



## The Impact of Cement Manufacturing on Economic Development of Pakistan: The Analysis of Cement Industry

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### ABSTRACT:

*This paper investigates to explain that Cement Industry is an important component of Economic sector in Pakistan which has a substantial impact on the financial stability and economic development in the country. The cement production was a small industry in the early days of Pakistan but with the passage of time, it grew with a very good pace. At present, it has turned into an important industry in the country by contributing to employment in labour force, urbanization, modernization and foreign reserves. In the recent era, Pakistan cement industry entered into the export market after fulfilling the domestic demand of cement. Although cement industry has many challenges in Pakistan due to various political, economic and law and order situations but this sector has still performed brilliantly during the last two decades. The worst challenges faced by this industry include law and order issue, unstable political conditions, energy crises and ignorance of public sector. This industry's energy cost comprises between 50 to 60 percent of the total Cost of Goods Sold. The unfavorable law and order situation, particularly in the northern part of the country resulted in the stagnant domestic demand of cement for several years. Despite of all the challenges the cement industry has faced, this*

*sector is still contributing in the economic development of Pakistan significantly which proves it a key of Pakistan's economy.*

### KEY WORDS:

Cement Industry; Consumption Rate; Economic Development; Pakistan Economy; Production Level

### INTRODUCTION

Cement is among the important industries of Pakistan and it has been as one of the most important industries during the last two decades (Wen, Chen, & Meng, 2015). The main raw materials for cement production are Limestone and Gypsum and these available in abundance in Pakistan (Gardezi, Manarvi, & Gardezi, 2014). The good supply of Natural gas is great potential for the country to produce cement domestic use as well as for exports to generate foreign reserves for the country. Pakistan cement industry is fulfilling local market and also is exporting cement to neighborhood countries including Russia, Iraq, Sri Lanka, India, Afghanistan and United Arab Emirates. At present, Pakistan is also exporting cement to some African countries (Nayyar, Zaigham, & Qadeer, 2014). In the current scenario, over 20 cement plants are operational in Pakistan, having production level of 9.5 Million

Tones approximately. Government sector has 5 cement plants while private sector has 24 plants which reflects that private sector is heavily investing in cement industry (Pradeep Varma & Srinivas, 2015). Moreover, 11 new cement plants of production capacity of almost 13.000 Million Tones, are also in the planning stage to be executed in the coming years. Financial year June 30, 2007, revealed that cement industry achieved a 32% growth while local demand



Figure: Five Forces Model of Porter for Cement Industry.

The indicator of consumption rate which shows any country development is measured by per capita consumption of cement. This is unfortunate that per capita consumption rate of cement in Pakistan is lesser than other developing countries in the world. Pakistan has consumption of 135 kg per person annually while world average is around 270kg (Riccardi, Oggioni, & Toninelli, 2012). This is just

## LITERATURE REVIEW

The history of cement industry of Pakistan goes back to 1921 when the first cement plant was planted at Wah. When Pakistan came in to the map of the world there were only four plants with the production capacity of approximately 0.5 million tonnes. This capacity was not sufficient for the country (Sharwani, 1976). In 1956 two more plants were installed by the Pakistan Industrial Development Corporation in Hyderabad city and Daudkel. Furthermore plants were installed in the private sector (Gardezi et al., 2014). Due to the shortage of cement in the country, cement was imported from other countries. So the extension of cement industry of Pakistan was need of the time. The number of cement plants in the country was only 6 till the year 1965. But just after this year the cement sector of Pakistan observed a good development and three cement units were planted by the private sector. The newly opened cement units were Javedan cement, Gharibwal cement and Mustehkam cement. Javedan cement was launched in Sindh province while Gharibwal cement and Mustehkam cement were set

was increased almost 25% and exports were reported just about 112% (Agha, 2014). Pakistan cement industry is divided into major regions; the southern and northern areas. The production capacity of Northern region slightly over 35.00 million tonnes while the production of southern region is reported around 8.90 million tonnes per year (Javied, Akhtar, & Tufail, 2011)

because of carelessness towards construction sector in Pakistan. Conversely, in the recent years cement consumption has increased in result of commercial boom, development of infrastructure housing schemes (Memon, Arsalan, Khan, & Lo, 2012).

Pakistan was ranked 5<sup>th</sup> in the world to export cement to the neighboring countries. Rs.30 Billion is added to national income as a tax collection from cement industry (Rashid Amjad, 2012). In addition, Rs.100 Billion was invested in cement industry for expansion purposes during the last few years in Pakistan. The annual demand of cement consumption in Pakistan is calculated by construction industry at 7% due to quick urbanization (Branger & Quirion, 2015). The huge backlog of 6.30 million housing units exists in Pakistan as described by this industry. The construction sector in Pakistan is playing vital role in revival of economy and jobs creations to contribute around 8% jobs out of total employed labour force (Memon et al., 2012).

up in the province of Punjab. This initiative of entering in cement industry was a good step not only for the cement industry but also for the economic development and growth of the country. In the era of 1971-1977 nationalization came into place and all private cement units were nationalized by the government of Pakistan (Ahmad, 1962). During this period no any new cement unit was introduced. The government of Pakistan came up with the establishment of State Cement Corporation of Pakistan (SCCP) in 1972 and the management of cement production in the country was assigned to it (Buttress, Jones, & Kingman, 2015). During this tenure all the existing cement firms in the cement industry came under the control of SCCP. The State Cement Corporation installed five new cement manufacturing plants in order to reduce the gap between demand and supply in the industry with the production capacity of 1.8 million tons (Rauf, 1994). It was the time when cement industry worked under the complete control of state and the industry met strict regulations and policies during this tenure (Bilgen, 2014). During the age of 1977-88, denationalization of industries came into action and

people were motivated to invest in different sectors of the economy especially in housing and construction sector, as a result demand for cement had been increased (Shahida, 1989). With the inception of denationalization, private sector was also permitted to establish new cement manufacturing units. It resulted in the establishment of seven new projects with production capacity of 2.54 million tons (Ansari & Seifi, 2013). On the other hand State Cement Corporation of Pakistan also came into the ground with four new projects with the production capacity of 1.6 million tons, and this increased the total production capacity of the country to more than 8.5 million tons by the end of 1990 (Saeedullah Muhammad 2005). In 1990, cement industry observed another huge change, the industry had been privatized and initially eight cement units were privatized (Oggioni, Riccardi, & Toninelli, 2011)(Wen et al., 2015). To boost the industrial sector the state gave tax exemption to main industries in Baluchistan and Khyber Pukhtunkhwa. This tax exemption was also enjoyed by cement industry and as a result new manufacturing units were also established in private sector. Private sector was working effectively due to their new technology while SSCP started to lose its power during the period of privatization and its control over supply of cement went down to 25 percent of the installed capacity of the country. But still there was a gap between the demand and supply of cement and to meet the demand of cement in Pakistan; cement was imported from other countries (Umar, Friis, Khan, Kassi, & Kasi, 2011).



**Figure:** DG Khan Cement Plant

The positives results of privatization were seen in the industry and it was a new era for the cement industry of Pakistan when cement industry achieved a position where production was in surplus after covering the local demand. It was really a huge change for the cement industry of Pakistan after a long struggle and long time. This change in the cement industry of Pakistan influenced many investors and they took interest in making investments in the cement sector. To attract the investors towards the cement sector of Pakistan, many factors were involved such as easy

access of inputs and demand of cement. These were the considerable factors which attracted the investors to invest in the cement industry of Pakistan. Due the slow economic pace in the country the cement industry of Pakistan is not successful in utilization of its full production capacity in the recent years. Cement demand has been observed dormant and it resulted in unsatisfactory sale of cement. Due to the economic crisis in the country, the domestic cement demand was stagnant. The recorded sales of cement in the last three years were 22 million tonnes per annum and these figures were really not very good (J. Li, Tharakan, Macdonald, & Liang, 2013). On the other had cement production was also low due to low demand of cement. The production of cement was recorded over 43 million tonnes per annum. The failure of utilization of production capacity of cement industry is the result of short local demand of cement. Due to the stagnant growth of cement industry and underutilization of cement production in the country, the producers are facing problems in the domestic market. So the main problem for the producers is underutilized production capacity of their units (Glass & Pocklington, 2002). As the domestic cement demand is already stagnant for last few years, so the producers have to find out export markets for their cement. Pakistani cement can be sold in international market at good rates. This would be helpful for the cement producers for utilizing their full production capacity as well as earning considerable profits in the international markets. It was recorded that only in the few months of the year 2012 two cement mills earned Rs. 4 billion profit. These cement units were exported cement through sea port they are situated near Karachi city. This is a considerable earning by these two cement mills and this was done through exports only. On the other hand those cement plants that could not take part in the export of cement by sea faced a loss of approximately more than 10 billion Pak Rupees (Fantilli & Chiaia, 2013).

One of the important factors which affected cement industry of Pakistan badly is less expenditure of government on Public Sector Development Projects. Because in Pakistan the major demand drive of cement at domestic level are Public Sector Development Projects. When government decreases its expenditures on PSDP then cement industry suffers. The majority of the cement plants of the country are situated in the northern side Pakistan. The cement companies of this region can export their cement to Afghanistan and other Central Asian countries. The northern part of the country does not have easy access to the sea port, so this is the market which can be utilized easily for cement exports (Feldman & Cheng-Yi, 1985). In future, it is expected

that cement industry of Pakistan will increase its exports to this market because Afghanistan and other countries of Central Asian countries are landlocked countries and they cannot import cement from other countries except Pakistan at low and competitive prices. The rates offered to these markets by Pakistan are usually very reasonable as compared to other markets. In the fiscal years 2011 cement industry of Pakistan had made export transactions of more than 4 million tonnes of cement to these countries (Hasanbeigi, Morrow, Masanet, Sathaye, & Xu, 2013). The cement industry of Pakistan did not get the transportation subsidy which was announced by the government last year. This subsidy was announced for many goods including cement which are being transported through the sea port. The agreed rate of subsidy provided was 35% but the suspension of this freight subsidy is discouraging the entire industries especially the cement sector which is already affected by high transportation cost. Trade Development Authority of Pakistan has not played its

## METHODOLOGY

### Profile of Cement Industry of Pakistan

There were only 4 cement plants in Pakistan came into the map of the world on 1947. For the new state, the number of cement units available in the country was really not sufficient. But with the passage of time cement industry shown an effective improvement and at the current stage the cement industry has 29 firms which are successfully being operated. Unlike other sectors cement industry is operated in the areas which have special infrastructure and favorable locations are also needed as well. That is why majority of the market share of cement industry is operated in the northern parts of Pakistan which have been blessed by almost all

### THE NORTHERN ZONE

The Northern Zone consists of 19 units of cement plants and in this zone the total production capacity is 36.17 million tonnes of cement. Majority of the production capacity of cement industry of Pakistan belongs to the North Zone. Because of the favorable geographical location of this zone carries 80 percent of the total production capacity of cement industry of Pakistan. Following are the cement units operating in this zone.

role so far in this regard but the claim registered by cement industry of Pakistan in TDAP, amounts to more than 270 million PKR (Ekincioglu, Gurgun, Engin, Tarhan, & Kumbaracibasi, 2013). A lot of opportunities are available for the cement industry of Pakistan in international market but to earn considerable profits cement industry needs exports by sea (Madloul, Saidur, Rahim, & Kamalisarvestani, 2013). The main issue comes in the way of exports by sea is high transportation rates within the country because majority of the cement plants are located in the northern part of the country which is very far from the sea port. If this issue is resolved by providing freight subsidy to the industry then the cement industry would be able to earn huge foreign exchange not only for the industry but also for the whole country. The cement industry would be able to utilize its surplus production capacity by exporting the cement through sea to other countries (C. Li et al., 2014).

inputs which are required for the production of cement. The mountains of northern parts of the country are rich in raw materials like iron, clay, gypsum and minerals used in cement production. The cement firms in this area are closed to the areas where these inputs are easily available and accessible. Currently 26 cement companies are the listed members of stock exchanges. Four multinational companies are also the part of the cement industry of Pakistan and three companies are owned by the armed forces of Pakistan. There are 16 private companies which are being operated under cement industry of Pakistan. The cement industry of Pakistan comprises of two regions called zones which are classified on the basis of their geographical conditions (Guisinger, 1976)



**Figure:** Attock Cement Pakistan Plant

1. Askari Cement Ltd
2. Bestway Cement-I
3. Cherat Cement
4. Dandot Cement Limited
5. Dewan Cement Limited

6. D.G. Khan Cement (KK)
7. D.G. Khan Cement-II
8. Fauji Cement Company
9. Flying Cement Limited
10. Fecto Cement
11. Gharibwal Cement Limited
12. Kohat Cement Company Limited
13. Lucky Cement (Karachi)
14. Maple Leaf Cement
15. Mustehkam Cement
16. Pakistan Cement
17. Pioneer Cement
18. Bestway Cement Chakwal-II
19. Askari Cement Ltd. (Nazimpur)

#### THE SOUTHERN ZONE

The southern zone is comparatively smaller than the northern zone as only 10 units are the part of southern zone. This zone carries 20 percent of the total production capacity of cement industry of Pakistan. The total cement production capacity of this zone is 8.89 million tonnes which is 80% less than the northern zone. Following are the cement firms being operated under Southern Zone.

1. A.C. Rohri Cement Limited
2. Al-Abbas Cement Limited
3. Attock Cement
4. Dadabhoy Cement Limited
5. Javedan Cement Limited
6. Pakistan Slag Cement Limited
7. Thatta Cement Limited
8. Zeal Pak Cement Limited
9. Lucky Cement (pezu)
10. Bestway Cement (Chakwal)



Figure: Lucky Cement

#### Market Share of the Firms in Cement Industry

The market share of cement industry has been captured by top six firms because they have 65% of the total market share while remaining firms capture only 35% of the market share. The market share of the cement firms in Pakistan is as under:

#### All Pakistan Cement Manufacturing Association

APCMA is a trade union established in September 1992 under the section 32 of Companies Ordinance with the aim to protect and defend the interest of cement firms. APCMA is a registered body under section 3 of the Trade Organization Ordinance 2007. Almost all big layers of the cement industry of Pakistan are the members of APCMA but some cement firms are not the members of this body. The main object of APCMA is to represent the cement producers of Pakistan in front of the government and other decision making bodies in order to protect the rights of cement producers of Pakistan. The body is also aimed to provide advice to government regarding cement industry of Pakistan while keeping the interest of cement producers in the view. APCMA also collects industry data and distributes it. There is an executive committee of APCMA, which conducts meetings on regular basis to make discussions regarding the problems of cement industry and future policies as well. APCMA has an influential role in the cement industry of Pakistan as it has a representation of cement producers and top level management of cement firms are the part of this body.

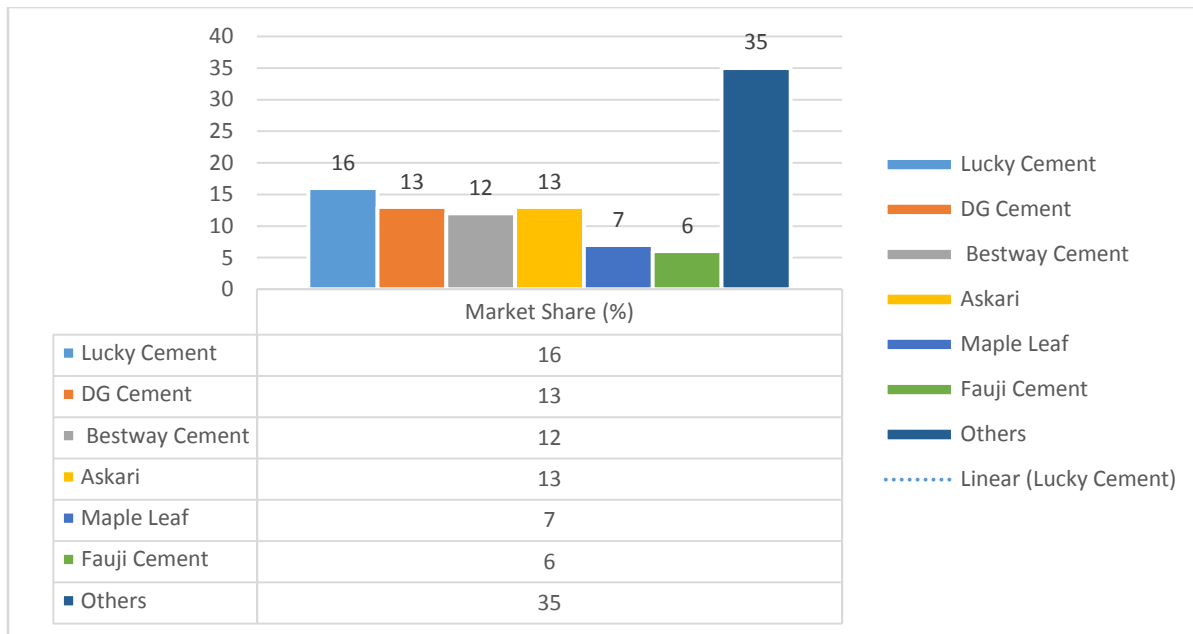


Figure 1

Source: PACRA, Retrieved on September 2, 2014. [http://www.pacra.com.pk/uploads/doc\\_report/Cement\\_Study.pdf](http://www.pacra.com.pk/uploads/doc_report/Cement_Study.pdf)

### Market Share of the Firms in Cement Industry

Table 1

Name of Firm	Market Share (%)
Lucky Cement	16
DG Cement	13
Bestway Cement	12
Askari	13
Maple Leaf	07
Fauji Cement	06
Others	35

Source: PACRA, Retrieved on September 2, 2014.

Website: [http://www.pacra.com.pk/uploads/doc\\_report/Cement\\_Study.pdf](http://www.pacra.com.pk/uploads/doc_report/Cement_Study.pdf)

### SALES PATTERN OF CEMENT INDUSTRY

The cement sale of Pakistan does not have a similar sales pattern, it changes throughout the year. Sometimes it is seasonal and sometimes it becomes regional. The sales pattern is cyclical too. The transportation cost and consignment cost of cement varies time to time, so the consumers of cement try to buy it from local areas in order to get it at comparatively less rates. In monsoon and winter season the conditions are not feasible for construction activities due to this the demand for cement declines. In summer before the starting of monsoon the

demand of cement goes up. There is a huge impact of GDP growth rate of the country on cement demand in the country, as the GDP growth rate goes up, the demand for cement also registers an increase.

### DEMAND DRIVER

In Pakistan the major demand driver is different from other rival countries like China and India as private housing is the main demand driver there. But in case of Pakistan Public Sector Development Projects funding is the main demand drive of Pakistan. The government infrastructure funds allocated for the development of the country have a huge impact on cement demand. These funds are announced by the government of Pakistan during budget announcement, so cement industry is influenced by these funds. But the major problem is that government announces substantial funds for Public Sector Development Funds at the time of budget, but later on these projects are not completed due to the shortage of funds. Practically these funds are not utilized completely in order to meet other expenditures of the country.



**Figure:** Production of Cement Industry

In the last two years infrastructure activities have been increased, it is a good sign for the cement industry of Pakistan. Due to these increasing projects, cement demand has also been increased at domestic level. It is expected that more infrastructure projects will be launched in the coming future, which will lead to increase the cement demand of the country.

**COST INGREDIENTS OF CEMENT**

The energy cost of cement industry comprises of the majority of Production cost and it is approximately 50 to 60% of the Cost of Goods Sold. The cost of cement varies firm to firm or unit to unit because every cement unit utilizes energy sources according to the nature of the plant. So the energy cost influences the cost of cement industry. In case of Pakistan the energy cost is very important because it comprises of approximately 60 percent of the cost. Electricity is considered a major source of fuel in the industry but in cement industry of Pakistan most of the cement firms use coal as their fuel requirement (Kurup & Jenkins, 2008). Due to the importance of energy cost the cement units are inclined to use alternate energy sources. The rates of cement have gone down in the last two years; it benefited the cement industry of Pakistan to earn high profits. The coal has been proved as a cheapest source of energy in the last two years. The confined power plants and Water and Power Development Authority fulfill the electricity needs of the cement industry of Pakistan.

**HISTORICAL ANALYSIS OF CEMENT**

The total capacity of cement production in

The electricity rates have been increased in the recent years but this increase suffered the consumers of cement as this increase is being shifted on the shoulders of consumers.

Cement industry is quite different from other industries due to its capital incentive nature (Mansoori, Roshanzadeh, Khalaji, & Tavassoli, 2011). In this industry a long time is required to launch a unit and make it operational. Secondly the total cost of a cement unit is totally based on the size, volume and machinery. Another important aspect is the technology used in the cement unit which makes difference in the cost. The cement units need a well extensive and advanced set up and it need a high cost. Every manufacturing industry requires significant cash liquidity for working capital, so cement industry also needs it. Working capital requirements are met by short term finances of cement industry while in long term finances are used for the extension of cement units and maintenance of cement units. Almost all short-term and long-term requirements of finance are fulfilled by the banking industry of Pakistan. The banking industry of Pakistan has paid 55 billion rupees as advances. But for the banking industry cement industry has not been proved productive as compared to other industries due to its highest NPL ratio i.e. 28 percent. The amount of NPL is approximately 15 billion which is a huge amount. The credit risk of cement industry is comparatively higher because in the time of financial crisis owners of some firms did not inject money to their firms for bail out. The cement industry was in loss a few years back due to decline in domestic demand of cement. So the industry was having underutilized production capacity. The owners of many firms injected money to their manufacturing units as bail-out packages and they did not shut down their production units. The owners of DGKC were reluctant to bail-out their company and Maple Leaf and Gharibwal were bank defaulters. ZealPak cement had shut down its production unit.

Pakistan with Local Dispatches is given as under. The increase in Production capacity and Local dispatches is shown in the table.

**Historical Analysis of Cement – Production Capacity**

**Table 2**

Period	ProductionCapacity (Million Tonnes)	Increase %	LocalDispatches (Million Tonnes)	Increase %
1990-1991	8.89	0.00%	7.29	0.00%
1991-1992	8.89	0.00%	7.71	5.79%

1992-1993	8.89	0.00%	8.32	7.94%
1993-1994	9.048	1.77%	8.136	-2.26%
1994-1995	10.173	12.43%	8.380	3.00%
1995-1996	10.173	0.00%	9.431	12.54%
1996-1997	12.504	22.91%	9.650	2.33%
1997-1998	15.528	24.18%	9.193	-4.73%
1998-1999	16.410	5.68%	9.621	4.65%
1999-2000	16.379	-0.19%	9.937	3.29%
2000-2001	15.534	-5.16%	9.933	-0.04%
2001-2002	16.101	3.65%	9.833	-1.01%
2002-2003	16.321	1.37%	10.980	11.66%
2003-2004	17.279	5.87%	12.545	14.25%
2004-2005	17.909	3.65%	14.788	17.88%
2005-2006	20.83	16.31%	17.049	15.29%
2006-2007	30.50	46.41%	21.034	23.38%
2007-2008	37.68	23.54%	22.577	7.33%
2008-2009	42.28	12.22%	20.325	-9.97%
2009-2010	45.34	7.24%	23.567	15.95%
2010-2011	42.37	-6.55%	22.002	-6.64%
2011-2012	44.64	5.35%	23.947	8.84%
2012-2013	44.64	0.00%	25.06	4.64%
2013-2014	44.64	0.00%	26.15	4.34%
2014-2015	45.62	2.19%	13.065	9.39%

Source: APCMA Historical Data Retrieved on February 1, 2015, from [http://www.apcma.com/data\\_history.html](http://www.apcma.com/data_history.html)

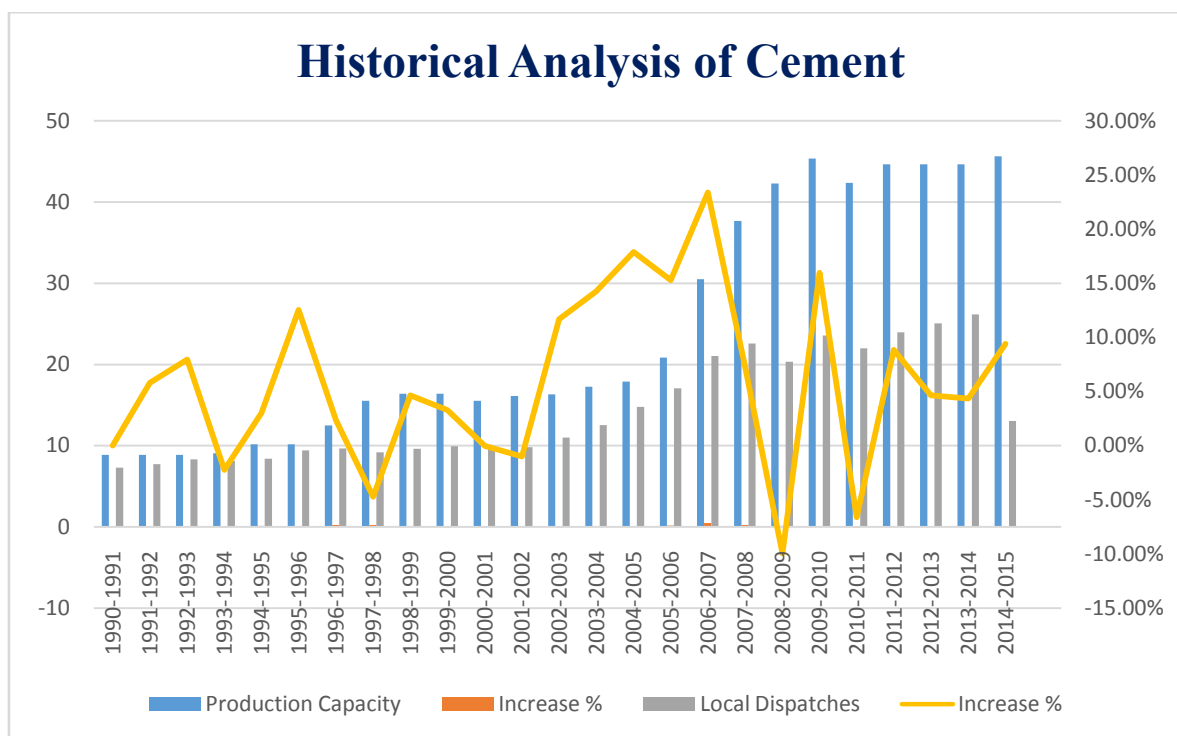


Figure 2



## The exports, total dispatches, total utilized capacity, surplus capacity and increase trend of cement

Table 2

Period	Exports	Increase %	Total Dispatches	Increase %	Capacity Utilization	Surplus Capacity
1990-1991	(Million Tonnes)		(Million Tonnes)	(Total)	%	(Million Tonnes)
1991-1992	-	0.00%	7.290	0.00%	81.99%	1.601
1992-1993	-	0.00%	7.712	5.79%	86.74%	1.179
1993-1994	-	0.00%	8.324	7.94%	93.62%	0.567
1994-1995	-	0.00%	8.136	-2.26%	89.92%	0.912
1995-1996	-	0.00%	8.380	3.00%	82.37%	1.793
1996-1997	-	0.00%	9.431	12.54%	92.70%	0.743
1997-1998	-	0.00%	9.650	2.33%	77.17%	2.855
1998-1999	-	0.00%	9.193	-4.73%	59.20%	6.335
1999-2000	-	0.00%	9.621	4.65%	58.63%	6.790
2000-2001	-	0.00%	9.937	3.29%	60.67%	6.442
2001-2002	-	0.00%	9.933	-0.04%	63.95%	5.600
2002-2003	0.107	100.00%	9.940	0.06%	61.73%	6.161
2003-2004	0.472	342.53%	11.452	15.21%	70.16%	4.869
2004-2005	1.118	137.02%	13.663	19.31%	79.08%	3.615
2005-2006	1.565	39.96%	16.353	19.69%	91.32%	1.555
2006-2007	1.505	-3.83%	18.554	13.46%	89.08%	2.28
2007-2008	3.228	114.46%	24.262	30.77%	79.23%	6.23
2008-2009	7.717	139.06%	30.293	24.86%	80.14%	7.38
2009-2010	10.981	42.31%	31.306	3.34%	74.05%	10.97
2010-2011	10.649	-3.03%	34.216	9.29%	75.46%	11.13
2011-2012	9.428	-11.47%	31.430	-8.14%	74.17%	10.94
2012-2013	8.568	-9.12%	32.515	3.45%	72.83%	12.13
2013-2014	8.14	-2.84%	34.28	2.54%	76.79%	10.36
2014-2015	4.06	-2.07%	17.12	6.23%	75.08%	5.69

Source: APCMA Historical Data Retrieved on February 1, 2015, from [http://www.apcma.com/data\\_history.html](http://www.apcma.com/data_history.html)

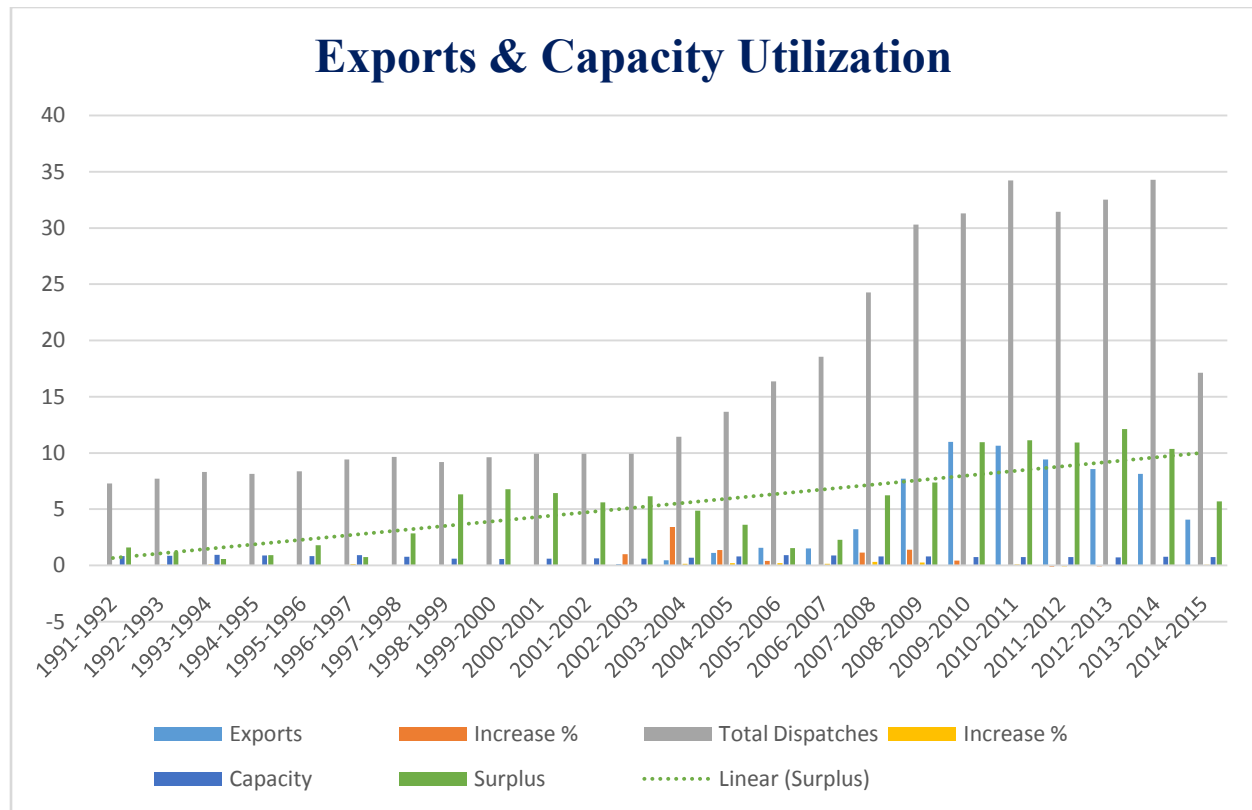


Figure 2

### CEMENT INDUSTRY GROWTH IN PAKISTAN

The growth of cement industry of Pakistan is as follows;

#### National Demand Trends

In the year 2008-2009 the cement demand in Pakistan at domestic level was recorded at approximately 20 million tonnes. The growth rate of cement demand will be probably increased in the next five years. The rate of anticipated growth is 13 percent in the next five years. The demand of cement in the country is influenced by many factors because it is linked with the GDP of the country. If the growth rate of GDP is high, the result will be seen in the demand of cement. It means the higher the GDP rate, the higher the demand of cement. The country's GDP growth rate which is projected stands at 4.2%, though it's a modest statistical figure, but it is higher than 2.4% rate, which was in the last year. Keeping the figures in the view the cement demand is anticipated to be increased in future. In the last few years there was a slow and steady growth in the housing sector.

The housing sector's share in the cement consumption was 40 percent. The investments made

in the Public Sector Development Projects were quite considerable in the country. The total budget for the federal development programs is 300 billion. In this budget the highest share is covered by the infrastructure programs. 57 percent allocation has been given to infrastructure programs and then second highest allocation i.e. 42 percent has been given to social sector development projects. According to the verified and reliable records of the ministry of finance funds of Rs.934.3 billion were allocated to the provincial governments from the year 2002 and 2003 to 2010 and 2011 under PSDP but the negative side is that these funds were not completely utilized. According to the sources 18.4 percent of the funds were utilized. Approximately 82 percent of the allocated funds were not used. In Pakistan the natural disasters suffered the country very badly for couple of years especially the earth quakes of October, 2005. It damaged the infrastructure of the country very badly.



**Figure:** SWOT Analysis of Cement Industry

The demand for the cement in the country had seen a

remarkable increase due to reconstruction activities in the earth quake affected areas. Due to the rehabilitation and reconstruction activities in the country, the estimated increase of the cement in just 3 or 4 years was 4 million tonnes. Cement industry is also benefitted by the construction of large dams in the country. These projects will create the demand of approximately 3.7 million tonnes. Keeping all the facts in the view it can be anticipated that the cement demand will increase more in future.

#### CONTRIBUTION OF CEMENT INDUSTRY IN PAKISTAN

The contribution of cement industry of Pakistan in the economy of Pakistan is as follows.



The total installed capacity of the both zones of cement industry of Pakistan is calculated at approximately 44 million tons but the cement industry has gone underutilized in the past years. The capacity utilization is approximately 75 percent on an average. The local and international demand both are seen dormant. The local dispatches and exports of cement in the last few years are shown below in the given table.

#### DISPATCHES OF CEMENT (MILLION TONS)

Total dispatches of cement including local supply and exports are given as under. Total utilized capacity of cement production is also highlighted.

#### NATIONAL OUTPUT

##### Dispatches of Cement

Year	Local Supply Million Tonnes	Export Million Tonnes	Total Million Tonnes	Capacity Utilization %
2006-2007	21.0	3.2	24.2	75
2007-2008	22.6	7.7	30.3	80
2008-2009	19.4	10.7	30.1	76
2009-2010	20.6	10.6	31.2	71
2010-2011	22.002	8.568	33.43	74
2011-2012	23.947	8.37	34.28	72
2012-2013	25.06	8.14	34.28	74

Source: APCMA Local Cement Dispatches and Export Analysis. Retrieved September25, 2014

[http://www.apcma.com/data\\_export.html](http://www.apcma.com/data_export.html)

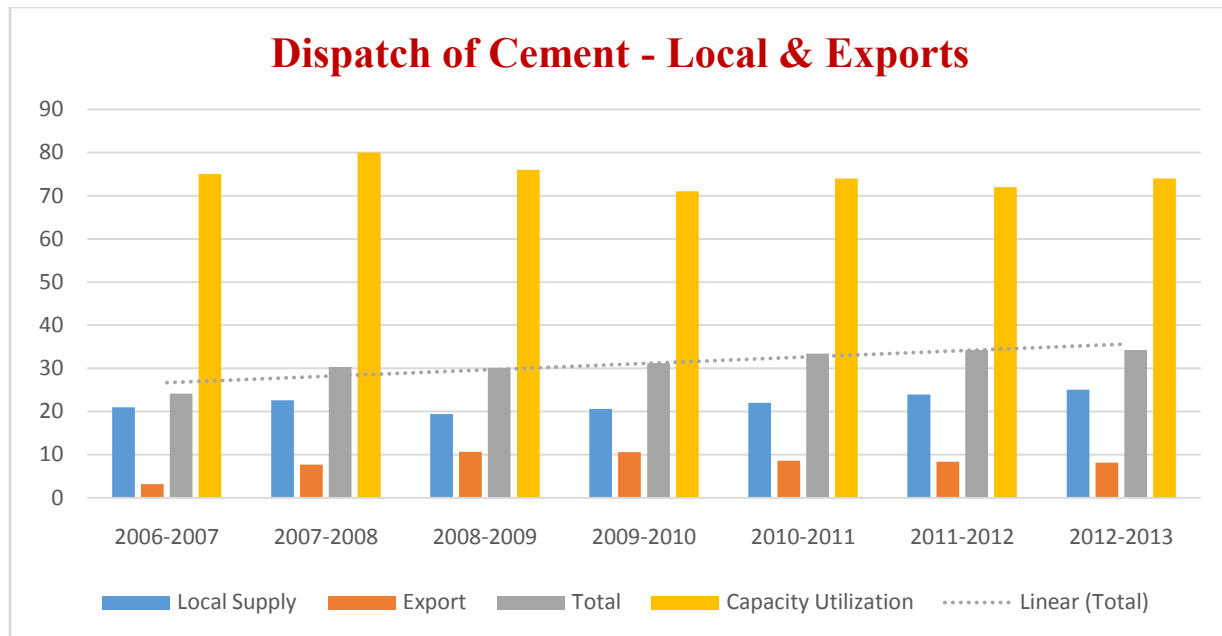


Figure 2

### CREATION OF EMPLOYMENT

Cement industry plays an important role in providing employment in Pakistan. There are skilled and unskilled people who are employed in the cement industry of Pakistan. The labors are performing their duties in the industry. Technicians and engineers are also the part of cement industry of Pakistan. The management and other officials are also employed here. The total people employed in the cement industry are more than 3 percent of the total employed people of Pakistan. The cement industry is quite different from other industries due to that most of the cement mills are located in the areas which are rich with minerals. So these areas are usually very far from city. So the industry provides all the facilities which are



Figure: Cement Plant in Pakistan

required to the employees working in these areas. Residence is the basic requirement in these areas.

Other facilities like health and education and transportation are also provided to the employees (Yildirim & Kardas, 2014). The cement industry not only provides employment directly but it also provides indirect employment opportunities to the people. The connected industries of cement industry like transportation industry is benefitted and a lot of people get employment in this industry. Many retailers are also employed due to the cement industry of Pakistan.



Figure: SWOT Analysis of Cement Industry

### TAX REVENUE

A considerable amount of revenue is generated by the cement industry of Pakistan. More than 30 billion PKR has been paid as a tax to the country by the cement industry of Pakistan. The industry has seen expansion in the last four years because of the injection of approximately 4 billion PKR. This huge amount for invested for the development of the cement industry of Pakistan. Due the expansion of the cement industry, its tax revenue

will be surely increased in the coming years. Another positive aspect of the cement industry of Pakistan is that there are investment opportunities due to the expansion of industry (Pérez-Fortes, Moya, Vatopoulos, & Tzimas, 2014). So due to the

## CONCLUSION

This research study concludes that the cement industry of Pakistan had gone through many experiments and practices (Xu, Fleiter, Fan, & Eichhammer, 2014). Cement industry experienced different phases of nationalization, denationalization and privatization. Cement industry is one of the key industry which plays a very important role in the economic development of Pakistan (Ghulam & Jaffry). The role of cement industry in the economic development had been very reasonable as it contributed in the economy in terms of profit, investment, returns to investors, taxes, assets, equities, sales volumes and number of employees. However, the performance of cement industry couldn't perform as it was expected due to various factors. Cement industry was not able to remain satisfactory on account of optimum utilization of the total capacity of plant and the achievement of desired level of indigenization. The cement industry could not produce satisfactory skilled and trained manpower. Cartelization has a negative impact on the cement

## FUTURE RESEARCH PERSPECTIVES

### Recommendations

This research recommends the following recommendations for the cement industry of Pakistan, like other industries in Pakistan, the cement industry also witnessing problems and it lacks a long-term vision which makes it unable to identify the shortcomings in the way of its sustained growth (Raja & Abro, 1994). Therefore, the cement industry should develop long-term and strategic vision to enhance its production and exports. Subsequently, it is really important for each industry to adopt modern technology for improvement of its production efficiency.

profitable opportunities available here in the cement industry foreign companies are willing to make investments here. Currently four foreign companies are the part of cement industry of Pakistan (Adrian Vaida, 2011).

industry. Cost of Energy is the main issue that affected cement industry of Pakistan significantly. Except a few issues, the hypothesis of the study is supported by the above study and it is concluded that cement industry plays a very positive and significant role in the economic development of Pakistan (Guisinger, 1976).

Pakistan was ranked 5<sup>th</sup> in the world to export cement to the neighboring countries. Rs.30 Billion is added to national income as a tax collection from cement industry (Rashid Amjad, 2012). In addition, Rs.100 Billion was invested in cement industry for expansion purposes during the last few years in Pakistan. The annual demand of cement consumption is calculated by construction industry at 7% in Pakistan due to quick urbanization. The huge backlog of 6.30 million housing units exists in Pakistan as described by this industry. The construction sector in Pakistan is playing vital role in revival of economy and jobs creations to contribute around 8% jobs out of total employed labour force (Memon et al., 2012)



Figure: Clean Air (Pollution control)

Therefore, the cement industry should adapt new and advanced technology in order to produce the best quality cement to meet domestic consumption as well as the export demands to generate revenue and foreign reserves for the country. The cement industry of Pakistan should also adapt the most advanced technology for energy conservation and environmental improvement. The cement industry should not be dependent on cartelization for revenue generation rather it should find other

means for profit maximization. The government of Pakistan should intervene to restrict these cartels. There is no any research & development centre in the cement sector that could work for efficiency in production, quality, marketability and conducting feasibility for the production of new products, optimizing production cost and expansion of cement industry (Gardezi et al., 2014). Government should decrease tax rate imposed on cement industry which is comparatively higher than other cement producing countries. Government should make serious efforts to minimize cost of energy for cement industry as it is higher than half of the total COGS. The government should devise friendly policies in order to promote and encourage the cement industry (Bhutto, Bazmi, & Zahedi, 2012). The government should make railway completely operational because it is the most reliable and cheapest source of transportation for not only cement industry but also for the entire industries in Pakistan.

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