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## **Equity Valuation: Istock PLC**

João Figueiredo da Silva

Master in Finance

Supervisor:  
Assistant Professor, Pedro Leite Inácio, Department of  
Finance  
ISCTE-IUL Business School

October, 2022





BUSINESS  
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Department of Finance

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## **Abstract**

The goal of this project is to assess the correct value of Ibstock shares as of 31<sup>st</sup> December of 2021. Ibstock PLC was founded in 1825 and is headquartered in Ibstock, being responsible for the manufacture of clay and concrete building products. It owns a market share of c90% alongside two additional competitors being divided between two business units, clay, and concrete. In 2019, Ibstock was responsible for the acquisition of Longley Concrete Limited, a UK based precast concrete supplier for a consideration of £14m.

Two distinct valuation methods will be applied, the first being the Discounted Cash Flow (DCF) approach and the second being a Relative Valuation. Several assumptions will be made and backed by the analysis of company's historical financial performance and statistics related to the Construction Industry, emphasizing a focus on the UK. Once applied, the result yielded by the different valuation methods will be compared to an equity report from J.P. Morgan dated as of 20<sup>th</sup> January of 2022 and a conclusion about the reasonableness of both prices will be conducted, allowing to assess if the investment decision is either to buy, sell or hold Ibstock shares and support the theory that its shares are either undervalued or overvalued in the market. Possible justifications that support the differences will be stated and analysed.

A focus was attributed to the considerations obtained through DCF model, yielding a share price of £2.20, 16.4% above its fair value.

Keywords: Equity Valuation, Discounted Cash Flow, Relative Valuation, Ibstock



**Resumo**

O objetivo deste projecto é encontrar o justo-valor das ações da empresa Ibstock à data de 31 de Dezembro de 2021. A empresa em análise foi fundada no ano de 1825, sendo responsável pelo fabrico de productos de construção que tenham por base argila ou cimento. A empresa detém uma quota de mercado avaliada em 90% de acordo com o seu website juntamente com dois concorrentes e está dividida em duas áreas de negócio: argila e cimento. Em 2019, adquiriu a empresa *Longley Concrete Limited*, distribuidora de cimento por um valor de £14 milhões.

Serão aplicados métodos distintos, sendo o primeiro um modelo DCF e o segundo um modelo que tem por base a análise de múltiplos. As diferentes abordagens vão assentar num conjunto de pressupostos criados com base numa análise cuidada dos relatórios anuais da empresa e estatísticas relativas à Indústria da Construção no Reino Unido. Os respetivos resultados vão ser comparados com um *equity research report* conduzido pelo banco de investimento *J.P. Morgan* à data de 20 de Janeiro de 2022 e as justificações que sustentem as diferenças apresentadas serão mencionadas. Através do seguinte exercício, a decisão de comprar ou vender ações da Ibstock será fundamenta e suportada, com o propósito de concluir se as mesmas se encontram subvalorizadas ou sobrevalorizadas no mercado.

Um foco foi atribuído aos resultados obtidos por via do modelo DCF, resultando num valor da ação de £2.20, 16.4% acima do seu valor real.

Palavras-chave: Avaliação de Empresas, Múltiplos, Ações, Ibstock





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**List of Abbreviations**

CAGR – Compound Annual Growth Rate

CAPM - Capital Asset Pricing Model

DCF - Discounted Cash-Flow

EBITDA – Earnings before Interest, Taxes, Depreciation & Amortization

FCFE - Free Cash flow to Equity

FCFF - Free Cash-Flow to the Firm

FY – Fiscal Year

GDP – Gross Domestic Product

Ibstock - Ibstock PLC

LTM – Last twelve months

PLC - Public Limited Company

P&L - Profit and Loss

Revs - Revenues

TV - Terminal Value

UK - United Kingdom

U.S. - United States

WACC – Weighted Average Cost of Capital

WC – Working Capital

## Introduction

The main goal of this project is to assess the accurate value of Ibstock PLC and subsequently the implicit value per share. For that, an Equity Valuation will be performed considering different assumptions and methodologies. The following results will be compared to an Equity Valuation Report performed by J.P. Morgan dated as of 20<sup>th</sup> January of 2022.

Ibstock PLC is a listed company founded in 1825 and headquartered in Ibstock, United Kingdom. Ibstock PLC manufactures and sells clay and concrete building products and solutions primarily in the United Kingdom, being divided among two business units, Clay, and Concrete. The company sells its products under Forticrete, Supreme, Anderton, and Longley brands to customers. It accounts for more than 2,000 employees distributed among more than 50 factories and quarries across UK.

The selection of Ibstock relied mainly on macroeconomic reasons that affected company's financial performance and the industry where it operates. For companies based in the UK, COVID-19 did not act as the only variable responsible for poor financial results in FY20. Factors such as Brexit and Decarbonization also forced companies to adapt and adopt different strategies. In Ibstock case, these factors were deeply noticed with Revenues dropping by 23% from FY20 to FY19.

Different approaches will be used to estimate the value of Ibstock shares, including both absolute and relative valuations to realize if the shares are marginally undervalued or overvalued in the market. To assess the following, Discounted Cash Flow Model and Relative Valuation methods will be used and will stand on several assumptions that will be created based on the projections stated on company's annual reports and statistics related to the Construction and Building Materials industry. A macroeconomic overview of the industry will also be considered so that this valuation reflects an approach as accurate as possible. Potential justifications, finance-related or not that could fundament the differences provided for both models will also be stated across the analysis. The following work will allow to assess based on the target price if the investment recommendation would be either to buy, hold or sell Ibstock shares, and the importance that several factors external to companies might assume on financial results.

Following the introduction, this project addresses a review of literature, where the main models and theories used to perform the analysis are explained, a macroeconomic and industry section, where the main variables affecting the sector are disclosed and finally, a valuation section where an investment consideration is described.

# 1. Review of Literature

## 1.1. Introduction to Valuation

Damodaran (2006) states that Valuation lies as one of the fundamental tasks that a financial analyst should master in the fields of Finance. Business Valuation it is many times associated with a process used for when a company is looking to either sell, buy, or merge with another company or even to support the investment decision of either acquire or sell either an asset or a stake. Valuation not only settles on the following but also can be extremely useful for several other purposes including:

- Track the effectiveness of the decision-making process
- Identification of areas of improvement for a company

As Copeland (2000) stated, Valuation helps in the decision-making process, what could eventually translate into a better financial performance by the identification of business gaps.

There are several valuation methods that often rely on common assumptions, but in the following analysis a focus will stand on the following four stated by Damodaran (2006) as the main ones to perform a business valuation:

*Table 1: Valuation Methods*

DCF	Relative Valuation	Contingent Valuation	Accounting Valuation
FCFF	EV/EBITDA	Binomial Model	Liquidation Value
FCFE	EV/Revenue	Black-Scholes Model	Accounting Value

Source: Adapted, Damodaran 2002

DCF takes into consideration the present value of an investment future cash-flows, using WACC as the discount rate when dealing with FCFF (Free Cash Flow to the Firm) or the cost of equity in the case of FCFE (free Cash Flow to the Equity). Relative Valuation acts as an alternative to Absolute Valuation and consists in valuing a company based on competitor's precedent transactions or quoted peers by taking advantage on a set of multiples. Contingent Claim valuation takes advantage of option pricing models to capture the value of an investment with identical option characteristics. Finally, Accounting Valuation utilizes as main assumption a company book value, which in the end translates into the amount that shareholders would capture if a company would get liquidated.

Damodaran (2002) also affirms that to capture the value of an asset and subsequently investing on it, it is critical to realize how the value was reached. More than just applying different methods, valuation settles on the accuracy and relevancy of both model and assumptions used.

There are several valuation methods that often rely on common assumptions. In the following analysis a focus will stand on the DCF and Relative Valuation approach as the most suitable considering both the company characteristics and associated industry.



## 1.2. Discounted Cash Flow Model

According to Koller (et al., 2005), Discounted Cash Flow Model is assumed nowadays as the most reliable, accurate and flexible method to value either a company or a project. It presents several advantages when compared to other methods, including allowing to compute the IRR of a project or even to perform a sensitivity analysis. The model settles on an estimation of the present value of future Cash Flows produced by an asset, taking into consideration several assumptions about the future of the business. As more accurate assumptions are, more precise the valuation will be. In the end, Cash Flows are discounted by a rate that takes into consideration the risk associated to the firm that is being evaluated, as the formula below demonstrates:

$$\text{Present Value} = \sum_{n=1}^t \left( \frac{CF_n}{(1+r)^n} \right) + \frac{TV_t}{(1+r)^t} \quad (1)$$

Where:

$CF_n$  = Cash Flow

$TV_t$  = Terminal Value

r = Discounted rate

n = time periods, time = 1 to t

Damodaran also added that a DCF valuation exercise settles on two propositions: one, the expected Cash Flows must be positive some time over the life that is being considered so that the asset has any value and as proposition number two, assets that generate Cash Flows early in their life tend to be worth more than assets that generate Cash Flows later.

Lastly, DCF captures either the equity stake or the value of the entire business. Starting with equity value, that ultimately represents the value that shareholders would capture if a firm got liquidated, is obtained by discounting Free Cash Flow to Equity by the Cost of Equity. Furthermore, if the value of the entire business is intended to be captured, Free Cash Flow to the Firm is the method to use. It reflects the value included for all claimholders and is obtained by discounting Free Cash Flow to the Firm at the Cost of Capital (WACC).

### 1.2.1. Free Cash Flow to the Firm

As stated previously, if a value of the entire business is intended to be captured, FCFE is the most usual method to use. It captures the Cash Flows obtained through company operations when taxes, expenses,

investments and working capital variations are deducted. Fundamentally, it acts as an assessment of a company's profitability and reflects the amount available for all company claimholders. The formula to be applied was created by Modigliani and Miller (1958) and it is presented as follows:

$$FCFF = EBIT * (1 - tax\ rate) + Dep \ \& \ Amor - CAPEX - \Delta Working\ Capital$$

Once the tax expenses are deducted, additional adjustments need to be considered. Depreciation and Amortizations need to be added back since the operating profit is distributed only to shareholders. Secondly, the value of capital expenditures that reflects the reserves used by a company to either acquire or maintain physical assets, needs to be captured and deducted since it is not reflected in the Company's P&L and subsequently in the Net Income calculation. Lastly, a company's analysis in the short-term needs to be taken into consideration and variation in Working Capital needs to be deducted from the following result. Once the following adjustments described above are considered, the Enterprise Value is obtained by the following formula.

$$\begin{aligned} & \text{Present Value} & (2) \\ & = \sum_{n=1}^t \left( \frac{FCFF_n}{(1+r)^n} \right) + \frac{TV_t}{(1+r)^t} \end{aligned}$$

### 1.2.2. Free Cash Flow to Equity

Taking advantage of the formula previously explained, FCFE is given by deducting to the value available to all claimholders the net borrowings. Moreover, possible differences when computing both methods might arise due to the discount rates that are used in the two different approaches. While FCFF uses as discount rate the WACC, FCFE uses the cost of equity as discount rate, that translates into the rate required by company's equity holders.

$$FCFE = FCFF - Int. \ Exp. (1 - t) \pm Net \ Borrowings \quad (3)$$

### 1.3. Discount rates

Discount rates act as a determinant factor when valuating investment opportunities and can ultimately determine the viability of a project. It refers to the rate used to determine a project present value and reflects the risk that investors are willing to bear to fund a particular investment that allow them to consequently capture a potential future compensation.

### 1.3.1. Weighted Average Cost of Capital

Investment funding can be captured through two different sources, either Debt or Equity. Weighted Average Cost of Capital acts as the average rate that capture the rates of return of both debtholders and shareholders considering the company financial structure. WACC seizes the expected return a company could get by investing in other projects with similar risk features and properties (Luehrman, 1997). The formula is given as below:

$$WACC = \left[ \frac{E}{D + E} \times (r_e) \right] + \left[ \frac{D}{D + E} \times (r_d) \times (1 - t) \right] \quad (4)$$

Where:

E = Market value of Equity

D = Market value of Debt

$r_d$  = Cost of Debt

$r_e$  = Retired rate of return on Equity

t = Corporate tax rate

### 1.3.2. Return on Equity

$$r_e = r_f + \beta(MRP) \quad (5)$$

Alternatively, when a value for equity is intended to be captured, the return on equity is the rate to use. To compute it, CAPM has been the main model (Damodaran, 2002) considering both risk-free rate, market risk premium and the risk and sensitivity of a company that is translated through  $\beta_i$ . Additionally, Fama-french three-factor model and the Arbitrage Pricing Theory can also be used to assess the required return on equity.

#### 1.3.2.1. Risk-free Rate

Risk-free rate is defined as the return of a portfolio with no covariance to its market (Koller et al., 2010), therefore reflecting an investment with certain return if no default and reinvestment risks are considered. (Damodaran, 2008). Three financial instruments are frequently acknowledged by respecting the premises mentioned above: medium-term treasury notes, long-term government bonds and short-term treasury bills (Gilbert, 1990). Considering the geography a company operates, one must consider the most relevant measure to assess the most accurate result. Considering companies based in Europe, a preference usually relies on 10-year German bonds while for American companies, 10-year U.S. bonds are usually the most common proxy.

### 1.3.2.2. Beta

Beta is a risk measure to determine a company's volatility by comparing the price variation relative to its market. A value of  $\beta_i > 1$  translates an associated higher volatility sustaining potentially higher returns and attached risk. The exact opposite occurs for a  $\beta_i < 1$ , meaning the stock is less volatile when compared to its market (Goedhart et al., 2010).

To assess an accurate value for  $\beta_i$ , one must consider the nature of the stock which is being analysed. For listed companies, a regression model between the company's shares against its market is usually the most common approach, although a few considerations must be reviewed to guarantee the accuracy of the value retrieved, namely the period, given different time spans retrieve different values for  $\beta_i$ , and appraise that the regression model reflects the volatility of a stock based on historical events, not taking into consideration company's current financial and operational situation. For non-listed companies, an industry or peer group average can be performed and used as assumption. One shall identify the most comparable benchmark, use it to assess the unlevered Beta and consequently retrieve the levered value by using the company's targeted capital structure.

In addition, for companies operating in multiple sectors and regions, an average of the unlevered Betas of each business can also be performed, reflecting the different strategic, political, and financial risks a company might be exposed (Damodaran, 1999).

### 1.3.2.3. Market Risk Premium

Market Risk Premium considers the overall return of the stock market subtracted by the risk-free rate and reflects the additional return required by investors to bear additional unpredictability.

Up to this date, different approaches are used all submitting different results with the more standardized method being the comparison of a company's historical returns on risk-free securities (Damodaran, 2008).

Further, it is also estimated by Damodaran (2002) that a change should be considered for non-US markets. To reflect a potential higher economic and politic risk associated to some economies, a premium should be considered to contemplate the country specific risk.

### 1.3.2.4. Cost of Debt

The cost of debt translates the expected return of debt holders for funds borrowed to a firm and can be assessed through multiple approaches depending on the characteristics of the institution is issuing (Goedhart et al., 2010).

If considering an investment-grade company with a perceived low risk of default, a closer estimation for  $rd$  would be the YTM of long-term bonds (Koller et al. 2010) assuming they are liquid in the market (Damodaran, 2002). If a bond is not market liquid, a suggestion relies on adding the risk default spread to the risk-free rate.

Contrarily, for non-investment grade companies, a recommendation relies on using the APV instead of WACC, reflecting an associated higher risk of default when compared to investment-grade companies.

Lastly, for companies operating in designated emerging markets, one shall also consider the country default risk into the equation assuming the premise that companies cannot borrow at lower rates compared to the country where they are based (Damodaran, 2002).

#### **1.4. Terminal Value**

A company's value can be described as the sum of the present value of forecasted cash flows and, the present value of future cash flows that goes past the select forecast period, designated as terminal value (Lee, 2003). As for the forecast period, a minimum time span of five years is usually considered as it is commonly established as the base to guarantee the accuracy of projections.

In such manner, the terminal value can be assessed based on three main considerations: firstly, assuming the company will continue to produce cash flows at a constant rate. One must consider a set of assumptions to accurately imply it namely: cash flows are set to grow constantly by a rate that should not surpass the economy growth rate where the company operates (Damodaran, 2002). Secondly, by the determination of future potential payments on a company's assets (Damodaran, 2002). Lastly, assuming an exit multiple leveraging on a set of comparable firms and a predetermined financial metric taking into consideration the industry characteristics.

#### **1.5. Relative Valuation**

The value of a company can be assessed through both absolute and relative valuation. Relative valuation allows to appraise a company value throughout the use of a set of multiples for a predetermined peer comparable group or set of deals.

A peer group is established by analysing companies with similar financial size operating within the same sector and preferably within the same geography as the target company, that way allowing to capture the same potential strategic, financial, and political risks, eventually producing a valuation as accurate as possible (Liu et al, 2002).

Multiples offer as main advantage allowing to estimate valuation ranges even when dealing with different company sizes by taking advantage of standardized metrics. One additional crucial aspect when working with multiples is identifying which ones conduct the best outcome for a particular industry and consequently which firms might be performing as outliers, trading at significantly lower or higher multiples when compared to their peers.

Three main groups of multiples are usually considered for valuation purposes depending on the value it is intended to be retrieved:

*Table 2: Multiples Categorization*

<b>Enterprise Value Mult.</b>	<b>Equity Value Mult.</b>	<b>Growth Mult.</b>
EV/EBITDA	PER	PEG
EV/Revenue	P/BV	EV/EG

**Source:** Adapted, Damodaran 2006

### **1.5.1. EV/EBITDA**

Among the following, EV/EBITDA multiple is particularly reliable on industries characterized for high capital expenditures and big infrastructures (Damodaran, 2005), providing a transparent view of a company's financial performance given it deducts majority of financial and operational costs.

Further, it is particularly efficient if companies operate in the same sector (Koller et al., 2005), translating a more accurate valuation than P/E multiple, which may be influenced by non-financial aspects, specifically excessive optimism by investors and management manipulation, potentially not reflecting accurately a company's Enterprise Value.

### **1.5.2. EV/Revenues**

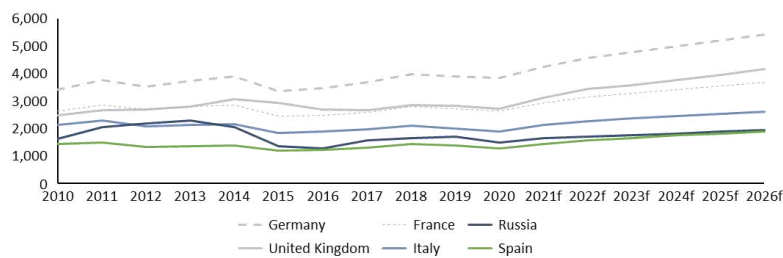
In opposition, EV/Revenues is distinctly used for companies operating in industries with perceived low values of infrastructures and capital expenditures. Revenues only allow to appraise the growth of a business since no operational or financial costs are deducted, particularly relevant to estimate companies in an early-stage or restructuring phase. In such manner, it is particularly efficient and used to assess industries marked by a focus on growth, allowing to assess a valuation for companies with negative cash flows or unprofitable.

## 2. Market Overview

### 2.1. Macroeconomic Outlook

GDP is used as a measure to evaluate the outline of a national economy, quantifying the goods and services produced by a country in a certain amount of time, usually one year. The United States accounted for more than 18% of the global product itself being closely followed by China. United Kingdom accounts as the 5<sup>th</sup> country with the highest gross domestic product worldwide considering the year of 2020.

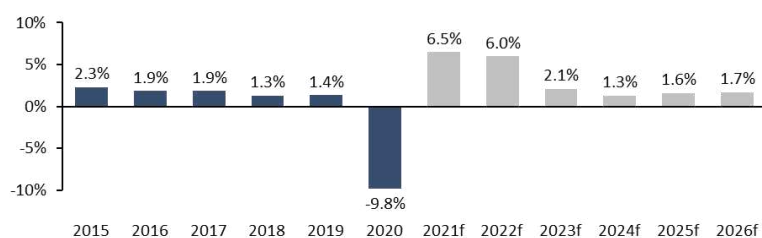
*Graph 1: GDP at current prices - Europe's largest economies, 2010-2026*



Source: Statista, UK GDP

Among European countries, Germany has by far the largest economy followed by the United Kingdom and France respectively. Italy, Spain, and Russia close the six largest economies operating in Europe.

*Graph 2: Forecast annual growth - UK GDP, 2015-2026*



Source: Statista, UK GDP

In UK, the GDP growth rate regressed 9.8% in 2020. Factors such as the pandemic situation were the main responsible for a recession with no precedents in modern times. A growth in COVID cases sustained by different variants attached to further lockdowns resulted in several businesses being shut down ultimately leading to the contraction of the economy in 2020. Several industries upon which the UK is reliant, namely Construction Materials, were deeply affected causing irrevocable harm to the country's economy.

For 2022, it was expected that the UK economy would grow by 6.0% followed by 2.1% in 2023. The forecast is deeply influenced by the behaviour of the following factors:

- COVID-19 - it is still not clear how the pandemic situation will evolve. The appearance of new variants might result in a rise of COVID cases and consequently further lockdowns.
- Brexit – the Construction sector and ultimately the UK economy will be particularly affected if a passage is not conceded for European workers, which could ultimately result into a deeper shortage of skilled labour.

## 2.2. Industry Overview

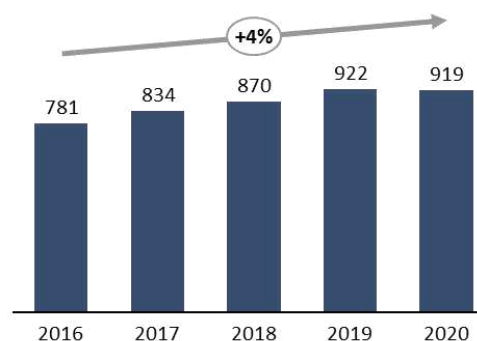
### 2.2.1. Construction Materials – Worldwide Analysis

Construction Materials industry acts as one of the most relevant industries operating worldwide not only by the importance of its products for economic development but also by the number of enterprises and people employed. It gathers manufacturers and suppliers of construction materials comprising three different types of products:

- Cement,
- Aggregates,
- or Bricks

From 2016 onwards, the industry has been evolving in a steady pace although an economic downturn was witnessed in 2020 mainly motivated by the pandemic situation. A rise in the cost of materials aligned with a shortage in the offer of several products motivated by transportation restrictions resulted into a significant decrease in demand ultimately affecting the growth and size of the industry.

Graph 3: Worldwide Construction Materials Market Size, in \$m, 2016-2020



Source: Statista, Cement & Ceramics Industry worldwide, 2020

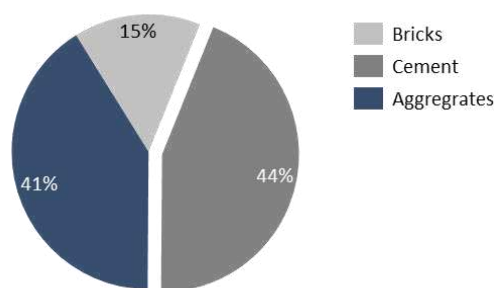
In 2020, the overall industry was valued at \$919.5m, -0.3% when compared to 2019. When considering the time span comprised between 2016 up to 2020, the industry has been growing at a CAGR of 4%.



Asia-Pacific acted as the main region, sustaining a market share of c80% of total industry worth. China behaves as the most relevant geography, accounting for 75% of Asia market share, acting this way as the leading player when it comes to Construction Materials being distantly followed by both India and United States. Alternatively, Europe only gathered a global market share of c7%.

44% of total industry value was attributed to cement, 41% to aggregates where sand, gravel and stone are included and the remaining share for bricks. Cement is considered as one of the most-used products worldwide. In 2020, the global cement production accounted for nearly 4.1bn tons. A sustainable growth until 2014 was driven by a growing demand and rise in the construction and housing market. From 2014 onwards the industry growth has stagnated. Fewer cement companies joined the industry mainly motivated by the necessary high initial investment and a rise in the concerns regarding carbon emissions that continue to affect the market. Additionally, the pandemic situation emphasized the difficulties felt across different geographies. Although an effort was made to maintain units running, plants did not operate at a full capacity contributing for a reduction in production.

*Graph 4: Worldwide Construction Materials Market Share, per Product*



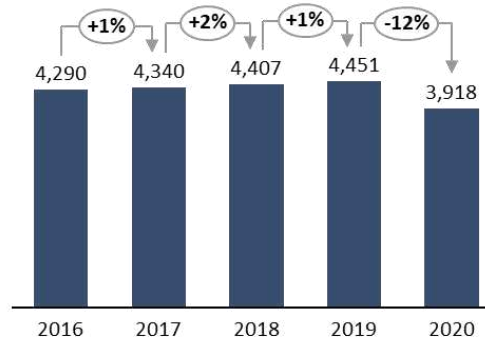
**Source:** Statista, Cement & Ceramics Industry worldwide, 2020

### **2.2.2. Construction Materials – United Kingdom**

Construction Materials market in United Kingdom was valued at \$3.9m in 2020 having declined 12% when compared against the prior year. The market in UK represented 6.7% of the European market, accounting as the 3<sup>rd</sup> most relevant geography when considering Western Europe, behind France and Germany, and the 24<sup>th</sup> when considering a global analysis.

The market in UK evolved in a similar pattern witnessed for the Rest of World. When considering the time span comprised between 2016 and 2019, the industry grew in an annual basis at 1.2%, 1.5% and 1.0% respectively. Alternatively, the market declined 12.0% in 2020 motivated mostly by Brexit and COVID.

Graph 5: UK Construction Materials Market Size, in \$m



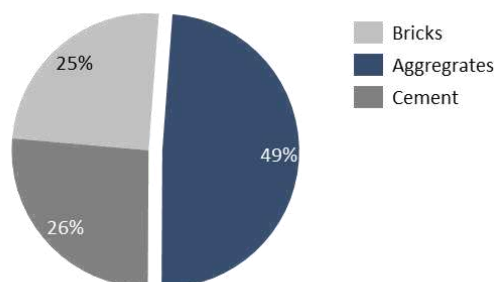
Source: Statista, Construction industry in the UK, 2020

Several measures pandemic-related including lockdowns, and the unpredictability associated to country's economies, negatively influenced the market. In addition, a decline in the overall demand was also observed resulting in an increase of materials price. According to the construction material price index of the Department for Business, Energy and Industrial Strategy, construction material prices were roughly 9% higher in March 2021, when contrasted against the same month in 2020.

Brexit also influenced the sector and constituted alongside COVID the two main constraints for industry growth. Brexit brought additional uncertainty into the sector with several projects being delayed or even interrupted. Also, this decision will result in further consequences if Europeans are not authorized an easy entrance into the country, underlining an absence of skilled labour.

In UK, contradicting the global analysis conducted previously on the sector, the segment with the higher preponderance was aggregates, with a share of c49%.

Graph 6: UK Construction Materials Market Share per Product

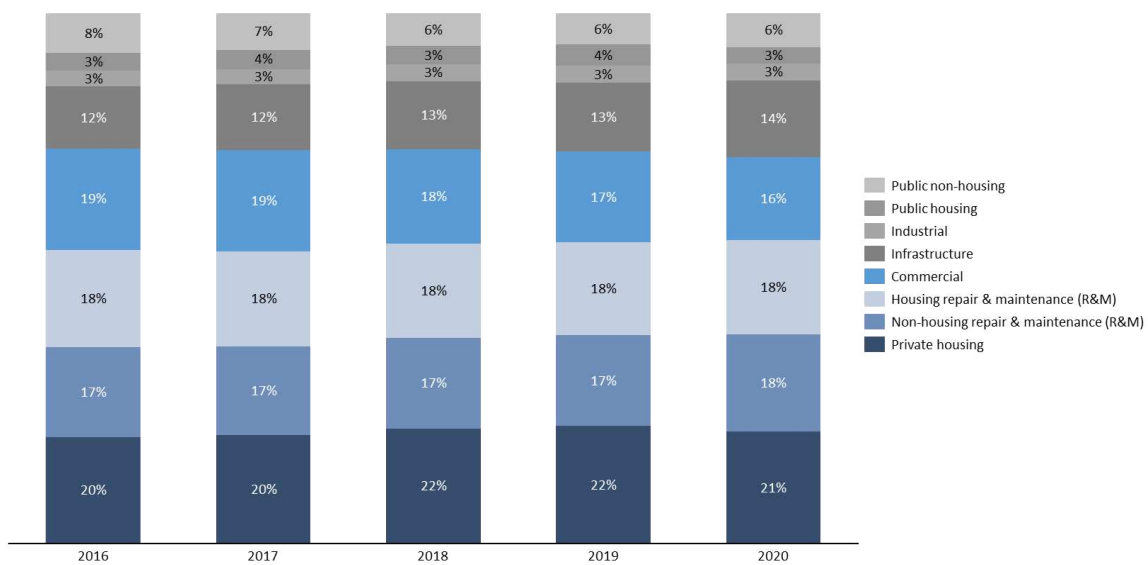


Source: Statista, Construction industry in the UK. 2020

Market segmentation on the UK is highly correlated with the product's end-usage, with a predominance on the following segments:

- Private Housing
- Housing Repair & Maintenance
- Non-housing Repair & Maintenance
- Commercial

Graph 7: Structure of the construction industry in the UK, per sector



Source: Statista, Construction industry in the UK, 2020

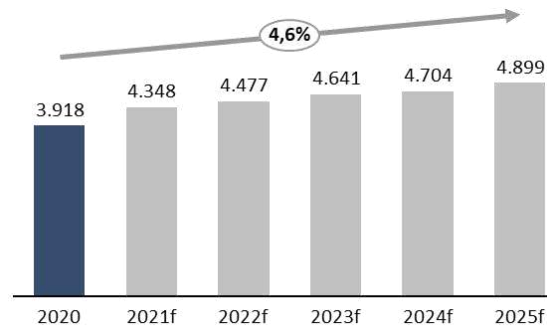
The major segment within UK was *Private Housing* which highlights and confirms the preponderance of aggregates in the industry and the relevancy that players like Ibstock will continue to assume. Also, the Construction sector acts as one of the most relevant industries being ranked as 3<sup>rd</sup> when analysing total income only behind *Wholesale Trade* and *Retail trade* in UK. On top of that, the sector accounts for 341,651 registered companies and more than 1,493 thousand people employed making this as the 10<sup>th</sup> industry with the highest share of employment, constituting c8% of UK's GDP in 2018.

The following products' end usage is expected to prevail, with the construction of buildings within UK growing by 5% in 2019, supporting the *Private Housing* Segment growth.

Mainly driven by the residential sector, for the period of 2021 onwards, the market is expected to recover some of the losses undertaken during the pandemic times. An ease in the confinement measures associated to the generalized vaccination of the population will result in a higher demand for new houses and re-establish projects once delayed, resulting in an uplift of the Construction Materials sector.

Estimates anticipate that the market value will escalate to \$4.9bn benefitting from a CAGR of 4.6% for the period comprised between 2020 and 2025, sustained by the different drivers described below. The highest variance is expected to occur in the upcoming year of 2021 with an increase of the market's value by 11%.

*Graph 8: UK Construction Materials Market Size forecast, 2020-2025, in \$m*

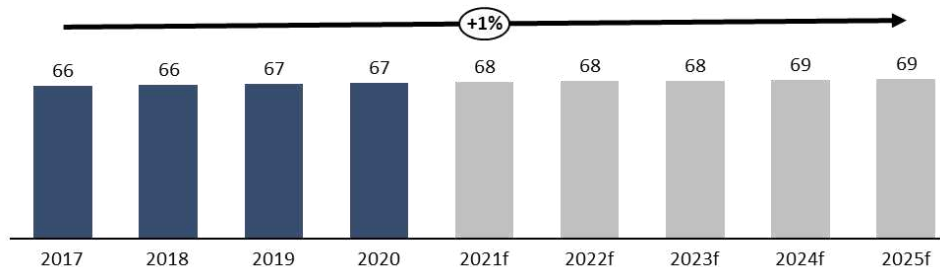


Source: Statista, Construction industry in the UK, 2020

## 2.3.1. Industry Trends & Drivers

### 2.3.1.1. Population Growth

*Graph 9: Population Growth in the UK, 2017-2025*



Source: Statista, Population Growth in the UK, 2020

The graph described above demonstrates the total population in United Kingdom and how has been growing in the period comprehended between 2015 and 2020. It is estimated that this trend will continue to prevail in the next five years with projections estimating an increase of 1.6m people from 2020 to 2025.

Despite a slow but steady growth has been witnessed in the past years, it is not justified by natural reasons, meaning births are not surpassing deaths and accounting as the main factor for the growth of the population. The main element has been international migration. According to data collected for the year of 2020, 88.9% of population growth in UK was explained by net international migration, a difference of almost 24.5% against the prior year which can be explained mostly by the influence of measures attached to Brexit.

United Kingdom is still considered as one of the most attractive countries for working and starting a life abroad. It is historically recognized as one of the main countries responsible for receiving migrants alongside United States, Canada, and Australia. The quality of life is above average when compared to other European countries and criminality rates low.

Lastly, the growth on UK population might continue to create the necessity to sustain either the creation or completeness of Construction projects, including *Residential Houses* or *Housing Repair* services.

### **2.3.1.2. Government Investment**

Driven by the support provided through Government policies, Construction was one of the sectors across UK that more rapidly recovered from the induced lockdowns and different pandemic measures. The industry was considered as vital for the economy recovery and a special effort made through several incentives or investments namely:

#### 1. Stamp duty tax exemption

For UK residents that had recently acquired a property, an exemption of the tax was applied on the first £500,000 for the period comprehended between July 2021 and March 2021. Ultimately, this could represent per property a tax saving of £15,000 and one of the main factors responsible for an increasing demand of new homes in UK.

#### 2. Government Investment

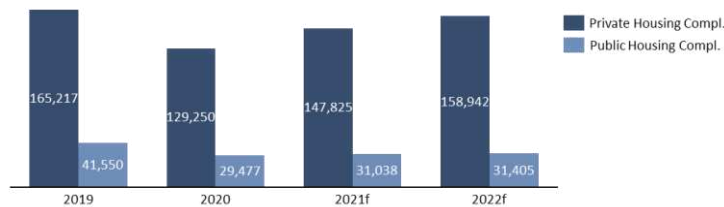
Construction and all its complementary segments were considered as fundamental for a reinvigoration of the economy within the country. An investment around £800m is expected to occur in the period of 2020-2025 with the goal to finance the construction of new homes, railway lines and roads. Furthermore, an effort was also made by the government to not suspend the activities connected to the Construction sector. In Istock case, the production was only ceased totally in March and April of 2020 motivated by the significant number of positive COVID cases verified.

#### 3. *Help to Buy*

*Help to Buy* assists families with their first property acquisition through an equity loan that can go up to 20% of the value of the property allowing acquirers to require both a deposit and a loan lower than they would normally contract. *Help to Buy* was not specifically created as a response to pandemic times although the renewal of the measure until 2023 acted as an initiative for a higher demand of new properties in UK and consequently industry growth.

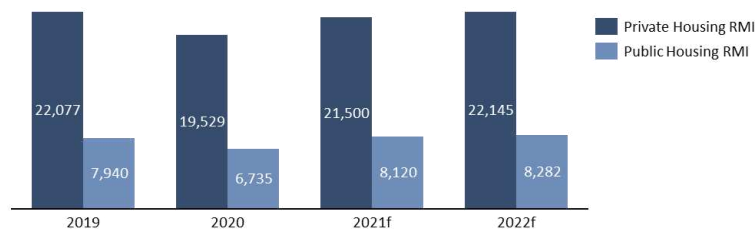
The different policies and measures mentioned above sustained a quicker recovery of the sector and for the players operating within this segment.

Graph 10: UK Private Housing Completions, 2019-2022



Source: Istock FY20 Annual Report

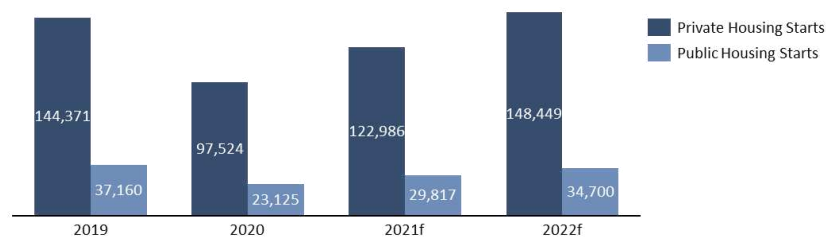
Graph 11: UK Housing Repair, Maintenance, and Improvement, 2019-2022



Source: Istock FY20 Annual Report

### 2.3.1.2. Construction of new homes and Growing demand for Construction Materials

Graph 12: UK Private Housing Starts, 2019-2022



Source: Istock FY20 Annual Report

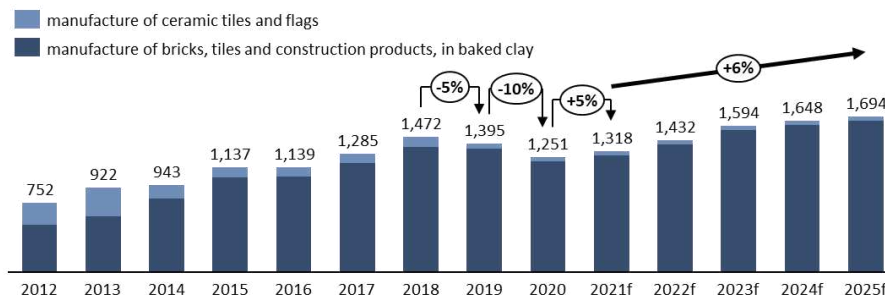
The Construction industry mainly driven by *Private Housing*, is thriving and may even recover earlier than expected. Consequently, it is expected that players such as Istock, responsible for the manufacture of clay and concrete building products, fundamental for the residential sector, will also benefit from this evolution. In the end, such trends will result in a growing demand for construction materials sustaining the roofing, flooring, walling, and garden & landscape activities.

### 2.3.1.3. Relieve of pandemic measures

The relieve of some of the measures applied in pandemic times will assume a great preponderance for companies acting in this sector. Companies will be allowed to work at full capacity which does not happen since prior times to COVID. In addition, this will allow to restart projects once suspended ultimately sustaining a rebound of the industry.

The following trends and drivers are expected to positively influence the industry and reinforce the demand for Ibstock products in the short term, since clay and concrete products act as integral components for either the construction of new homes or Housing Repair and Maintenance Services. The combined market of *manufacture of ceramic tiles and flags* and *manufacture of bricks, tiles and construction products* is expected to grow at a CAGR of 6% starting in 2021 while the players that act as *manufacturers of articles of concrete, cement and plaster* will benefit from a CAGR of 4% starting in 2021.

Graph 13: Industry revenue of manufacturers of clay building materials in UK, 2012-2025, in \$m



Source: Statista, Industry revenue of manufacturers of clay building materials in UK, 2020

Graph 14: Industry revenue of manufacturers of articles of concrete and cement in UK, 2012-2025, in \$m



Source: Statista, Industry revenue of manufacturers of articles of concrete and cement in UK, 2020

### 3. Company Overview

#### 3.1. Business Overview

Ibstock PLC has its headquarters in Ibstock, United Kingdom, in the same city it was founded in 1825. The company acts as one of the largest manufacturers of clay and concrete building products. It is a public company, listed on the London Stock Exchange under the ticker *IBST*. The company accounts with c2,044 people employed, more than fifty plants and quarries, and is considered as the primarily UK clay brick manufacturer by production capacity as of 2020.

Its principal products include clay bricks, brick components, concrete roof tiles and concrete rail products. Additionally, the company offers engraving, cutting, and bonding services. Its products are used for different applications including:

- New build housing,
- Repair, maintenance, and improvement
- Infrastructure markets

The company comprises two divisions, both Concrete and Clay. The Concrete department includes roofing, fencing, cast stone, walling and flooring products while the Clay department incorporate special brick shapes and bespoke products, prefabricated elements, precast and brick-faced systems.

#### 3.2. History

Ibstock was founded in 1825 by William Thirby. The company was initially engaged in the coal business, being sold in 1875 to the Thomson Family, back in the time collieries' owners with additional presence in Scotland.

In the year of 1914 the business was deeply influenced by the World First War. Coal mining business became less profitable with additional players such as Poland and Germany having associated lower importation costs. This factor resulted in the shut of the colliery in 1928, with the company changing its strategy towards pipe, tile, and brick manufacture leading to a change in its trading name for Ibstock Brick and Tile Company Limited.

By 1962, aiming to expand, Ibstock was responsible for its major acquisition, Himley Brick. Shortly after, in the year of 1963, the company became listed in the London Stock Exchange.

Near 1973, the company was responsible for its first major overseas acquisition. With the acquisition of Van Wijck and Udenhaut brickworks in Holland, the company strategy turned into reinforce its international position. Further expansions occurred in 1977 with the acquisitions of Wanlin, Hennuyeres and De Ruiters brickworks in Holland.



During the eighties, motivated simultaneously by the world recession and international expansion that demonstrated to be ineffective and unprofitable, all factories were shut down or sold in Holland.

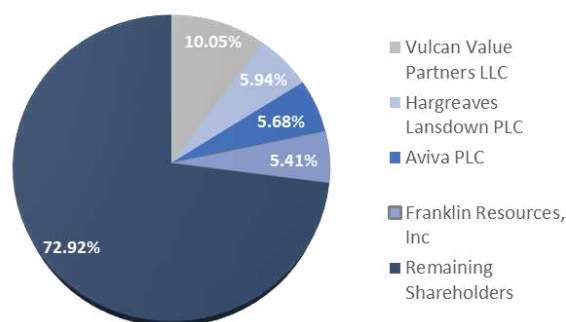
In the period comprised between 1995 and 2010, the company was responsible for several acquisitions namely: assets of Tarmac in 1995, Redland Brick Limited in 1996, the assets of Ellistown brickworks in 1999, Ibstock Kevington in 2002 and lastly, the acquisition of both Supreme Concrete and Anderton Concrete in 2007 and 2008 respectively.

In 2015, Bain Capital acquired Ibstock and its subsidiaries from CRH, in the same year the company re-joined the public markets, entering once more in the London Stock Exchange.

By 2018, with the acquisition of Longley Concrete and the sale of Glen-Gery to Brickworks Limited, the company strategy turned its focus towards the UK market.

### 3.3. Shareholder Structure

*Graph 15: Shareholder Structure*



Source: Orbis, Shareholder Structure as of 31<sup>st</sup> Dec. 2021

Vulcan Value Partners LLC, an U.S. investment management firm is Ibstock main shareholder detaining an ownership percentage of 10.1%, followed by Hargreaves Lansdown PLC with 5.9%, Aviva PLC with 5.7% and Franklin Resources, Inc. with 5.4%. The remaining ownership percentage is divided by several shareholders, either individual – accounting for 45.1%; or institutional – accounting for 54.9% of total ownership, distributed between Europe, with higher preponderance in UK and North America.

### 3.4. Business Summary

To better understand some of the assumptions assumed on the Valuation section, an analysis must be performed on the evolution of the main financial metrics, yearly influence that each product has on total income and the revenues split per geography throughout the years.

### 3.4.1. Historical Financial Performance

Ibstock acts as the UK largest manufacturer of clay bricks per production capacity. The company benefited historically of solid demand driven by government stimulus such as Stamp duty exemption and *Help to Buy*, continuing undersupply and a highly concentrated market with high barriers to entry.

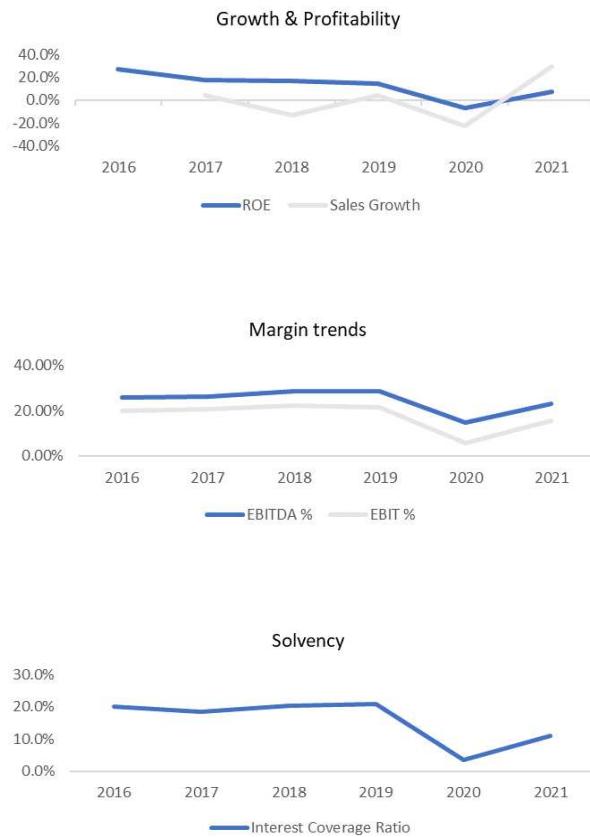
Company’s strong financial capacity remained stable until 2020 as for the market where it operates. A deeply concentrated and consolidated sector results in high barriers, translating into a captivity of pricing power for Ibstock and its peers.

Net Debt remained steady and aligned with guidance, with only enhancement projects aiming to sustain increased capacity responsible for minor historical variations.

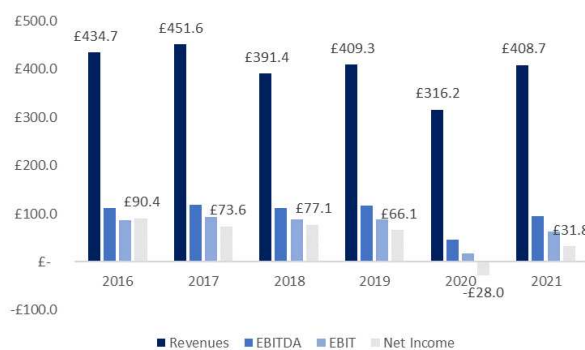
Capital expenditures persisted between £20-25m range, historically perceiving a stable percentage lower than 10% of Turnover. Enhancement projects aiming to increase capacity and maintenance of existing assets remained as the main capital allocation priorities in the past five years.

Margin trends increased constantly until FY20, only weakened by company’s enhancement programmes and an overall increase of energy costs. For 2020, the combination of both COVID and Brexit were the main factor for an accentuated decrease of company results.

Graph 16: Historical Financial Performance, 2016-2021



Graph 17: Historical Financial KPI's, 2016-2021, in £m



Source: Ibstock Annual Reports

COVID played an important role on company’s results, with a keen focus witnessed in the first six months of FY20. A combination of lockdowns and industry restrictions led into a material reduction and partial suspension of production during the months of March and April. The outcome soon was reflected in the valuation deeply affecting the company results. A downside of 101% in the share price was observed in just three weeks, moving from £3.00 on 25<sup>th</sup> February to £1.49 on 18<sup>th</sup> March.

Graph 18: Share Price Performance

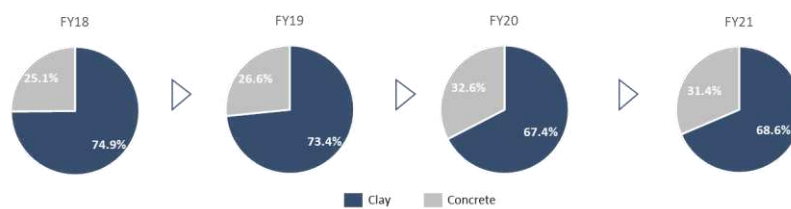


Source: Capital IQ

In the second half of the year and after a phased restart of operations, an overall improve on all sectors was witnessed with both clay and concrete divisions reaching 90% of the values observed in the fourth quarter of last year, although not being enough to compensate previous losses.

### 3.4.2. Breakdown by segment

Graph 19: Breakdown by Segment, 2018-2021



Source: Ibstock Annual Reports

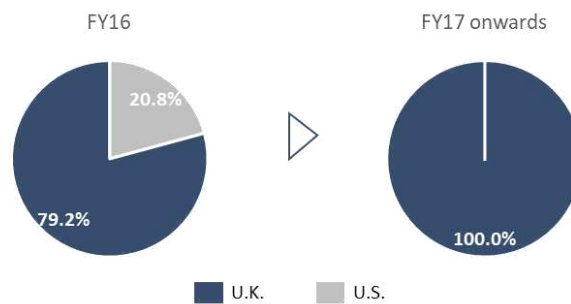
Clay constitutes historically the company’s main source of income. Ibstock PLC is considered as the number one clay brick manufacturer acting in the United Kingdom per production capacity. The department comprises sixteen manufacturing sites strategically located and eighteen quarries with 75m of clay reserves. In the year of 2020, mainly motivated by the influence that COVID had within this industry, two manufacturing sites were closed, one located in Atlas and the other one located in

Leicester, resulting, among other factors, in a decrease of the overall percentage on total revenues, moving from 73.4% in FY19 to 67.4% in FY20.

Concrete does not assume the same preponderance as Clay on total Revenues although a change in the last years has been witnessed. COVID led to a stronger demand for Repair, Maintenance, and Improvement segment, with consumers taking advantage of pandemic times to spend a larger share of their income in properties. This factor, alongside with the acquisition of Longley Concrete strengthened the company position and product offering, motivating a change towards a higher preponderance of Concrete in total Revenues. An increase of 5% was witnessed in FY20, decreasing roughly 1% in FY21 when analysing the influence of each product on total income against the prior year.

### 3.4.2. Breakdown per geography

*Graph 20: Breakdown by Geography*



Source: Capital IQ

On 23<sup>rd</sup> November of 2018, Ibstock sold its subsidiary Glen-Gery, at the time responsible for all operations within U.S. territory. This decision marked an important milestone changing the company strategy towards a greater focus into the UK market. Although the sale occurred in the end of 2018, the operations were not previously classified as held-for-sale or as discontinued. This way, both FY16 and FY17 were restated to reflect the values for net interest costs that resulted from this operation.

From 2018 onwards, the company has been concentrated on a sustainable prosperity focused on the internal market, sustained by the prudent selection of M&A opportunities as observed in 2019 with the acquisition of Longley Concrete.

### **3.5. Swot Analysis**

Construction Materials industry comprises large manufacturers that benefit from economies of scale which ultimately translates into a highly concentrated market with high barriers to entry that benefit from vertically consolidated business models. It is estimated that within the UK market, three brick manufacturers gather c90% of total production capacity with Ibstock being considered as the market leader benefiting from more than fifty plants and quarries, an experienced team, and an historical strong financial performance.

#### **3.5.1. Risk assessment**

##### **3.5.1.1. Climate Change**

The company's activity leverages on the manufacture of Concrete and Clay products that rely on the extraction of natural resources. The industry is particularly known for the carbon emissions and high energy costs that recently have been resulting into a price increase for a set of raw materials, including both Clay and Concrete. In addition, a new law regarding carbon emissions will force firms to decrease the pollution levels.

Companies will now have to find a way to continue to produce in a sustainable and profitable way and simultaneously, take into consideration the new conditions settled in the sixth Carbon Budget event. As a result, Ibstock has already implemented long-term incentive plans including the inclusion of a new KPI set on carbon reduction, the creation of a sustainability roadmap that settles on different environmental goals planned to be reached until 2025 and the intention to construct a net zero brick factory.

##### **3.5.1.2. Economic Conditions & Operational Disruption**

The Group's activity is heavily correlated with both residential and non-residential sector. As so, the pandemic development will take an essential role on company's recovery. Further lockdowns or even new restrictions might result in a reduction of demand that would translate into a contraction of the market.

The implied uncertainty might result in a generalized increase of costs, either on transportation, raw materials, or ultimately energy, affecting company's financial results. Even though the evolution of the conditions described above are beyond company's control, the group will leverage on the analysis of either industry or macroeconomic forecasts and reports that might predict any market or economic changes.

### **3.5.1.3. Brexit**

The decision taken on 31<sup>st</sup> January of 2020 might result into deeper and additional consequences to players acting in this economy. The existing insufficiency of skilled labour might be emphasized if Europeans are not authorized to enter the country. Ultimately, this might result in additional pressure for players operating within this sector that are already facing several barriers such as, an increase of fixed costs and projects delay. The company has been reviewing its contingency plan to minimize its exposure.

### **3.5.1.4. COVID**

The pandemic situation influenced particularly the industries where Ibstock operates. According to the 2020 Annual Report, during the months of March and April, the difficult decision to suspend production and temporarily close all factories across both divisions was undertaken, ultimately affecting deeply the financial performance for FY20. Results for the year were tremendously affected by COVID, with Revenues dropping from £409m to £316m resulting in a decrease of 23%.

A vigorous government spending is driving the industry. Construction sector was defined as fundamental for an economy recovery. Several factors contributed deeply namely: government infrastructure expenditure, stamp duty exemption and additional measures such as *Help to Buy*.

## **3.5.2. Porter's Five Forces**

### **3.5.2.1. Bargaining Power of Buyers - Moderate**

The Building Materials Industry is marked by a broad number of acquirers that could range from large wholesalers, private or public organizations up to small construction businesses. Different customers result in distinct outcomes for a sector designated by a dependency on a few, large-scale material producers.

The industry relies on a small number of material manufacturers that supply a considerable number of different end users. Hence, the buyer power is reduced, and the influence exercised by these players mitigated on a market where supplier's location and product's quality engage important rolls, with construction components easily replaced by a lower-priced identical version.

### **3.5.2.2. Degree of rivalry – Strong**

Construction materials is a very concentrated market dominated by few large players, difficult to exit, with high capital barriers and initial required investment, and economies of scale. Customers give priority to local suppliers for convenience and price purposes, pointing up a strong rivalry between peers. COVID induced lockdowns reduced the levels of demand, bringing additional conflict into a market where specialization, brand quality and extended geographical exposure reduce industry's rivalry.

### 3.5.2.3. Bargaining Power of Suppliers - Moderate

Two components are required for the manufacture of construction materials, both energy and raw materials. To minimize the potentials risks attached to their activity, specifically potential price fluctuations, companies can leverage on financial instruments, such as options or futures, contracting now what will be secured in the future.

Moreover, the vast quantities of raw materials that are acquired from large mining companies enhance the power of suppliers. Moreover, some of the companies that act as manufacturers of construction materials already possess their own quarries and plants, ultimately reducing production and distribution costs, diminishing the power of suppliers.

### 3.5.2.4. Threat of Substitutes – Weak

Cement, clay, and bricks still take an important role in the Construction sector. There are still no substitutable components when considering the same price range or product's viability. In conclusion, although some efforts have been made lately to develop eco-friendly solutions, manufacturers of raw materials still benefit from a market where the threat of substitution is weak considering traditional materials will not be erased promptly.

### 3.5.2.5. Threat of New Entrants – Moderate

Construction materials industry relies on a high initial investment, fixed costs, capital barriers and a large concentrated market. Thus, only large players that can benefit from economies of scale, proximity to raw materials through dedicated suppliers or self-owned quarries and plants, profiting from lower transportation and materials costs will thrive.

Brexit brought additional uncertainty and will result on supplementary costs for imported materials. COVID-19 was responsible for a decrease of demand, resulting in a reduction of the attractiveness of the sector, weakening the possibility of a potential new entrant.

Figure 1: Porter's Five Forces



Source: Equity Research Analysis, Author own estimates

## **4. Valuation**

### **4.1. Absolute Valuation**

For Istock's valuation, two methods were used: a Discounted Cash Flow Model and a Relative Valuation exercise, leveraging on the performance of a peer group previously selected and a set of relevant deals that occurred in the time span of last five years. A conclusion about the different prices was conducted considering the different approaches.

#### **4.1.1. Discounted Cash Flow Model**

Starting with DCF, a set of assumptions were assumed leveraging on the industry and macroeconomic section present in this report, assuming a forecast period of five years starting in 2022, included.

##### **4.1.1.1. Forecast Assumptions – FCFF items**

###### **4.1.1.1.1. Revenue Forecast**

Revenue is indisputably one of the most relevant components of any forecast exercise. To predict it, two main methods can be used: an historical growth rate, where it is assumed that the industry and subsequently company's revenues will grow at an historical pace, or an analysis on different quantitative factors can be performed so that a sum of parts can be reached and consequently a growth rate retrieved. For this analysis, the second method was used as described below.

Leveraging on the macroeconomic and industry section present in this report, the growth rate of Istock Revenues was created based on the analysis of two different quantitative drivers with different weights associated:

- Macroeconomic drivers
- Market, Sector & Company related drivers

###### **4.1.1.1.1.1. Macroeconomic drivers**

Firstly, an analysis was performed on three different performance drivers described in the macroeconomic section of this report and the respective values retrieved for the forecast period with similar proportions:

- UK GDP growth,
- UK inflation rate,
- UK population growth.



It is important to highlight the influence that the period from 2022 onwards will sustain for Ibstock and all UK companies regardless the industry considered. Although a limited upside risk was considered, it is still relevant to underline that the uncertainty brought by pandemic times might still be perceived in the near term. It is expected that both the GDP and population growth rate might continue to sustain an upward growth of interest in Ibstock product line.

A weight of 15% was attributed to macroeconomic drivers when computing the overall revenue growth rate, average values within Broker Reports from the most reliable sources for this industry.

Table 3: Macroeconomic Performance Drivers, 2021-2026

Macroeconomic Performance Drivers		Dec-31-2021	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026
Macro	Annual GDP Growth in UK	6.5%	6.0%	2.1%	1.3%	1.6%	1.7%
	U.K. Inflation Rate	2.6%	7.4%	4.0%	1.5%	1.9%	2.0%
	Population Growth	1.0%	1.0%	1.5%	1.5%	1.5%	1.5%
	<b>Growth%</b>	<b>3.37%</b>	<b>4.80%</b>	<b>2.53%</b>	<b>1.43%</b>	<b>1.67%</b>	<b>1.73%</b>

Source: Statista, United Kingdom, 2020

#### 4.1.1.1.1.2. Market, Sector & Company related drivers

Secondly, an analysis was conducted on three additional elements, market, company, and sector related, responsible for a company growth in the future:

- Industry growth of manufacturers of clay and concrete products in UK
- *Ibstock futures* - investment expected to occur in the beginning of 2024 related to the opening of the UK's first automated factory assembling net zero bricks

For the first three years, the rate constructed below took only into consideration the industry growth with a weight of 71.1% given to manufacturers of clay, company's historical share by segment when considering the latest four years, and the remaining share of 28.9% for manufacturers of concrete. On the two last years of the forecast period and subsequently the first years where the factory will be running at maximum capacity, equal weights were assigned to both the industry growth and *Ibstock futures*, resulting in a substantially higher growth when compared to previous years, reflecting the influence that opening the first automated factory assembling net zero bricks might have in company's results. *Ibstock futures*, not only will result in c60m of additional capacity but may also play an important role on the company's Sustainability roadmap for 2030, reinforcing its position on growing sectors complementing the existing product offering. Ibstock innovation might result in a significantly higher number of customers, considering the role that environment and natural causes plays nowadays, and when considering mutually the durability and energy efficiency that brick slips provide when compared to other products.

Table 4: Market &amp; Sector Performance Drivers, 2022-2026

Market & Sector Performance Drivers						
Market & Sector	Historical Revs per Prod. Breakdown	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026
	Industry Growth % - Manufacturer of articles of clay in UK	7.5%	6.5%	6.5%	6.5%	6.5%
	Industry Growth % - Manufacturer of articles of concrete in UK	6.6%	4.5%	4.5%	4.5%	4.5%
	Ibstock Futures - Atlas Investment				15.0%	15.0%
	<b>Growth%</b>	<b>7.24%</b>	<b>5.92%</b>	<b>5.92%</b>	<b>10.46%</b>	<b>10.46%</b>

Source: Statista, Industry Revenue of Clay, and Concrete in UK, 2020

Considering a weight of 15% for macroeconomic and 85% for market, sector & company drivers, average weights captured when analysing different broker reports in the sector, the analysis conducted previously resulted in the following growth rates until 2026, with the company financial recovery highly dependent on the investment in a new factory.

Table 5: Performance Drivers, 2022-2026

Performance Drivers						
	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026	
Market & Sector	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
Macro	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
<b>Total Revenues %Growth</b>	<b>6.87%</b>	<b>5.41%</b>	<b>5.25%</b>	<b>9.14%</b>	<b>9.15%</b>	

Source: Equity Research Analysis, Author own estimates

Revenues were also segmented by product type considering the historical average share of last four years assuming the company focus will retain towards clay products and solutions.

Table 6: Revenues Forecast, 2022-2026

Revenues Forecast						
	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026	
Clay	310.5	327.4	344.5	376.0	410.4	
Concrete	126.2	133.1	140.0	152.8	166.8	
<b>Total Revenues</b>	<b>436.7</b>	<b>460.4</b>	<b>484.6</b>	<b>528.9</b>	<b>577.3</b>	
<b>Δ%</b>	<b>6.87%</b>	<b>5.41%</b>	<b>5.25%</b>	<b>9.14%</b>	<b>9.15%</b>	

Source: Equity Research Analysis, Author own estimates

#### 4.1.1.1.2. Capital expenditures - Capex

Motivated by the influence and additional pressure that COVID and Brexit brought on the sector, a company's cost reduction plan is expected with investment in capacity expansion not being considered as a priority until 2024. As so, a maintenance expenditure was considered for the first two years with the value of *Property, Plant and Equipment* suffering a reduction of 4% each year starting in 2022. Only on the years of 2024 and 2025, a different procedure was considered to respect the investment consideration on *Ibstock futures*.

Given the investment will take place in 2024 and will have a respective value of £50m, two years were assumed as a plausible timeframe to consider as investment timeline.

Table 7: CAPEX, 2022-2026

	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026	TV
Total Depreciation	30.56	29.34	30.83	32.31	32.31	
Gross Property, Plant & Equipment	515.1	494.5	519.5	544.5	544.5	
Accumulated Depreciation	-166.2	-195.5	-226.3	-258.6	-290.9	
Gross Property, Plant & Equipment YoY % reduction	4.0%	4.0%				
<b>Capex</b>	<b>9.1</b>	<b>8.7</b>	<b>55.8</b>	<b>57.3</b>	<b>32.3</b>	<b>33.0</b>

Source: Equity Research Analysis, Author own estimates

#### 4.1.1.1.3. Working Capital

Working Capital assumes a relevant preponderance given its variation affects FCFE directly and as so, an analysis should also be conducted on how it will evolve in the forecast period. Ibstock's Working Capital comprises five main sections: *Accounts Receivable*, *Inventory*, *Accounts Payable*, *Accrued Expenses* and *Other Current Assets/Liabilities*.

A similar methodology was applied for both the Assets and Liabilities components of Working Capital. Firstly, the historical average days sales outstanding, inventories and payable outstanding were computed resulting in 49.6, 110.6 and 56.2 days, respectively, and used as assumption for the forecast period since no changes are expected to occur in that regard. As for the value of *Accrued Expenses* and *Other Current Assets/Liabilities*, the average value of historical years was captured and used in the forecast period.

Table 8: Net Working Capital, 2022-2026

	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026
Working Capital	79.9	84.2	91.4	104.4	118.6
Net Working Capital	48.6	53.4	58.2	67.2	76.9
<b>(-) Δ Net Working Capital</b>	<b>12.0</b>	<b>4.8</b>	<b>4.9</b>	<b>8.9</b>	<b>9.8</b>

Source: Equity Research Analysis, Author own estimates

#### 4.1.1.1.4. COGS and OPEX

Cost of Goods Sold and Other Operating Expenses, two values that indirectly affect FCFE through EBITDA, are expected to remain constant as a % of revenues. Company's reduction plan does not comprise a cut in administrative expenses through employee salaries reduction, and it is expected that distribution costs follow the same trend. The average historical weight over Revenues was retrieved for the last five financial years starting in 2016 and used as an assumption for the forecast period. 2020 was excluded from the average computation since it was an atypical year for the company and respective sector, sustaining a value substantially higher when compared to prior years.

Table 9: COGS, 2022-2026

	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026
Aver. % of Revs	62.4%	62.4%	62.4%	62.4%	62.4%
<b>Total COGS</b>	<b>272.3</b>	<b>287.1</b>	<b>302.1</b>	<b>329.7</b>	<b>359.9</b>

Source: Equity Research Analysis, Author own estimates

Table 10: OPEX, 2022-2026

	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026
Average % of Revs	17.8%	17.8%	17.8%	17.8%	17.8%
<b>Total Opex</b>	<b>77.6</b>	<b>81.8</b>	<b>86.1</b>	<b>93.9</b>	<b>102.5</b>

Source: Equity Research Analysis, Author own estimates

#### 4.1.1.2. Forecast Assumptions – Non-FCFF items

##### 4.1.1.2.1. Financial Debt

An acquisition of a company or an investment project is financed by two main sources of capital, either equity or debt. The main difference when considering both is that equity does not require to be repaid and has an associated higher risk, which is normally reflected in its cost. In the year of 2020, Ibstock did not distribute any dividend due to the poor financial results and negative net income. When considering simultaneously the Net Debt / EBITDA ratio of 5.7x in 2020, it highlights the company difficulties to surpass the economic uncertainty brought by the pandemic. Since no information were able to retrieve on how *Ibstock futures* project will be financed, it was assumed that it will be through the issuance of £50m of long-term debt in 2023 given the company poor financial results. The loan will have an associated cost of 4.2%, average interest rate cost also assumed for WACC calculations, with amortizations assumed to occur in the start of each period.

Table 11: Financial Debt, 2022-2026

	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026
<b>Net Debt</b>	<b>85.2</b>	<b>129.4</b>	<b>123.5</b>	<b>115.8</b>	<b>107.9</b>
Net Debt / EBITDA	1.0x	1.4x	1.3x	1.1x	0.9x
<b>Debt Long Term Position</b>					
Beggining Debt Balance	127.3	123.5	169.8	166.0	162.3
Ammortization	124.8	124.8	124.8	124.8	124.8
New Debt Issued	121.0	171.0	121.0	121.0	121.0
<b>Ending Debt Balance</b>	<b>123.5</b>	<b>169.8</b>	<b>166.0</b>	<b>162.3</b>	<b>158.5</b>
<b>Interest Expense</b>	<b>5.1</b>	<b>7.1</b>	<b>6.9</b>	<b>6.7</b>	<b>6.6</b>

Source: Equity Research Analysis, Author own estimates

##### 4.1.1.2.2. Goodwill

Goodwill reflects the value of intangible assets resultant of the process of acquiring an external company, specifically, the portion that surpasses the sum of the net fair value when compared to its respective liabilities and assets. It is important to highlight that such factor has no influence in FCFF although it is relevant to point out that in the year of 2021 the value of £3m shall be considered, related to the acquisition of Longley Concrete in July 2019, as it was appraised on 30<sup>th</sup> November for impairment.

### **4.1.2. Weighted Average Cost of Capital (WACC)**

To evaluate Ibstock equity valuation through the Discounted Cash Flow Model, one must gather all the necessary components of WACC, necessary to discount the cash flows computed for the forecast period. As fully explained in the Literature Review section, CAPM was the model selected to gather an accurate value for WACC.

WACC comprises several components, in which three should be highlighted given their relevance and fully disclosed on how they were captured, namely: Cost of Equity, Cost of Debt and respective Tax rate.

#### **4.1.2.1. Cost of Equity**

Cost of Equity requires four inputs to compute it: Market and associated Country Risk Premium, Beta and Risk-free rate. In this valuation exercise, CAPM was the model selected to reflect the required return when compared to the riskiness of the sector.

##### **4.1.2.1.1. Risk-free rate**

Risk-free rate was captured leveraging on the value of 10yr UK Bonds on the 31<sup>st</sup> of December of 2021, considering the company's exposure is restricted to the UK, which is marked by a rating below AAA, and to keep consistency across the period considered in the valuation exercise. A value of 0.97% was captured and used as benchmark for the Risk-free Rate, given its low-risk nature.

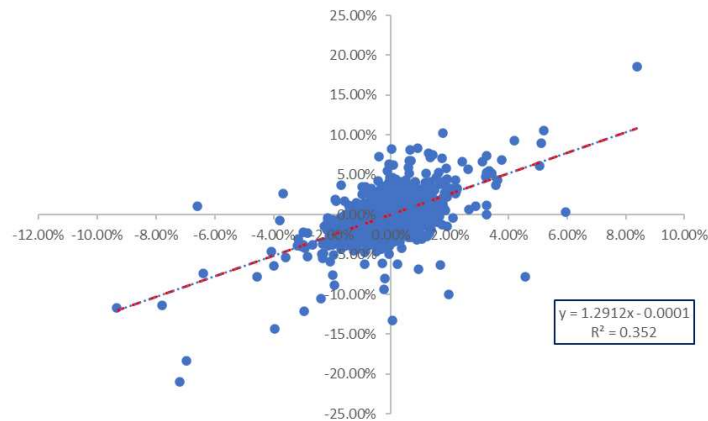
##### **4.1.2.1.2. Market Risk Premium**

The Market Risk Premium was retrieved directly from Damodaran's database. Given Ibstock no longer has international presence, either through exportations or subsidiaries, the values retrieved are directly related to the UK as the geography to consider. Considering that, a value of 5.4% was captured and used as the assumption for the Market Risk Premium while a value of 0.6% was also captured and used as the Country Risk Premium for Cost of Equity calculations given UK has an associated rating below AAA.

##### **4.1.2.1.3. Beta**

Finally, Beta was determined through the two most common procedures for listed companies: a daily regression model of the last five years stock returns on the respective market index, and through a peer group average assuming a bottom-up beta approach. Five years was the time span chosen to keep consistency across the valuation exercise, given it was also the period used to capture the Beta's of Ibstock peer group. The daily regression model perceived a Levered Beta of 1.3x.

Figure 2: 5y Beta Regression



Source: Capital IQ

As for the selection of the peer group, different criteria were used to gather the most comparable companies namely sector, geography, product offering, financial size, and respective margins. All in all, a group of six companies all UK based acting as the most preponderant players within the Building Materials sector were selected.

Table 12: Peer Group Analysis

Exchange:Ticker	Company Name	Tax Rate	Market Cap	EV	Total Debt	Equity	D/E	D(D+E)	Raw Beta	Unlevered Beta
LSE:FORT	<b>Forterra plc</b>	19%	627.2	615.9	26.2	231.2	0.1	0.1	1.7	1.5
LSE:TPK	<b>Travis Perkins plc</b>	17%	3,403.3	4,020.5	1,064.4	2,237.8	0.5	0.3	1.5	1.1
AIM:MBH	<b>Michelmersh Brick Holdings plc</b>	17%	122.4	118.9	1.4	85.1	0.0	0.0	1.1	1.0
LSE:GFTU	<b>Grafton Group plc</b>	17%	2,953.9	3,200.5	705.6	1,719.6	0.4	0.3	1.6	1.2
LSE:KLR	<b>Keller Group plc</b>	12%	712.4	896.6	276.0	442.7	0.6	0.4	1.6	1.0
AIM:SRC	<b>SigmaRoc plc</b>	17%	532.7	586.7	233.9	411.2	0.6	0.4	1.6	1.1
<b>Average</b>		16%	1,392.0	1,573.2	384.6	854.6	0.4	0.2	1.5	<b>1.2</b>

Source: Capital IQ

The peer group average conducted an Unlevered Beta of 1.2x and subsequently a Levered Beta of 1.5x considering a tax rate of 19.7%, mentioned in the company's latest annual report. Consequently, the peer group average using the bottom-up approach led to a closer estimation taking into consideration the 5y Beta retrieved directly from Capital IQ, with a value of 1.6x, when compared to the one captured through the daily regression model. As such, being assumed as the better presupposition for Cost of Equity calculations.

Gathered all four inputs, the respective company's Cost of Equity retrieved a value of 9.5%.

#### 4.1.2.2. Cost of Debt

Cost of Debt was captured by taking into consideration the latest values of interest expenses and the total value of financial debt. To seize the total value of financial debt, an analysis of the Balance Sheet was conducted, and the following rubrics appraised as Debt that pays interest: *Long-term Debt*, *Long-term Leases*, *Current Portion of Leases* and *Current Portion of Long-term Debt*. Considering the values for Interest Expenses in both 2019, 2020 and 2021, it implies an average Cost of Debt of 4.2%, additionally implicit for the future since it is expected to remain stable.

#### 4.1.2.3. Tax Rate

On 23<sup>rd</sup> November of 2018, Ibstock sold its U.S. subsidiary Glen-Gery and stepped down from international markets changing its strategy towards the UK market. The change in the strategy focus suggests that the tax rate to consider in this valuation exercise should be related to UK only. In 2020, motivated by the additional pressure brought by COVID and Brexit, the company presented a negative net income resulting in a non-meaningful tax rate. The tax rate considered in this Equity research was the one captured through Ibstock's latest annual report, 19.7%, and assumed it will remain stable across the analysis.

Table 13: Effective Tax Rate, 2016-2021

	Dec-31-2016	Dec-31-2017	Dec-31-2018	Dec-31-2019	Dec-31-2020	Dec-31-2021
Effective Tax Rate %	18.4%	11.8%	17.5%	18.9%	-17.5%	51.0%

Source: Ibstock Annual Reports

#### 4.1.2.4. Summary

Considering that all WACC components are outlined, it is now possible to estimate the rate used in the DCF Valuation of Ibstock.

As previously disclosed, WACC consider each company's capital structure with its associated cost. In Ibstock case, a target Debt-to-Equity ratio of 0.6x was considered reflecting the company's plan on financing *Ibstock Futures* through Debt, contrasting with the historical average structure of 0.35x.

Considering the different inputs described over this section, it is possible to calculate the value for WACC which totalized 7.2%, identical to the 8% considered by Broker Reports from the most reliable sources on the industry, namely J.P. Morgan as of 20<sup>th</sup> January of 2022. One shall remark that considering all the other inputs previously described, if the historical average capital structure of 0.35x was considered in detriment of 0.6x, a WACC of 8% would also be perceived, emphasizing the accuracy and veracity of the assumptions acknowledged.

Table 14: Components for the WACC estimation

Risk-free rate	1.0%
Market Risk Premium	5.4%
Country Risk Premium	0.6%
Company Levered Beta	1.5x
<b>Equity required return rate</b>	<b>9.5%</b>
<b>Cost of Debt</b>	<b>4.2%</b>
D/E	0.6x
E/D	0.4x
<b>WACC</b>	<b>7.2%</b>

Source: Equity Research Analysis, Author own estimates

#### 4.1.3. Free Cash Flow to the Firm – FCFF

Gathered and applied the different assumptions it is now possible to compute the associated Cash Flows for the forecast period, considering five years as the time span. To compute it, one must deduct the taxes from EBIT, add back the value of Depreciations and Amortizations, subtract the value of Capex and changes in Net Working Capital, finally discounting leveraging on WACC as the appropriate rate.

A highlight shall be given on the influence that *Ibstock futures* may have on the company financial recovery, strategic and product innovation. A positive influence is expected only to occur from 2025 onwards, year when the factory is expected to be fully running. In accordance with the most reliable sources on the industry, namely J.P. Morgan, a perpetual growth rate of 2% was considered to estimate the perpetual Cash Flow after 2026.

Table 15: Free Cash Flows and Terminal Value

	2022	2023	2024	2025	2026	TV
<b>Revenues</b>	<b>436.7</b>	<b>460.4</b>	<b>484.6</b>	<b>528.9</b>	<b>577.3</b>	<b>588.8</b>
Gross margin	164.4	173.3	182.4	199.1	217.3	221.7
OPEX	77.6	81.8	86.1	93.9	102.5	104.6
<b>EBITDA</b>	<b>86.9</b>	<b>91.6</b>	<b>96.4</b>	<b>105.2</b>	<b>114.8</b>	<b>117.1</b>
Depreciation and amortization	30.6	29.3	30.8	32.3	32.3	33.0
<b>EBIT</b>	<b>56.3</b>	<b>62.2</b>	<b>65.5</b>	<b>72.9</b>	<b>82.5</b>	<b>84.1</b>
Operational taxes	11.1	12.3	12.9	14.4	16.3	16.6
NOPAT	45.2	50.0	52.6	58.5	66.2	67.6
(+) Depreciation	30.6	29.3	30.8	32.3	32.3	33.0
<b>Operating cash flow</b>	<b>75.8</b>	<b>79.3</b>	<b>83.5</b>	<b>90.8</b>	<b>98.5</b>	<b>100.5</b>
Δ Working capital	12.0	4.8	4.9	8.9	9.8	10.0
Capex	9.1	8.7	55.8	57.3	32.3	33.0
<b>Free Cash Flow to the Firm</b>	<b>54.6</b>	<b>65.8</b>	<b>22.8</b>	<b>24.6</b>	<b>56.5</b>	<b>57.6</b>
Growth (%)	95.2%	20.4%	-65.4%	8.0%	129.8%	2.0%
<b>Terminal Value</b>						<b>1,108.1</b>

Source: Equity Research Analysis, Author own estimates



#### 4.1.4. Equity Value

The valuation exercise on Istock PLC retrieved an Enterprise Value of £968.0m with a respective value of £901.9m for Equity Value considering a value of £66.1m for Net Debt.

A target price of £2.20 was able to retrieve contrasting with the company's share price of £2.04 as of 31<sup>st</sup> December 2021, representing a 16.4% upside.

The organic growth and respective profitability enhancement is mainly motivated by a set of assumptions important to highlight namely:

- Asset-lighter structure in the near term - a cost reduction plan is expected to occur with investments in capacity expansion not being constituted as a current priority. A maintenance expenditure is being considered with a reduction of 4% each year until 2024.
- *Istock futures* - investment in the brick slips sector is expected to occur in 2024 and will result in additional profitability and product offering enlargement. A £50m investment will result in a further capacity of c60m brick slips annually and an addition of c£8.8m for EBITDA in 2025.
- Capital structure with no structural changes until 2023 – a change is expected to occur in 2023 motivated by the issuance of £50m of debt that will be used to finance the new investment opportunity.

Table 16: Price per Share Calculation

<b>Enterprise Value</b>	<b>968.0</b>
(+/-) Net Cash / Net Debt	66.1
(-) Minorities	-
<b>Equity Value @ 31 Dec 2021</b>	<b>901.9</b>
<hr/>	
Number of shares (in million)	409.6
<b>Price per Share</b>	<b>2.20</b>
<b>Istock Share Price @ 31 Dec 2021</b>	<b>2.04</b>
<b>Istock Market Cap. @ 31 Dec 2021</b>	<b>834.8</b>
<b>Nr. of Shares</b>	<b>409.6</b>

Source: Equity Research Analysis, Author own estimates

## 4.2. Relative Valuation

The value of a company can be assessed through both absolute and relative valuation. Relative valuation allows to appraise a company value throughout the use of a set of multiples for a predetermined peer comparable group or set of relevant deals.

EV/EBITDA was the multiple chosen to evaluate the peer group and relevant deals operating in the sector given its characteristics, accurately reflecting the financial position of companies operating in industries marked with high capital expenditures and big infrastructures.

### 4.2.1. Trading Comparable

To select the most comparable peer group and consequently secure the most accurate valuation range, one must take into consideration several criteria namely: sector, geography, total Revenues, Market Capitalization, and product offering. A set of peers for Istock were selected by taking into consideration the following premises. A group of twelve companies were chosen, all operating in the UK and acting as the predominant players in the Construction and Building Materials space.

Table 17: Trading Comparable Valuation

Exchange:Ticker	Company Name	Country	Market Cap	EV	Gross Margin %	EBITDA Margin %	EV/ Revenue Multiples			EV / EBITDA Multiples		
					LTM	LTM	LTM	FY1	FY2	LTM	FY1	FY2
LSE:FORT	Forterra plc	UK	627.2	615.9	35.2%	17.3%	1.8x	1.7x	1.6x	7.1x	8.9x	7.7x
LSE:TPK	Travis Perkins plc	UK	3,403.3	4,020.5	28.5%	8.2%	0.6x	0.9x	0.8x	8.7x	8.3x	8.1x
AIM:MBH	Michelmersh Brick Hold. plc	UK	122.4	118.9	40.6%	23.7%	2.0x	2.0x	2.0x	7.7x	8.4x	8.1x
LSE:GFTU	Grafton Group plc	Ireland	2,953.9	3,200.5	39.2%	14.7%	1.1x	1.5x	1.5x	8.9x	9.1x	9.6x
LSE:KLR	Keller Group plc	UK	712.4	896.6	11.1%	7.1%	0.4x	0.4x	0.4x	4.7x	5.0x	4.5x
AIM:BREE	Breedon Group plc	UK	1,605.1	1,896.7	34.8%	16.5%	1.6x	1.6x	1.5x	8.9x	8.9x	8.4x
LSE:CRH	CRH plc	Ireland	30,049.7	35,028.3	33.9%	16.3%	1.6x	1.6x	1.5x	10.7x	8.9x	8.5x
LSE:MSLH	Marshall's plc	UK	1,376.4	1,430.8	60.7%	15.4%	2.6x	2.5x	2.4x	15.3x	13.9x	12.9x
LSE:FERG	Ferguson plc	UK	28,810.4	29,468.7	31.0%	10.7%	1.7x	1.5x	1.5x	14.5x	14.5x	13.9x
AIM:SRC	SigmaRoc plc	UK	532.7	586.7	22.8%	6.2%	3.8x	2.3x	1.3x	24.2x	12.2x	6.4x
LSE:SHI	SIG plc	UK	561.9	854.2	26.3%	1.3%	0.4x	0.4x	0.4x	48.8x	8.1x	6.7x
LSE:KRX	Kingspan Group plc	Ireland	15,993.3	16,676.2	28.6%	13.3%	3.7x	3.1x	2.9x	25.8x	22.6x	21.7x
<b>Average</b>			7,229.1	7,899.5	32.7%	12.6%	1.8x	1.6x	1.5x	15.4x	10.7x	9.7x
<b>Maximum</b>			30,049.7	35,028.3	60.7%	23.7%	3.8x	3.1x	2.9x	48.8x	22.6x	21.7x
<b>Median</b>			1,490.8	1,663.7	32.4%	14.0%	1.7x	1.6x	1.5x	9.8x	8.9x	8.3x
<b>Minimum</b>			122.4	118.9	11.1%	1.3%	0.4x	0.4x	0.4x	4.7x	5.0x	4.5x

Source: Capital IQ

To secure the consistency on the workstream and avoid a biased valuation exercise, a moderate outlier analysis was conducted resulting in the exclusion of SIG PLC and Kingspan Group PLC from the average EBITDA range, given both are trading at much larger multiples when compared to the rest of the sample.

All in all, companies are trading at an average 11.1x LTM EBITDA multiple as of 31<sup>st</sup> December of 2021, resulting in an Enterprise Value comprehended between £993.9m and £1,098.5m considering a 5% range and a FY21 EBITDA of £94.5m. Ultimately, Trading Comparable companies led to a share price range comprehended between £2.27 and £2.52.

#### 4.2.2. Transaction Comparable

Simultaneously, comparable deals are trading at much lower EBITDA multiples when compared to listed peers. All selected deals, occurring in the last five years and in the most relevant geographies, both Europe and US, led to an 8.8x EBITDA average and consequently an Enterprise Value comprehended between £792.9m and £876.4m, significantly lower when compared with the outcome perceived from Discounted Cash Flow and Trading Comparable model.

Commonly, transaction comps guide to a higher valuation when compared to quoted peers given it takes into consideration for majority stake deals, an associated control premium. On these terms, listed peers are trading at higher EBITDA multiples than transaction comparable which might reflect the cyclicity of the sector and the influence that both COVID and Brexit brought, added with additional factors.

An analysis conducted on deals pre-COVID led to an average EBITDA multiple of 8.3x while deals post COVID, led to an average EBITDA multiple of 11.1x, sustaining a rebound in the industry. M&A Building Materials worldwide volume in 2021 accounted for 540 deals, representing a 54% increase compared to prior year with the industry sustaining a transition focused on 2022 expectations.

Table 18: Precedent Transactions Valuation

Date: Announcement	Deal Type	Target subsector	Target	Bidder	Consideration	Stake	EV/Revenue	EV/EBITDA
20/05/2021	Majority Stake	Construction	CHRYSO SAS	Compagnie de	879.8	100.0%	2.5x	11.6x
22/02/2021	Majority Stake	Concrete,Other	Forterra Inc.	The Quikrete	1,132.7	100.0%	1.6x	10.6x
31/07/2019	Majority Stake	Concrete,Constructio	Longley Concrete	Ibstock Plc	14.0	100.0%	0.5x	6.7x
16/07/2019	Majority Stake	Aggregates,Concrete	Building Materials	Blackstone	1,479.3	100.0%	0.4x	9.1x
25/10/2018	Majority Stake	Building suppliers	Manthorpe Building	Polypipe Group	44.0	100.0%	1.8x	7.1x
11/06/2018	Majority Stake	Construction	USG Corporation	Gebrueder	4,097.9	89.4%	2.2x	14.1x
17/05/2018	Majority Stake	Other heavyside	Edilians	Lone Star Funds	872.9	100.0%	3.3x	8.8x
13/12/2017	Majority Stake	Other heavyside	Cemacon SA (50.1%	PIF Industrial	6.0	50.1%	1.2x	5.7x
13/12/2017	Majority Stake	Cement,Concrete,Ma	Poundfield Products	SigmaRoc Plc	10.3	100.0%	1.4x	8.4x
19/10/2017	Majority Stake	Concrete	CPM Group	Marshall's Plc	38.3	100.0%	0.7x	6.1x
Maximum					4,097.9		3.3x	14.1x
Q3					1,069.5		2.1x	10.3x
Average					857.5		1.6x	8.8x
Median					458.5		1.5x	8.6x
Q1					20.1		0.8x	6.8x
Minimum					6.0		0.4x	5.7x

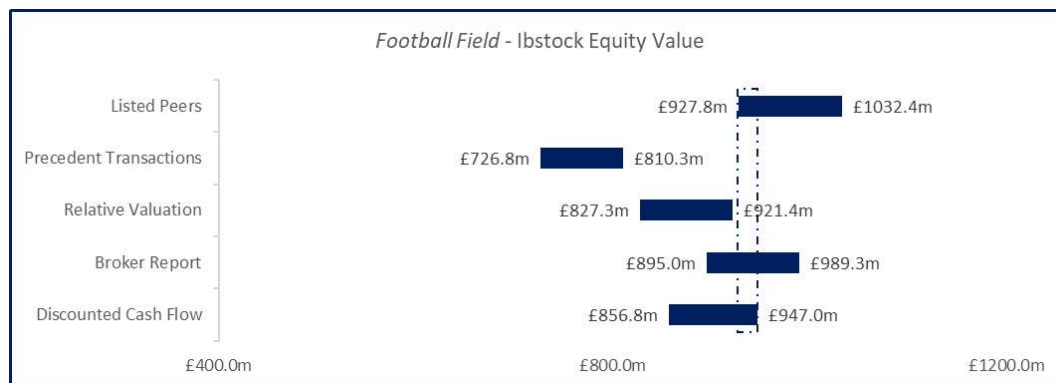
Source: Mergermarket

## 5. Investment consideration

Given the disparity provided by the different valuation methods, a focus was given to the considerations obtained through Discounted Cash Flow model and Listed peer's analysis. The DCF indicates a 16.4% upside with an implicit EV/EBITDA of 10.2x for the Base scenario and a share price of £2.20 when using a discount rate of 7.2%, contrasting with the value of £2.30 and discount rate of 8.0% captured through J.P. Morgan Broker Report dated as of 20<sup>th</sup> January 2022.

Overall, an increased optimism in *Ibstock futures* is what sustains the main difference in both valuation exercises. The share price of £2.30 reflects a higher preponderance on the influence that opening a new business unit might have in accelerating growth, translating into a potential generation of £10m EBITDA by 2025. In opposition, a share price of £2.20 assumes a more conservative perspective on the effect opening a new business unit might have, translating into a valuation substantially different from what is sustained from the transaction comps analysis. One shall consider that when appraising simultaneously the Equity Research Analysis, the valuation exercise conducted by J.P. Morgan and the Listed peer's analysis, a range share price of £2.26-£2.31 is obtained considering a 5% range.

Figure 3: Football Field, Summary of the valuation results



Source: Equity Research Analysis, Author own estimates

A sensitivity analysis was also conducted taking into consideration Ibstock Share Price and Enterprise values, when compared to changes in both Tax rate and WACC, perceiving the influence that a potential change in these variables could represent in the company's valuation exercise.

Table 19: Sensitivity Analysis - Share Price

Share price	vs WACC / Tax rate	2.20	15.7%	17.7%	19.7%	21.7%	23.7%
		5.2%	3.95	3.84	3.73	3.61	3.50
6.2%	2.95	2.87	2.78	2.70	2.61		
7.2%	2.34	2.27	2.20	2.13	2.06		
8.2%	1.93	1.87	1.81	1.75	1.69		
9.2%	0.05	0.05	0.05	0.05	0.05		

Source: Equity Research Analysis, Author own estimates

Table 20: Sensitivity Analysis - EV

EV	vs WACC / Tax rate	967.99	15.7%	17.7%	19.7%	21.7%	23.7%
		5.2%	1,685.94	1,639.32	1,592.69	1,546.07	1,499.44
6.2%	1,276.23	1,240.94	1,205.64	1,170.35	1,135.05		
7.2%	1,024.66	996.32	967.99	939.66	911.33		
8.2%	854.65	831.03	807.41	783.79	760.16		
9.2%	732.20	711.97	691.75	671.53	651.30		

Source: Equity Research Analysis, Author own estimates

All in all, the investment recommendation for Ibstock PLC at this date is a **Hold**. Although an industry upward is expected in the near term, the company's financial recovery in the future is also dependent on the success of *Ibstock Futures*, UK's first brick slip sustainable factory. The predicted upside of 16.4% obtained through the DCF model is not enough to compensate at this date internal and external risks and associated unpredictability namely:

- Shortage of hauliers - contrasting with some of its competitors, Ibstock still does not possess an internal distribution fleet, depending entirely on external hauliers.
- Energy costs - any significant volatility on energy costs mainly on gas, might imply additional pressure on the company's financial recovery and profitability.
- Company's market position - although still being considered as the primary manufacturer of clay bricks in UK, its shares in the last year have been underperformed by its closest UK competitor, Forterra.
- Brexit - it is still not certain how Brexit will continue to affect the UK economy and particularly the Construction sector, although an enhanced shortage of skilled labour is expected, continuing to enrol as one of the most determinant market barriers.
- COVID - the appearance of new variants might result in additional number of cases and associated further lockdowns like witnessed in 2020 adding extra pressure for worldwide economy.
- Dependence on fossil fuels – an effort is being performed by the company to sustain a greener activity with a reduction on carbon emissions. Nevertheless, fossil fuels still constitute the most convenient, productive, and practical alternative to sustain the operation of heavy industries.

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## B. Annexes

### Annex A: Investment Recommendation

**Rating**  
**Hold**

**Europe**  
United Kingdom

**Company**  
**Ibstock**

**Exchange Ticker**  
LSE IBST

### Ibstock Equity Research

For the total investment of £50m, the company is planning to launch *Ibstock Futures* in early 2024, the UK's first automated factory assembling net zero bricks which may result in c60m of annual added capacity. The investment will play an important role on the company's financial recovery, sustainability roadmap and further product offering. Although acting as the UK market leader in clay bricks, company's shares have been underperformed by Forterra, one of its closest UK competitors. Nonetheless, even pointing towards an upside of 16.4%, the analysis converges into a **Hold**.

**Economic uncertainty**, further lockdowns and additional restrictions may result in added pressure and subsequently loss of income for players operating within the market, negatively affecting the demand for building materials.

**Shortage of hauliers and skilled labour**, driven partially by Brexit, continues to threaten the industry and the accomplishment of government's housing and infrastructure projects set for 2025.

**Financial recovery** is expected to be sustained with supplementary investment in digitization and government incentives encouraging carbon reduction. Companies are shifting towards a greener, sustainable, and remote way of working.

For FY22, an EBITDA of £86.9m is expected, rising to £91.6m in FY23. A Discounted Cash flow model was the predominant valuation method conducting into a price of £2.20 as of 31<sup>st</sup> December of 2021. Company's valuation is highly reliant on the success of *Ibstock Futures* and market evolution. Hence, an upside of 16.4% and subsequent EV/EBITDA of 10.2x were not considered as enough to compensate potential added risk and market unpredictability.

**Recommendation:** **HOLD**

*Vs Previous Recommendation* -

**Price Target FY21:** **£2.20**

*Vs Previous Price Target* -

**Price (as of 31<sup>st</sup> Dec.21)** **£2.04**

Capital IQ: LSE-IBST

Market Cap (£m)	901.9
Outstanding Shares (m)	409.6
Upside	16.4%

Source: Capital IQ; ER Analysis

#### Ibstock SPP



Source: Capital IQ

(Values in £m)	2020	2021	2022F
Revenue	316.2	408.7	436.7
Revenue Growth %	(22.7%)	29.3%	6.9%
EBITDA	46.1	94.5	86.9
EBITDA margin %	14.6%	23.1%	19.9%
EBIT	17.3	63.6	56.3
EBIT margin %	5.5%	15.6%	12.9%
Net Income	(28.0)	31.8	41.1
Net Debt	98.3	66.1	85.2

Source: Company Annual Reports, ER Analysis

#### Performance Drivers



Source: Equity Research Analysis, Author Own Estimates

## Annex B.1: Forecast Income Statements

Income Statement						
	2022	2023	2024	2025	2026	
Currency	£M	£M	£M	£M	£M	£M
Revenue	436.7	460.4	484.6	528.9	577.3	
<b>Total Revenue</b>	<b>436.7</b>	<b>460.4</b>	<b>484.6</b>	<b>528.9</b>	<b>577.3</b>	
Cost Of Goods Sold (COGS)	272.3	287.1	302.1	329.7	359.9	
<b>Gross Profit</b>	<b>164.4</b>	<b>173.3</b>	<b>182.4</b>	<b>199.1</b>	<b>217.3</b>	
Selling General & Admin Exp.	80.6	85.0	89.5	97.7	106.6	
Other Operating Expense/(Income)	(3.1)	(3.2)	(3.4)	(3.7)	(4.1)	
Other Operating Exp., Total (OPEX)	77.6	81.8	86.1	93.9	102.5	
<b>EBITDA</b>	<b>86.9</b>	<b>91.6</b>	<b>96.4</b>	<b>105.2</b>	<b>114.8</b>	
Depreciation and amortization	30.6	29.3	30.8	32.3	32.3	
<b>EBIT</b>	<b>56.3</b>	<b>62.2</b>	<b>65.5</b>	<b>72.9</b>	<b>82.5</b>	
Interest expense	5.1	7.1	6.9	6.7	6.6	
<b>EBT</b>	<b>51.2</b>	<b>55.2</b>	<b>58.6</b>	<b>66.1</b>	<b>75.9</b>	
Tax Rate %	19.7%	19.7%	19.7%	19.7%	19.7%	
Income Tax Expense	10.1	10.9	11.6	13.0	15.0	
<b>Earnings from Cont. Ops.</b>	<b>41.1</b>	<b>44.3</b>	<b>47.1</b>	<b>53.1</b>	<b>60.9</b>	
Earnings of Discontinued Ops.	-	-	-	-	-	
Extraord. Item & Account. Change	-	-	-	-	-	
<b>Net Income to Company</b>	<b>41.1</b>	<b>44.3</b>	<b>47.1</b>	<b>53.1</b>	<b>60.9</b>	
Minority Int. in Earnings	-	-	-	-	-	
<b>Net Income</b>	<b>41.1</b>	<b>44.3</b>	<b>47.1</b>	<b>53.1</b>	<b>60.9</b>	

## Annex B.2: Historic Income Statements

Income Statement						
	2016	2017	2018	2019	2020	2021
Currency	£M	£M	£M	£M	£M	£M
Revenue	434.7	451.6	391.4	409.3	316.2	408.7
Other Revenue	-	-	-	-	-	-
<b>Total Revenue</b>	<b>434.7</b>	<b>451.6</b>	<b>391.4</b>	<b>409.3</b>	<b>316.2</b>	<b>408.7</b>
Cost Of Goods Sold	268.6	283.7	237.0	250.0	235.7	267.7
<b>Gross Profit</b>	<b>166.1</b>	<b>167.8</b>	<b>154.4</b>	<b>159.2</b>	<b>80.5</b>	<b>141.0</b>
Selling General & Admin Exp.	83.1	80.6	69.7	74.4	65.0	79.8
R & D Exp.	-	-	-	-	-	-
Other Operating Expense/(Income)	(2.7)	(5.2)	(2.7)	(2.5)	(1.8)	(2.4)
Other Operating Exp., Total	80.4	75.4	67.0	71.9	63.2	77.4
<b>EBIT</b>	<b>85.8</b>	<b>92.4</b>	<b>87.4</b>	<b>87.3</b>	<b>17.3</b>	<b>63.6</b>
EBIT %	20%	20%	22%	21%	5%	16%
Depreciation & Amort.	26.6	26.3	24.4	29.0	28.7	31.4
<b>EBITDA</b>	<b>112.4</b>	<b>118.7</b>	<b>111.8</b>	<b>116.3</b>	<b>46.1</b>	<b>94.5</b>
EBITDA %	26%	26%	29%	28%	15%	23%
Interest Expense	(4.3)	(5.0)	(4.3)	(4.2)	(4.9)	(5.8)
Interest and Invest. Income	-	-	0.0	0.0	0.0	-
Net Interest Exp.	(4.3)	(5.0)	(4.3)	(4.2)	(4.9)	(5.8)
Currency Exchange Gains (Loss)	-	0.7	(0.4)	0.4	-	-
Other Non-Operating Inc. (Exp.)	-	0.0	0.0	(0.5)	(0.8)	0.3
<b>EBT Excl. Unusual Items</b>	<b>81.5</b>	<b>88.2</b>	<b>82.8</b>	<b>83.1</b>	<b>11.7</b>	<b>58.1</b>
Restructuring Charges	(0.4)	-	(0.3)	(1.9)	(8.7)	(2.4)
Merger & Related Restruct. Charges	(0.1)	-	-	-	-	-
Impairment of Goodwill	-	-	-	-	-	-
Gain (Loss) On Sale Of Assets	0.6	0.1	11.2	1.8	2.9	3.7
Asset Writedown	-	-	-	-	(17.9)	5.8
Other Unusual Items	29.2	(4.9)	(1.1)	(1.0)	(11.8)	(0.2)
<b>EBT Incl. Unusual Items</b>	<b>110.8</b>	<b>83.4</b>	<b>92.6</b>	<b>81.9</b>	<b>(23.8)</b>	<b>65.0</b>
Effective Tax Rate %	18.4%	11.8%	17.5%	18.9%	-17.5%	51.0%
Income Tax Expense	20.5	9.9	16.1	15.5	4.1	33.1
<b>Earnings from Cont. Ops.</b>	<b>90.4</b>	<b>73.6</b>	<b>76.4</b>	<b>66.5</b>	<b>(28.0)</b>	<b>31.8</b>
Earnings of Discontinued Ops.	-	-	0.7	(0.4)	-	-
Extraord. Item & Account. Change	-	-	-	-	-	-
<b>Net Income to Company</b>	<b>90.4</b>	<b>73.6</b>	<b>76.4</b>	<b>66.5</b>	<b>(28.0)</b>	<b>31.8</b>
Minority Int. in Earnings	-	-	-	-	-	-
<b>Net Income</b>	<b>90.4</b>	<b>73.6</b>	<b>77.1</b>	<b>66.1</b>	<b>(28.0)</b>	<b>31.8</b>

## Annex C.1: Forecast Balance Sheets

Balance Sheet						
Balance Sheet as of:	2022	2023	2024	2025	2026	
Currency	£M	£M	£M	£M	£M	£M
<b>ASSETS</b>						
Cash And Equivalents	38.3	40.4	42.5	46.4	50.7	
<i>Total Cash &amp; ST Investments</i>	<i>38.3</i>	<i>40.4</i>	<i>42.5</i>	<i>46.4</i>	<i>50.7</i>	
Accounts Receivable	59.4	62.6	65.9	71.9	78.5	
Other Receivables	1.3	1.3	1.3	1.3	1.3	
<i>Total Receivables</i>	<i>60.7</i>	<i>63.9</i>	<i>67.2</i>	<i>73.2</i>	<i>79.8</i>	
Inventory	82.5	87.0	91.6	99.9	109.1	
Prepaid Exp.	3.9	3.9	3.9	3.9	3.9	
Deferred Tax Assets, Curr.						
Other Current Assets	1.9	1.9	1.9	1.9	1.9	
<i>Total Current Assets</i>	<i>88.3</i>	<i>92.8</i>	<i>97.4</i>	<i>105.7</i>	<i>114.9</i>	
Gross Property, Plant & Equipment	515.1	494.5	519.5	544.5	544.5	
Accumulated Depreciation	(166.2)	(195.5)	(226.3)	(258.6)	(290.9)	
<i>Net Property, Plant &amp; Equipment</i>	<i>348.9</i>	<i>299.0</i>	<i>293.2</i>	<i>285.9</i>	<i>253.5</i>	
Goodwill	-	-	-	-	-	
Other Intangibles	95.9	95.9	95.9	95.9	95.9	
Deferred Tax Assets, LT						
Other Long-Term Assets	64.8	64.8	64.8	64.8	64.8	
<b>Total Assets</b>	<b>597.9</b>	<b>552.4</b>	<b>551.2</b>	<b>552.2</b>	<b>529.1</b>	
<b>LIABILITIES</b>						
Accounts Payable	53.8	56.7	59.7	65.2	71.2	
Accrued Exp.	37.7	37.7	37.7	37.7	37.7	
Curr. Port. of LT Debt	0.3	0.4	0.4	0.4	0.4	
Curr. Port. of Leases	6.7	9.2	8.9	8.7	8.5	
Curr. Income Taxes Payable	4.8	4.8	4.8	4.8	4.8	
Other Current Liabilities	2.8	2.8	2.8	2.8	2.8	
<i>Total Current Liabilities</i>	<i>106.1</i>	<i>111.6</i>	<i>114.4</i>	<i>119.6</i>	<i>125.4</i>	
Long-Term Debt	96.8	133.0	130.1	127.2	124.2	
Long-Term Leases	19.7	27.1	26.5	25.9	25.3	
Pension & Other Post-Retire. Benefits						
Def. Tax Liability, Non-Curr.	65.1	65.1	65.1	65.1	65.1	
Other Non-Current Liabilities	9.6	9.6	9.6	9.6	9.6	
<b>Total Liabilities</b>	<b>297.3</b>	<b>346.4</b>	<b>345.7</b>	<b>347.4</b>	<b>349.6</b>	
Common Stock	4.1	4.1	4.1	4.1	4.1	
Additional Paid In Capital	3.4	3.4	3.4	3.4	3.4	
Net Income	41.1	44.3	47.1	53.1	60.9	
Treasury Stock	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	
Comprehensive Inc. and Other	(364.0)	(364.0)	(364.0)	(364.0)	(364.0)	
Retained Earnings	617.2	519.3	516.0	509.4	476.1	
<i>Total Common Equity</i>	<i>300.7</i>	<i>206.0</i>	<i>205.5</i>	<i>204.9</i>	<i>179.5</i>	
<b>Total Equity</b>	<b>300.7</b>	<b>206.0</b>	<b>205.5</b>	<b>204.9</b>	<b>179.5</b>	
<b>Total Liabilities And Equity</b>	<b>597.9</b>	<b>552.4</b>	<b>551.2</b>	<b>552.2</b>	<b>529.1</b>	

## Annex C.2: Historic Balance Sheets

<b>Balance Sheet</b>						
<b>Balance Sheet as of:</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>Currency</b>	<b>£M</b>	<b>£M</b>	<b>£M</b>	<b>£M</b>	<b>£M</b>	<b>£M</b>
<b>ASSETS</b>						
Cash And Equivalents	45.8	31.5	36.0	19.5	19.6	61.2
<i>Total Cash &amp; ST Investments</i>	<i>45.8</i>	<i>31.5</i>	<i>36.0</i>	<i>19.5</i>	<i>19.6</i>	<i>61.2</i>
Accounts Receivable	47.5	48.4	48.9	53.9	54.8	55.2
Other Receivables	1.1	1.6	2.6	1.0	0.4	7.3
<i>Total Receivables</i>	<i>48.6</i>	<i>50.0</i>	<i>51.5</i>	<i>54.9</i>	<i>55.2</i>	<i>62.6</i>
Inventory	88.8	91.1	68.4	84.3	63.4	72.8
Prepaid Exp.	3.5	3.4	4.2	3.2	3.7	5.4
Deferred Tax Assets, Curr.	1.6	-	-	-	-	-
Other Current Assets	1.2	4.9	-	1.2	1.2	0.9
<i>Total Current Assets</i>	<i>189.5</i>	<i>180.9</i>	<i>160.2</i>	<i>163.1</i>	<i>143.0</i>	<i>202.9</i>
Gross Property, Plant & Equipment	420.2	446.2	415.6	492.5	497.3	536.6
Accumulated Depreciation	(27.9)	(45.8)	(50.2)	(75.8)	(99.3)	(135.6)
<i>Net Property, Plant &amp; Equipment</i>	<i>392.3</i>	<i>400.5</i>	<i>365.5</i>	<i>416.7</i>	<i>398.0</i>	<i>400.9</i>
Goodwill	-	-	-	3.0	3.0	3.0
Other Intangibles	123.3	116.0	100.6	99.6	92.2	91.7
Deferred Tax Assets, LT	-	1.4	-	-	-	-
Other Long-Term Assets	-	46.1	80.7	88.7	43.6	57.8
<b>Total Assets</b>	<b>705.1</b>	<b>744.8</b>	<b>707.0</b>	<b>771.1</b>	<b>679.8</b>	<b>756.1</b>
<b>LIABILITIES</b>						
Accounts Payable	42.0	42.7	52.3	56.0	53.2	55.1
Accrued Exp.	34.2	40.4	40.1	31.7	31.7	48.0
Curr. Port. of LT Debt	13.0	0.6	0.5	0.4	0.1	0.3
Curr. Port. of Leases	-	-	-	6.6	6.7	6.9
Curr. Income Taxes Payable	7.1	3.7	6.4	6.4	0.4	-
Other Current Liabilities	4.5	2.6	0.8	1.2	5.8	1.9
<i>Total Current Liabilities</i>	<i>100.8</i>	<i>90.0</i>	<i>100.1</i>	<i>102.2</i>	<i>98.0</i>	<i>112.3</i>
Long-Term Debt	165.6	148.0	83.9	104.0	88.6	99.7
Long-Term Leases	-	-	-	23.8	22.3	20.3
Pension & Other Post-Retire. Benefits	38.1	8.7	-	-	-	-
Def. Tax Liability, Non-Curr.	57.0	66.7	67.3	69.7	64.8	92.4
Other Non-Current Liabilities	14.2	10.6	7.6	7.2	8.2	8.2
<b>Total Liabilities</b>	<b>375.6</b>	<b>324.0</b>	<b>258.9</b>	<b>306.8</b>	<b>281.9</b>	<b>332.9</b>
Common Stock	4.1	4.1	4.1	4.1	4.1	4.1
Additional Paid In Capital	-	0.8	0.9	7.4	4.3	4.5
Retained Earnings	677.4	776.9	813.9	822.3	759.5	785.6
Treasury Stock	-	-	(1.7)	(0.4)	(0.9)	(1.7)
Comprehensive Inc. and Other	(352.0)	(360.9)	(369.1)	(369.1)	(369.1)	(369.2)
<i>Total Common Equity</i>	<i>329.5</i>	<i>420.8</i>	<i>448.0</i>	<i>464.3</i>	<i>397.9</i>	<i>423.2</i>
<b>Total Equity</b>	<b>329.5</b>	<b>420.8</b>	<b>448.0</b>	<b>464.3</b>	<b>397.9</b>	<b>423.2</b>
<b>Total Liabilities And Equity</b>	<b>705.1</b>	<b>744.8</b>	<b>707.0</b>	<b>771.1</b>	<b>679.8</b>	<b>756.1</b>

## Annex D: Revenues Forecast

Macroeconomic Performance Drivers		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Macro	Annual GDP Growth in UK						6.5%	6.0%	2.1%	1.3%	1.6%	1.7%
	U.K. Inflation Rate						2.6%	7.4%	4.0%	1.5%	1.9%	2.0%
	Population Growth						1.0%	1.0%	1.5%	1.5%	1.5%	1.5%
	<b>Growth%</b>						<b>3.37%</b>	<b>4.80%</b>	<b>2.53%</b>	<b>1.43%</b>	<b>1.67%</b>	<b>1.73%</b>

Market & Sector Performance Drivers		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Market & Sector	Clay			293.5	300.5	213.2	280.3						
	Concrete			98.0	108.8	103.0	128.4						
	<b>Total Revenues</b>	<b>434.7</b>	<b>451.6</b>	<b>391.4</b>	<b>409.3</b>	<b>316.2</b>	<b>408.7</b>						
	%Clay on Total Revs	n.a.	n.a.	75.0%	73.4%	67.4%	68.6%						
	%Concrete on Total Revs	n.a.	n.a.	25.0%	26.6%	32.6%	31.4%						
	Average Clay share			<b>71.1%</b>									
	Average Concrete share			<b>28.9%</b>									
	<b>Historical Revs per Prod. Breakdown</b>												
	Industry Growth % - Manufacturer of articles of clay in UK								7.5%	6.5%	6.5%	6.5%	6.5%
	Industry Growth % - Manufacturer of articles of concrete in UK								6.6%	4.5%	4.5%	4.5%	4.5%
	ibstock Futures - Atlas Investment											15.0%	15.0%
	<b>Growth%</b>								<b>7.24%</b>	<b>5.92%</b>	<b>5.92%</b>	<b>10.46%</b>	<b>10.46%</b>

Performance Drivers		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Market & Sector								85.0%	85.0%	85.0%	85.0%	85.0%
Macro								15.0%	15.0%	15.0%	15.0%	15.0%
<b>Total Revenues %Growth</b>								<b>6.87%</b>	<b>5.41%</b>	<b>5.25%</b>	<b>9.14%</b>	<b>9.15%</b>

Revenues Forecast		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Clay				293.5	300.5	213.2	280.3	310.5	327.4	344.5	376.0	410.4
Concrete				98.0	108.8	103.0	128.4	126.2	133.1	140.0	152.8	166.8
<b>Total Revenues</b>		<b>434.7</b>	<b>451.6</b>	<b>391.4</b>	<b>409.3</b>	<b>316.2</b>	<b>408.7</b>	<b>436.7</b>	<b>460.4</b>	<b>484.6</b>	<b>528.9</b>	<b>577.3</b>
<b>Δ%</b>			<b>3.89%</b>	<b>-13.33%</b>	<b>4.56%</b>	<b>-22.74%</b>	<b>29.25%</b>	<b>6.87%</b>	<b>5.41%</b>	<b>5.25%</b>	<b>9.14%</b>	<b>9.15%</b>

## Annex E: Working Capital

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Operating cash	45.8	31.5	36.0	19.5	19.6	61.2	38.3	40.4	42.5	46.4	50.7
Accounts receivable	48.6	50.0	51.5	54.9	55.2	62.6	59.4	62.6	65.9	71.9	78.5
Inventory	88.8	91.1	68.4	84.3	63.4	72.8	82.5	87.0	91.6	99.9	109.1
Prepaid expenses and other	3.5	3.4	4.2	3.2	3.7	5.4	3.9	3.9	3.9	3.9	3.9
Other Current Assets	1.2	4.9	-	1.2	1.2	0.9	1.9	1.9	1.9	1.9	1.9
<b>Total Current Assets</b>	<b>187.9</b>	<b>180.9</b>	<b>160.2</b>	<b>163.1</b>	<b>143.0</b>	<b>202.9</b>	<b>186.0</b>	<b>195.8</b>	<b>205.8</b>	<b>224.0</b>	<b>244.0</b>
Accounts payable	42.0	42.7	52.3	56.0	53.2	55.1	53.8	56.7	59.7	65.2	71.2
Curr. Port. of LT Debt	13.0	0.6	0.5	0.4	0.1	0.3	0.3	0.4	0.4	0.4	0.4
Curr. Port. of Leases				6.6	6.7	6.9	6.7	9.2	8.9	8.7	8.5
Accrued Exp.	34.2	40.4	40.1	31.7	31.7	48.0	37.7	37.7	37.7	37.7	37.7
Curr. Income Taxes Payable	7.1	3.7	6.4	6.4	0.4	-	4.8	4.8	4.8	4.8	4.8
Other Current Liabilities	4.5	2.6	0.8	1.2	5.8	1.9	2.8	2.8	2.8	2.8	2.8
<b>Total Current Liabilities</b>	<b>100.8</b>	<b>90.0</b>	<b>100.1</b>	<b>102.2</b>	<b>98.0</b>	<b>112.3</b>	<b>106.1</b>	<b>111.6</b>	<b>114.4</b>	<b>119.6</b>	<b>125.4</b>
<b>Working Capital</b>	<b>87.1</b>	<b>90.9</b>	<b>60.1</b>	<b>60.9</b>	<b>45.0</b>	<b>90.6</b>	<b>79.9</b>	<b>84.2</b>	<b>91.4</b>	<b>104.4</b>	<b>118.6</b>
<b>Net Working Capital</b>	<b>54.3</b>	<b>60.0</b>	<b>24.6</b>	<b>48.4</b>	<b>32.3</b>	<b>36.6</b>	<b>48.6</b>	<b>53.4</b>	<b>58.2</b>	<b>67.2</b>	<b>76.9</b>
<b>(-) Δ Net Working Capital</b>		<b>5.6</b>	<b>(35.4)</b>	<b>23.8</b>	<b>(16.0)</b>	<b>4.2</b>	<b>12.0</b>	<b>4.8</b>	<b>4.9</b>	<b>8.9</b>	<b>9.8</b>

## Annex F: Capex and D&amp;A

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TV
Total Depreciation	26.6	26.3	24.4	29.0	28.7	31.4	30.56	29.34	30.83	32.31	32.31	
Gross Property, Plant & Equipment	420.2	446.2	415.6	492.5	497.3	536.6	515.1	494.5	519.5	544.5	544.5	
Accumulated Depreciation	-27.9	-45.8	-50.2	-75.8	-99.3	-135.6	-166.2	-195.5	-226.3	-258.6	-290.9	
Gross Property, Plant & Equipment YoY % reduction							4.0%	4.0%				
Average depreciation rate (%)	6.3%	5.9%	5.9%	5.9%	5.8%	5.9%						
Average depreciation rate (%) Last 5y	5.9%											
<b>Net Property, Plant &amp; Equipment</b>	<b>392.3</b>	<b>400.4</b>	<b>365.4</b>	<b>416.7</b>	<b>398.0</b>	<b>401.0</b>	<b>348.9</b>	<b>299.0</b>	<b>293.2</b>	<b>285.9</b>	<b>253.5</b>	
<b>Capex -&gt; (PPE FY1 - PPEFY-1) + DEP FY1</b>		<b>52.4</b>	<b>-6.2</b>	<b>105.8</b>	<b>33.5</b>	<b>70.6</b>						
Capex % of PPE	15.1%	9.4%	8.5%	9.3%	6.1%	6.2%	2.6%	2.9%	19.0%	20.0%	12.7%	
<b>Capex</b>	<b>59.2</b>	<b>37.8</b>	<b>31.2</b>	<b>38.8</b>	<b>24.1</b>	<b>25.0</b>	<b>9.1</b>	<b>8.7</b>	<b>55.8</b>	<b>57.3</b>	<b>32.3</b>	<b>33.0</b>

## Annex G: Financial Debt

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Short Term Debt Issued	-	-	-	-	-	-	-	-	-	-	
Long-Term Debt Issued	-	180.0	85.0	70.0	100.0	108.8	108.8	158.8	108.8	108.8	
<b>Total Debt Issued</b>	<b>0.0</b>	<b>180.0</b>	<b>85.0</b>	<b>70.0</b>	<b>100.0</b>	<b>108.8</b>	<b>108.8</b>	<b>158.8</b>	<b>108.8</b>	<b>108.8</b>	
<b>Average Total Debt Issued</b>	108.8										
Short Term Debt Repaid	-	-	-	-	-	-	-	-	-	-	
Long-Term Debt Repaid	15.0	215.0	149.6	58.7	123.1	110.5	110.5	110.5	110.5	110.5	
<b>Total Debt Repaid</b>	<b>15.0</b>	<b>215.0</b>	<b>149.6</b>	<b>58.7</b>	<b>123.1</b>	<b>110.5</b>	<b>110.5</b>	<b>110.5</b>	<b>110.5</b>	<b>110.5</b>	
<b>Average Total Debt Repaid</b>	110.5										
Curr. Port. of LT Debt	13.0	0.6	0.5	0.4	0.1	0.1	0.1	0.2	0.2	0.2	
Curr. Port. of Leases	-	-	-	6.6	6.7	6.6	6.5	9.3	9.2	9.1	
Long-Term Debt	165.6	148.0	83.9	104.0	88.6	87.3	86.0	122.3	121.0	119.7	
Long-Term Leases	-	-	-	23.8	22.3	22.0	21.7	30.9	30.5	30.2	
<b>Total Debt</b>	<b>178.6</b>	<b>148.5</b>	<b>84.4</b>	<b>134.7</b>	<b>117.8</b>	<b>116.1</b>	<b>114.4</b>	<b>162.7</b>	<b>160.9</b>	<b>159.2</b>	
Cash And Equivalents	45.8	31.5	36.0	19.5	19.6						
<b>Total Cash &amp; ST Investments</b>	<b>45.8</b>	<b>31.5</b>	<b>36.0</b>	<b>19.5</b>	<b>19.6</b>	<b>29.3</b>	<b>31.3</b>	<b>33.0</b>	<b>34.7</b>	<b>37.9</b>	
% Cash over Revs	10.5%	7.0%	9.2%	4.8%	6.2%						
<b>Average %Cash over Revs</b>	7.5%										
<b>Net Debt</b>	<b>132.8</b>	<b>117.0</b>	<b>48.4</b>	<b>115.2</b>	<b>98.3</b>	<b>86.8</b>	<b>83.1</b>	<b>129.7</b>	<b>126.2</b>	<b>121.3</b>	
Net Debt / EBITDA	1.5x	1.3x	0.6x	1.3x	5.7x	1.1x	1.0x	1.4x	1.3x	1.1x	
<b>Debt Long Term Position</b>											
Beginning Debt Balance						117.8	116.1	114.4	162.7	160.9	
Amortization						110.5	110.5	110.5	110.5	110.5	
New Debt Issued						108.8	108.8	158.8	108.8	108.8	
<b>Ending Debt Balance</b>	<b>178.6</b>	<b>148.5</b>	<b>84.4</b>	<b>134.7</b>	<b>117.8</b>	<b>116.1</b>	<b>114.4</b>	<b>162.7</b>	<b>160.9</b>	<b>159.2</b>	
<b>Interest Expense</b>	<b>4.3</b>	<b>5.0</b>	<b>4.3</b>	<b>4.2</b>	<b>4.9</b>	<b>4.8</b>	<b>4.8</b>	<b>6.8</b>	<b>6.7</b>	<b>6.6</b>	
<b>Interest and Invest. Income</b>	<b>-</b>	<b>-</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	
Interest Rate %	2.4%	3.4%	5.1%	3.1%	4.2%						
<b>Interest rate - new debt %</b>	4.2%										

## Annex H: DCF Valuation

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	TV
Revenues	434.7	451.6	391.4	409.3	316.2	408.7	436.7	460.4	484.6	528.9	577.3	588.8
Growth (%)	4%	-13%	5%	-23%	29%	7%	5%	9%	9%	9%	9%	2%
Gross margin	166.1	167.8	154.4	159.2	80.5	141.0	164.4	173.3	182.4	199.1	217.3	221.7
Gross margin (%)	38%	37%	39%	39%	25%	35%	38%	38%	38%	38%	38%	38%
OPEX	80.4	75.4	67.0	71.9	63.2	77.4	77.6	81.8	86.1	93.9	102.5	104.6
EBITDA	112.4	118.7	111.8	116.3	46.1	94.5	86.9	91.6	96.4	105.2	114.8	117.1
EBITDA margin (%)	26%	26%	29%	28%	15%	23%	20%	20%	20%	20%	20%	20%
Depreciation and amortization	26.6	26.3	24.4	29.0	28.7	31.4	30.6	29.3	30.8	32.3	32.3	33.0
EBIT	85.8	92.4	87.4	87.3	17.3	63.6	56.3	62.2	65.5	72.9	82.5	84.1
EBIT margin (%)	20%	20%	22%	21%	5%	16%	13%	14%	14%	14%	14%	14%
Operational taxes	16.9	18.2	17.2	17.2	3.4	12.5	11.1	12.3	12.9	14.4	16.3	16.6
NOPLAT	68.9	74.2	70.2	70.1	13.9	51.1	45.2	50.0	52.6	58.5	66.2	67.6
(+) Depreciation	26.6	26.3	24.4	29.0	28.7	31.4	30.6	29.3	30.8	32.3	32.3	33.0
Operating cash flow	95.5	100.5	94.6	99.1	42.6	82.5	75.8	79.3	83.5	90.8	98.5	100.5
A Working capital		5.6	-35.4	23.8	-16.0	4.2	12.0	4.8	4.9	8.9	9.8	10.0
Capex	59.2	37.8	31.2	38.8	24.1	25.0	9.1	8.7	55.8	57.3	32.3	33.0
Free Cash Flow to the Firm	36.3	57.1	98.8	36.5	34.6	53.2	54.6	65.8	22.8	24.6	56.5	57.6
Growth (%)		57.4%	73.0%	-63.1%	-5.3%	53.9%	2.7%	20.4%	-65.4%	8.0%	129.8%	2.0%
Terminal Value												1,108.1
Timing factor							1	2	3	4	5	
Discount factor							0.9	0.9	0.8	0.8	0.7	
Discounted Cash flow							51.0	57.3	18.5	18.6	822.7	
Enterprise Value												968.0
(+/-) Net Cash / Net Debt												66.1
(-) Minorities												-
Equity Value @ 31 Dec 2021												901.9
Number of shares (in million)							409.6					
Price per Share							2.20					
Ibstock Share Price @ 31 Dec 2021							2.04					
Ibstock Market Cap. @ 31 Dec 2021							834.8					
Nr. of Shares							409.6					
Recommendation - 31st December 2021												HOLD

Enterprise Value	968.0
(+/-) Net Cash / Net Debt	66.1
(-) Minorities	-
Equity Value @ 31 Dec 2021	901.9
Number of shares (in million)	409.6
Price per Share	2.20
Ibstock Share Price @ 31 Dec 2021	2.04
Ibstock Market Cap. @ 31 Dec 2021	834.8
Nr. of Shares	409.6

## Annex I: Relative Valuation: Transaction Comps

Date: Announcement	Deal Type	Target subsector	Target	Bidder	Consideration	Stake	EV/Revenue	EV/EBITDA
20/05/2021	Majority Stake	Construction	CHRYSO SAS	Compagnie de	879.8	100.0%	2.5x	11.6x
22/02/2021	Majority Stake	Concrete,Other	Forterra Inc.	The Quikrete	1,132.7	100.0%	1.6x	10.6x
31/07/2019	Majority Stake	Concrete,Constructio	Longley Concrete	Ibstock Plc	14.0	100.0%	0.5x	6.7x
16/07/2019	Majority Stake	Aggregates,Concrete	Building Materials	Blackstone	1,479.3	100.0%	0.4x	9.1x
25/10/2018	Majority Stake	Building suppliers	Manthorpe Building	Polypipe Group	44.0	100.0%	1.8x	7.1x
11/06/2018	Majority Stake	Construction	USG Corporation	Gebrueder	4,097.9	89.4%	2.2x	14.1x
17/05/2018	Majority Stake	Other heavyside	Edilians	Lone Star Funds	872.9	100.0%	3.3x	8.8x
13/12/2017	Majority Stake	Other heavyside	Cemacon SA (50.1%	PIF Industrial	6.0	50.1%	1.2x	5.7x
13/12/2017	Majority Stake	Cement,Concrete,Ma	Poundfield Products	SigmaRoc Plc	10.3	100.0%	1.4x	8.4x
19/10/2017	Majority Stake	Concrete	CPM Group	Marshall's Plc	38.3	100.0%	0.7x	6.1x
Maximum					4,097.9		3.3x	14.1x
Q3					1,069.5		2.1x	10.3x
Average					857.5		1.6x	8.8x
Median					458.5		1.5x	8.6x
Q1					20.1		0.8x	6.8x
Minimum					6.0		0.4x	5.7x

## Annex J: Relative Valuation: Trading Comps

Exchange:Ticker	Company Name	Country	Market Cap	EV	Gross Margin %	EBITDA Margin %	EV / Revenue Multiples			EV / EBITDA Multiples		
							LTM	FY1	FY2	LTM	FY1	FY2
LSE:FORT	Forterra plc	UK	627.2	615.9	35.2%	17.3%	1.8x	1.7x	1.6x	7.1x	8.9x	7.7x
LSE:TPK	Travis Perkins plc	UK	3,403.3	4,020.5	28.5%	8.2%	0.6x	0.9x	0.8x	8.7x	8.3x	8.1x
AIM:MBH	Michelmersh Brick Hold. plc	UK	122.4	118.9	40.6%	23.7%	2.0x	2.0x	2.0x	7.7x	8.4x	8.1x
LSE:GFTU	Grafton Group plc	Ireland	2,953.9	3,200.5	39.2%	14.7%	1.1x	1.5x	1.5x	8.9x	9.1x	9.6x
LSE:KLR	Keller Group plc	UK	712.4	896.6	11.1%	7.1%	0.4x	0.4x	0.4x	4.7x	5.0x	4.5x
AIM:BREE	Breedon Group plc	UK	1,605.1	1,896.7	34.8%	16.5%	1.6x	1.6x	1.5x	8.9x	8.9x	8.4x
LSE:CRH	CRH plc	Ireland	30,049.7	35,028.3	33.9%	16.3%	1.6x	1.6x	1.5x	10.7x	8.9x	8.5x
LSE:MSLH	Marshall's plc	UK	1,376.4	1,430.8	60.7%	15.4%	2.6x	2.5x	2.4x	15.3x	13.9x	12.9x
LSE:FERG	Ferguson plc	UK	28,810.4	29,468.7	31.0%	10.7%	1.7x	1.5x	1.5x	14.5x	14.5x	13.9x
AIM:SRC	SigmaRoc plc	UK	532.7	586.7	22.8%	6.2%	3.8x	2.3x	1.3x	24.2x	12.2x	6.4x
LSE:SHI	SIG plc	UK	561.9	854.2	26.3%	1.3%	0.4x	0.4x	0.4x	48.8x	8.1x	6.7x
ISE:KRX	Kingspan Group plc	Ireland	15,993.3	16,676.2	28.6%	13.3%	3.7x	3.1x	2.9x	25.8x	22.6x	21.7x
Average			7,229.1	7,899.5	32.7%	12.6%	1.8x	1.6x	1.5x	15.4x	10.7x	9.7x
Maximum			30,049.7	35,028.3	60.7%	23.7%	3.8x	3.1x	2.9x	48.8x	22.6x	21.7x
Median			1,490.8	1,663.7	32.4%	14.0%	1.7x	1.6x	1.5x	9.8x	8.9x	8.3x
Minimum			122.4	118.9	11.1%	1.3%	0.4x	0.4x	0.4x	4.7x	5.0x	4.5x

EV/EBITDA severe outlier analysis	
Q1	8.4x
Q3	17.5x
IQR	9.1x
Upper-end	44.8x
Lower-end	-18.9x
EV/EBITDA moderate outlier analysis	
Q1	8.4x
Q3	17.5x
IQR	9.1x
Upper-end	31.2x
Lower-end	-5.2x





Annex L: J.P. Morgan – Equity Broker Report

## J.P.Morgan CAZENOVE

Europe Equity Research

20 January 2022

### Ibstock Plc (IBST LN)

**Neutral**

Price: 202p

19 Jan 2022

Price Target: 230p

PT End Date: 30 Jun 2023

First Take: In-line FY Trading Update; Expect limited changes

#### Valuation

We value Ibstock on an average of (i) DCF assuming an 8% WACC, 2% medium term growth, 1% terminal growth and a 20% terminal margin, (ii) Target EV/EBITDA multiple of 7x, (iii) Target P/E multiple of 12x and (iv) Target FCF yield of 8%.