A COMPETITIVE ASSESSMENT OF THE U.S. CEMENT INDUSTRY

U.S. DEPARTMENT OF COMMERCE
International Trade Administration • Washington, D.C.

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Prepared by:
Office of Forest Products and Domestic Construction
Basic Industries Sector

July 1987

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For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

ABSTRACT

This study was undertaken because of the unprecedented rapid changes in the domestic cement situation which have profoundly affected domestic producers over the last several years. One change has been the internationalization of the industry. Foreign ownership of cement facilities in this country has grown substantially in recent years, and multinational companies with widespread production and distribution networks are a growing factor in the U.S. and world cement markets.

Imports are increasing rapidly as a percent of U.S. domestic consumption. Domestic production facilities are being closed, and the growth in import handling facilities is pronounced. In some areas, domestic producers are also importing, in some cases through joint ventures with importers or foreign cement producers.

No single factor can explain these changes. Important contributing factors to the increase in imports are the world over-capacity in cement and low water transportation rates (due to a glut of ocean-going vessels). In recent years, cement capacity in many other nations was increased in expectation of a more rapid economic growth than occurred. The United States has been the most rapidly growing market for cement in recent years, and it is not surprising that there has been increasing competition for this market.

There are also other factors cited by the industry that have placed many U.S. cement producers at a disadvantage in their own market against some foreign producers. Among these are high U.S. pollution control and construction costs, high energy costs compared to producers in some other countries, and, to a lesser extent, the relative strength of the U.S. dollar compared to some other currencies. Beyond this, there are, in the opinion of some U.S. producers, unfair subsidies by the governments of certain foreign producers, as well as "dumping" of cement in U.S. markets (although the U.S. International Trade Commission has denied industry petitions in this matter).

Partly as a result of these conditions, U.S. producers have not only lost market share in some regions, but have also experienced lower prices than might be expected in a period of strong domestic demand. Return on investment--and indeed the level of investment--is relatively low, although improved since the recession in the early 1980s. Several producers are in financial straits.

There is a major division within the industry as to the role of imports in the plight of the U.S. cement industry. Some importers contend that the foreign product is necessary to meet demand in certain regions of the country and that it represents fair and healthy competition. Further, they contend that in some regions, poor management and inefficient facilities are major contributors to the U.S. industry's problems. On the other hand, many domestic producers feel that unfair foreign competition is hurting the industry even in areas where there are efficient plants, and that imports are affecting markets in parts of the country with ample domestic capacity. The detailed and confidential information on prices and costs needed to resolve this dispute was not made available to us for inclusion in this study.

FOREWORD

This competitive assessment has been prepared by the Office of Forest Products and Domestic Construction, located in the Basic Industries Sector of the Trade Development portion of the International Trade Administration, in order to foster a greater awareness of changing conditions in the U.S. cement industry.

The study was prepared under the direction of Chris Kristensen and Charles B. Pitcher. Regional analyses were done by David Cammarota, Franklin E. Williams, and Mary Anne Smith. The report staff is indebted to Roswell Wing and Mary Beth Corbett of the Trade Information and Analysis Sector of Trade Development for their support.

The presentation of the information and analysis generally follows the standard structure used in most of the assessments. As with all of these studies, an abstract and executive summary are provided. Private sector assistance on data collection and draft reviews was particularly important in the preparation of the report. Organizations that have been consulted during the course of the study include the American Cement Trade Alliance, the Cement Free Trade Association and the Portland Cement Association. The study has also been discussed with Lafarge Corporation, Rinker Materials Corporation, and consultant Roy Grancher. Douglas Queen, a cement consultant, supplied some data for the report. We also appreciate the assistance of Rob Roy, a cement consultant previously with the Portland Cement Association.

In addition, other government agencies provided resource data and information. These include the Bureau of Mines, Department of Interior; the Bureau of Census, Department of Commerce; the Bureau of Labor Statistics, Department of Labor; and the U.S. International Trade Commission. Advice and comments on the study were also provided by other agencies within the Department of Commerce.

The assistance and information provided by the above organizations, firms, and individuals are gratefully acknowledged. Responsibility for the analysis and findings in the report remains with us.

EXECUTIVE SUMMARY

Major Findings

Imports as a percent of total domestic cement consumption have risen from a small percentage several years ago to about 18 percent in 1986, and to much higher percentages in some regions. This dramatic shift in the balance of U.S. cement trade is due to: (1) significant additions of highly efficient cement capacity in several foreign countries; (2) a concurrent lack of growth in cement demand in virtually every world market except the United States; and (3) extremely low freight rates brought on by the long-term glut of ocean-going freight vessels. The low freight rates have not aided U.S. exports because of depressed overseas markets.

The reduced exchange value of the dollar has not offset import penetration as might have been expected. The dollar has fallen against only a few major currencies, and its value has actually strengthened against those of some cement exporting nations. These nations have, therefore, been able to compete even more effectively against their third-country rivals in the U.S. market.

All of these factors have combined to stabilize or even reduce cement prices in some regional U.S. markets, even in the face of strong demand. Cement prices are normally very sensitive to supply/demand conditions, but the availability of plentiful, low-priced imports has skewed market dynamics.

U.S. firms have reacted in many cases by importing finished cement and clinker (raw, unground cement which is ground in onshore plants) in order to maintain market share. In many cases clinker cannot be produced domestically at a low enough cost to compete with current low-priced imports. As a result, 70-80 percent of imported cement is currently being brought in by companies which also produce clinker domestically.

Industry Characteristics

The cement industry is both relatively small and essentially regional due to high land transportation costs for this heavy, low-cost product. Concentration ratios are low nationally, but higher regionally and locally. The industry is both capital- and energy-intensive. Supply, demand, costs, and prices vary, sometimes widely, among regions.

The industry is dynamic and rapidly changing: demand reached record-high levels in both 1985 and 1986; imports greatly exceeded previous record levels in both years, and U.S. companies joined foreign firms in importing clinker; substantial U.S. clinker capacity has been closed, some converted to service imports; new import facilities have been opened; and foreign ownership of U.S. cement firms exceeded 50 percent in 1986, up from 30 percent in 1985 and 5 percent in 1978. Change is so rapid, in fact, that any comprehensive report on the industry is somewhat out-of-date by the time it is published.

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Supply

Domestic

Portland cement accounts for over 90 percent of U.S. cement production and is the focus of this study. Portland cement capacity is measured in terms of clinker* and finished cement. Clinker capacity is estimated at about 86 million tons** for 1985 and finished cement capacity, at about 102 million tons. Clinker capacity utilization rose to only 77 percent in 1985 from 76 percent in 1984, despite a surge in demand. Finished cement capacity utilization rose from 72 percent to 73 percent in the same period, although in some regions it approached 100 percent.

Imports

Imports historically have been an important supplemental source of supply in peak demand periods; in a few areas they are an established source of supply. During the economic upturn begun in 1983, import volume has grown to an all-time high of 16 million tons, almost 18 percent of consumption.

Imports have long been needed to avoid shortages in some U.S. regions. In others, however, where imports have not been a factor in the past, foreign suppliers are increasing market share. This trend should continue for some time to come, given the outlook for little change in either overseas markets or ocean freight vessel utilization.

Demand

Portland cement demand depends on construction activity; roughly two-thirds of cement consumption goes to the nonresidential construction sector. Demand trends vary from region to region. For example, demand was strongest in the East during most of the cyclical upswings in 1972-73 and 1983 to the present, but was much stronger in the West in the 1977-79 period.

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* The term "clinker" refers to the cement material as it leaves the kiln. Most value added, energy consumption, and capital equipment is involved in the making of the clinker. "Finished" cement is produced in the final step in the production cycle, whereby clinker is mixed with about 5 percent gypsum and fine ground into Portland cement.

** For the purposes of this study, "tons" refers to "short tons" unless otherwise indicated.

The United States, now in the fifth year of a cyclical recovery, is a large and strong cement market. In contrast, most world markets for cement are still depressed or just starting to emerge from the low demand levels of recent years.

Prices

Cement prices differ geographically, depending on plant efficiency, domestic and foreign competition within each market, energy costs, proximity and cost of materials, and regional demand. Trends in the Producer Price Index for cement indicate that cement prices have historically responded quickly to changes in demand. In 1986, however, with demand reaching all-time peak levels, the national index actually declined 2 percent. While this reflected low inflation in the United States, it also reflected competition from low-priced cement imports.

Since worldwide cement demand remains depressed and the oversupply of ocean-going freight vessels is expected to continue, the flow of low-priced imported cement into the still healthy U.S. market is also expected to continue. There is the prospect of some decline in U.S. demand beginning in 1987.

Industry Financial Performance

The ability to pass on cost increases through higher prices is a significant determinant of financial performance in this industry. Weak demand in the early 1980's through 1982, coupled with import competition have adversely affected performance in much of the industry, although some firms improved performance in 1985 and 1986.

Industry Structure

Due to the overall poor financial performance in this industry and increasing pressure from imports, many companies have left the cement business, including some of the leading producers of the 1970s. There are fewer total companies, one-plant firms, plants, and kilns. The U.S. industry has also become more internationalized. More firms have become importers as well as producers, and foreign investment has risen sharply. At year-end 1986, foreign investors controlled over 50 percent of U.S. clinker capacity and 60 percent of finished cement capacity. Some domestic manufacturers have formed joint ventures with foreign producers for importing or domestic manufacturing of cement.

Competition and Costs

Price is the key competitive factor in cement competition, and costs, particularly energy and transportation costs, are the primary price determinants. Despite the stabilization of these costs, the pressure for companies to increase productivity remains strong, primarily because of import competition and competition from modernized domestic plants.

Trade

The extent to which dramatic increases in cement imports are the cause of the U.S. industry's problems is a key issue. In some instances, imports appear to be taking market share from efficient U.S. producers, while in others they may simply be taking advantage of the inefficiencies of U.S. producers. Regional analyses show varying trends and circumstances. More fundamentally, significant data problems exist with respect to the lack of detailed cost/price data, the common deviation between list price and actual transaction price, and the misleading nature of import valuations, which cannot be adjusted to reflect changes in product mix. For these reasons this study cannot provide a definitive answer to this issue.

Several dumping actions were initiated in 1986 by U.S. industry against eight exporting nations. The ITC, however, ruled against the petitioners, determining no material injury. Significant factors in future cement trade are the strength of world cement demand, water transport costs, foreign capacity additions, and the increase or decrease in trade barriers.

Regional Differences

Because of the regional nature of cement markets, five geographic areas--New England/New York, Florida, the Gulf Coast, southern California, and inland Texas--were selected for in-depth coverage because they are experiencing or may experience major import penetration. New England/New York and Florida have depended on imports for some supply for several years, but their levels of imports have grown substantially since about 1983. In the Gulf Coast and southern California, imports are a relatively new development. Inland Texas is included, even though imports have not increased as a percent of consumption, because imports are affecting neighboring markets and there is potential for large import volumes from Mexico.

Major Competitive Factors

Production efficiency, which is a very important factor in this industry, varies widely among U.S. plants. The U.S. industry generally uses state-of-the-art technology, yet some domestic capacity is not considered modern, and probably is not competitive with that of many foreign suppliers. Expansion of modern foreign cement capacity, combined with low world demand, has created oversupply worldwide. The U.S. industry, with its relatively poor financial performance since 1979, is unlikely to add much capacity. Even two recent plant openings will not offset the overall decline in U.S. cement capacity.

Environmental and other government regulations have accounted for a large portion of U.S. cement industry capital expenditures since the early 1970s. Such equipment expenditures are frequently not required of producers in foreign countries, although environmental rules are in effect in Canada, much

of Europe, and Japan. U.S. regulations also have mandated major capital expenditures for energy conversion and conservation. Other government policies affecting the cement industry cited by industry sources involve transportation, taxes, labor, and public works expenditures.

As mentioned earlier, U.S. producers perceive unfair trade practices by foreign countries and a lack of U.S. counter-measures to be a major competitive disadvantage, despite the ITC ruling to the contrary. Additional factors are the aforementioned worldwide cement glut, cheap water transportation, and the growing internationalization of the cement industry.

The Future

If current trends in the U.S. cement industry continue, dependency on foreign-sourced cement can be expected to grow. Additional internationalization of the U.S. cement industry is expected, with further foreign investment. U.S. clinker producers will have to consider whether to produce and/or import as long as the current world supply glut and low prices continue.

U.S. cement demand is forecast to rise modestly over the long run. Based on the present financial condition of much of the industry and import competition, sufficient investment to meet these greater needs is unlikely. Cement shortages thus far in this cyclical upturn have not been serious or widespread, and prices have not risen significantly, partly because of the pressure from low-priced imports. Starting this year, cement demand is expected to cyclically decline. As U.S. clinker producers themselves account for about three-fourths of U.S. cement imports, imports would normally be expected to drop as demand declines. Still, the continuing worldwide supply glut could depress prices even further, and imports could remain at high levels relative to total U.S. demand. Whatever the demand level regional patterns will vary significantly.

The recent cement situation has favored the U.S. construction sector. Supply has been generally adequate, and prices relatively low in spite of strong demand. The long-term effects on that sector are unclear, however, as the dynamics of markets controlled by foreign products cannot be predicted.

The supply situation in the next cyclical upturn--perhaps in 1989--will reflect domestic and international cement market conditions. If foreign cement does not remain a dependable and reasonably priced supply the U.S. construction sector could face shortages and/or substantial price escalation.

With the structure of the U.S. cement industry changing so rapidly, it is difficult to anticipate how the U.S. and world industries will react to the changing supply and demand situations. New investors, domestic or foreign, could enter the market and effect modernization or expansion of capacity, or economics could continue to favor imports, with the likely result of further reductions in domestic clinker capacity.

Industry Issues

Aside from the controversy surrounding trade issues, the domestic industry generally favors actions to facilitate nonmonopolistic acquisitions and mergers, especially those that would aid U.S. industry competitiveness. It also favors legislation calling for accelerated depreciation and other tax investment incentives. Finally, the industry seeks reduction of delays in Congressional approval of the annual Interstate Cost Estimate, by which funds for transportation are released to the states, and the reauthorization of funding for new Federal highway programs. The industry also states that removal of the Jones Act requiring shipment on U.S.-flag vessels between U.S. locations would help to make U.S. cement more competitive domestically.

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Chapter I

INDUSTRY OVERVIEW--DEFINITIONS AND TRENDS

This chapter provides a description of the hydraulic cement industry and definitions of its products. It also provides an overview of demand and supply trends and their causal factors. Finally, there is a brief statement on the industry's structure and its recent trends.

Industry Description

Portland cement comprises the largest segment of the hydraulic cement industry (SIC 3241). In 1982, Portland cement shipments accounted for about 91 percent of total U.S. shipments of all hydraulic cement. This share varies little from year to year. Other hydraulic cements are masonry, prepared hydraulic, natural, and lime.

Summary information on the hydraulic cement industry, based on the 1982 Census of Manufactures, appears in Appendix B, Table 1. Data on the Portland cement segment, based on Bureau of Mines data for 1982 and 1985, appear in Table 1. Throughout this study, the tables are of necessity not uniform in their coverage. Some cover the entire hydraulic cement industry, while others focus on the Portland cement component. In this competitive assessment study, data and information referring specifically to hydraulic or Portland cement will be so specified; otherwise, the term "cement" will be used.

Product Definitions

Portland cements used in the United States are produced and sold under the American Society of Testing Materials (ASTM) Standard C150. This standard establishes five types of Portland cement:

Type I	For general use when Types II, III, IV, and V are not specified.
Type II	For general use when exposed to moderate sulfate action or when moderate heat of hydration is required.
Type III	For use when high early strength is required.
Type IV	For use when low heat of hydration is required.
Type V	For use when high sulfate resistance is required.

Other types of Portland cement include white, oil well, and Portland slag and pozzolan (often called blended cements). Table 2 gives Bureau of the Census value of shipments data for each type of hydraulic cement and Bureau of Mines data on volume of Portland cement shipped by type. This data shows the importance of Types I and II in total Portland and hydraulic cement use. The focus of this study is therefore, on Types I and II Portland cement.

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