento no Brasil: origens, consolidação e internacionalização. **Sociedade & Natureza**, Uberlândia, v. 1, n. 23, p. 77-94, Abr. 2011.
- SANTOS, Leandro B. Considerações geográficas sobre o Brasil e os fluxos internacionais de cimento. **Geografia**, Londrina, v. 19, n. 1, p. 63-85, Jan./Abr. 2010.
- SANTOS, Leandro B. Os novos espaços de acumulação do Grupo Votorantim. **RA'EGA**, Curitiba, v. 19, n. 1, p. 79-95, Jan./Jun. 2010a.
- SANTOS, Leandro B. **A importância do setor mineral no desenvolvimento econômico de Itapeva/SP: estudo de caso da Fábrica de Cimento Lafarge**. 2005. 190f. (Monografia em Geografia) - Faculdade de Ciências e Tecnologia, Universidade Estadual Paulista, Presidente Prudente, 2005.
- SCHVARZER, Jorge; PETELSKI, Natalia C. La industria del cemento en la Argentina. Un balance de la producción, la capacidad instalada y los cambios empresarios, tecnológicos y de mercado durante las últimas dos décadas. **Documento de trabajo CESP**, n. 8, Buenos Aires, 2008.
- SIMONSEN, Mario H. **Teoria microeconômica: teoria da concorrência perfeita, teoria da concorrência imperfeita**. Rio de Janeiro: FGV, 1988.



SPOSITO, Eliseu S.; SANTOS, Leandro B. Origem, consolidação e internacionalização do Grupo Camargo Corrêa. **Revista paranaense de desenvolvimento**, Curitiba, n. 123, p. 51-80, Jul./Dez. 2012.

TAFUNELL, Xavier. On the Origins of ISI: The Latin American Cement Industry, 1900-30. **Journal of Latin American Studies**, v. 39, n. 2, p. 299-328, May. 2007.

TEECE, David J. et. al. Understanding corporate coherence: theory and evidence. **Journal of economic behavior and organization**. v. 23, p. 1-30, 1994.

VILLARREAL, Diana R.; MARTÍNEZ, Isela. Participación de los grupos industriales de Monterrey en el proceso de globalización: el caso de Cementos Mexicanos. **Economía: teoría y práctica**, n. 11, p. 47-60, 1999.

List of websites consulted

AFCP - Asociación de Fabricantes de Cemento Portland

ICH - Instituto del Cemento y del Hormigón

CANACEM - Cámara Nacional del Cemento

INEI –Instituto Nacional de Estadística e Informática

SNIC - Sindicato Nacional da Indústria de Cimento

Global Cement

Submitted september 2015

Accepted october 2015