

GlobalData Industry Profile

Global Construction Materials July 2022

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1. Executive Summary

1.1. Market value

The global construction materials market grew by 13.1% in 2021 to reach a value of \$1,052,747.1 million.

1.2. Market value forecast

In 2026, the global construction materials market is forecast to have a value of \$1,497,845 million, an increase of 42.3% since 2021.

1.3. Category segmentation

Cement is the largest segment of the global construction materials market, accounting for 35.4% of the market's total value.

1.4. Geography segmentation

Asia-Pacific accounts for 82% of the global construction materials market value.

1.5. Market rivalry

Material manufacturers tend to be large companies who benefit from economies of scale, thus the construction material market tends to be highly concentrated.

1.6. Competitive Landscape

The Global construction materials market is highly fragmented with many independent local producers in several markets. Additionally, in most markets, large private and public companies compete against each other, some of which are significantly vertically integrated. Therefore, there is intense competition throughout this market which can lead to lower prices and lower sales volumes in some markets, negatively affecting earnings and cash flows. The largest players in the global market originate from China and Europe. China's Anhui Conch and China National Building Material Group Corporation lead the market in terms of global production capacity while European corporations including CRH and Holcim group dominate sales in Europe and the Americas.

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2. Market Overview

2.1. Market definition

Industry profiles are updated once per year and the reports provide a snapshot of GlobalData's view of the industry at the time of publication. For the most up-to-date data and forecasts please see the Market Analyzer which can be found under Databases > Sector Databases > Market Analyzer. The GD Explorer Market Analyzer is a single platform that allows users to explore, analyze and visualize data across multiple dimensions such as sector, category and geography.

The construction materials market consists of cement, aggregates, and bricks.

The cement segment includes hydraulic cement (e.g. Portland cement), but excludes solid concrete.

The aggregates segment includes sand, gravel and crushed rocks and stones used in construction, but excludes industrial sand (used in glass making etc) and similar materials.

The bricks segment includes building blocks and pipes made from fired clay or concrete.

Other finished or semi-finished building materials and components are excluded.

Values refer to consumption of construction materials within the specified geography, whether produced domestically or imported. The market has been valued at manufacturers selling price (MSP).

All market data and forecasts are represented in nominal terms (i.e., without adjustment for inflation) and all currency conversions used in the creation of this report have been calculated using constant 2021 annual average exchange rates.

For the purposes of this report, the global market consists of North America, South America, Europe, Asia-Pacific, Middle East, South Africa and Nigeria.

North America consists of Canada, Mexico, and the United States.

South America comprises Argentina, Brazil, Chile, Colombia, and Peru.

Europe comprises Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

Scandinavia comprises Denmark, Finland, Norway, and Sweden.

Asia-Pacific comprises Australia, China, Hong Kong, India, Indonesia, Kazakhstan, Japan, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam.

Middle East comprises Egypt, Israel, Saudi Arabia, and United Arab Emirates.

2.2. Market analysis

The global construction materials market experienced strong growth during the historic period. Growth was offset by declining market values experienced in 2020 as a consequence of the pandemic but has since rebounded, with strong growth anticipated over the forecast period.

Demand for construction materials is dependent on construction activity and correlates positively with changes in population growth, household formation, and employment. The global construction industry has been recovering from the severe disruption caused by the COVID-19 pandemic. Excluding China, the global construction industry posted growth of 4.5% in 2021. Investment in the residential sector has recovered quickly, and the sector continues to be buoyed by government support measures and housebuilding programs aimed at

narrowing housing supply deficits in many markets. In 2021, residential construction output jumped by 5.3%, bouncing back from the 2.6% contraction in 2020. Residential construction in the US, in particular, has been booming, and has been a major contributor to overall global residential building work. In 2021, the construction of 1.6 million homes was started in the US, a 15.6% surge from the prior year and the most since 2006. In addition, housing applications also grew 9.1%.

The global construction materials market had total revenues of \$1,052.7 billion in 2021, representing a compound annual growth rate (CAGR) of 5.7% between 2016 and 2021. In comparison, the Asia-Pacific and US markets grew with CAGRs of 6.4% and 4.2% respectively, over the same period, to reach respective values of \$862.8 billion and \$55.5 billion in 2021.

Shortages of key materials and associated rising prices for such materials have impacted the progress of construction projects. Contractors have raised concerns over limited availability of materials and equipment, which has caused the inflation of building material prices.

The cement segment was the market's most lucrative in 2021, with total revenues of \$372.3 billion, equivalent to 35.4% of the market's overall value. The aggregates segment contributed revenues of \$343.8 billion in 2021, equating to 32.7% of the market's aggregate value.

Cement and aggregates are the most valuable segments for the construction materials market as they are key basic materials for many kinds of construction. Aggregates in particular are used in virtually all types of public and private construction, practically no substitutes for quality aggregates exist, which makes them the most widely used and valued construction material.

The performance of the market is forecast to accelerate, with an anticipated CAGR of 7.3% over 2021–26, which is expected to drive the market to a value of \$1,497.8 billion by the end of 2026. Comparatively, the Asia-Pacific and US markets will grow with CAGRs of 7.5% and 5.8% respectively, over the same period, to reach respective values of \$1,240.7 billion and \$73.4 billion in 2026.

Continued supply constraints will exert inflation on building materials over the forecast period, which will increase the value of the market, offset somewhat by the postponement of construction projects as a result of constraints. Disruption caused by material shortages has been exacerbated by the imposition of Western sanctions restricting trade flows between the rest of the world and Russia, which is a major exporter of energy and raw materials used in production. Europe is facing shortages of building materials as companies have stopped production because of surging energy costs.

Global investment in infrastructure and residential housing has accelerated as economies stimulate investment to help recover from the deficit left by the global COVID-19 pandemic.

3. Market Data

3.1. Market value

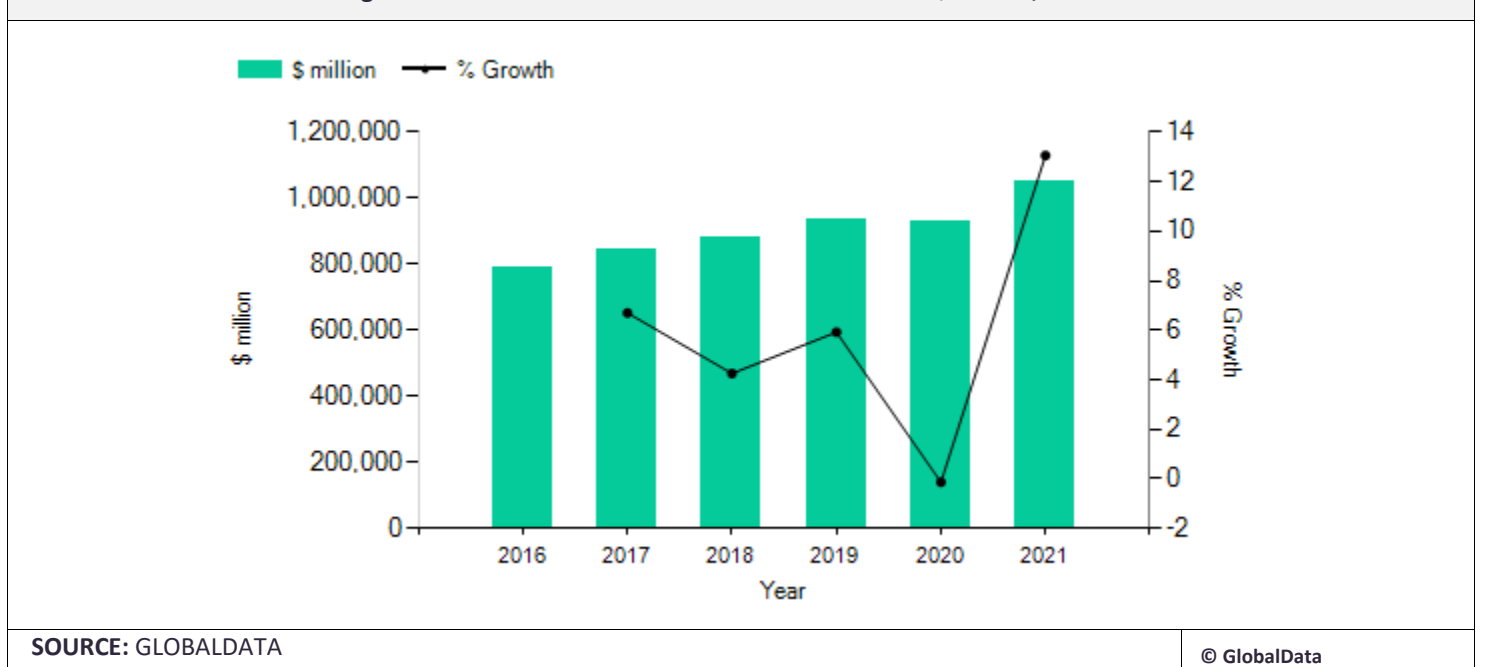
The global construction materials market grew by 13.1% in 2021 to reach a value of \$1,052,747.1 million.

The compound annual growth rate of the market in the period 2016–21 was 5.9%.

Table 1: Global construction materials market value: \$ million, 2016–21

Year	\$ million	€ million	% Growth
2016	791,205.1	668,710.6	
2017	844,235.4	713,530.8	6.7%
2018	880,184.3	743,914.1	4.3%
2019	932,351.6	788,004.8	5.9%
2020	931,156.8	786,995.1	(0.1%)
2021	1,052,747.1	889,760.7	13.1%
CAGR: 2016–21			5.9%
SOURCE: GLOBALDATA			© GlobalData

Figure 1: Global construction materials market value: \$ million, 2016–21



4. Market Segmentation

4.1. Category segmentation

Cement is the largest segment of the global construction materials market, accounting for 35.4% of the market's total value.

The Aggregates segment accounts for a further 32.7% of the market.

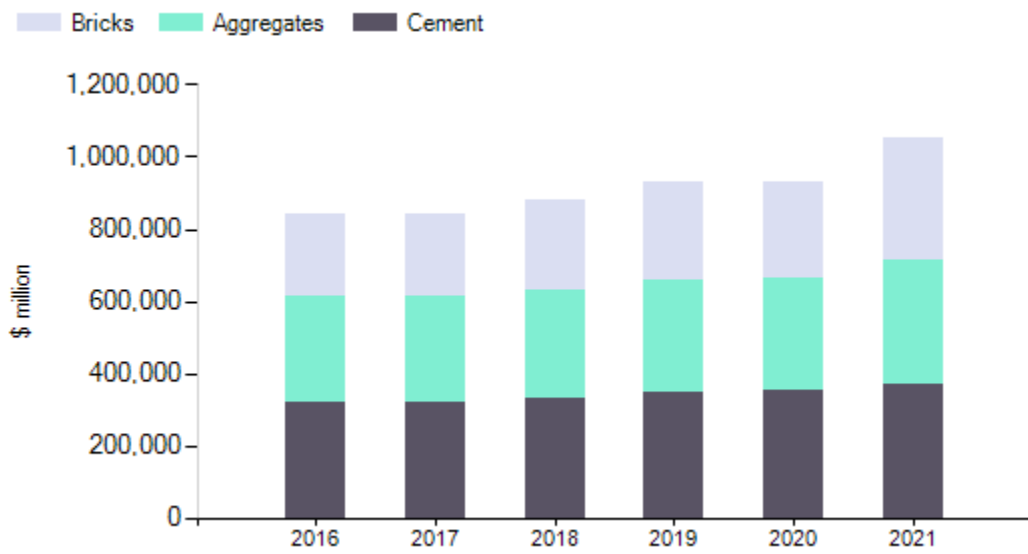
Table 2: Global construction materials market category segmentation: % share, by value, 2016–2021

Category	2016	2017	2018	2019	2020	2021
Cement	39.1%	38.1%	37.6%	37.3%	38.0%	35.4%
Aggregates	35.4%	34.4%	34.1%	33.6%	33.4%	32.7%
Bricks	25.4%	27.5%	28.3%	29.2%	28.6%	32.0%
Total	99.9%	100%	100%	100.1%	100%	100.1%
SOURCE: GLOBALDATA					© GlobalData	

Table 3: Global construction materials market category segmentation: \$ million, 2016-2021

Category	2016	2017	2018	2019	2020	2021	2016-21 CAGR(%)
Cement	309,512.3	321,563.9	330,878.2	347,473.7	354,112.9	372,310.5	3.8%
Aggregates	280,353.1	290,188.9	300,289.8	312,825.4	310,583.0	343,827.1	4.2%
Bricks	201,339.7	232,482.5	249,016.3	272,052.5	266,460.9	336,609.6	10.8%
Total	791,205.1	844,235.3	880,184.3	932,351.6	931,156.8	1,052,747.2	5.9%
SOURCE: GLOBALDATA					© GlobalData		

Figure 2: Global construction materials market category segmentation: \$ million, 2016-2021



SOURCE: GLOBALDATA

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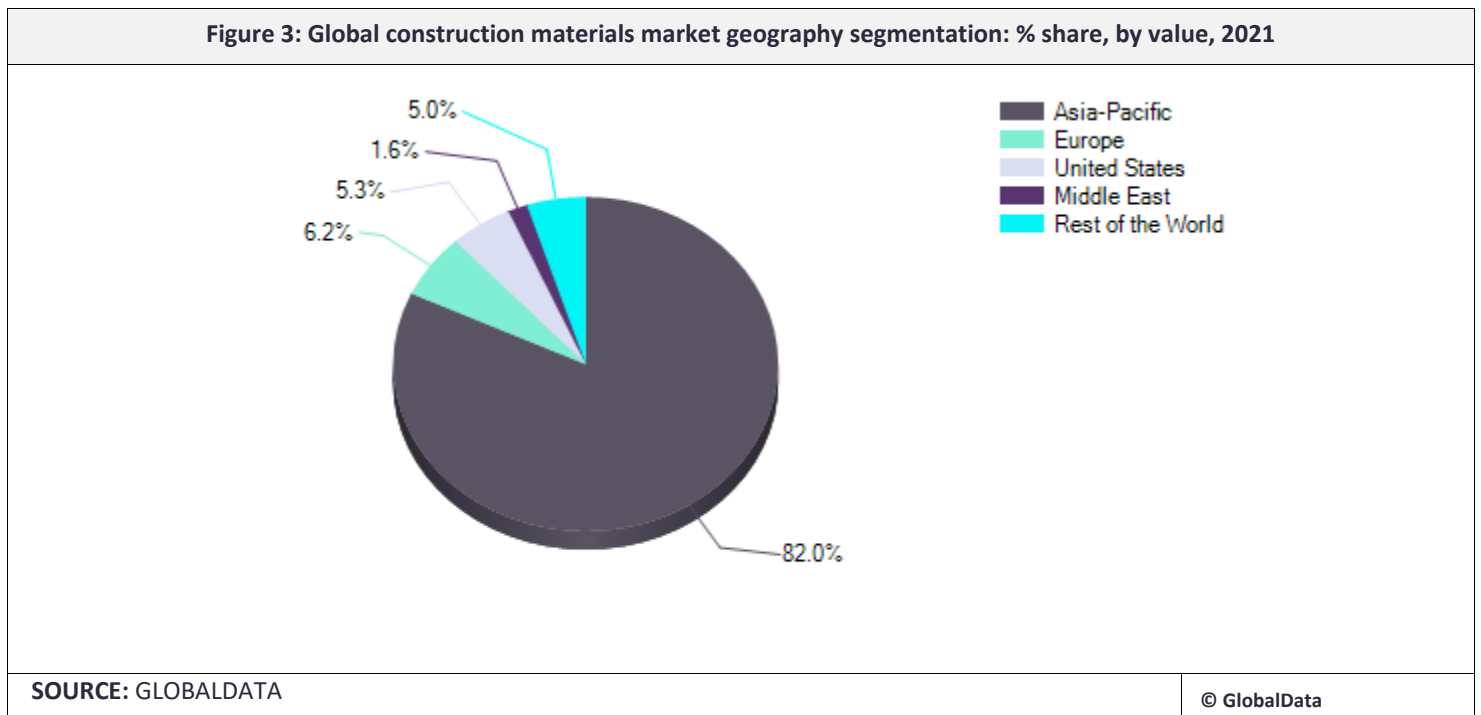
4.2. Geography segmentation

Asia-Pacific accounts for 82% of the global construction materials market value.

Europe accounts for a further 6.2% of the global market.

Table 4: Global construction materials market geography segmentation: \$ million, 2021		
Geography	2021	%
Asia-Pacific	862,793.5	82.0
Europe	65,168.0	6.2
United States	55,458.5	5.3
Middle East	17,187.3	1.6
Rest of the World	52,139.9	5.0
Total	1,052,747.2	100.1%

SOURCE: GLOBALDATA © GlobalData



5. Market Outlook

5.1. Market value forecast

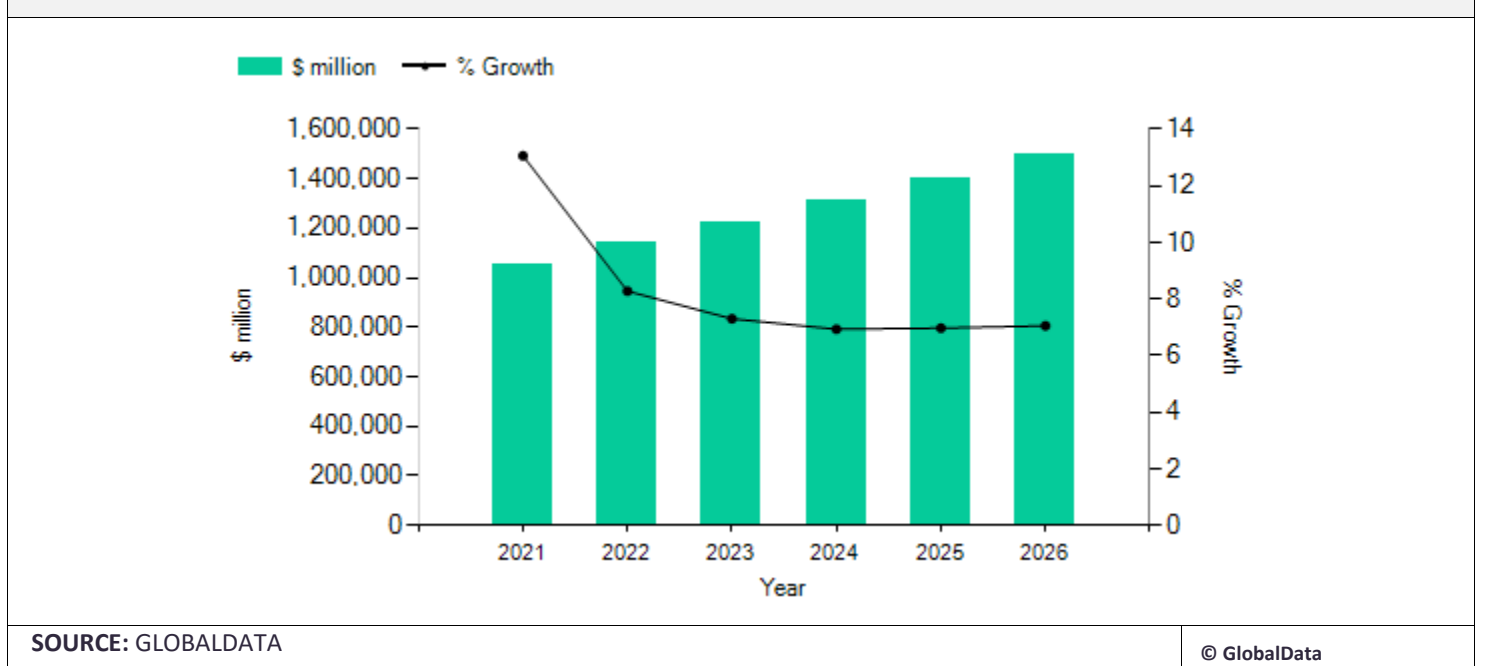
In 2026, the global construction materials market is forecast to have a value of \$1,497,845 million, an increase of 42.3% since 2021.

The compound annual growth rate of the market in the period 2021–26 is predicted to be 7.3%.

Table 5: Global construction materials market value forecast: \$ million, 2021–26

Year	\$ million	€ million	% Growth
2021	1,052,747.1	889,760.7	13.1%
2022	1,139,900.8	963,421.3	8.3%
2023	1,223,122.9	1,033,758.9	7.3%
2024	1,307,925.6	1,105,432.5	6.9%
2025	1,399,149.4	1,182,533.0	7.0%
2026	1,497,845.0	1,265,948.5	7.1%
CAGR: 2021–26			7.3%
SOURCE: GLOBALDATA			© GlobalData

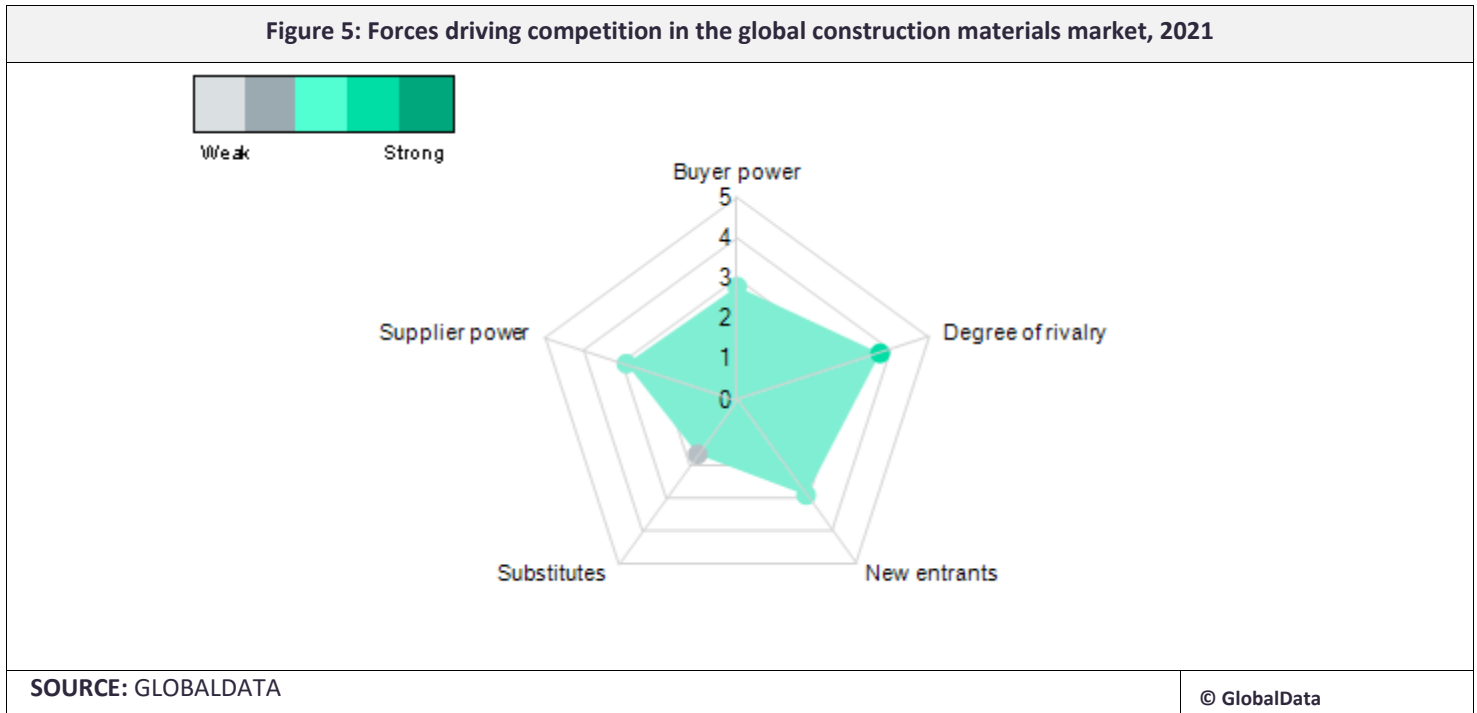
Figure 4: Global construction materials market value forecast: \$ million, 2021–26



6. Five Forces Analysis

The construction materials market will be analyzed taking manufacturers of construction materials as players. The key buyers will be taken as construction companies, retailers of building materials, individuals, and providers of raw materials (such as ores and other commodities) and mechanical equipment as the key suppliers.

6.1. Summary



Material manufacturers tend to be large companies who benefit from economies of scale, thus the construction material market tends to be highly concentrated.

There are a multitude of buyers, but with undifferentiated products, each can easily switch to a competitor. The large number of buyers compared to the few construction material producers means that buyers can exercise little financial muscle.

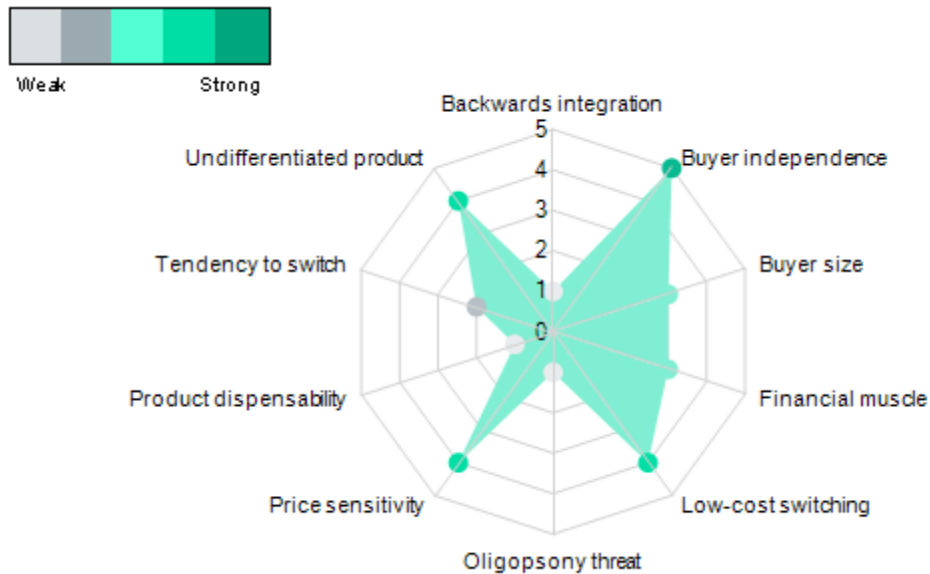
Raw materials are essential to the products produced and require expensive energy and equipment, but with many companies adopting backwards integration, costs can be lowered. This backwards integration weakens supplier power by allowing building material companies to be less dependent on raw materials providers.

Economies of scale are essential to the success of a construction material business; start-up costs are high and the fixed plant costs are a significant portion of most companies' spending, hence it is difficult for new players to enter considering the amount of capital required.

There are no serious substitutes on offer to threaten the building material market. Concrete bricks and aggregates are likely to be long-term essentials.

6.2. Buyer power

Figure 6: Drivers of buyer power in the global construction materials market, 2021



SOURCE: GLOBALDATA

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The buyers in this market are numerous and range from small building businesses to large wholesalers. Large wholesalers are the main gateway for construction companies when making large orders. However, large construction companies in the global market, such as China State Construction Engineering Corporation, Vinci, ACS, and Bechtel, may also deal directly with construction material manufacturers. Retail chains fulfill the needs of small contractors and individuals. The largest retail groups of DIY products worldwide include Lowe's Companies, The Home Depot, Groupe Adeo, Kingfisher, and Steinhoff International Holdings. There are also independent stores which may specialize in the sale of certain construction materials. Overall, the large number of buyers, which are fragmented across sales channels depending on the end-user, reduces buyer power as construction material producers are few and of massive scale, thus, even large buyers can exercise little financial muscle.

Construction materials are largely commoditized and undifferentiated, so buyers are able to easily switch to a cheaper product. For example, cement will usually contribute to a large percentage of the cost of a project, so securing the best deal on this input material can greatly affect the final price. However, that does not mean that buyers would be able to change a market player when a contract has been established. Differentiation in terms of quality of construction materials, however, can mitigate the price-sensitivity of end-users. Moreover, geographical location is extremely important as buyers tend to prefer local suppliers. The cost of transporting the materials an additional distance may negate the money saved by using a cheaper producer. This tendency for the buyer to stick with the most convenient player to them, as well as the fact that building materials are not a substitutable input, decreases buying power.

Building companies are unlikely to backwards integrate into manufacturing as that requires significant capital outlay and specialization, while the business models of these companies are completely different.

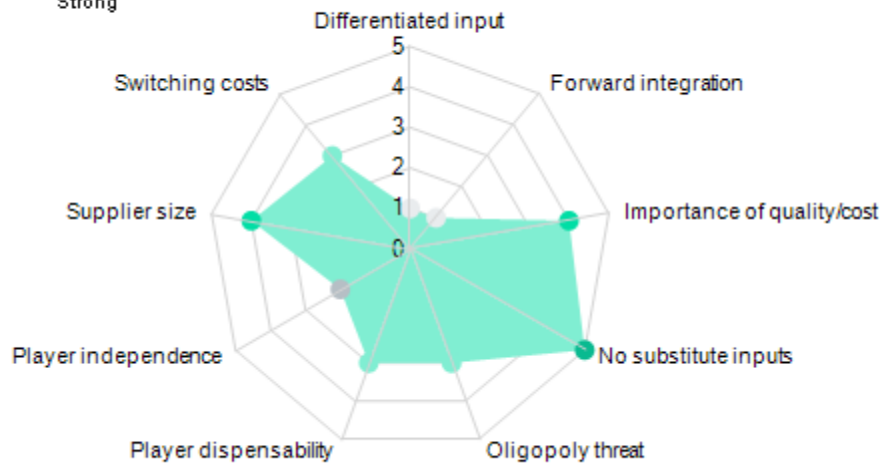
The construction materials market is characterized by the large scale of leading end-users. Large organizations—be they private companies or public sector institutions—will be almost entirely responsible for big budget construction projects such as large office buildings and extensive house building efforts. These end users are extremely valuable to construction materials manufacturers due to the scale of operations and small number of large companies. Meanwhile, small standalone housing and other comparable construction projects are typically performed by smaller players, often acting as subcontractors. For these contracts, there will only ever be a very small number of potential

clients and construction contracts will take the form of one-off undertakings, a bespoke house, or office building. The often specialized nature of this work provides important consumers to niche suppliers.

When these factors are considered, buyer power in the global construction materials market can be seen as moderate.

6.3. Supplier power

Figure 7: Drivers of supplier power in the global construction materials market, 2021



SOURCE: GLOBALDATA

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Raw material inputs are the main cost for the production of construction materials. The inputs for cement manufacturing are mainly limestone, clay, and commoditized ores. The other main cost for a cement producer is the energy required to fire these raw materials. Bricks are produced mainly from clay minerals and also require a large amount of power. Aggregates, such as crushed stone, gravel, slag, or sand, are dredged or quarried and the main supplier input here is the mechanical equipment for this process. These aggregates are essential inputs for the production of concrete—a composite material that consists of cement and aggregates—which is the main construction material used in the structure of buildings and dwellings. All these raw material inputs cannot realistically be substituted in the production of construction materials, as they have distinct physical and chemical properties.

Suppliers can adopt a variety of measures in order to secure themselves against potential price fluctuations. The most common countermeasure for commodities prices are the option or future contracts. By using option or future contracts, suppliers can secure the amount of commodities they want to buy in the future by securing in the process their price as well. The options or futures prices are not affected by commodities price fluctuations, meaning that suppliers will be able to avoid any potential losses. They will have to only buy the option or future contract which can be provided by an investment bank and then wait until the end of the contract. If suppliers feel in the future that the contract they have bought does not express them, or for any other reason, they could always sell that option or future contract back to the investment bank or to other companies or investors who are willing to buy, making suppliers able to make some profit by their loss.

The vast amount of energy and high cost technologies required for the manufacturing process mean that suppliers, which are usually large mining companies, are relatively few to choose from, while state mandated monopolies might also exist. This increases the bargaining power of suppliers. However, if switching is possible, the costs of changing supplier are negligible since these products are largely undifferentiated (commoditized).

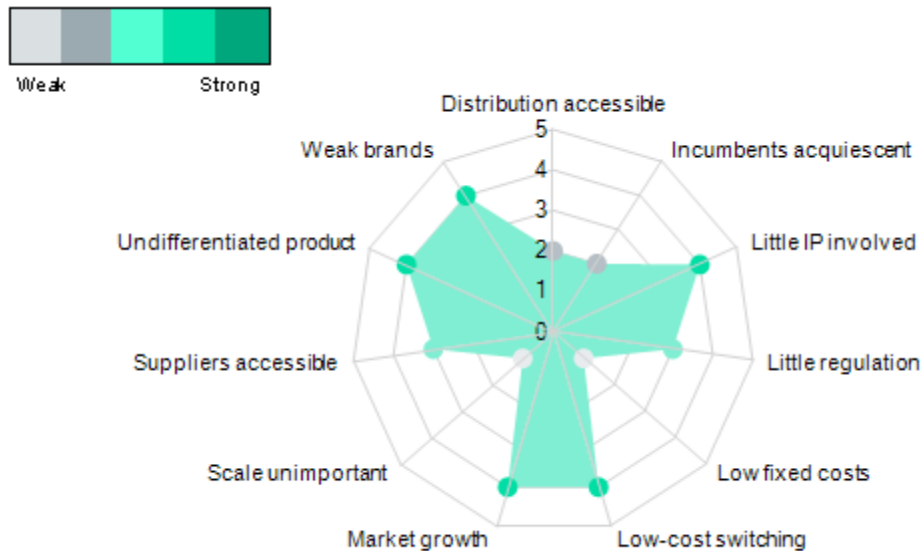
It is beneficial for a manufacturing company to backward integrate if they do have the capital. LafargeHolcim, Heidelberg, and Cemex, for example, operate their own quarries to collect their aggregates and Japanese company Okutama Kogyo mines its own limestone for cement, resulting in lower costs compared to buying from a supplier. Overall, the backwards integration of construction material producers to the production of raw material inputs is common. This weakens supplier power by allowing building material companies to be less dependent on raw materials providers.

Standards of manufacture must be high as low quality building materials can result in construction failures; a single incident can ruin the reputation of a building firm and result in serious issues for the manufacturer of these materials and, extensively, the supplier of raw inputs.

When these factors are considered, supplier power in this market can be seen as moderate.

6.4. New entrants

Figure 8: Factors influencing the likelihood of new entrants in the global construction materials market, 2021



SOURCE: GLOBALDATA

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Economies of scale are essential to the success of a construction material business; start-up costs are high and the fixed plant costs are a significant portion of most companies' spending, hence it is difficult for new players to enter considering the amount of capital required. Moreover, the fact that construction materials are largely undifferentiated as products, which entails low switching costs for buyers, is another deterrent for prospective entrants.

Leading companies involved in the production of construction materials have experienced extensive consolidation to keep costs down through economies of scale. The diverse nature of these parts means that many different types of companies are involved at this stage. Leading companies tend to specialize in a particular segment but will often cover most or all of the products in that segment. For instance, French giant Lafarge is engaged in the production of cement, construction aggregates, and concrete. The ability to produce such a range of materials on a mass scale has enabled the company to grow to become a world-leading brand in construction.

The accessibility of suppliers is highly important in this market regarding production costs, and that factor is decisive for a prospective new entrant. If the raw materials are available in the country where the construction material manufacturer makes their product, this reduces transportation costs. The import of these materials may entail additional costs due to tariffs and weak exchange rates. Likewise, the domestic production of construction material manufacturers within a country-market enhances access to distribution channels, reducing costs from transportation and trade barriers.

Materials must meet regulations standards, with quality being particularly important for the company's reputation. Higher levels of regulation result in higher fixed costs for market players; this reduces the threat of new entrants.

There are only a few strong brands in this market, and that allows smaller domestic players to enter. However, because of the commoditized nature of the product, there have been accusations of price fixing and collusion amongst large players in the market. This decreases the threat of new entrants as they would have to engage in this price competition or collusion to become established in a given market.

Although leading players are all primarily involved with construction materials, they rarely, if ever, cross-over into other forms of construction, such as civil engineering. The economies of scale enjoyed by leading players are

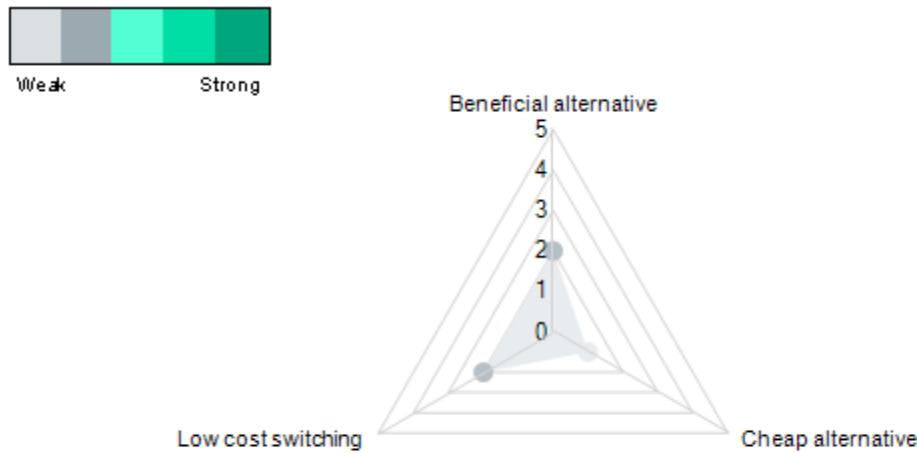
sufficiently substantial that the costs of a leading manufacturer of cement, for example, moving into timber production make the move prohibitively expensive. Consequently, companies stay within a broad segment.

The mining industry was severely hit by the global outbreak of COVID-19 in late 2019 and early 2020. The widespread outbreak of coronavirus had an impact on markets and industries across the globe. The mining industry was no exception. With advice ranging from country to country but generally recommending isolation and social distancing, mining operations globally ground to a halt. Mining giants that operate on a global scale, including Rio Tinto and Anglo American, reported that production significantly slowed due to restrictions relating to coronavirus. Rio Tinto's Oyu Olgoi project in Mongolia put a stop to non-essential operations following the restrictions imposed by the country's government. Meanwhile, Anglo American suspended operations at its Qullaveco mine in Peru. Employees of various mining companies contracted the virus, leading to further quarantine and isolation measures.

When these factors are considered, the threat of new entrants in the global construction materials market can be seen as moderate.

6.5. Threat of substitutes

Figure 9: Factors influencing the threat of substitutes in the global construction materials market, 2021



SOURCE: GLOBALDATA

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Alternatives to conventional building materials could be timber or pre-fab materials such as metal sheets, but often the use of cement and bricks is still essential. Without the conventional materials, building a large scale project would be almost impossible and likely much more expensive to achieve. Less durable materials may be cheap to buy, but maintenance, repair, or replacement costs are usually high.

The specialist equipment required by brick manufacturers means leading companies in this area of the market are largely separate from the remainder. Due to the quantity and reliability demanded by leading construction companies regarding bricks, brand reputation is valued very highly. Due to an almost entirely automated manufacturing process and mass production, bricks are produced at very low margins, making it harder for companies engaged elsewhere in construction materials to move into this segment.

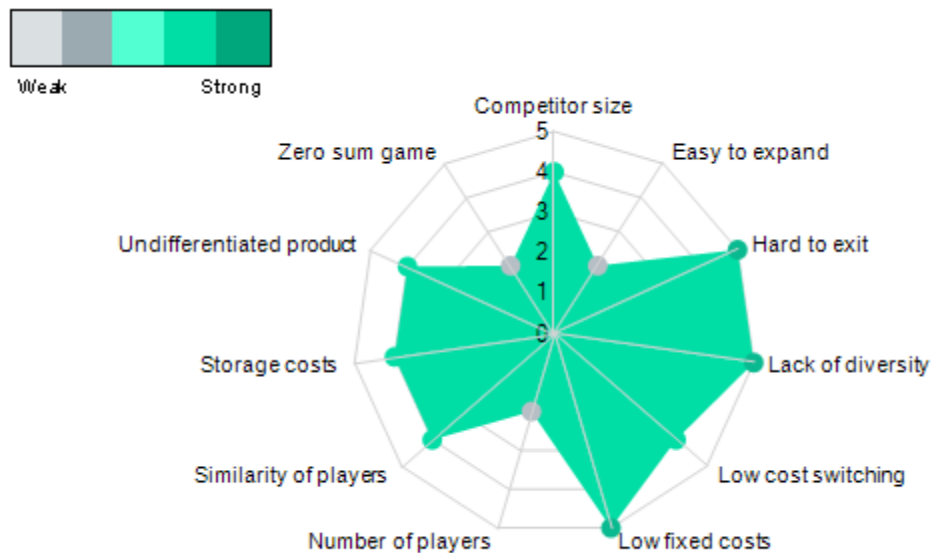
Alternatives to traditional concrete can be marketed as more environmentally friendly, but scope for the use of these materials is limited. If large-scale infrastructure projects such as roads, railways, or airport runways are required, there are no practical alternatives to the use of mainstream construction materials.

Research into new alternative building materials is growing. Sustainable building is increasingly popular in the US, Canada, Japan, and Europe. The use of timber in these countries seems promising. Scandinavia, Germany, and the Netherlands lead the way in green building in Europe and there are many organizations throughout the continent promoting materials other than the traditional concrete and bricks. The developing countries in the Asia-Pacific region are less likely to have the funding to prioritize green building as it can be more time consuming and expensive than building with simple concrete. Many earthquake prone areas utilize bamboo in construction because of its durable properties. In China, though, new green types of construction materials are promoted through tax incentives, with the Chinese government mandating urbanization plans based on greener buildings. However, while these new alternatives may grow in popularity, it is highly unlikely that they will completely eradicate the need for traditional construction materials.

When these factors are considered, the threat of substitutes in the global construction materials market can be seen as very weak.

6.6. Degree of rivalry

Figure 10: Drivers of degree of rivalry in the global construction materials market, 2021



SOURCE: GLOBALDATA

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Material manufacturers tend to be large companies who benefit from economies of scale, thus the construction material market tends to be highly concentrated. Competition is expected to be fierce among these big players, which is why they are expected to take advantage by forming cartels and fixing prices.

Due to the capital required to establish new plants, many players in the market have excess manufacturing capacity designed into their business model to cope with spikes in demand. Construction materials also have a low value to weight ratio, therefore it is uneconomical to transport them over long distances; most cement producers operate to service local demand. Because of these factors, the market is hard to exit, increasing competition amongst market players.

With a lack of diversity between players who each offer similar products, buyers can easily switch at very little cost. This increases the rivalry between players. However, some companies do provide pre-prepared or ready-mixed products directly to builders. Such products may help differentiate a player in this competitive market. The diversification of players across segments, or specialization to some of them, may also alleviate rivalry. For instance, Wienerberger specializes in the production of building bricks, being the largest brick manufacturer worldwide, while Heidelberg, Lafarge Holcim, and CEMEX focus on the lucrative segments of cement and aggregates. The geographical diversification of large international players such as Lafarge and Heidelberg may also serve as a competitive advantage, as these players are less vulnerable to domestic market downturns. Notably, domestic players tend to lead markets in the Asia-Pacific region as trade barriers serve as a deterrent for foreign players. Subsequently, this reduces competition. By contrast, large international players tend to compete across the developed markets of Europe and the US, inducing competition.

Products are bulky but are slow to degrade if stored correctly. Premixed products degrade faster. Business models are not really structured with the long-term storage of products in mind, as construction materials are heavy and would require large scale facilities to be stored in significant volumes. High storage costs from a relatively low weight to value ratio also add to the rivalry as manufacturers cannot withhold quantity to affect prices.

High fixed costs make it even harder for players looking to exit the market, meaning they would have to sell manufacturing materials, storage space, and highly trained personnel, which could take years. There are not many

players in the market that could absorb this hit, increasing rivalry in the market as players have to make sure to avoid this kind of situation at any cost.

Overall, rivalry in this market is purely based on the level of demand, which is sourced from the construction industry. As the construction industry is particularly vulnerable to the macroeconomic environment, in times of economic expansion, when demand grows, rivalry in the construction materials market tends to be limited. By contrast, in times of economic recession, competition is intensive, adapting to a zero-sum game.

When these factors are considered, the degree of rivalry in the global construction materials market is assessed as strong.

7. Competitive Landscape

The Global construction materials market is highly fragmented with many independent local producers in several markets. Additionally, in most markets, large private and public companies compete against each other, some of which are significantly vertically integrated. Therefore, there is intense competition throughout this market which can lead to lower prices and lower sales volumes in some markets, negatively affecting earnings and cash flows. The largest players in the global market originate from China and Europe. China's Anhui Conch and China National Building Material Group Corporation lead the market in terms of global production capacity while European corporations including CRH and Holcim group dominate sales in Europe and the Americas.

7.1. Who are the leading players?

Anhui Conch Cement Company is the largest construction materials provider in China. The company is based in Wuhu, Anhui, China, and is a construction material manufacturing company. It produces and distributes a range of cement and clinker products. The company's product portfolio includes ordinary Portland cement, slag Portland cement, composite Portland cement, sulfate resistance cement, highway Portland cement, non-magnetic cement, middle-low hydration heat Portland cement, white Portland cement, and cement clinker. The company's products find application in the construction works of roads, bridges, housing and other construction projects. ACC markets its products under the brand name Conch. The company exports products to several countries in Asia, Europe, the Americas and Africa.

CRH is the leading construction materials provider in North America, with operations in 46 US states and 6 Canadian provinces; and in Europe, with operations in 18 countries. The company is a subsidiary of Aboitiz Equity Ventures and is based in Dublin, Ireland. CRH offers construction infrastructure to residential and non-residential markets. Its product portfolio comprises crushed stone, cement, concrete, construction accessories, network access products, plumbing products, perimeter protection and architectural products, shutters and awnings, precast, lime, aggregates, ready-mix concrete, asphalt products and home improvement products. The company also provides asphalt paving services. In 2021, the company achieved sales of \$31.0 billion and an operating profit of \$3.6 billion; 40% of sales were completed in the Americas, 34% in Europe and 26% to the rest of the world.

The Holcim Group is one of the largest construction materials providers in the world. The company is based in Jona, Switzerland, and is a supplier of cement and aggregates (crushed stone, gravel and sand). Holcim is engaged in the manufacture, distribution, and marketing of building materials, and also provides ready-mix concrete, asphalt and other value-added services. The company supplies products to various building projects including commercial and housing, infrastructure projects, and offshore and onshore well construction. The company had a global cement production capacity of 292.9 million tons and in 2021 the group sold 200.8 million tons of cement, 269.9 million tons of aggregates and 46.5 million meters squared of ready-mix concrete in 2021. During the year the company achieved net sales of CHF26.8 billion (\$28.0 billion).

China National Building Material Group Corporation is the fourth largest construction materials provider in China. The company is based in Beijing, China, and provides cement, glass, light weight building materials, glass fibers, intech buildings, composite materials, and refractory materials to the industrial sector.

7.2. What strategies do the leading players follow?

CRH has adopted an "Integrated Solutions Strategy", broadening the range of materials the company produce to service the more complex needs of customers. The ability to serve complex demands has been a key driver of growth during the historic period. Instead of supplying a single type of product or a particular material, CRH provides customers with complete or integrated solutions, incorporating multiple materials and value-added expertise.

CRH builds and grows a successful business by regularly acquiring small to mid-sized companies that complement its existing portfolio and adding larger strategic deals to create further platforms for growth. The company has made strategic acquisitions with a value of \$9.1 billion between 2017 and 2021, including the acquisition of companies valued at \$0.7 billion in North America during 2021. Acquisitions have enabled the company to expand its expertise and product portfolio, complementing its “Integrated Solutions Strategy”.

In 2018, Holcim introduced “Strategy 2022 – Building for Growth”, a strategy that laid out four value drivers; growth, simplification and performance, financial strength, and vision and people. To achieve growth, the most fundamental principle of Strategy 2022, Holcim invested in markets with greater opportunities while being more selective in other markets and executed more aggressive strategies for aggregates and ready-mix Concrete alongside its already strong cement business. The company also established a fourth business segment, solutions and products.

The solutions and products segment is expected to be the growth engine for Holcim and the cornerstone of the group’s latest strategy - “Strategy 2025 – Accelerating Green Growth”. By 2025, the company expects its new business segment to account for 30% of net sales. The company is continuing to expand its solutions and products business segment through a string of high value acquisitions

Holcim continues to invest in the development of new innovative materials continuously expanding the range of smart building solutions to make buildings more energy efficient, resilient and durable from foundation to rooftop, from new buildings to renovating old ones. However, the company is also able to use its financial power to purchase company’s at the forefront of innovation in the construction materials industry. For Instance, the company acquired Firestone Building Products, a global leader in roofing systems with a broad range of solutions from green to solar roofs. Firestone Building Products is an established leader in the US in flat roofing systems for commercial applications, broadly used from data centers to logistics warehouses and more. The company has also formed partnerships with key market disruptors including COBOD International, a globally leading 3D construction printing company which has made headlines for completing projects such as 3D-printed windmill tower bases (pictured), the world’s first 3D-printed school, and most recently Africa’s largest 3D-printed affordable housing project.

7.3. What are the strengths of leading players?

Anhui Conch Cement Company possesses a wide range of end markets, which enables the company to gain growth opportunities in emerging markets. Anhui Conch Cement Company produces and distributes a range of cement and clinker products for the construction of roads, bridges, housing, railways, hydraulic facilities, airports, and other major infrastructure projects. The company supplied products to various projects including Shanghai Oriental Pearl Television Tower, the Nanpo Bridge and the Yangpu Bridge in Shanghai, the Shanghai Maglev Train, Hangning Expressway, Shanghai Pudong International Airport, Jingfu Expressway, Wuhu Yangtse River Bridge, Lianyungang nuclear power station, Xiamen Haicang Bridge, Hangzhou Bay Bridge, Luozhan Railway and Wuguang Railway. In addition, Anhui Conch Cement Company, through its focus on new technology, was able to develop high-performance and energy-efficient products. The company aims to promote innovation and technology innovation to expand its cement business through the adoption of energy conservation and emission reduction and developing a recycling economy. It carries out innovative technology in the new dry-process cement technique, consumption reduction, and application of energy conservation. The company implements advanced new dry process through the Central DCS control system. Anhui Conch Cement Company enhanced its core competency through the improvement of internal operations and upgrade of technology. It also strives to maintain a low-cost advantage in the industry by minimizing coal and energy utilization, improving efficiency and controlling costs.

CRH offers a diverse range of products including brickwork supports that keep walls standing, glazing systems that hold glass in place, products that collect, connect and protect vital utility infrastructure and pavers, blocks and patio products used to pave city centers and create unique outdoor living spaces. The company's broad product portfolio allows CRH to shield itself against a severe downturn in a particular end-use segment. In addition, the company's presence in various countries has made it less vulnerable to the downturn witnessed in Europe and North America. In the US and Canada the group utilizes an extensive network of reserve backed quarry locations, to provide asphalt paving services and to produce and supply a range of materials including

cement, aggregates, ready-mixed concrete and asphalt. These materials are used widely in a variety of construction projects including public infrastructure, commercial buildings and homes. On the other hand, its strong market position, backed by a global network of operations, enhances CRH's competitive position and enables it to deliver a sustainable business performance. The company has 3,700 operating locations worldwide. In Western Europe and North America, CRH has built a balanced portfolio across the spectrum of building materials that leaves the business uniquely positioned to provide a broad product offering to the construction industry. It is the world's leading building materials company, the largest building materials company in North America, a regional leader in Europe and established in Asia and South America. The company has pro-actively established itself in emerging markets and these markets offer strong growth rates and in the long-term are likely to emerge as some of the world's largest economies. Additionally, CRH is well positioned to balance the different business cycles in different countries.

Holcim has a significant presence in diverse geographic markets. It offers its products and services in nearly 80 countries worldwide, having 2,300 manufacturing sites in various countries residing across North America, Latin America, Europe Middle East, Africa and Asia comprising both owned and leased facilities. Holcim's strong market position enables the company to establish itself as a leading construction material provider in the world and increase its revenue. As of December 2021, the company had 1,374 ready-mix concrete plants and 266 cement and grinding plants with an annual production capacity of 210.4 million tons in Asia-Pacific including joint ventures in Australia with a production capacity of 5.5 million tons. The company supplies products to various building projects including commercial and housing, infrastructure projects, and offshore and onshore well construction.

7.4. What are the most notable M&As in recent years?

During May 2022, Adani Group, a leading and highly recognized company in India, with a portfolio of world-class businesses ranging from infrastructure to energy, announced it had reached an agreement with Holcim to acquire its Indian business comprising its 63.11% stake in Ambuja Cement, which owns a 50.05% interest in ACC, as well as its 4.48% direct stake in ACC. Holcim will receive cash proceeds of \$10.5 billion which the company expects to invest in the expansion of its solutions and products business segment. Holcim wants to consider further opportunities, in line with its 'Strategy 2025 – Accelerating Green Growth', to become the global leader in innovative and sustainable building solutions. By offloading its Indian businesses it can focus on developing sustainable materials which the company expects will drive business growth over the forecast. Meanwhile, Adani will acquire one of the most efficient building materials operations in India, powered with clean technologies like heat recovery systems, propelling the company into a leading position in India.

In January 2022, Holcim completed the acquisition of PRB Group, a leader in specialty building solutions in France. PBR Group is France's biggest independent manufacturer of specialty building solutions offering a broad range of high performance building solutions, from coatings and insulations to adhesives and flooring systems with advanced energy-efficiency and renovation solutions. Therefore, the acquisition supports Holcim's strategy to expand its new solutions and products business segment. The acquisition also supports Holcim Group's sustainable material initiatives. PBR Group is a leader in sustainability and eco-design and one of the leading partners to support France's new regulation (RE2020) advancing energy-efficiency in buildings. PRB Group's broad footprint covers the entire French market with more than 700 people and state-of-the-art facilities, including its Research & Development (R&D) Center, five manufacturing sites and 26 warehouses, as well as 1,300 distributors. The newly acquired company is estimated to achieve sales of EUR 340million (\$382 million) in 2022, by providing clients with specialty building solutions

During July 2021, Holcim acquired Heinrich Teufel, a regional player in aggregates and ready-mix concrete in southern Germany. The company operates a limestone quarry with an asphalt mixing plant and a ready-mix concrete plant, as well as a recycling park and a demolition company. Therefore, the acquisition will give Holcim a stronger footprint in southern Germany in aggregates and ready-mixed concrete markets.

Mexican cement manufacture, Cemex, has completed a number of divestures across Europe in recent years. The company has undertaken strategic divestments to streamline its portfolio, while seeking attractive, bolt-on investment opportunities in the company's footprint; construct a portfolio more weighted towards the US and Europe; focus on vertically integrated positions in attractive metropolises and develop Urbanization Solutions as

a core business. On May 31, 2019, Cemex concluded the sale of its aggregates and ready-mix assets in the North and North-West regions of Germany to GP Günter Papenburg AG. The assets divested in Germany consisted of four aggregates quarries and four ready-mix facilities in North Germany, and nine aggregates quarries and 14 ready-mix facilities in North-West Germany. During August 2020, Mexican cement producer Cemex sold its UK assets to Breedon Group for \$230 million, including some \$30 million of debt. The portfolio of assets comprised approximately 100 active operations across six divisions located in Scotland, Wales, North-East England, Norfolk, the East Midlands, and Yorkshire. After the acquisition was completed, Breedon Group mineral reserves and resources increased by approximately 170 million tons, enough to last over 27 years at current extraction rates, thereby solidifying its leading position in the UK market. The company also has a 43% stake in Capital Concrete, a joint venture that extends the organization's nationwide footprint into the Greater London area, the UK's largest construction materials market. On March 31, 2021, Cemex closed the sale of 24 concrete plants and one aggregates quarry in France to LafargeHolcim for \$44 million. These assets are located in the Rhone Alpes region in the Southeast of France, east of Cemex's Lyon operations, which the company retained.

In November 2021, Heidelberg Cement announced major divestments from Spain including the sale of its businesses in Catalonia, Madrid, Asturias and on the Balearic Islands. Brazilian building materials company Votorantim Cimentos completed the acquisition, which included the integrated cement plant in Malaga, three aggregate sites, and 11 ready-mixed concrete sites in Andalusia. Divesting these assets in Spain is part of Heidelberg Cement's portfolio optimization and margin improvement program included in the company's 'Beyond 2020' strategy. In Spain, the company will now fully focus on its Northern cluster located in the Basque country. The assets acquired in the deal are very modern, becoming the company's newest in the country and will accelerate its decarbonization program.

In December 2021 Holcim agreed to acquire Malarkey Roofing Products, a leader in the US residential roofing market. With projected 2022 net sales of \$600 million, Malarkey offers a track record of double-digit growth in the highly profitable \$19 billion US residential roofing market. The acquisition also complements the company's Solutions & Products business growth strategy which is to achieve 30% of sales from its solutions and product offerings by 2025. Malarkey Roofing Products provides complete solutions for residential roofing needs from roofing shingles to ice and water barriers. With production facilities in Oregon, California and Oklahoma, Malarkey Roofing Products has a strong presence from the West to the South of the US that is highly complementary with Firestone Building Products' footprint.

In August 2021, Vulcan Materials completed the acquisition of US Concrete, which significantly enhanced the company's aggregates business in several high-growth areas and expanded its national footprint. The acquisition increased its service capabilities, gave it access to high-quality aggregates reserves, strengthened the group's existing aggregates and concrete businesses in California, Texas and Virginia and gave the company a platform for expansion in New York and New Jersey.

CRH invested \$1.5 billion in 20 bolt-on acquisitions in 2021. The largest acquisition was the purchase of Angel Brother Enterprises, a vertically integrated asphalt paving business in Texas. In addition, the Americas Materials Division completed a further seven bolt-on acquisitions across the US and Canada for a total spend of \$0.7 billion. The seven acquisitions included aggregates, asphalt, ready-mixed concrete, paving and construction operations at a total cost of \$163 million.

7.5. How has demand for sustainable materials impacted leading players?

Market demand and societal expectation for building materials and products are evolving. As the climate changes there is an increased emphasis on the sustainability performance of structures and buildings on a full life-cycle basis. Natural materials that have low embodied energy and/or environmental impact have become more desirable. Sustainability has become a core strategy for leading construction material producers.

Holcim remains at the forefront of green building solutions by providing ECOPact concrete, concrete with reduced environmental impact sold at a range of low-carbon levels, from 30% to 100% less carbon emissions compared to standard (CEM I) concrete. By 2025, the company aims to achieve 25% of ready-mix sales from ECOPact concrete. The group's green concrete range, ECOPact, recorded its first sales in 2021 in India and Australia. ECOPlanet green cement has been launched in the Philippines in 2021 and will be launched in India in

early 2022. The company also promotes the circular economy and intends to recycle 75 million tons of materials across its business, including 10 million tons of construction and demolition waste by 2025.

8. Company Profiles

8.1. Anhui Conch Cement Co Ltd

8.1.1. Company Overview

Anhui Conch Cement Co Ltd (ACC) is a manufacturer of construction materials. It produces and distributes a range of cement and clinker products. The company's product portfolio includes ordinary Portland cement, slag Portland cement, composite Portland cement, sulfate resistance cement, highway Portland cement, non-magnetic cement, middle-low hydration heat Portland cement, white Portland cement and cement clinker. The company's products find application for the construction works of roads, bridges, housing and other construction projects. It sells products under the brand name, Conch. The company exports products to several countries across Asia, Europe, the Americas and Africa. ACC is headquartered in Wuhu, Anhui, China.

The company reported revenues of (Renminbi) CNY167,952.7 million for the fiscal year ended December 2021 (FY2021), a decrease of 4.7% over FY2020. In FY2021, the company's operating margin was 25.6%, compared to an operating margin of 26.2% in FY2020. In FY2021, the company recorded a net margin of 19.8%, compared to a net margin of 19.9% in FY2020. The company reported revenues of CNY25,461.8 million for the first quarter ended March 2022, a decrease of 44.9% over the previous quarter.

8.1.2. Key Facts

Table 6: Anhui Conch Cement Co Ltd: key facts

Head office:	No.39 Wenhua Road , Wuhu, Anhui, China
Telephone:	865538398976
Fax:	865538398931
Number of Employees:	46714
Website:	www.conch.cn
Financial year-end:	December
Ticker:	600585
Stock exchange:	Shanghai Stock Exchange
SOURCE: COMPANY WEBSITE	
© GlobalData	

8.1.3. Business Description

Anhui Conch Cement Co Ltd (ACC) is a manufacturer and distributor of cement and clinker. It manufactures ordinary Portland cement, slag Portland cement, composite Portland cement, sulfate resistance cement, highway Portland cement, non-magnetic cement, middle-low hydration heat Portland cement, white Portland cement, and cement clinker. The company's products are used in construction works for roads, railways, airports, hydraulic power, bridges, housing, and other construction projects.

At the end of FY2020, the company's production capacity for cement, clinker, aggregates and commercial concrete stood at 369 million tonnes, 262 million tonnes, 58.3 million tonnes, and 4.2 million cubic meters, respectively.

The company classifies its operations into five segments: Eastern China, Central China, Southern China, Western China, and Overseas.

At the end of FY2020, ACC had 165 subsidiaries, seven jointly-controlled entities, and one associated entity.

Table 7: Anhui Conch Cement Co Ltd: Annual Financial Ratios

Key Ratios	2017	2018	2019	2020	2021
Growth Ratios					
Sales Growth %	34.65	70.50	22.30	12.27	-4.73
Operating Income Growth %	91.50	91.45	10.35	5.15	-6.82
EBITDA Growth %	86.06	89.14	10.32	5.24	-6.27
Net Income Growth %	85.87	88.05	12.67	4.66	-5.38
EPS Growth %	84.42	92.68	12.01	2.58	-3.71
Working Capital Growth %	101.20	84.80	51.82	27.55	2.28
Equity Ratios					
EPS (Earnings per Share) CNY	2.94	5.67	6.35	6.51	6.27
Dividend per Share CNY	1.20	1.69	2.00	2.12	2.38
Dividend Cover Absolute	2.45	3.35	3.17	3.07	2.63
Book Value per Share CNY	16.87	21.26	25.92	30.60	34.66
Profitability Ratios					
Gross Margin %	35.09	36.73	33.29	28.84	29.63
Operating Margin %	27.61	31.01	27.98	26.21	25.63
Net Profit Margin %	21.05	23.22	21.39	19.94	19.81
Profit Markup %	54.05	58.06	49.90	40.52	42.11
PBT Margin (Profit Before Tax) %	28.19	30.86	28.37	26.74	26.27
Return on Equity %	17.73	26.46	24.46	21.68	18.11
Return on Capital Employed %	20.59	32.27	29.03	26.02	21.76
Return on Assets %	13.69	21.95	20.46	18.47	15.39
Return on Working Capital %	83.73	86.74	63.05	51.98	47.35
Operating Costs (% of Sales) %	72.39	68.99	72.02	73.79	74.37
Administration Costs (% of Sales) %	9.74	6.40	6.22	4.61	5.17
Liquidity Ratios					
Current Ratio Absolute	2.18	2.76	3.54	4.66	3.78
Quick Ratio Absolute	1.95	2.52	3.34	4.37	3.48
Cash Ratio Absolute	1.17	1.44	2.00	2.54	2.11
Leverage Ratios					
Debt to Equity Ratio Absolute	0.16	0.09	0.08	0.06	0.06
Net Debt to Equity Absolute	-0.12	-0.24	-0.44	-0.48	-0.44
Debt to Capital Ratio Absolute	0.14	0.08	0.08	0.06	0.06
Efficiency Ratios					
Asset Turnover Absolute	0.65	0.95	0.96	0.93	0.78
Fixed Asset Turnover Absolute	1.17	2.02	2.43	2.64	2.35
Inventory Turnover Absolute	10.57	15.14	18.07	19.96	13.99
Current Asset Turnover Absolute	2.00	2.18	1.86	1.68	1.42
Capital Employed Turnover Absolute	0.75	1.04	1.04	0.99	0.85
Working Capital Turnover Absolute	3.03	2.80	2.25	1.98	1.85
SOURCE: COMPANY FILINGS				© GlobalData	

Table 8: Anhui Conch Cement Co Ltd: Key Employees

Name	Job Title	Board
Chiu Pak Yue, Leo	Secretary	Senior Management
Ding Feng	Director	Non Executive Board
Ke Qiubi	Deputy General Manager	Senior Management
Leung Tat Kwong Simon	Director	Non Executive Board
Li Leyi	Chief Engineer of Technical Art	Senior Management
Li Qunfeng	Director	Executive Board
Li Xiaobo	General Manager Deputy	Senior Management
Wang Cheng	Chairman	Executive Board
Wang Jianchao	Deputy Chairman	Executive Board
Wu Bin	Director	Executive Board
Wu Bin	General Manager	Executive Board
Wu Tiejun	Assistant to General Manager	Senior Management
Yu Shui	Assistant to General Manager	Senior Management
Yu Shui	Secretary	Senior Management
Zhang Yunyan	Director	Non Executive Board
SOURCE: COMPANY FILINGS		© GlobalData

8.2. CRH plc

8.2.1. Company Overview

CRH plc (CRH or “the company”) is a manufacturer and distributor of building materials and construction infrastructure to residential and non-residential markets. The company’s product portfolio comprises crushed limestone, cement, concrete, construction accessories, gravel, network access products, plumbing products, perimeter protection and architectural products. It also offers shutters and awnings, precast, lime, aggregates, ready mixed concrete, asphalt products and home improvement products. CRH provides asphalt paving services. CRH sells building materials to the specialist heating contractors, professional builders, plumbing contractors, and do-it-yourself customers. It has business presence across the Americas, Europe and Asia. The company is headquartered in Dublin, Leinster, Ireland.

The company reported revenues of (US Dollars) US\$30,981 million for the fiscal year ended December 2021 (FY2021), an increase of 12.3% over FY2020. In FY2021, the company’s operating margin was 11.6%, compared to an operating margin of 8.2% in FY2020. In FY2021, the company recorded a net margin of 8.3%, compared to a net margin of 4.1% in FY2020.

8.2.2. Key Facts

Table 9: CRH plc: key facts	
Head office:	Belgard Castle Clondalkin , Dublin, Ireland
Telephone:	35314041000
Fax:	35316765013
Number of Employees:	77446
Website:	www.crh.com
Financial year-end:	December
Ticker:	CRH
Stock exchange:	London Stock Exchange (LON)
SOURCE: COMPANY WEBSITE	
© GlobalData	

8.2.3. Business Description

CRH plc (CRH or “the company”) is a manufacturer of construction material for residential and non-residential projects. The company provides heavyside materials including cement, architectural concrete, and precast concrete; lightside products including glass and glazing systems, network access products, and building material distribution including builders merchants, plumbing products, and decorative and home improvement products. The company operates in 30 countries across North Americas, and Europe.

The company classifies its operations into three reportable segments: Americas Materials, Europe Materials, and Building Products.

Under the Americas Materials segment, CRH offers aggregates, cement, asphalt and ready mixed concrete and asphalt paving services in North America. It operates through 1,475 locations in 46 US states, six Canadian provinces and Southeast Brazil. In FY2020, the Americas Materials segment reported revenue of EUR11,273 million, which accounted for 40.9% of company’s revenue.

Under the Europe Material segment, the company offers Supplies aggregates, lime, asphalt, cement, ready mixed concrete and concrete products. In FY2020, it operates through 1,155 locations in 21 countries. In FY2020,

Europe Material segment reported revenue of EUR9,141 million, which accounted for 33.1% of company's revenue.

Under the Building Products segment, CRH classifies its operations into four product groups such as building envelope, infrastructure product, construction accessories, and architectural products. Building envelope solutions deal with architectural glass storefront systems, custom engineered curtain wall and window wall, doors, architectural windows, and skylights. Infrastructure product group manufactures a wide range of polymer-based and precast concrete. Construction accessories product group offers high-value innovative products and engineered solutions for challenging construction projects. Architectural products group supplies hardscape, concrete masonry, and related products for commercial, residential & DIY construction markets. It has Operations in 480 locations in 19 countries. In FY2020, Building Products segment reported revenue of EUR7,173 million, which accounted for 26% of company's revenue.

Geographically, the company classifies its operations into five regions: the US, the UK, Republic of Ireland, Rest of Europe and Rest of World. In FY2020, the US accounted for 56.1% of the company's revenue, followed by Rest of Europe (21.1%), the UK (12.1%), Rest of World (8.4%), and Republic of Ireland (2.3%).

Table 10: CRH plc: Annual Financial Ratios

Key Ratios	2017	2018	2019	2020	2021
Growth Ratios					
Sales Growth %	-12.65	26.31	2.49	-1.94	12.30
Operating Income Growth %	0.05	27.67	14.19	-18.98	58.42
EBITDA Growth %	-0.23	26.45	21.07	-13.60	35.20
Net Income Growth %	52.37	51.67	-40.48	-34.62	128.61
EPS Growth %	41.12	2.08	11.42	-8.79	56.89
Working Capital Growth %	6.98	4.68	11.78	71.04	-13.96
Equity Ratios					
EPS (Earnings per Share) USD	1.94	1.98	2.21	2.01	3.16
Dividend per Share USD	0.68	0.83	0.93	1.15	1.21
Dividend Cover Absolute	2.84	2.40	2.37	1.75	2.61
Book Value per Share USD	17.34	22.50	24.10	25.04	26.26
Profitability Ratios					
Gross Margin %	34.07	33.16	32.98	34.13	33.85
Operating Margin %	8.82	8.91	9.93	8.20	11.57
Net Profit Margin %	8.75	10.50	6.10	4.07	8.28
Profit Markup %	51.68	49.60	49.22	51.82	51.18
PBT Margin (Profit Before Tax) %	7.78	7.17	7.75	6.03	10.79
Return on Equity %	13.07	15.71	9.02	5.71	12.68
Return on Capital Employed %	7.46	7.34	8.04	6.04	9.67
Return on Assets %	5.99	7.34	3.64	2.42	5.72
Return on Working Capital %	51.04	62.26	63.59	30.13	55.47
Operating Costs (% of Sales) %	91.18	91.09	90.07	91.80	88.43
Administration Costs (% of Sales) %	25.17	23.20	21.91	22.30	21.19
Liquidity Ratios					
Current Ratio Absolute	1.62	1.29	1.34	2.01	1.85
Quick Ratio Absolute	1.17	1.03	1.10	1.59	1.38
Cash Ratio Absolute	0.35	0.68	0.77	1.03	0.76
Leverage Ratios					
Debt to Equity Ratio Absolute	0.55	0.94	0.92	0.70	0.60
Net Debt to Equity Absolute	0.40	0.43	0.40	0.31	0.32
Debt to Capital Ratio Absolute	0.36	0.48	0.48	0.41	0.38
Efficiency Ratios					
Asset Turnover Absolute	0.68	0.70	0.60	0.60	0.69
Fixed Asset Turnover Absolute	1.68	1.76	1.50	1.42	1.60
Inventory Turnover Absolute	5.05	5.89	5.73	5.86	6.09
Current Asset Turnover Absolute	2.26	2.02	1.62	1.71	2.14
Capital Employed Turnover Absolute	0.85	0.82	0.81	0.74	0.84
Working Capital Turnover Absolute	5.79	6.99	6.41	3.67	4.79
SOURCE: COMPANY FILINGS				© GlobalData	

Table 11: CRH plc: Key Employees

Name	Job Title	Board
Albert Manifold	Chief Executive Officer	Executive Board
Albert Manifold	Director	Executive Board
Badar Khan	Director	Non Executive Board
Caroline Dowling	Director	Non Executive Board
Dan Stover	President Americas Materials	Senior Management
David Dillon	Chief Staff	Senior Management
David Dillon	Executive Vice President	Senior Management
Gillian L. Platt	Director	Non Executive Board
Gina Jardine	Chief Human Resources Officer	Senior Management
Isabel Foley	General Counsel	Senior Management
Jim Mintern	Director Group Finance	Executive Board
Johan Karlstrom	Director	Non Executive Board
Juan Pablo San Agustin	Head Strategy, Sustainability and Innovation	Senior Management
Keith Haas	Head Commercial	Senior Management
Lamar McKay	Director	Non Executive Board
Mary K. Rhinehart	Director	Non Executive Board
Nathan Creech	President Building Products	Senior Management
Onne van der Weijde	President Europe Materials	Senior Management
Randy Lake	Head Strategic Operations	Senior Management
Richard Fearon	Director	Non Executive Board
Richie Boucher	Chairman	Executive Board
Shaun Kelly	Director	Non Executive Board
Siobhan Talbot	Director	Non Executive Board
SOURCE: COMPANY FILINGS		© GlobalData

8.3. Holcim Limited

8.3.1. Company Overview

Holcim Group, formerly LafargeHolcim Ltd. (Holcim or 'the group') is a supplier of cement and aggregates including crushed stone, gravel and sand. The group is engaged in the manufacture, distribution and marketing of building materials, and also provides ready-mix concrete, asphalt and other value-added services. The company supplies products to various building projects including commercial and housing; infrastructure projects; offshore and onshore well construction. It also provides consulting, trading, engineering, and industrial and municipal waste management services. Holcim has business presence across Europe, North America, the Middle East, Latin America, Asia-Pacific and Africa. The company is headquartered in Zug, Switzerland.

The company reported revenues of (Swiss Francs) CHF26,834 million for the fiscal year ended December 2021 (FY2021), an increase of 16% over FY2020. In FY2021, the company's operating margin was 15.7%, compared to an operating margin of 14.4% in FY2020. In FY2021, the company recorded a net margin of 8.6%, compared to a net margin of 7.3% in FY2020.

8.3.2. Key Facts

Table 12: Holcim Limited: key facts	
Head office:	Grafenauweg 10 , Zug, Switzerland
Telephone:	41588588600
Fax:	41588588609
Number of Employees:	69672
Website:	www.holcim.com
Financial year-end:	December
Ticker:	HOLN
Stock exchange:	SIX Swiss Exchange
SOURCE: COMPANY WEBSITE	
© GlobalData	

8.3.3. Business Description

Holcim Group (Holcim or 'the group'), formerly LafargeHolcim Ltd, is engaged in the manufacturing, distribution and marketing of building materials. Its primary products include cement, aggregates, ready-mix concrete, and asphalt.

The company operates through four segments namely, cement, aggregates, Ready-Mix Concrete, and Solutions and Products.

Under cement segment, the company manufactures masonry and Portland cement. It offers cement for construction and public works organizations, manufacturers including producers of ready-mix concrete and prefabricated products, retailers, and the general public. As of December 2020, the company had 269 cement and grinding plants, with annual production capacity of 287.8 million tons (Mt) per annum and sold 109.4 Mt of cement. In FY2020, the cement segment reported revenue of CHF13,970 million, which accounted for 60.3% of the company's total revenue.

The aggregates segment comprises of gravel, crushed stone and sand which are used in construction of rail track beds, roads, manufacturing of concrete, asphalt and concrete products. As of December 2020, the company had

655 aggregate plants and sold 2569.3 Mt of aggregate. In FY2020, the aggregates segment reported revenue of CHF2,722 million, which accounted for 11.7% of the company's revenue.

Under Ready-Mix Concrete, the company develops and markets various concretes, including decorative concrete, self-placing concrete and screed, low shrinkage and high strength concrete, insulating concrete, and permeable concrete. As of December 31, 2020, the company owns and operates 1,333 ready-mix concrete plants and sold 42.3 million cubic meters of ready-mix concrete. In FY2020, Ready-Mix Concrete segment reported revenue of CHF4,584 million, which accounted for 19.8% of the company's revenue.

The company's solutions and product segment offer dry mortars, asphalt for parking lots, road surfacing, base courses, runways and airfields, application-specific solutions, and contracting services. It also offers a range of precast concrete elements for the residential, commercial construction, infrastructure sectors. In FY2020, solutions and product segment reported revenue of CHF1,866 million, which accounted for 8.0% of the company's revenue.

Geographically, the company operates in five regions namely, Europe, Asia-Pacific, North America, and Middle East Africa and Latin America which accounted for 31.2%, 23.1%, 25.4%, 10.3%, and 9.8% respectively in FY2020 (including elimination).

The group operates in around 80 countries spanning across Asia Pacific, Europe, Latin America, North America, and Middle East Africa.

Table 13: Holcim Limited: Annual Financial Ratios

Key Ratios	2017	2018	2019	2020	2021
Growth Ratios					
Sales Growth %	0.43	1.65	-2.71	-13.40	15.95
Operating Income Growth %	-109.73	1003.65	26.30	-17.89	25.96
EBITDA Growth %	-5.96	-3.38	19.84	-13.86	15.72
Net Income Growth %	-193.52	189.67	49.53	-24.44	35.42
EPS Growth %	-52.42	148.89	12.50	-15.09	35.41
Working Capital Growth %	-42.94	-15.29	229.32	-11.68	45.90
Equity Ratios					
EPS (Earnings per Share) CHF	1.32	3.29	3.70	3.14	4.25
Dividend per Share CHF	2.00	2.00	2.00	2.00	2.20
Dividend Cover Absolute	0.66	1.64	1.85	1.57	1.93
Book Value per Share CHF	46.53	45.16	46.55	42.62	45.53
Profitability Ratios					
Gross Margin %	29.45	42.43	42.22	41.87	42.99
Operating Margin %	-1.32	11.71	15.20	14.42	15.66
Net Profit Margin %	-6.20	5.47	8.41	7.33	8.56
Profit Markup %	41.75	73.70	73.06	72.02	75.41
PBT Margin (Profit Before Tax) %	-4.37	8.65	12.42	11.75	13.58
Return on Equity %	-6.03	5.58	7.86	6.51	8.30
Return on Capital Employed %	-0.68	6.57	8.26	7.41	8.38
Return on Assets %	-2.51	2.43	3.81	3.04	4.06
Return on Working Capital %	-32.39	345.54	132.52	123.19	106.35
Operating Costs (% of Sales) %	101.32	88.29	84.80	85.58	84.34
Administration Costs (% of Sales) %	30.58	30.47	29.93	29.23	26.82
Liquidity Ratios					
Current Ratio Absolute	1.10	1.09	1.34	1.33	1.41
Quick Ratio Absolute	0.85	0.80	1.06	1.09	1.14
Cash Ratio Absolute	0.21	0.14	0.25	0.22	0.23
Leverage Ratios					
Debt to Equity Ratio Absolute	0.67	0.59	0.50	0.53	0.60
Net Debt to Equity Absolute	0.51	0.50	0.35	0.33	0.36
Debt to Capital Ratio Absolute	0.40	0.37	0.33	0.35	0.38
Efficiency Ratios					
Asset Turnover Absolute	0.41	0.45	0.45	0.41	0.47
Fixed Asset Turnover Absolute	0.87	0.95	0.97	0.90	1.10
Inventory Turnover Absolute	6.91	5.31	5.54	6.01	6.66
Current Asset Turnover Absolute	2.00	2.26	2.24	2.00	2.18
Capital Employed Turnover Absolute	0.52	0.56	0.54	0.51	0.54
Working Capital Turnover Absolute	24.59	29.50	8.72	8.55	6.79
SOURCE: COMPANY FILINGS				© GlobalData	

Table 14: Holcim Limited: Key Employees

Name	Job Title	Board
Adrian Loader	Director	Non Executive Board
Beat Hess	Chairman	Executive Board
Benedicte Mayer	Investor Relations Officer	Senior Management
Claudia Sender Ramirez	Director	Non Executive Board
Colin Hall	Director	Non Executive Board
Dieter Spalti	Director	Non Executive Board
Feliciano Gonzalez Munoz	Head Human Resources	Senior Management
Geraldine Picaud	Chief Financial Officer	Senior Management
Hanne Birgitte Breinbjerg Sorensen	Director	Non Executive Board
Irene Lim	Investor Relations Officer	Senior Management
Jan Jenisch	Chief Executive Officer	Senior Management
Jay Moreau	Chief Executive Officer US Aggregates and Construction Materials (ACM)	Senior Management
Jurg Oleas	Director	Non Executive Board
Keith Carr	Head Legal and Compliance	Senior Management
Kim Fausing	Director	Non Executive Board
Kristin Beck	Senior Vice President Supply Chain, US ACM and Cement	Senior Management
Magali Anderson	Chief Sustainability and Innovation Officer	Senior Management
Marcel Cobuz	Head Europe	Senior Management
Martin Kriegner	Head Asia	Senior Management
Miljan Gutovic	Head Middle East Africa Region	Senior Management
Naina Lal Kidwai	Director	Non Executive Board
Oliver Osswald	Head Latin America	Senior Management
Oscar Fanjul	Vice Chairman	Executive Board
Patrick Kron	Director	Non Executive Board
Paul Desmarais Jr.	Director	Non Executive Board
Philippe Block	Director	Non Executive Board
Rene Thibault	Head North America	Senior Management
Swetlana Iodko	Head Investor Relations	Senior Management
SOURCE: COMPANY FILINGS		© GlobalData

8.4. China National Building Material Co Ltd

8.4.1. Company Overview

China National Building Material Co Ltd (CNBM), a subsidiary of China National Building Material Group Co Ltd, produces and supplies building materials. Its product portfolio includes cement, concrete, lightweight building materials, glass fiber and composite materials. The company also produces and sells drywall and ceiling systems. It provides design and engineering services to float glass and cement manufacturers, agriculture, environmental protection, and energy and housing development projects. CNBM carries out other business operations such as logistics trading, property development and equity investment. The company has a presence in Southeast Asia, the Middle East, the Americas, Oceania, Africa, Europe, and others. CNBM is headquartered in Beijing, China.

The company reported revenues of (Renminbi) CNY273,683.4 million for the fiscal year ended December 2021 (FY2021), an increase of 7.4% over FY2020. In FY2021, the company's operating margin was 14.1%, compared to an operating margin of 14.5% in FY2020. In FY2021, the company recorded a net margin of 6.2%, compared to a net margin of 5.3% in FY2020.

8.4.2. Key Facts

Table 15: China National Building Material Co Ltd: key facts	
Head office:	21th Floor Tower 2, Guohai Plaza, No. 17 Fuxing Road, Haidian District, Beijing, Beijing, China
Telephone:	861068138300
Fax:	861068138388
Number of Employees:	153109
Website:	www.cnbm.com
Financial year-end:	December
Ticker:	3323
Stock exchange:	Hong Kong Stock Exchange
SOURCE: COMPANY WEBSITE	
© GlobalData	

8.4.3. Business Description

China National Building Material Co Ltd (CNBM) is a producer of cement, concrete, lightweight building materials, glass fiber and composite materials. It also offers engineering, procurement, and construction (EPC) services. The company has operations across Southeast Asia, the Middle East, Americas, Oceania, Africa, Europe, and others.

The company operates through five reportable business segments: Cement, Concrete, New Materials, Engineering Services and Others.

Table 16: China National Building Material Co Ltd: Annual Financial Ratios

Key Ratios	2017	2018	2019	2020	2021
Growth Ratios					
Sales Growth %	81.32	18.94	15.71	0.57	7.39
Operating Income Growth %	90.07	21.02	30.35	-2.20	4.25
EBITDA Growth %	74.60	18.94	23.65	-0.91	3.67
Net Income Growth %	255.00	59.38	36.27	11.60	25.52
EPS Growth %	269.97	98.35	48.00	5.08	2.61
Working Capital Growth %	-6.98	-28.51	-28.00	0.64	-20.57
Equity Ratios					
EPS (Earnings per Share) CNY	0.70	1.40	2.06	2.17	2.23
Dividend per Share CNY	0.10	0.18	0.34	0.48	0.66
Dividend Cover Absolute	6.89	7.76	6.04	4.55	3.36
Book Value per Share CNY	15.00	11.30	12.16	13.09	14.07
Profitability Ratios					
Gross Margin %	26.37	29.73	27.03	26.23	23.88
Operating Margin %	12.98	13.21	14.88	14.47	14.05
Net Profit Margin %	3.04	4.07	4.79	5.32	6.22
Profit Markup %	35.82	42.31	37.04	35.56	31.38
PBT Margin (Profit Before Tax) %	7.63	9.22	10.83	11.80	12.27
Return on Equity %	6.90	9.48	12.00	12.44	14.33
Return on Capital Employed %	11.95	13.00	15.21	14.27	13.75
Return on Assets %	1.25	2.00	2.75	3.00	3.70
Return on Working Capital %	-29.67	-50.22	-90.92	-88.35	-115.96
Operating Costs (% of Sales) %	87.02	86.79	85.12	85.53	85.95
Administration Costs (% of Sales) %	15.81	17.48	13.85	10.25	10.32
Liquidity Ratios					
Current Ratio Absolute	0.68	0.73	0.79	0.79	0.82
Quick Ratio Absolute	0.60	0.64	0.69	0.69	0.70
Cash Ratio Absolute	0.09	0.10	0.12	0.15	0.15
Leverage Ratios					
Debt to Equity Ratio Absolute	2.81	2.22	1.88	1.64	1.43
Net Debt to Equity Absolute	2.48	1.92	1.58	1.31	1.13
Debt to Capital Ratio Absolute	0.74	0.69	0.65	0.62	0.59
Efficiency Ratios					
Asset Turnover Absolute	0.41	0.49	0.57	0.56	0.60
Fixed Asset Turnover Absolute	1.05	1.24	1.33	1.25	1.33
Inventory Turnover Absolute	6.22	7.34	9.30	9.32	10.04
Current Asset Turnover Absolute	1.07	1.33	1.62	1.63	1.79
Capital Employed Turnover Absolute	0.92	0.98	1.02	0.99	0.98
Working Capital Turnover Absolute	-2.28	-3.80	-6.11	-6.10	-8.25
SOURCE: COMPANY FILINGS				© GlobalData	

Table 17: China National Building Material Co Ltd: Key Employees

Name	Job Title	Board
Cai Guobin	Vice President	Senior Management
Chang Zhangli	Director	Executive Board
Chang Zhangli	President	Executive Board
Chen Xue'an	Chief Financial Officer	Senior Management
Chen Xue'an	Vice President	Senior Management
Fan Xiaoyan	Director	Non Executive Board
Fu Jinguang	Deputy Secretary	Executive Board
Fu Jinguang	Director	Executive Board
Li Jun	Director	Non Executive Board
Li Xinhua	Director	Non Executive Board
Liu Biao	Vice President	Senior Management
Liu Jianwen	Director	Non Executive Board
Liu Yan	Vice President	Senior Management
Pei Hongyan	Chief Accountant	Senior Management
Pei Hongyan	General Manager-Finance	Senior Management
Pei Hongyan	Secretary	Senior Management
Peng Shou	Director	Non Executive Board
Shen Yungang	Director	Non Executive Board
Sun Yanjun	Director	Non Executive Board
Wang Bing	Director	Senior Management
Wang Bing	Vice President	Senior Management
Wang Yumeng	Director	Non Executive Board
Xia Xue	Director	Non Executive Board
Xiao Jiaxiang	Director	Senior Management
Xiao Jiaxiang	Vice President	Senior Management
Xue Zhongmin	Vice President	Senior Management
Yu Mingqing	Vice President	Senior Management
Zhan Yanjing	Director	Non Executive Board
Zhang Jindong	Vice President	Senior Management
Zhou Fangsheng	Director	Non Executive Board

SOURCE: COMPANY FILINGS

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Table 18: China National Building Material Co Ltd: Key Employees Continued

Name	Job Title	Board
Zhou Yuxian	Chairman	Executive Board
SOURCE: COMPANY FILINGS		© GlobalData

9. Macroeconomic Indicators

9.1. Country data

Table 19: Global exchange rate, 2017–21	
Year	Exchange rate (€/€)
2017	1.1320
2018	1.1810
2019	1.1200
2020	1.1405
2021	1.1832

SOURCE: GLOBALDATA

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10. Appendix

10.1. Methodology

GlobalData Industry Profiles draw on extensive primary and secondary research, all aggregated, analyzed, cross-checked and presented in a consistent and accessible style.

Review of in-house databases – Created using 250,000+ industry interviews and consumer surveys and supported by analysis from industry experts using highly complex modeling & forecasting tools, GlobalData's in-house databases provide the foundation for all related industry profiles

Preparatory research – We also maintain extensive in-house databases of news, analyst commentary, company profiles and macroeconomic & demographic information, which enable our researchers to build an accurate market overview

Definitions – Market definitions are standardized to allow comparison from country to country. The parameters of each definition are carefully reviewed at the start of the research process to ensure they match the requirements of both the market and our clients

Extensive secondary research activities ensure we are always fully up-to-date with the latest industry events and trends

GlobalData aggregates and analyzes a number of secondary information sources, including:

- National/Governmental statistics
- International data (official international sources)
- National and International trade associations
- Broker and analyst reports
- Company Annual Reports
- Business information libraries and databases

Modeling & forecasting tools – GlobalData has developed powerful tools that allow quantitative and qualitative data to be combined with related macroeconomic and demographic drivers to create market models and forecasts, which can then be refined according to specific competitive, regulatory and demand-related factors

Continuous quality control ensures that our processes and profiles remain focused, accurate and up-to-date

10.2. Industry associations

10.2.1. Council of European Producers of Materials for Construction

68 Boulevard du Souverain, Vorstlaan 68, B-1170 Brussels, Belgium

Tel.: 32 2 645 52 07

Fax: 32 2 645 52 13

www.cepmc.org

10.2.2. ASEAN Federation of Cement Manufacturers

www.afcm-org.net

10.2.3. The Portland Cement Association (PCA)

5420 Old Orchard Road, Skokie IL 60077, US

Tel.: 1 847 966 6200

Fax: 1 847 966 8389

www.cement.org

10.3. Related GlobalData research

10.3.1. Industry Profile

Construction materials in Europe

Construction materials in Asia-Pacific

Construction materials in the US

Construction materials in Germany

Construction materials in China



10.4. About GlobalData

GlobalData is a leading provider of data, analytics, and insights on the world's largest industries.

In an increasingly fast-moving, complex, and uncertain world, it has never been harder for organizations and decision makers to predict and navigate the future. This is why GlobalData's mission is to help our clients to decode the future and profit from faster, more informed decisions. As a leading information services company, thousands of clients rely on GlobalData for trusted, timely, and actionable intelligence. Our solutions are designed to provide a daily edge to professionals within corporations, financial institutions, professional services, and government agencies.

Unique Data

We continuously update and enrich 50+ terabytes of unique data to provide an unbiased, authoritative view of the sectors, markets, and companies offering growth opportunities across the world's largest industries.

Expert Analysis

We leverage the collective expertise of over 2,000 in-house industry analysts, data scientists, and journalists, as well as a global community of industry professionals, to provide decision-makers with timely, actionable insight.

Innovative Solutions

We help you work smarter and faster by giving you access to powerful analytics and customizable workflow tools tailored to your role, alongside direct access to our expert community of analysts.

One Platform

We have a single taxonomy across all of our data assets and integrate our capabilities into a single platform – giving you easy access to a complete, dynamic, and comparable view of the world's largest industries.

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