

**MASTERS IN
FINANCE**

**MASTERS FINAL WORK
PROJECT**

EQUITY RESEARCH:
D.R. HORTON, INC.

HENRIQUE MIGUEL BARREIRA LOPES

SEPTEMBER 2023

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SUPERVISOR:

PAULO FRANCISCO

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Abstract

D.R. Horton, Inc, (DHI) is the largest homebuilder in the United States of America, as per number of houses closed, also operating financial services and renting operations, and owning a majority share in the company Forestar (FOR).

To value the company, the Weighted Average Cost of Capital method was employed, where a discounted cash flow analysis was developed for the business as a whole, as revenues for the homebuilding operations account for, as of Q3FY2023, 92% of its consolidated revenues.

The valuation generated a buy recommendation, with a September 30th, 2024, price target of \$133.06, representing an upside potential of 24% from the September 30th, 2023, closing price of \$107.47, with medium risk. To support the base case of the report, other methods such as Relative Valuation were also applied.

JEL classification: G10 ; G17 ; G32 ; G34.

Keywords: Equity Research; Valuation; Construction; Homebuilding; Real Estate.

Resumo

D.R. Horton, Inc, (DHI) é a maior empresa de construção residencial dos Estados Unidos da América, de acordo com o número de casas fechadas, operando em simultâneo divisões de serviços financeiros e arrendamento, possuindo participação majoritária na empresa Forestar (FOR).

Para avaliar a empresa, o método de Custo Médio Ponderado de Capital foi utilizado, onde uma análise dos Fluxos de Caixa Descontados foi realizada para o negócio como um todo, uma vez que as receitas geradas pelas operações de construção residencial representam, à data de Q3FY2023, 92% das receitas consolidadas da empresa.

Esta avaliação gera uma recomendação de compra, com um preço-alvo, à data de 30 de Setembro de 2024, de \$133.06, representando um potencial de valorização de 24% relativamente ao preço registado a 30 de Setembro de 2023 de \$107.47, com um risco médio. De modo a suportar o caso base do relatório, outros métodos como Avaliação Relativa foram utilizados.

Classificação JEL: G10 ; G17 ; G32 ; G34.

Palavras-Chave: Equity Research; Avaliação de Empresas; Construção; Construção Residencial; Imobiliário.

Acknowledgements

With the end of this academic phase, I have nothing to say but thank you. Thank you to everyone that crossed my life and, in some way or another, brought me a valuable lesson that I will take for the rest of my life.

To my family, especially my parents and grandparents, for shaping me to become the person I am today, for supporting me through every decision while giving their wise opinion, and for giving me everything they can even if that meant at their detriment, I have nothing to say but Thank you.

To my friends, who stuck with me through all this journey both ups and downs, helping me and laughing with me when I needed, I Thank you all. To David and Tomás, a special Thank you for helping me throughout the master's and solving every little question I had.

To all the professors that some way or another went through my academic career, Thank you for making me wiser and knowledgeable over important topics that already helped me and will continue to help me in becoming a better professional. To my supervisor Professor Paulo Francisco, a special thank you for promptly reviewing my work when needed.

To the professionals that went through my path up until now, both in Caixa Geral de Depósitos and Feedzai, and all my fellow colleagues at LIS, Thank you for making the professional I am today, I will take every teaching you gave with me.

To everyone else, that feels like doesn't fit in one of these boxes but went through my path, Thank you for making me the person I am today.

“Life can only be understood backwards; but it must be lived forwards.” - Soren Kierkegaard

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D.R. Horton, Inc (NYSE: DHI)

(FYE2024 Price Target of \$133.06 (+24%); recommendation is to Buy with Medium Risk)

1. Research Snapshot

D.R. Horton has a BUY recommendation, with a 30th September 2024 price target of \$133.06, representing a potential upside of 24%, against the closing price on September 30th, 2023, of \$107.47, with **medium risk**.

This recommendation is based on **(i)** solid business model, **(ii)** constant appreciation of real estate prices, and **(iii)** positive outlook on future market conditions.

Solid Business Model

DHI isn't #1 in the USA market for no reason. The company understands how to maneuver around the market and play to its strengths. Due to the sheer scale of the company, it has been able to negotiate important partnerships and deals that enable them to operate with lower margins but still generate plenty of revenue and value to accommodate investors' needs. This strategy enabled them to successfully operate through tougher market conditions which were quite harsh to the real estate market, with global shortages affecting production, which can still be felt to this day, and a combination of high inflation and interest rates, which are expected to decline during the forecasted period, enabling DHI to up their margins to pre-pandemic levels without affecting their low to medium priced housing target clientele.

Real Estate Appreciation

Following the trend of past years, real estate is a permanently appreciating asset. As such, with the maintenance of this trend DHI is set for success as, not only currently held inventory will appreciate in value, but the final product will too. With the combination of these factors, the ability for the company to generate revenues will be boosted, as well as its growth prospects. Besides that, an appreciating asset like real estate provides the company with lower risks related to inventory, as properties tend to retain their value, even if the initial contract by the customer is cancelled.

Future Market Conditions

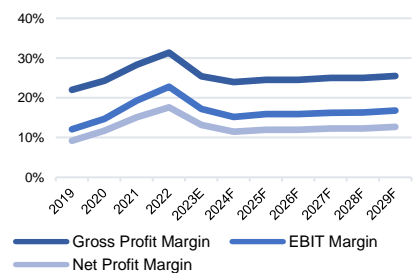
With the predicted reduction in both inflation and interest rates, the homebuilding industry is rejoicing as this combination of factors brings a host of advantages. On the company side, with the decrease in inflation, commodity prices would become cheaper, boosting margins, and with a decrease in interest rates, the cost of debt for the company would also become lower, strengthening their financial position. For the customer end, with lower interest rates, getting house financing would become more affordable and, with that, DHI's market reach would increase, at the same time that, with increased purchasing power from the lower inflation, the possibility of higher priced housing would become an option, maximizing their revenues.

Figure 1 - Cumulative Returns



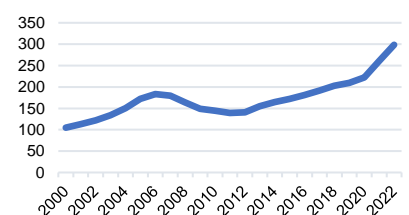
Source: Company's Financials

Figure 2 - Business Margins



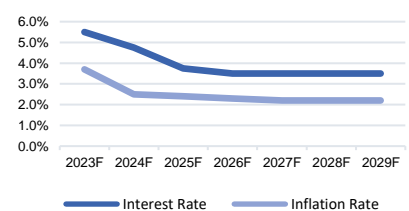
Source: Company's Financials, Author's Analysis

Figure 3 - S&P/Case-Shiller U.S. National Home Price Index (Jan2000 = 100)



Source: FRED

Figure 4 - Interest and Inflation Rates



Source: PwC, Deloitte, Morgan Stanley, Congressional Budget Office, St. Louis FRB, Author's Analysis

2. Business Description

D.R. Horton at a glance

D.R. Horton, Inc. (DHI) was founded in 1978 in Fort Worth, Texas. The company is the largest homebuilder in the United States of America, as measured by the number of homes closed, having already closed 59,989 homes as of FYTD2023 (Q3 FY2023).

The company constructs and sells mostly single-family homes, being its core business, and offers a wide range of solutions to meet each customer's needs. This can go from entry-level homes, that target first-time buyers, which look for lower to medium-end housing typically characterized by smaller sizes, to move-up markets, which target homeowners who are looking for a bigger and more expensive housing option, and luxury buyers, which is typically more of a niche market.

D.R. Horton counts with approximately 13,000 employees and operates in 33 states, positioning itself as the most geographically diverse company in this market, which are divided into regions: Southeast (28% of revenues FYTD23), South Central (25%), East (17%), Southwest (12%), North (10%) and Northwest (8%).

Business Model

DHI's core business is its homebuilding operations, which primarily include the construction and sale of single-family homes, generating 92% of the company's FYTD2023 revenues. Of this segment, the sale of single-family detached homes represents approximately 90% of home sales revenues, with the remainder being from the sale of attached homes, including townhomes, duplexes, and triplexes. With an ASP of \$381,100 as of FYTD23, the company's main focus is low to medium cost housing, being this strategy reinforced due to the current market conditions. As of FYTD23, 66% of homes closed had a price lower than \$400k.

The homebuilding operations are represented under the names: D.R. Horton, Emerald Homes, Express Homes, and Freedom Homes. These brands are used to separate each type of product offering with ASPs ranging from \$200,000 to more than \$1,000,000. These brands are ordered from most affordable to least affordable in the following order:

- Express Homes, which accommodates entry-level buyers who are mainly looking for the most affordable options;
- Freedom Homes, offering homes at affordable prices to active adult buyers looking for a low-maintenance lifestyle;
- D.R. Horton, which primarily focuses on first time and first time move-up buyers;
- Emerald Homes, appealing to buyers who are searching for higher-end luxury homes.

As of 2017, D.R. Horton acquired a majority stake in Forestar (FOR), which is a residential lot development company that develops lots that, later, the homebuilding operations will acquire in its finished state in accordance to a master supply agreement between the companies. As of FYTD23, D.R. Horton owned 63% of its outstanding shares.

FOR is considered to be a key part in the main business strategy, and it's used to accelerate its long-term strategy, through an expansion and strengthening of the relationship with land developers, at the same time that it enhances operational efficiencies by getting control of a larger portion of its land and lot positions.

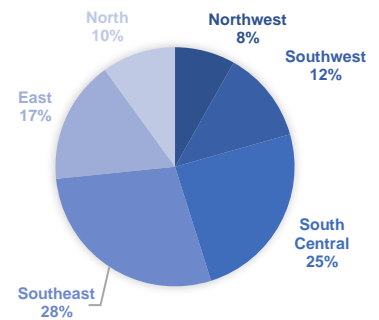
The financial services operations are operated through DHI Mortgage, which provides mortgage financing and title agency services to homebuyers, afterwards selling these and the related servicing rights to third-party purchasers, such as financial institutions.

Figure 5 – D.R. Horton U.S.A Presence



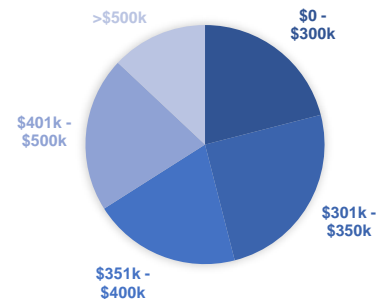
Source: Company's Q3FY2023 Investor Presentation

Figure 6 - FYTD2023 Revenue by Reported Region



Source: Company's Financials

Figure 7 - Houses Closed Price Point (TTM June 30th, 2023)



Source: Company's Q3FY2023 Investor Presentation

Figure 8 - Homebuilding Logos



Source: Author's Analysis

Regarding the rental operations, these are divided into multi-family and single-family rental operations. The multi-family rental operations develop, construct, lease, own and sell the properties, while the single-family operations construct the homes with the intent of bulk selling them for a community.

Finally, the company also partakes in insurance-related operations, owns non-residential real estate, and owns and operates energy-related assets, but since the results from these operations are insignificant, they are grouped and referred to as other activities.

Key Drivers of Profitability

U.S.A. Dominance | Positioning itself as the most geographically diverse homebuilder in the country gives D.R. Horton a big advantage against its peers, especially when it comes to brand recognition. To help in this mission, the company is always opportunistically evaluating potential acquisitions of smaller scale brands in order to widen their market and gather some insights into the current situation of each one. Besides this, incorporating a full range of price points into its product offerings, together with the renting opportunities that the company is now offering, makes DHI a possible choice in any stage of life that a customer might be in.

Scale as a weapon | Being the market leader considering number of houses closed enables DHI to have unparalleled economies of scale. This can be seen with the most recent results of the company that, even with lower margins compared to previous periods, continued to provide positive results to its shareholders.

D.R. Horton Ecosystem | Ranging from lot purchasing, with Forestar, to house financing, with DHI mortgage, the whole process of homebuilding and selling is covered, enabling the company to have better control of its own inventory and multiple sources of revenue over the whole process.

Ownership Structure

D.R. Horton has been publicly traded since 1992 and is now traded in the New York Stock Exchange (NYSE) under the ticker “DHI”, being part of the S&P500 stock index.

As of September 30th, 2023, the company registered a market capitalization of \$36.4 billion with 338.3 million shares outstanding, with 1 vote right each, out of 399 million shares issued, and having no preferred stock shares issued.

The company is expected to pay dividends of approximately \$340 million annually, at current rate, and is currently buying back shares, having already bought 7.7 million shares FYTD23, with an expected \$1.1 billion of repurchases in fiscal year 2023 to reduce the outstanding share count. There is, however, no policy set in place to determine future dividends or share buybacks, this being decided by the board on an ongoing basis.

The company is mainly controlled by institutional investors (82.2%) due to the nature of the industry, with its 3 biggest institutional holders being Vanguard Group Inc (10.2%), Capital World Investors (9.1%), and Blackrock, Inc. (6.1%).

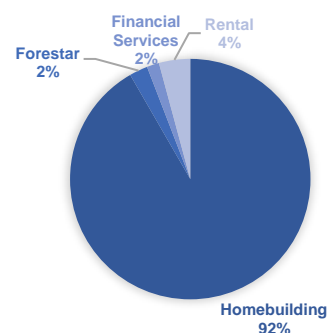
Insiders collectively own 10.9% of DHI and, over the past 6 months, insider trading has shown a net buying trend, collectively net buying approximately 3.1 million shares.

Figure 9 - D.R. Horton Divisions



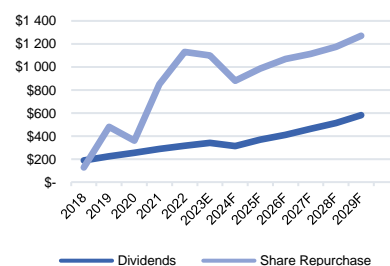
Source: Author's Analysis

Figure 10 - Revenue by Division (FYTD23)



Source: Company's Financials

Figure 11 - Dividends and Share Repurchases (\$M)



Source: Company's Financials, Author's Analysis

Table 1 - Ownership Structure

Shareholder	Ownership
The Vanguard Group, Inc.	10.22%
Capital World Investors	9.14%
Horton Family Limited Partnership.	7.24%
BlackRock Institutional Trust Company, N.A.	6.06%
Capital Research Global Investors	4.41%
State Street Global Advisors (US)	4.06%
Others	58.86%

Source: Refinitiv

3. Management and ESG

Environmental

With the latest and first version of its ESG Report, DHI shows the areas where efforts are being made to better their ESG position. As expected, environmental issues seem to be where companies in the construction sector suffer the most due to the nature of the industry itself, being with the materials used and their inherent carbon footprint, the energy used during the construction process, and even the aftermath of the building, with the necessary energy or water consumptions that will take place after the houses are sold.

To tackle these issues, DHI implements several initiatives to reduce its environmental impact. These include working with select vendors that provide them with more sustainable or regionally produced solutions, using high-technology and more efficient solutions to both save energy and other resources like water, and by making the necessary due diligence to better select the lots where they will build so not disturb the natural biodiversity and already pre-established communities.

These efforts already resulted in some positive impacts that can be seen with DHI's houses that were closed in 2022 obtaining, in average, a 40% more efficient HERS (Home Energy Rating System) score than the reference home or by the installation of WaterSense bathroom faucets and showerheads, where the company estimates that, in FY2022, more than 1.4 billion gallons of water have been saved. Besides this, their greenhouse emissions per number of houses closed remained constant through FY2019 to FY2021, besides the increase in scale experienced during this same period.

Social

DHI is also focused on working with their local communities and providing them with opportunities. For this reason, each division office provides their local communities with job opportunities and works directly with these communities with their local causes. With these same initiatives, DHI contributed more than 4,000 hours and 500,000\$. Besides directly working with the community, the company also provides active members of the military, law enforcement, firefighters, healthcare professionals and educators with special incentives on their new home purchase through their "Main Street Stars" program.

Regarding its own workforce, DHI's workforce is 43% female. However, female presence is quite weak on the top positions, with only approximately 22% of the Executive / Sr. Official & Managers positions being female. Ethnic diversity is also quite weak in these positions, being that approximately 94% of these positions are occupied by people of white ethnicity. This number drops to 74% while referencing the entire company.

Governance

Board Structure | DHI's employs a Nominating & Governance, Compensation, and Audit committee, being all of them independent, except for the founder and chairman Mr. Horton.

Board of Directors | Composed by 7 members, having a distinct chairman (Mr. Donald R. Horton) and CEO (Mr. David V. Auld), which are elected on a one-year term by a majority vote standard. The board is composed of highly skilled individuals with previous knowledge and expertise in the Real-Estate / Homebuilding business. It is also composed by 5 males and 2 females, with 1 ethnically diverse member, with an average tenure of 11 years (excluding Mr. Horton).

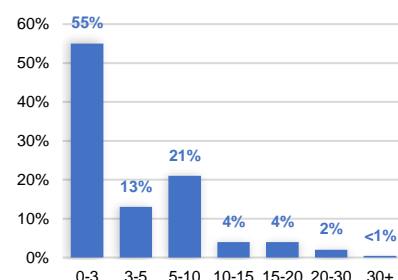
Executive Management | DHI's C-level executives are 100% males, with an average tenure of 10 years (excluding Mr. Horton).

Table 2 - D.R. Horton Greenhouse Gas Emissions

Greenhouse Gas Emissions (MT CO ₂ e)	2019	2020	2021
Scope 1 (Direct Emissions)	35 272.00	51 229.00	68 128.00
Scope 2 (Indirect Emissions)	44 282.00	51 958.00	57 787.00
Total Scopes 1 & 2 Emissions	79 554.00	103 187.00	125 915.00
Homes closed	56 975.00	65 388.00	81 965.00
MT CO₂e per home closed	1.40	1.60	1.50

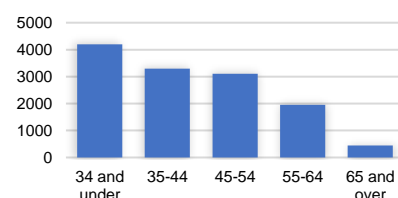
Source: Company's 2022 ESG Report

Figure 12 - Employee Tenure



Source: Company's 2022 ESG Report

Figure 13 - Employee Age



Source: Company's 2022 ESG Report

Table 3 - Board of Directors Summary

Name and Primary Occupation	Independent	Committee Membership (if Chair)	Skills, Experience and Expertise				
			Real Estate	Construction	Accounting	Finance	Other
Donald R. Horton Executive Chairman, D.R. Horton Inc.			Executive (C)				
Barbara K. Allen Retail Partner, Avocado Partners	✓		Compensation (C)	Nominating and Governance			
Brad S. Anderson Vice Chair, Coulman & Walcott	✓		Audit	Compensation			
Michael R. Buchanan Sales Sr. Advisor, State of America Securities	✓		Nominating and Governance				
Benjamin S. Carson, Sr. Former Secretary of U.S. HUD	✓		Audit	Nominating and Governance (C)			
Maribess L. Miller Home Partner, PwC	✓		Audit (C)	Compensation			

Source: Company's 2023 Proxy Statement

Table 4 - Director Compensation (FY2022)

Director	Fees Earned or Paid in Cash	Stock Awards	Total
Donald R. Horton	\$ 80 000.00	\$ 519 909.00	\$ 599 909.00
Barbara K. Allen	\$ 72 500.00	\$ 519 909.00	\$ 592 409.00
Brad S. Anderson	\$ 72 500.00	\$ 519 909.00	\$ 592 409.00
Michael R. Buchanan	\$ 72 500.00	\$ 519 909.00	\$ 592 409.00
Benjamin S. Carson, Sr	\$ 75 000.00	\$ 519 909.00	\$ 594 909.00
Maribess L. Miller	\$ 85 000.00	\$ 519 909.00	\$ 604 909.00

Source: Company's 2023 Proxy Statement

Table 5 - Executive Compensation (FY2022)

Name and Principal Position	Salary	Bonus	Stock Awards	Others	Total
Donald R. Horton Executive Chairman	\$ 1 000 000.00	\$ -	\$ 21 987 160.00	\$ 7 596 532.00	\$ 30 583 692.00
David V. Auld President and CEO	\$ 700 000.00	\$ -	\$ 21 987 610.00	\$ 7 309 252.00	\$ 29 996 862.00
Michael J. Murray Executive VP and Co-CEO	\$ 500 000.00	\$ -	\$ 5 447 599.00	\$ 7 781 267.00	\$ 13 728 866.00
Paul J. Romanowski Executive VP and Co-CEO	\$ 500 000.00	\$ -	\$ 5 447 599.00	\$ 7 799 679.00	\$ 13 747 278.00
DHI W. Wheat Executive VP and CFO	\$ 500 000.00	\$ 3 000 000.00	\$ 3 363 589.00	\$ 193 122.00	\$ 7 056 711.00

Source: Company's 2023 Proxy Statement

Remuneration Policy | Remuneration on these levels is strongly linked with financial performance and shareholder returns, with multi-year vesting periods for stock-based compensation. There is also a clawback policy set in place that is triggered in case of a financial restatement or material harm to the company.

Controversies | Currently, DHI is facing a potential lawsuit regarding housing built in Louisiana due to them, allegedly, not being able to withstand the humidity of the region, causing mold and humidity inside the houses. This is still being disputed since there is a disagreement on whether this should be disputed in court or in federal arbitration.

4. Industry Overview and Competitive Positioning

Demand Drivers

Interest Rates | Favorable lending conditions lead to an increase in people looking to invest in homeownership. For this reason, the availability of good financing/mortgaging options are key to attracting demand to the homebuilding market. DHI tackles this with the increased effort on offering low-cost housing, coupled with their in-house financing services.

Population Growth | With the population of the USA increasing with each year, that also means an increase in the demand for housing and homebuilding. Coupling this with the urbanization and migration to the main cities and their surrounding areas, we can expect that the demand for housing won't slow down in the coming years.

Government Initiatives | Government initiatives to promote affordable housing and encourage homeownership are super important to the demand in the homebuilding industry. These incentives come in the form of more affordable loans, with lower requirements than the typical financial services companies, subsidies or even tax benefits for homebuyers.

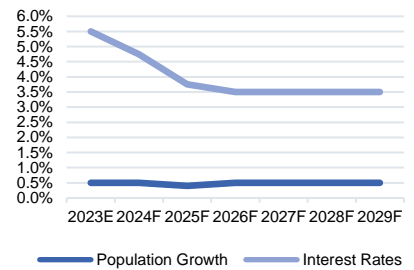
Supply Drivers

Commodity Prices | Recent trends of inflation, allied with supply chain disruptions, heavily impacted the construction industry with rises in commodity prices, such as cement, lumber, and steel. Price volatility for key commodities in the homebuilding segment led to a certain degree of uncertainty regarding both budgeting and profitability in the company's projects. In order to tackle this, a good management strategy and effective cost management need to be put in place to prevent unnecessary losses.

Qualified Workforce | The construction market, as a whole, is facing challenges regarding obtaining and maintaining a qualified and diversified workforce. Shortages in skilled workers like carpenters, electricians, and plumbers directly lead to an increase in the project cost and also to a delay in the pre-determined timelines set, limiting the output that the company can have regarding homebuilding. For this reason, the company has several policies in place to both keep and better educate their employees in the respective work fields.

Real Estate Appreciation | Revenue in the homebuilding industry is highly linked with real estate pricing. As such, appreciation in real estate prices will highly motivate companies in this industry to build more housing to enable them to generate more revenues.

Figure 14 - U.S.A. Population Growth and Interest Rates



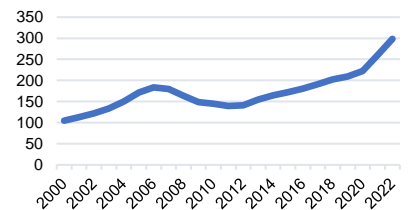
Source: Congressional Budget Office

Table 6 - Main Government-Backed Mortgage Programs

Program Name	Application
FHA	General
USDA	Rural Areas
VA	Military, Veterans and surviving spouses
NADL	Native American Veteran or non-Native American Veteran married to a Native American

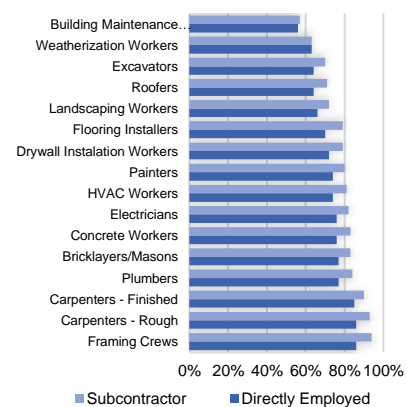
Source: US Gov

Figure 15 - Construction Materials Producer Price Index



Source: FRED

Figure 16 - Reported Labor Shortage by Builders



Source: HBI Construction Labor Market Report Spring 2023

Peers

The #1 spot in the USA homebuilding market isn't easy to maintain due to the fierce competition present in the market. DHI maintains this position due to the vast geographic presence in USA's territory and due to the huge spectrum of house pricing available on its portfolio. With this in mind, it should also be noted that DHI is making a great push on their low-cost housing, being this the main revenue source for the homebuilding division and a great way to combat current market conditions which are affecting the consumers ability to buy housing at higher price points.

In a market where scale is one of the most important things it's not unusual to see similar business models present between the main players in the industry. As such, DHI faces competitors in the form of geographic diversification and price targeting, where it currently holds the number one place for being present in more states in the USA when comparing to its main competitors:

- D.R. Horton (DHI), which, as of FY22 operated in 33 states, had an ASP of \$399k and totaled \$33.5B in revenues and \$5.9B in net income, with a market cap, as of September 30th, 2023, of \$36.4B.
- Lennar Corp (LEN), which, as of FY22 operated in 22 states, had an ASP of \$480k and totaled \$33.7M in revenues and \$4.6M in net income, with a market cap, as of September 30th, 2023, of \$31.9B;
- Pulte Group Inc (PHM), which, as of FY22, operated in 24 states, had an ASP of \$542k and totaled \$16.2M in revenues and \$2.6M in net income, with a market cap, as of September 30th, 2023, of \$16.2B;
- NVR Inc (NVR), which, as of FY22, operated in 15 states, had an ASP of \$454.3k and totaled \$10.3M in revenues and \$1.7M in net income, with a market cap, as of September 30th, 2023, of \$19.5B;
- Toll Bros, Inc (TOL), which, as of FY22, operated in 24 states, had an ASP of \$923.6k, which reflects their main focus on higher end housing, and totaled \$10.3M in revenues and \$1.3M in net income, with a market cap, as of September 30th, 2023, of \$7.9B.

Important to note that all these competitors have financial services as a supporting segment to their homebuilding operations.

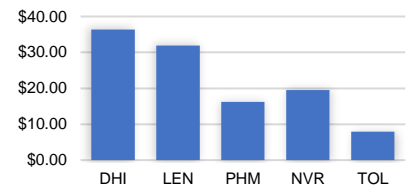
Competitive Positioning – Porter's Five Forces

Threat of New Entrants – Low | Entering the homebuilding industry isn't an easy task since it requires a high amount of capital, which serves as a high barrier to entry, is quite demanding in regards to regulatory compliance, due to the several different entities and policies set in place by different regulatory bodies, and also by the fact that bigger companies have access to better conditions in this market through economies of scale, making them able to offer more competitive prices than smaller players in this market.

Rivalry Amongst Competitors – High | A highly competitive market with few large players, all hungry to capture market share, leads to a highly competitive market. Coupling this with the highly volatile commodities, which can imply further problems down the production line, makes the homebuilding industry highly competitive. To tackle this, companies tend to mainly focus mainly on one tier of housing being offered, in order to better understand their target clients and lower their pricing, which can be proven difficult and make companies operate on lower margins than desired due to economic hardships like high inflation and/or interest rates.

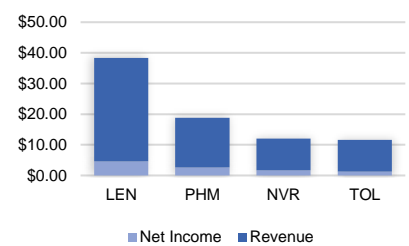
Power of Consumers – Moderate | The power of consumers in the homebuilding industry is expected to be high due to the fact that the main differentiating factor is pricing. However, due to current market conditions and also the overdemand being experienced in this industry, the power that consumers hold is decreasing.

Figure 17 - Peers Market Cap vs D.R. Horton (\$B) (Sept 30th, 2023)



Source: Yahoo Finance

Figure 18 - Peers FY2022 Revenue & Net Income (\$M)



Source: Peers' Financials

Table 7 - SWOT Analysis

Strengths
Strong Brand Reputation/Recognition with over 40 years of history
Largest American Homebuilder, which leads to large economies of scale
Diverse Price-Point Portfolio, catering to clients in all stages of life
Diversified presence within the USA, with constant expansion to new markets within it
Weaknesses
Heavy reliance on the USA homebuilding market, making it more susceptible to any downturn that might happen
Mass production of houses, leading to lack of differentiating factors in their product offering
Size and structure leads to slower adaptation to market trends
Business model based on scale, which makes it more replicable
Opportunities
Better market conditions with lower inflation and interest rates
Constantly growing population, which leads more people to look for housing to buy or rent
Expansion to markets outside the USA
Increasing government regulations, making it harder for smaller players to enter the market

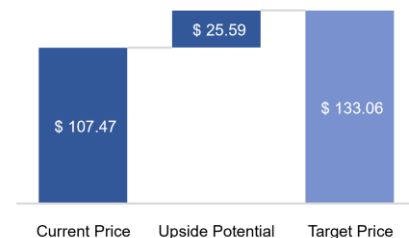
Threat of Substitute Products – Low | Due to the fact that housing is a product that can't be substituted, this is a weak force in the industry that DHI is in. However, companies should be on the lookout for disruptive technologies that might make housing offered by competitors more enticing.

Power of Suppliers – Low | Homebuilding companies need to maintain a good relationship between themselves and their suppliers to be sure that production keeps running smoothly without many problems that could disrupt their product inventory. However, due to the fact that the main players in this industry are few, landing a supply deal with one of the main players of the industry is quite important to the suppliers. Besides this, the fact that commodities are hard to differentiate between makes the bargaining power against suppliers in this industry quite high.

Threats
Shortages with skilled labor in the construction industry
Increase in commodity prices
Supply chain disruptions
Possibility of a recession or house market collapse

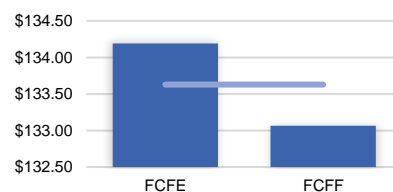
Source: Author's Analysis

Figure 19 - Price Target FYE2024



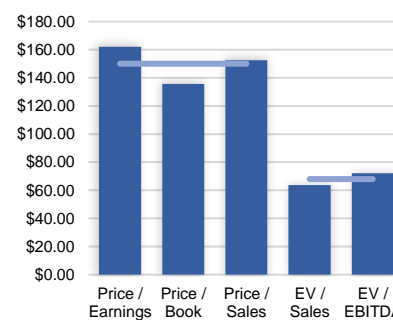
Source: Author's Analysis

Figure 20 - Absolute Valuation



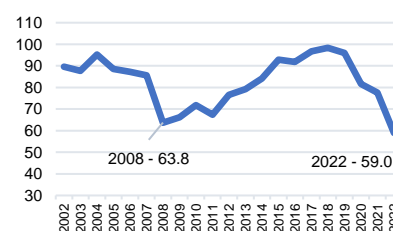
Source: Author's Analysis

Figure 21 - Relative Valuation



Source: Author's Analysis

Figure 22 - Consumer Sentiment Index



Source: FRED

5. Investment Summary

D.R. Horton has a BUY recommendation, with a 30th September 2024 price target of \$133.06, representing a potential upside of 24%, against the closing price on September 30th, 2023, of \$107.47, with **medium risk**.

The difference between the price target and the current market price can be explained due to the **(1) cyclical nature of the construction business**, which coupled with the still felt **(2) high inflation and interest rates** can lead to a pessimistic view of this industry due to a more pronounced short-term view of the markets.

Valuation Methods

Both relative and absolute methods were applied in order to reach a price target for DHI.

For **absolute valuation**, a similar conclusion was reached through both the FCFF and the FCFE which gave a price range between \$133.06 and \$134.19, respectively. A DDM analysis was also conducted, however, due to the fact that one of the most significant ways that DHI brings value to its holders is through share repurchases, this model was later discarded.

Regarding **relative valuation**, a similar price target was reached using Price Multiples, with a TP of \$150.07, versus a price target of \$67.98 using EV Multiples. For this reason, and due to the discrepancy in ratios experienced in this industry, **absolute valuation** was chosen as the **best approach to estimate DHI's fair value**.

Investment Risks

Investors should be wary of the risks that the homebuilding industry entails, especially the ones that can impact operations in a way that DHI can't control.

As **government incentives** in the form of cheaper mortgages are one of the big drivers of demand in this industry, coupled with **interest rates**, if these cease to exist or rates become too high, revenues can be severely impacted due to a lower demand, which would affect houses in inventory, and due to the possibility of customers cancelling the housing purchases that the company has backlogged.

High **inflation rates** coupled with **supply chain disruptions** can also lead to problems in the whole construction cycle of the company, which would impact both revenues and COGS of the company, possibly leading the company to have lower margins to unwanted levels in order to stay competitive and not raise prices to unfeasible levels.

A deterioration of the current **macroeconomic state** will also severely impact the company's ability to generate revenue as people would have less disposable income to be able to afford a mortgage on houses, having to instead opt into renting. Even though DHI already possesses some renting inventory, it is still quite low in quantity

and revenue generating capability and, as such, the effect felt by the homebuilding could not be counterweighed by the renting one.

6. Valuation

WACC Method

The first method used to estimate DHI's equity's fair value was a DCF model, using forecasts to get the consolidated results for the company during the period between 2024 and 2029, while assuming a stable perpetuity growth in the period following it. The main variables impacting the valuation are: **(a) forecasted consolidated revenues, (b) forecasted margins, (c) WACC, and (d) terminal growth rate.**

This method resulted in a **price target** for DHI of **\$133.06**, representing a **potential upside** of **24%** versus the price on September 30th, 2023, of \$107.47.

Forecasted Consolidated Revenues

Revenue growth was modeled after a combination of significant factors affecting the industry's ability to generate revenue: **Population Growth, GDP Growth, and Inflation Rates.** This resulted in a CAGR of 4.7% during the forecasted period, which is aligned with current market estimates and FY23 performance. As most parts of the business are linked to homebuilding, and it represented 92% of DHI's consolidated revenues as of FYTD2023, the business was modeled as one and not as a Sum of Parts.

Forecasted Margins

As the company is expected to stick with its lower margins game plan, focusing on affordable housing and incentives, in order to boost demand, forecasted margins remained in line with guidance from the company regarding Q4-FY2023, starting from 23.5% in this same period and slowly ramping up to 25.5% in 2029. This increase would still be lower than the margins that the company experienced before 2023, but 1.5% above guidance for Q4 and more in line with its peers while still, on average, outperforming them. With this, COGS would experience a CAGR of 4.67%.

WACC

Regarding the **Cost of Equity**, the **CAPM model** was used, which took into account a Levered Beta for the company of 1.16, a MRP of 4.35%, which is the current estimate for the U.S. Equity Market, and a RFR of 4.58%, representing the U.S. 10-year Treasury Bill yield at the end of September 2023. The Beta for the estimation used a starting Industry Average Beta of 1.5, which was later unlevered for both Cash and Debt using its peer's data, and, afterwards, cash levered using DHI's data. Using all these inputs, the Cost of Equity was estimated to be **9.63%**.

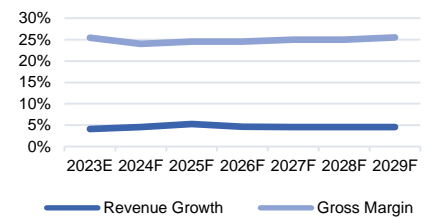
For the **Cost of Debt**, it was estimated to be weighted average effective interest rate of the outstanding debt issued by DHI as of FYTD2023, reaching an estimated **5.09%**.

For the **WACC** calculation itself, the Market Value of Debt to Capital ratio was assumed to be constant at 12.72%, which resulted at an estimated WACC of 8.90%.

Terminal Growth Rate

For the perpetuity stage of the company, a first approach of a stable growth model was applied. This approach was equal to the Retention Rate multiplied by the ROE and Reinvestment Rate by the ROIC for the FCFE and FCFF, respectively. However, the achieved growth rates were too high for the industry and, as such, a more conservative and sustainable **terminal growth rate of 2%** was used, which is in line with the expected GDP and Inflation growth rates for the U.S.A.

Figure 23 - Forecasted Revenue Growth and Gross Margin



Source: Company's 2023 Proxy Statement

Table 8 - Cost of Equity Estimation

Components	Estimate
Beta	1.50
Avg Peer D/E	0.67
Avg Peer Cash/Firm Value	0.21
Unlevered Beta for Debt	1.00
Unlevered Beta for Cash	1.27
DHI Cash/Firm Value	0.08
Cash Levered Beta	1.16
Market Risk Premium	4.35%
Risk Free Rate	4.58%
Cost of Equity	9.63%

Source: Author's Analysis

Table 9 - Cost of Debt Estimation

Notes Due	Interest Rate	Total Amount	Weight	Weighted Rate
2023 - Fixed	5.60%	\$ 538.50	9.61%	0.54%
2023 - Variable	6.70%	\$ 1 685.60	30.08%	2.02%
2024 - Fixed	4.40%	\$ 24.30	0.43%	0.02%
2025 - Fixed	2.80%	\$ 5.23	0.09%	0.00%
2026 - Fixed	3.50%	\$ 943.10	16.83%	0.59%
2026 - Variable	7.50%	\$ 1 000.00	17.84%	1.34%
2027 - Fixed	1.50%	\$ 607.20	10.84%	0.16%
2028 - Fixed	3.00%	\$ 800.00	14.28%	0.43%
Total		\$ 5 603.93	100.00%	5.09%

Source: Author's Analysis

Table 10 - WACC Estimation

Components	Estimate
Debt	\$ 5 864.60
Equity	\$ 40 238.54
Cost of equity	9.63%
% Equity	87.28%
Cost of debt	5.09%
% Debt	12.72%
Tax Rate - Nominal	22.73%
WACC	8.90%

Source: Author's Analysis

Applying this rate, the terminal value accounted for 75% and 77% of the company's valuation in the FCFE and FCFF, respectively.

Flow-to-Equity

For the Flow-to-Equity, the same terminal growth rate of 2% was applied, however, instead of using WACC as a discount factor, it was used the Cost of Equity at 9.63%, keeping other assumptions as is from the FCFF. With this DCF, a **price target of \$134.19** was reached, representing a **potential upside of 25%** against the price registered on September 30th, 2023, of \$107.47.

Market-Based Valuation

Applying the SARD model, six peers were chosen in order to perform a relative valuation, with the following results:

- **Price Multiples**, giving a consolidated average price target of \$150.07, representing a potential upside of 40%.
 - **Price to Earnings**, with a peer average of 9.30x, resulting in a price target of \$162.10;
 - **Price to Book**, with a peer average of 2.32x, resulting in a price target of \$135.67;
 - **Price to Sales**, with a peer average of 9.30x, resulting in a price target of \$152.45.

- **Enterprise Value Multiples**, giving a consolidated average price target of \$67.98, representing a potential downside of 37%.
 - **Enterprise Value to Sales**, with a peer average of 0.70x, resulting in a price target of \$63.75;
 - **Enterprise Value to EBITDA**, with a peer average of 3.40x, resulting in a price target of \$72.20.

As previously mentioned, due to the range of price targets resulting from this valuation being too large, it was not considered to give a price recommendation for DHI.

7. Financial Analysis

The Calm After the Storm

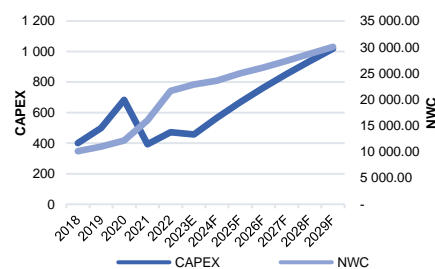
With the forecasted relaxation in the economic conditions, DHI is expected to start seeing some rays of light during the forecasted period, starting YEFY2024.

The company definitely felt the impact of harsher inflation and interest rates, seeing a slight decrease regarding its margins, both in FY2023 and FY2024, when compared to its historical average (26.51% Historical Average Gross Margin vs 24.00% FY2024 and 17.14% Historical Average EBITDA Margin vs 15.38% FY2024).

Profitability also felt a hit as the company was still adapting to market conditions and tightening its focus on lower to medium priced housing, with lower margins and other incentives in order to promote demand (13.41% Historical Average Net Profit Margin vs 11.44% FY2024).

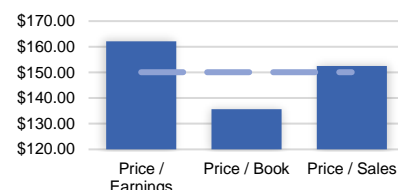
However, even with this decline, the company appears to be well positioned when compared to its main peers' performance in the period before the tightening in market conditions, which showed average gross and net profit margins of 23.59% (-0.41%) and 12.85% (+1.41%), respectively.

Figure 24 - CAPEX & NWC



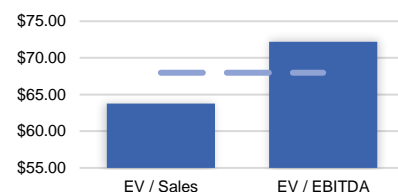
Source: Company's Financials, Author's Analysis

Figure 25 - Price Multiples



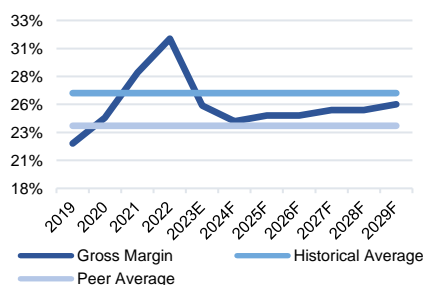
Source: Author's Analysis

Figure 26 - Enterprise Value Multiples



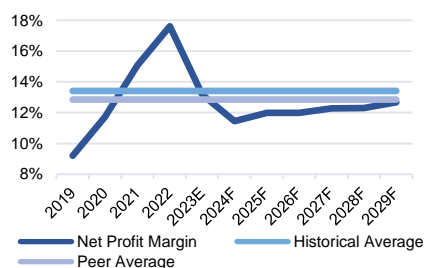
Source: Author's Analysis

Figure 27 - Gross Margin Comparison



Source: Companies' Financials, Author's Analysis

Figure 28 - Net Profit Margin Comparison



Source: Companies' Financials, Author's Analysis

After this period, the company is expected to return to historical average levels regarding its margins, reaching a gross and net margin of 25.50% and 12.67%, respectively, by FY2029.

Cash is King

Thanks to the constant influx of cash generated by the company's operating activities and DHI's decision to maintain a strong financial position by decreasing leverage, its solvency levels are expected to decrease. As such, Debt to Equity, which was already sitting below its peers' average (0.25 DHI's FY2023 vs 0.37 Peers Average), is expected to show a steady decrease to 0.20 in FY2029, all of this while still operating with a significant cash surplus. This same cash surplus, together with the reduction of leverage will enable the company to reach negative net debt levels and higher liquidity levels.

Transmitting Shareholder Value

With the strong increase in cash holdings that DHI experienced, an increase in shareholders' value is also due. Even though no policy is set regarding how the company pays its dividends, it is possible to see that, historically, it is mostly done through share repurchases, with some dividends on the side. With this in mind, for the forecasted period, the company is expected to remain with this strategy, keeping the historical average weight of shares repurchased related to net income, going from \$1.10B worth of shares repurchased in FY2023 to \$1.27B in FY2029, while also increasing its dividend payout to 10% by FY2029, up from the 7.51% registered in FY2023.

8. Investment Risks

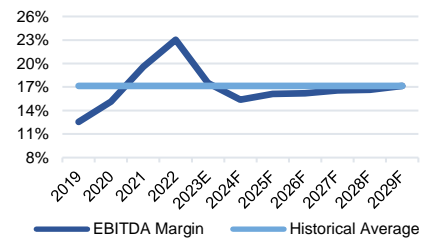
Rise in Inflation & Commodity Prices

The homebuilding industry is exposed to inflation risk on two fronts. One of them is on the customers end, which, in cases of high inflation, may have less disposable income and, as such, less chances of pursuing a mortgage in order to buy a house. There are some ways that the company can tackle this problem which are already put in place, including the renting division that the company operates, making them able to serve customers in this position, and in-house financing options, that can be more enticing than ones offered by third parties. On the other hand, inflation, specifically regarding commodities necessary to build housing, can severely impact the company's ability to maintain its margins at the shareholders' expectations. As such, and in order to hedge against this risk, the company might opt into derivative instruments in order to lock in price for key commodities in the industry like, for example, lumber.

Hike in Interest Rates

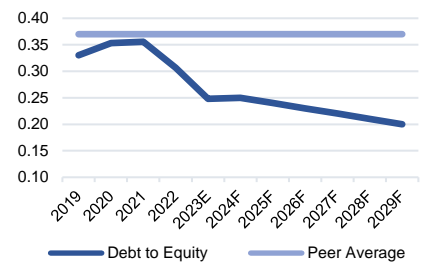
As explained in the previous topic, interest rates also affect homebuilding in two fronts. On the customer side, if interest rates rise, mortgaging a house will look like a less manageable option for customers, like explained before. There is, however, another possibility that wasn't mentioned in the previous topic, which is quite vital in this industry, being this Government Incentives. These can happen in the form of lower rate mortgages, which would counteract the effect of rising interest rates. There is, however, no guarantees on these happening for all the customers which would benefit from them, and, as such, the company also needs to make efforts on their end, through the aforementioned renting and financial services division.

Figure 29 - EBITDA Margin Comparison



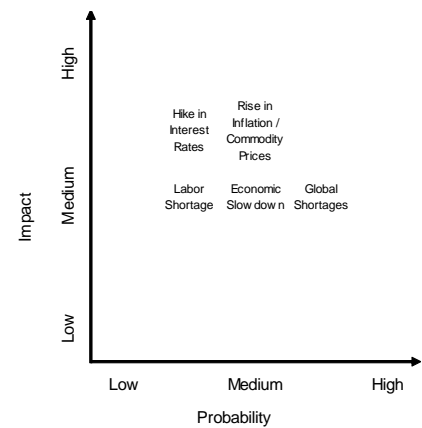
Source: Company's 2023 Proxy Statement

Figure 30 - Debt to Equity Comparison



Source: Company's 2023 Proxy Statement

Figure 31 - Risk Matrix



Source: Author's Analysis

Figure 32 - Framing Lumber Prices



Source: NAHB

For the company side, a rise in interest rates will lead to higher borrowing costs and, consequently, higher interest expenses. This can be offset by strategies already implemented by DHI, such as fixed rate debt and careful management of debt levels.

Global Shortages

With the current and past traumas that society is still facing, the supply chain has been severely affected regarding both material shortages and transportation delays. These two factors combined severely impact construction projects, both through higher material costs, already touched on previously, and through project delays, which might affect the company financially, if contracts include time clauses, and/or reputationally, if several projects are delayed and customers express their discontentment. This risk can be offset by tight management of the company's supply chain, diversifying supply options by working with both international and national suppliers, and with contingency plans.

Economic Slowdown

As construction is a highly cyclical industry, an economic slowdown will ripple its effects all over it. With reduced government initiatives, consumers less likely to purchase housing, and worse macroeconomic conditions, the ability for DHI to generate revenues and maintain profit margins will be severely impacted.

Labor Shortage

The construction industry is seen as a less enticing industry to work in by the new generation. As such, difficulties with hiring skilled professionals are rising with their numbers going down by the day and, as a result, their requested wages are also getting higher. With this in mind, companies in this industry need to create a favorable work environment in order to both maintain the current workforce and attract new employees. DHI is tackling this with their compensation program, including stock-programs, and through the creation of a more enriching, diverse, and enticing work environment.

Sensitivity Analysis

A sensitivity analysis was also performed stressing two key variables: **(a)** WACC and **(b)** Terminal Growth Rate (g).

	Terminal Growth Rate (g)									
	1.00%	1.25%	1.50%	1.75%	2.00%	2.25%	2.50%	2.75%	3.00%	
7.90%	\$ 138.49	\$ 142.49	\$ 146.79	\$ 151.45	\$ 156.50	\$ 162.00	\$ 168.01	\$ 174.60	\$ 181.86	
8.15%	\$ 133.44	\$ 137.11	\$ 141.06	\$ 145.31	\$ 149.92	\$ 154.91	\$ 160.35	\$ 166.28	\$ 172.80	
8.40%	\$ 128.73	\$ 132.11	\$ 135.74	\$ 139.65	\$ 143.85	\$ 148.40	\$ 153.34	\$ 158.71	\$ 164.58	
8.65%	\$ 124.33	\$ 127.46	\$ 130.81	\$ 134.40	\$ 138.25	\$ 142.41	\$ 146.91	\$ 151.79	\$ 157.10	
8.90%	\$ 120.22	\$ 123.12	\$ 126.21	\$ 129.52	\$ 133.06	\$ 136.88	\$ 140.99	\$ 145.44	\$ 150.26	
9.15%	\$ 116.36	\$ 119.05	\$ 121.92	\$ 124.97	\$ 128.24	\$ 131.75	\$ 135.52	\$ 139.59	\$ 143.98	
9.40%	\$ 112.74	\$ 115.24	\$ 117.90	\$ 120.73	\$ 123.75	\$ 126.99	\$ 130.45	\$ 134.18	\$ 138.20	
9.65%	\$ 109.34	\$ 111.67	\$ 114.14	\$ 116.76	\$ 119.56	\$ 122.55	\$ 125.75	\$ 129.18	\$ 132.86	
9.90%	\$ 106.13	\$ 108.30	\$ 110.60	\$ 113.04	\$ 115.64	\$ 118.41	\$ 121.36	\$ 124.52	\$ 127.91	

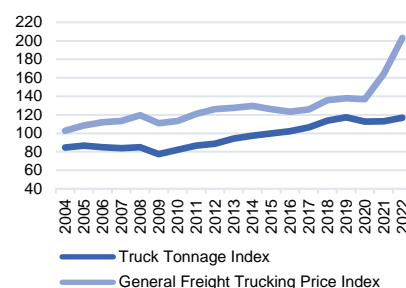
With this analysis, it is also possible to understand that the price target is more sensitive to the WACC, as an increase of 0.25% in WACC results in a decrease of \$4.82 versus the price target, while the same decrease in the Terminal Growth Rate would only impact the price target by \$3.55.

Table 11 - Construction Materials 2022 Lead Time

Material	2022 Lead Time	Two-year change
Paint	2-3 weeks	+200%
Steel Beams & Decking	10-14 weeks	+75%
Drywall & Metal Studs	14-16 weeks	+600%
Lighting & Controls	14-20 weeks	+100%
Wood Door & Frames	18-20 weeks	+233%
Open Web Joists	18-30 weeks	+125%
Aluminum Storefront Glazing	16-32 weeks	+300%
Appliances	20-30 weeks	+400%
Electrical Panels	30-40 weeks	+433%
Roofing Membrane	35-45 weeks	+800%
HVAC Equipment	36-50 weeks	+250%
Roofing Insulation	40-50 weeks	+667%

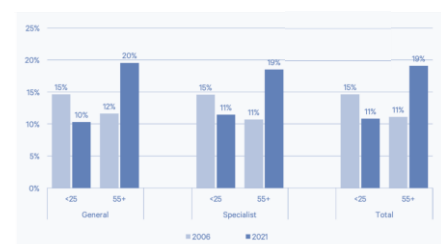
Source: CBRE 2022 U.S. Construction Cost Trends Report

Figure 33 - General Freight Trucking Cost vs Tonnage Changes



Source: FRED

Figure 34 - Share of Construction Workforce by Age Group, 2006 vs 2021

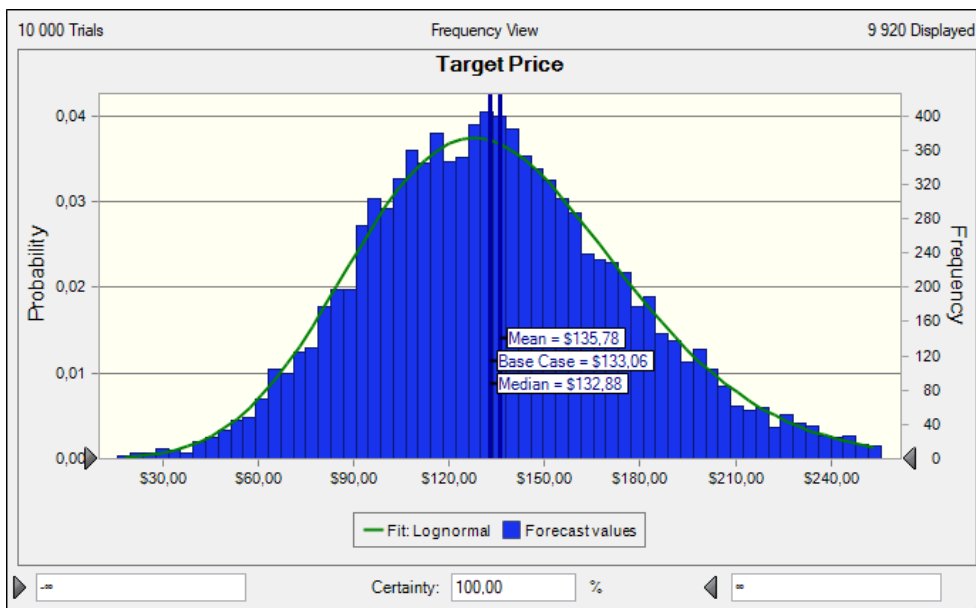


Source: CBRE 2022 U.S. Construction Cost Trends Report

Monte Carlo Simulation

A complementary analysis through the Monte Carlo simulation was also performed, using 10,000 trials stressing those same variables, together with sales growth and gross margins. With this analysis the following results were obtained:

- Average Price: \$135.78;
- Median Price: \$132.88;
- Sell Recommendation: 21.6%, with a price lower than or equal to \$102.10;
- Reduce Recommendation: 9.3%, with a price between \$102.11 and \$112.83;
- Hold Recommendation: 10.0%, with a price between \$112.84 and \$123.58;
- Buy Recommendation: 15.8%, with a price between \$123.59 and \$139.70;
- Strong Buy Recommendation: 43.3%, with a price equal to or higher than \$139.71.



Appendices

Appendix 1: Statement of Financial Position

Balance Sheet	(million \$) September 30,					September 30,						
	2018	2019	2020	2021	2022	2023E	2024F	2025F	2026F	2027F	2028F	2029F
ASSETS												
Cash and cash equivalents	1 473.10	1 494.30	3 018.50	3 210.40	2 540.50	3 915.05	6 566.11	8 609.60	11 024.81	13 474.60	15 967.23	18 661.16
Restricted cash	32.90	19.70	21.60	26.80	32.40	-	-	-	-	-	-	-
Total cash, cash equivalents and restricted cash	1 506.00	1 514.00	3 040.10	3 237.20	2 572.90	3 915.05	6 566.11	8 609.60	11 024.81	13 474.60	15 967.23	18 661.16
Inventories:												
Construction in progress and finished homes	5 086.30	5 245.00	5 984.10	7 739.20	9 798.20	9 686.94	10 444.24	11 011.33	11 397.58	12 000.07	12 535.86	13 085.24
Residential land and lots - developed and under development	5 172.40	5 939.40	6 171.80	7 781.80	9 173.10	10 348.47	10 460.51	11 011.97	11 657.82	12 097.26	12 664.82	13 264.77
Land held for development	96.10	77.80	53.20	110.90	110.80	89.48	127.78	121.59	123.72	136.56	139.05	145.37
Land held for sale	40.20	19.80	28.30	25.40	29.40	20.15	30.66	29.81	29.40	32.89	33.55	34.88
Rental properties	-	-	-	821.80	2 544.20	3 250.60	3 398.75	3 578.10	3 744.92	3 915.68	4 094.23	4 280.92
Total inventory	10 395.00	11 282.00	12 237.40	16 479.10	21 655.70	23 395.64	24 461.94	25 752.81	26 953.43	28 182.45	29 467.51	30 811.17
Mortgage loans held for sale	795.40	1 072.00	1 529.00	2 027.30	2 386.00	2 441.88	2 513.56	2 601.14	2 682.34	2 766.27	2 854.01	2 946.73
Deferred Income Taxes	194.00	163.10	144.90	155.30	141.10	75.52	172.88	160.24	195.12	193.44	207.96	221.41
Property and equipment, net	401.10	499.20	683.70	392.90	471.60	458.12	566.59	668.19	763.45	852.31	937.10	1 018.73
Other assets	712.90	912.80	1 113.70	1 560.60	2 960.30	2 428.75	2 716.91	3 036.35	3 028.77	3 245.75	3 433.44	3 572.65
Acquisitions	-	-	-	-	-	185.18	389.38	603.26	832.19	1 072.12	1 330.35	1 630.50
Goodwill	109.20	163.50	163.50	163.50	163.50	163.50	163.50	163.50	163.50	163.50	163.50	163.50
Total assets	14 114.60	15 606.60	18 912.30	24 015.90	30 351.10	32 878.46	37 345.67	41 381.21	45 414.67	49 710.50	54 102.88	58 725.71
LIABILITIES												
Accounts payable	624.70	634.00	900.50	1 177.00	1 360.30	1 361.30	1 939.64	2 055.38	2 130.03	2 237.00	2 339.82	2 442.34
Accrued expenses and other liabilities	1 127.50	1 278.10	1 607.00	2 210.30	3 138.30	2 832.82	2 961.93	3 118.23	3 263.61	3 412.42	3 568.02	3 730.72
Notes payable	3 203.50	3 399.40	4 283.30	5 412.40	6 066.90	5 705.30	6 488.82	7 007.92	7 483.61	7 945.44	8 364.43	8 758.78
Total liabilities	4 955.70	5 311.50	6 790.80	8 799.70	10 565.50	9 899.42	11 390.39	12 181.54	12 877.25	13 594.86	14 272.27	14 931.83
EQUITY												
Preferred stock, \$ 10 par value, 30,000,000 shares authorized, no shares issued	-	-	-	-	-	-	-	-	-	-	-	-
Common stock, \$ 0.01 par value, 1,000,000,000 shares authorized	3.90	3.90	3.90	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
- Common Shares Issued	388 120 243	392 172 821	394 741 349	397 190 100	399 172 937	401 104 823 000	401 104 823 000	401 104 823 000	401 104 823 000	401 104 823 000	401 104 823 000	401 104 823 000
- Common Shares Outstanding	376 261 635	368 431 454	363 999 982	356 015 843	343 953 023	334 818 953 000	327 154 845	318 934 586	310 379 304	301 814 782	293 109 254	284 033 309
Additional paid-in capital	3 085.00	3 179.10	3 240.90	3 274.80	3 349.50	3 394.70	3 394.70	3 394.70	3 394.70	3 394.70	3 394.70	3 394.70
Retained earnings	6 217.90	7 640.10	9 757.80	13 644.30	19 185.30	23 393.00	27 223.66	31 424.76	35 800.80	40 459.09	45 314.39	50 510.70
Treasury stock at cost	322.40	802.20	1 162.60	2 036.60	3 142.50	4 247.10	5 128.47	6 114.90	7 184.31	8 297.70	9 472.95	10 743.58
- Treasury Shares	11 858 608	23 741 367	30 741 367	41 174 257	55 219 914	66 285 870 000	73 949 978	82 170 237	90 725 519	99 290 041	107 995 569	117 071 514
Stockholders' equity	8 984.40	10 020.90	11 840.00	14 886.50	19 396.30	22 544.60	25 493.89	28 708.56	32 015.18	35 560.09	39 240.14	43 165.82
Noncontrolling interests	174.50	274.20	281.50	329.70	389.30	434.44	461.39	491.11	522.24	555.56	590.48	628.06
Total equity	9 158.90	10 295.10	12 121.50	15 216.20	19 785.60	22 979.04	25 955.28	29 199.67	32 537.42	36 115.64	39 830.61	43 793.88
Total liabilities and equity	14 114.60	15 606.60	18 912.30	24 015.90	30 351.10	32 878.46	37 345.67	41 381.21	45 414.67	49 710.50	54 102.88	58 725.71

Appendix 2: Income Statement

Income Statement	(million \$) September 30,					September 30,						
	2018	2019	2020	2021	2022	2023E	2024F	2025F	2026F	2027F	2028F	2029F
Revenues	16 068.00	17 592.90	20 311.10	27 774.20	33 480.00	34 856.30	36 444.94	38 368.15	40 156.92	41 987.99	43 902.56	45 904.43
Cost of sales	12 398.10	13 720.90	15 373.20	19 899.20	22 975.90	26 002.80	27 698.16	28 967.95	30 318.47	31 490.99	32 926.92	34 198.80
Gross Profit	3 669.90	3 872.00	4 937.90	7 875.00	10 504.10	8 853.50	8 746.79	9 400.20	9 838.44	10 497.00	10 975.64	11 705.63
Selling, general and administrative expense	1 676.80	1 832.50	2 047.80	2 556.20	2 933.70	3 030.95	3 407.39	3 493.48	3 643.18	3 852.67	4 002.91	4 187.36
Gain on sale of assets	-	2.80	53.90	59.50	14.00	-	-	-	-	-	-	-
Loss on extinguishment of debt	-	18.80	-	18.10	-	-	-	-	-	-	-	-
Other (income) expense	-	45.30	31.90	33.40	41.60	59.30	184.30	184.30	184.30	184.30	184.30	184.30
Income before income taxes	2 060.00	2 125.30	2 983.00	5 356.30	7 629.70	6 006.85	5 523.70	6 091.02	6 379.56	6 828.63	7 157.03	7 702.57
Income tax expense	597.70	506.70	602.50	1 165.10	1 734.10	1 415.56	1 353.31	1 492.30	1 562.99	1 673.01	1 753.47	1 887.13
Net income	1 462.30	1 618.60	2 380.50	4 191.20	5 895.60	4 591.29	4 170.39	4 598.72	4 816.57	5 155.62	5 403.56	5 815.44
Net income attributable to noncontrolling interests	2.00	0.10	6.80	15.40	38.10	42.14	26.95	29.72	31.13	33.32	34.92	37.58
Net income attributable to D.R. Horton, Inc.	1 460.30	1 618.50	2 373.70	4 175.80	5 857.50	4 549.15	4 143.44	4 569.00	4 785.44	5 122.30	5 368.63	5 777.86

Appendix 3: Cash Flow Statement

Cash Flow Statement	(million \$) September 30,					September 30,							
	2018	2019	2020	2021	2022	2023E	2024F	2025F	2026F	2027F	2028F	2029F	
OPERATING ACTIVITIES													
Net income	1 462.30	1 618.60	2 380.50	4 191.20	5 895.60	4 591.29	4 170.39	4 598.72	4 816.57	5 155.62	5 403.56	5 815.44	
Adjustments to reconcile net income to net cash provided by operating activities:													
Depreciation and amortization	72.30	82.90	90.60	82.10	81.40	89.22	81.94	101.34	119.51	136.55	152.44	167.61	
- Depreciation	58.20	66.10	69.40	73.30	72.00	74.75	71.70	88.07	103.25	118.71	132.24	145.31	
- Amortization	14.10	16.80	21.20	8.80	9.40	14.47	10.24	13.26	16.26	17.84	20.20	22.30	
Stock-based compensation expense	55.80	73.20	77.80	91.40	105.10	80.60	-	-	-	-	-	-	
Deferred income taxes	170.90	20.10	14.10	10.00	29.10	65.58	97.36	12.64	34.88	1.68	14.53	13.45	
Inventory and land option charges	50.40	54.00	23.80	28.60	70.40	62.20	-	-	-	-	-	-	
Gain on sale of assets	-	18.80	53.90	59.50	14.00	-	-	-	-	-	-	-	
Loss on extinguishment of debt	-	-	-	18.10	-	-	-	-	-	-	-	-	
Changes in operating assets and liabilities:													
Increase in construction in progress and finished homes	-	482.80	84.60	- 739.10	- 1 734.90	- 2 059.00	242.06	- 757.30	- 567.09	- 386.25	- 602.50	- 535.79	- 549.38
Increase in residential land and lots - developed, under development, held for development and held for sale	-	573.80	- 676.40	- 324.40	- 1 720.60	- 1 402.80	1 051.60	- 160.85	- 544.42	- 647.56	- 455.77	- 570.72	- 607.59
Increase in rental properties	-	-	-	-	- 303.60	- 1 723.20	708.70	- 148.15	- 179.35	- 166.82	- 170.76	- 178.55	- 186.69
Increase in other assets	-	111.40	- 161.60	- 151.40	- 440.70	- 1 111.50	617.06	- 297.40	- 333.71	- 8.67	- 234.82	- 207.89	- 161.51
Increase in mortgage loans held for sale	-	208.80	- 275.60	- 457.00	- 498.30	- 358.80	55.88	- 71.67	- 87.58	- 81.20	- 83.93	- 87.74	- 92.72
Increase in accounts payable, accrued expenses and other liabilities	-	129.10	126.20	566.20	845.10	1 035.50	279.88	707.44	272.05	220.03	255.77	258.42	265.22
Net cash provided by operating activities	545.20	892.10	1 421.60	534.40	561.80	3 641.95	3 427.04	3 272.99	3 830.73	4 001.85	4 219.20	4 636.92	
INVESTING ACTIVITIES													
Expenditures for property and equipment	-	68.10	- 127.20	- 96.50	- 93.50	- 148.20	157.24	- 180.17	- 189.68	- 198.52	- 207.57	- 217.03	- 226.93
Proceeds from sale of assets	-	292.90	143.80	129.80	37.60	-	-	-	-	-	-	-	-
Expenditures related to rental properties	-	70.20	- 96.90	- 190.30	- 173.90	-	-	-	-	-	-	-	-
Payments related to business acquisitions, net of cash acquired	-	159.20	- 315.80	- 9.70	- 24.50	- 271.50	202.00	- 185.18	- 204.20	- 213.87	- 228.93	- 239.94	- 258.23
Other investing activities	-	23.60	2.10	0.60	2.10	4.80	1.80	-	-	-	-	-	-
Net cash used in investing activities	19.00	- 394.00	- 166.10	- 252.20	- 414.90	357.44	- 365.35	- 393.88	- 412.39	- 436.50	- 456.97	- 485.16	
FINANCING ACTIVITIES													
Proceeds from notes payable	2 163.50	2 528.20	2 346.10	1 541.60	4 250.00	575.00	783.52	519.10	475.69	461.83	418.99	394.35	
Repayment of notes payable	- 2 181.70	- 2 686.10	- 1 682.90	- 826.30	- 3 801.20	1 075.40	-	-	-	-	-	-	
Advances on mortgage repurchase facility, net	217.70	251.20	243.70	362.00	123.70	67.30	-	-	-	-	-	-	
Proceeds from stock associated with certain employee benefit plans	47.40	42.70	23.40	22.70	33.20	18.70	-	-	-	-	-	-	
Cash paid for shares withheld for taxes	- 10.30	- 19.70	- 38.20	- 78.50	- 62.00	55.90	-	-	-	-	-	-	
Cash dividends paid	- 188.40	- 223.40	- 256.00	- 289.30	- 316.50	341.46	- 312.78	- 367.90	- 409.41	- 464.01	- 513.34	- 581.54	
Repurchases of common stock	- 127.50	- 479.80	- 360.40	- 848.40	- 1 131.50	1 100.00	- 881.37	- 986.43	- 1 069.41	- 1 113.39	- 1 175.25	- 1 270.63	
Net proceeds from issuance of Forestar common stock	-	100.70	-	33.50	1.70	-	-	-	-	-	-	-	
Net other financing activities	-	- 3.20	- 3.90	- 5.10	- 2.40	91.40	30.70	-	-	-	-	-	-
Net cash (used in) provided by financing activities	82.50	- 490.10	270.60	85.10	811.20	1 942.46	- 410.63	- 835.23	- 1 003.13	- 1 115.56	- 1 269.60	- 1 457.83	
Net (decrease) increase in cash, cash equivalents and restricted cash	481.70	8.00	1 526.10	197.10	664.30	1 342.05	2 651.06	2 043.49	2 415.21	2 449.79	2 492.63	2 693.93	
Cash, cash equivalents and restricted cash at beginning of year	1 024.30	1 506.00	1 514.00	3 040.10	3 237.20	2 572.90	3 915.05	6 566.11	8 609.60	11 024.81	13 474.60	15 967.23	
Cash, cash equivalents and restricted cash at end of year	1 506.00	1 514.00	3 040.10	3 237.20	2 572.90	3 915.05	6 566.11	8 609.60	11 024.81	13 474.60	15 967.23	18 661.16	

Appendix 4: Key Financial Ratios and Peer Comparison

Activity	D.R. Horton									
	D.R. HORTON, INC. (XNYS:DHI)									
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Receivable Turnover	-	-	-	-	-	-	-	-	-	-
DRO	-	-	-	-	-	-	-	-	-	-
Payables Turnover	20.04	19.16	18.11	19.11	16.78	14.50	14.49	14.42	14.39	14.30
DPO	18.22	19.05	20.15	19.10	21.75	25.17	25.19	25.31	25.37	25.52
Inventory Turnover	1.31	1.39	1.20	1.15	1.16	1.15	1.15	1.14	1.14	1.13
DOH	279.21	263.37	302.91	316.19	315.33	316.36	317.26	319.53	319.53	321.67
Cash Conversion Cycle	260.99	244.31	282.75	297.09	293.58	291.19	292.07	294.22	294.16	296.15
Fixed Asset Turnover	34.34	51.60	77.46	74.98	71.13	62.15	56.10	51.97	49.07	46.94
Invested Capital Turnover	1.35	1.50	1.44	1.28	1.19	1.12	1.05	1.00	0.95	0.91
Total Asset Turnover	1.18	1.29	1.23	1.10	1.04	0.97	0.93	0.88	0.85	0.81
Profitability	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Return on Sales										
Gross profit margin	24.31%	28.35%	31.37%	25.40%	24.00%	24.50%	24.50%	25.00%	25.00%	25.50%
Operating profit margin	14.69%	19.29%	22.79%	17.23%	15.16%	15.88%	15.89%	16.26%	16.30%	16.78%
Net profit margin	11.72%	15.09%	17.61%	13.17%	11.44%	11.99%	11.99%	12.28%	12.31%	12.67%
CFO margin	7.00%	1.92%	1.68%	10.45%	9.40%	8.53%	9.54%	9.53%	9.61%	10.10%
Return on Investment										
ROA	13.75%	19.45%	21.55%	14.39%	11.80%	11.61%	11.03%	10.77%	10.34%	10.24%
ROE	21.18%	30.55%	33.47%	21.28%	16.93%	16.57%	15.50%	14.92%	14.14%	13.82%
ROIC	15.77%	22.55%	25.20%	16.68%	13.56%	13.31%	12.56%	12.18%	11.64%	11.47%
Growth	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Revenue (\$M)	2 718.20	7 463.10	5 705.80	1 376.30	1 588.64	1 923.21	1 788.76	1 831.07	1 914.57	2 001.87
Operating Profit (\$M)	857.70	2 373.30	2 273.40	- 1 622.85	- 483.15	567.32	288.54	449.07	328.40	545.54
EPS - Basic	6.52	11.73	17.03	13.59	12.67	14.33	15.42	16.97	18.32	20.34
Common Shares - Outstanding (M)	364.00	356.02	343.95	334.82	327.15	318.93	310.38	301.81	293.11	284.03
Dupont Analysis	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Asset Turnover	1.18	1.29	1.23	1.10	1.04	0.97	0.93	0.88	0.85	0.81
Net Profit Margin	11.72%	15.09%	17.61%	13.17%	11.44%	11.99%	11.99%	12.28%	12.31%	12.67%
Total Assets to Total Equity	1.56	1.53	1.53	1.43	1.44	1.42	1.40	1.38	1.36	1.34
Liquidity	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Current Ratio	6.09	6.28	6.04	7.09	6.88	7.23	7.60	7.95	8.27	8.59
Quick Ratio	1.20	0.95	0.56	0.93	1.34	1.66	2.04	2.39	2.70	3.02
Working Capital to Total Assets	0.65	0.69	0.74	0.73	0.66	0.63	0.60	0.57	0.55	0.53
Financial Strength/Leverage	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Total Debt to Total Assets	0.23	0.23	0.20	0.17	0.17	0.17	0.16	0.16	0.15	0.15
Total Debt to Total Invested Capital	0.26	0.26	0.23	0.20	0.20	0.19	0.19	0.18	0.17	0.17
Total Debt to Total Equity	0.35	0.36	0.31	0.25	0.25	0.24	0.23	0.22	0.21	0.20
Net Debt to EBIT	0.42	0.41	0.46	0.30	0.01	- 0.26	- 0.56	- 0.81	- 1.06	- 1.29
Retained Earnings to Assets	0.11	0.16	0.18	0.13	0.10	0.10	0.10	0.09	0.09	0.09
Altman Z score	3.56	3.96	4.12	3.84	3.51	3.44	3.35	3.28	3.21	3.17
Debt Service Coverage Ratio	1.41	5.05	1.54	4.23	-	-	-	-	-	-
Interest Coverage Ratio	13.67	19.43	24.69	20.67	16.71	17.06	16.74	16.87	16.80	17.27
Earnings Retention Rate	89.22%	93.07%	94.60%	92.49%	92.45%	91.95%	91.44%	90.94%	90.44%	89.93%
Dividend Payout Ratio	10.78%	6.93%	5.40%	7.51%	7.55%	8.05%	8.56%	9.06%	9.56%	10.07%

Appendix 7: Forecasting Assumptions

	0.50%	0.10%	0.20%	0.50%	0.50%	0.50%	0.40%	0.50%	0.50%	0.50%	0.50%	
Population Growth (USA)	0.50%	0.10%	0.20%	0.50%	0.50%	0.50%	0.40%	0.50%	0.50%	0.50%	0.50%	
Real GDP Growth Rate (USA)	2.30%	-2.80%	5.90%	2.10%	2.20%	1.50%	2.40%	1.80%	1.80%	1.80%	1.80%	
Inflation Rate (USA)	1.30%	4.70%	8.00%	3.70%	2.50%	2.40%	2.30%	2.20%	2.20%	2.20%	2.20%	
Income Statement												
	2019	2020	2021	2022	2023E	Change					Assumption	
	2019	2020	2021	2022	2023E - Q4	2024F	2025F	2026F	2027F	2028F	2029F	
Revenues Growth	9.49%	15.45%	36.74%	20.54%	4.11%	4.56%	5.28%	4.66%	4.56%	4.56%	4.56%	2023F - Q4: Company guidance; Following years - Modeled in line with Population Growth, GDP Growth and Inflation
Cost of Sales (% of Sales)	77.99%	75.69%	71.65%	68.63%	74.60%	76.00%	75.50%	75.50%	75.00%	75.00%	74.50%	2023F - Q4: Same growth as revenues; Following years - Maintain expected margin of Q4FY23 as company intends to sticking with the lower margin business plan
SG&A Expense (% of Sales)	10.44%	10.42%	10.08%	9.20%	8.76%	9.35%	9.11%	9.07%	9.18%	9.12%	9.12%	2023F - Q4: Company guidance; Following years - Average of previous years
Other (income) expense					=	=	=	=	=	=	=	This metric will remain steady throughout the years as the company states that it is not materially significant and not related to its core business
Income tax expense	29.01%	23.84%	20.20%	21.75%	22.73%	24.50%	24.50%	24.50%	24.50%	24.50%	24.50%	2023F - Q4: Company guidance; Following years - Q4 Guidance Tax Rate
Non Controlling Interest			0.65%	0.65%	0.65%	0.65%	0.65%	0.65%	0.65%	0.65%	0.65%	Same as previous FY
Cash Flow Statement												
	2019	2020	2021	2022	2023E - Q4	Change					Assumption	
	2019	2020	2021	2022	2023E - Q4	2024F	2025F	2026F	2027F	2028F	2029F	
D&A (% of PPE)	20.67%	18.15%	12.01%	20.72%	17.89%	17.89%	17.89%	17.89%	17.89%	17.89%	17.89%	Average as a % of PPE
D&A - Depreciation (% of D&A)	79.73%	76.80%	89.28%	88.45%	84.78%	87.50%	86.91%	86.40%	86.94%	86.75%	86.89%	Average as a % of Sales
CAPEX (% of Sales)	-0.72%	-0.48%	-0.34%	-0.44%	-0.49%	-0.49%	-0.49%	-0.49%	-0.49%	-0.49%	-0.49%	2023F - Q4: Assuming that the company will paid the declared \$0.25 per share, buy back \$1.1B during the full fiscal year and no more shares will be issued; Following years - Assuming that no share repurchases will be made, no issuance and Payout Ratio will increase to 10% in the long run
Cash dividends paid					7.51%	7.50%	8.00%	8.50%	9.00%	9.50%	10.00%	
Payments related to business acquisitions, net of cash acquired					4.44%	4.44%	4.44%	4.44%	4.44%	4.44%	4.44%	% of net income
Repurchases of common stock	29.64%	15.18%	20.32%	19.32%	24.18%	21.27%	21.59%	22.35%	21.74%	21.89%	21.99%	2023F - Q4: Assuming that the company will buy back \$1.1B during the full fiscal year and no more shares will be issued; Following years - Average as a % of net income
Repurchases of common stock						\$115.00	\$120.00	\$125.00	\$130.00	\$135.00	\$140.00	Avg Repurchase Price
Balance Sheet												
	2019	2020	2021	2022	2023E - Q4	Change					Assumption	
	2019	2020	2021	2022	2023E - Q4	2024F	2025F	2026F	2027F	2028F	2029F	
Inventory					1.79%	4.56%	5.28%	4.66%	4.56%	4.56%	4.56%	Inventory Growth Similar to revenue growth to accommodate higher costs coupled with expected higher demand and houses that might be acquired with the acquisition of new companies
Construction in progress and finished homes	46.49%	48.90%	46.96%	45.25%	41.40%	42.70%	42.76%	42.29%	42.58%	42.54%	42.47%	Average as a % of Inventory; 2023F - Q4 average of the current year; Following years - Average of the previous 3 years adjusted to rental properties weight
Residential land and lots - developed and under development	52.64%	50.43%	47.22%	42.36%	44.23%	42.76%	42.76%	43.25%	42.92%	42.98%	43.05%	Average as a % of Inventory; 2023F - Q4 average of the current year; Following years - Average of the previous 3 years adjusted to rental properties weight
Land held for development	0.69%	0.43%	0.67%	0.51%	0.38%	0.52%	0.47%	0.46%	0.48%	0.47%	0.47%	Average as a % of Inventory; 2023F - Q4 average of the current year; Following years - Average of the previous 3 years
Land held for sale	0.18%	0.23%	0.15%	0.14%	0.09%	0.13%	0.12%	0.11%	0.12%	0.11%	0.11%	Average as a % of Inventory; 2023F - Q4 average of the current year; Following years - Average of the previous 3 years
Rental properties	0.00%	0.00%	4.99%	11.75%	13.89%	13.89%	13.89%	13.89%	13.89%	13.89%	13.89%	Average as a % of Inventory; 2023F - Q4 average of the current year; Following years - Same weight as previous year
Mortgage loans held for sale					1.14%	2.94%	3.48%	3.12%	3.13%	3.17%	3.25%	Starting assumption: 69% of DHI customers use DHI Financing, and 92% are eligible for sale (FY22 numbers) scaling to 75% and 97% respectively, as to align with company mission to have good quality mortgages
Deferred income taxes	32.19%	24.05%	13.33%	8.14%	15.17%	12.21%	11.84%	13.08%	12.38%	12.43%	12.63%	Assuming that DHI will keep the weight of deferred taxes related to their tax expense equal to the average of the previous 3 years
Other assets	6.48%	7.02%	7.51%	10.66%	8.39%	8.85%	9.30%	8.85%	9.00%	9.05%	8.97%	Assuming that DHI will keep the weight of other assets related to their total assets (excluding cash) equal to the average of the previous 3 years
Goodwill					=	=	=	=	=	=	=	Steady over the years
Accounts payable	21.80	20.04	19.16	18.11	19.10	18.79	18.67	18.85	18.77	18.76	18.80	Average of the previous 3 years of Accounts Payable Turnover related to Cost of Sales
Accrued expenses and other liabilities	7.26%	7.91%	7.96%	9.37%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	Average as a % of Sales
Notes Payable	0.33	0.35	0.36	0.31	0.25	0.25	0.24	0.23	0.22	0.21	0.20	2023F - Q4: Assuming that the company will only pay the amount due this year and not issuing any other type of debt; Following years - Use cash surplus to follow with their mission to lower their indebtedness level

Appendix 8: Discounted Cash Flow Model: FCFE & FCFF

(million \$)	September 30,					
	2025F	2026F	2027F	2028F	2029F	Terminal Value
FCFE						
+ Net Income	4 598.72	4 816.57	5 155.62	5 403.56	5 815.44	
+ D&A	101.34	119.51	136.55	152.44	167.61	
- CAPEX	668.19	763.45	852.31	937.10	1 018.73	
- Var in NWC	1 440.10	1 070.47	1 292.00	1 322.27	1 332.67	
+ Var in Debt	519.10	475.69	461.83	418.99	394.35	
	71 879.83	3 110.87	3 577.85	3 609.69	3 715.61	4 025.99
	44 686.03					53 839.82
Target Price	\$ 134.19					
FCFF						
+ EBIT x (1-t)	4 598.72	4 816.57	5 155.62	5 403.56	5 815.44	
+ D&A	101.34	119.51	136.55	152.44	167.61	
- Var in NWC	1 440.10	1 070.47	1 292.00	1 322.27	1 332.67	
- CAPEX	668.19	763.45	852.31	937.10	1 018.73	
	69 429.84	2 591.77	3 102.16	3 147.86	3 296.63	3 631.65
	44 313.77					53 659.78
EV	44 313.77					
- MV Debt	5 864.60					
+ Cash	6 566.11					
MV Equity	45 015.28					
# Shares (M)	338.30					
Target Price	\$ 133.06					

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Recommendation System

Level of Risk	SELL	REDUCE	HOLD/NEUTRAL	BUY	STRONG BUY
High Risk	0%≤	>0% & ≤10%	>10% & ≤20%	>20% & ≤45%	>45%
Medium Risk	-5%≤	>-5% & ≤5%	>5% & ≤15%	>15% & ≤30%	>30%
Low Risk	-10%≤	>-10% & ≤0%	>0% & ≤10%	>10% & ≤20%	>20%