UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2022

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from ____ to ____

Commission File Number: 1-12378

NVR, Inc.

(Exact name of registrant as specified in its charter)

Virginia	**54-1394360**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

11700 Plaza America Drive, Suite 500
Reston, Virginia 20190
(703) 956-4000
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Not Applicable
(Former name, former address, and former fiscal year if changed since last report)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.01 per share	**NVR**	**New York Stock Exchange**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of November 1, 2022 there were 3,195,887 total shares of common stock outstanding.

NVR, Inc.
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PART I. FINANCIAL INFORMATION
Item 1. Financial Statements

NVR, Inc.
Condensed Consolidated Balance Sheets
(in thousands, except share and per share data)
(unaudited)

	September 30, 2022	December 31, 2021
ASSETS		
Homebuilding:		
Cash and cash equivalents	$ 1,748,506	$ 2,545,069
Restricted cash	51,239	60,730
Receivables	28,378	18,552
Inventory:		
Lots and housing units, covered under sales agreements with customers	1,931,639	1,777,862
Unsold lots and housing units	194,882	127,434
Land under development	15,230	12,147
Building materials and other	28,698	29,923
	2,170,449	1,947,366
Contract land deposits, net	521,572	497,139
Property, plant and equipment, net	55,982	56,979
Operating lease right-of-use assets	69,933	59,010
Reorganization value in excess of amounts allocable to identifiable assets, net	41,580	41,580
Other assets	230,255	229,018
	4,917,894	5,455,443
Mortgage Banking:		
Cash and cash equivalents	18,431	28,398
Restricted cash	2,924	2,519
Mortgage loans held for sale, net	316,094	302,192
Property and equipment, net	3,250	3,658
Operating lease right-of-use assets	14,534	9,758
Reorganization value in excess of amounts allocable to identifiable assets, net	7,347	7,347
Other assets	109,060	25,160
	471,640	379,032
Total assets	$ 5,389,534	$ 5,834,475

See notes to condensed consolidated financial statements.

NVR, Inc.

Condensed Consolidated Balance Sheets (Continued)

(in thousands, except share and per share data)

(unaudited)

	September 30, 2022	December 31, 2021
LIABILITIES AND SHAREHOLDERS' EQUITY		
Homebuilding:		
Accounts payable	$ 393,941	$ 336,560
Accrued expenses and other liabilities	427,072	435,860
Customer deposits	376,160	417,463
Operating lease liabilities	74,670	64,128
Senior notes	915,346	1,516,255
	2,187,189	2,770,266
Mortgage Banking:		
Accounts payable and other liabilities	102,101	51,394
Operating lease liabilities	15,405	10,437
	117,506	61,831
Total liabilities	2,304,695	2,832,097
Commitments and contingencies		
Shareholders' equity:		
Common stock, $0.01 par value; 60,000,000 shares authorized; 20,555,330 shares issued as of both September 30, 2022 and December 31, 2021	206	206
Additional paid-in capital	2,538,812	2,378,191
Deferred compensation trust – 106,697 shares of NVR, Inc. common stock as of both September 30, 2022 and December 31, 2021	(16,710)	(16,710)
Deferred compensation liability	16,710	16,710
Retained earnings	11,318,646	10,047,839
Less treasury stock at cost – 17,343,353 and 17,107,889 shares as of September 30, 2022 and December 31, 2021, respectively	(10,772,825)	(9,423,858)
Total shareholders' equity	3,084,839	3,002,378
Total liabilities and shareholders' equity	$ 5,389,534	$ 5,834,475

See notes to condensed consolidated financial statements.

NVR, Inc.
Condensed Consolidated Statements of Income
(in thousands, except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Homebuilding:				
Revenues	$ 2,739,445	$ 2,336,615	$ 7,658,734	$ 6,524,886
Other income	10,211	1,496	15,446	4,714
Cost of sales	(2,092,457)	(1,817,939)	(5,668,549)	(5,117,065)
Selling, general and administrative	(129,416)	(112,226)	(391,358)	(347,051)
Operating income	527,783	407,946	1,614,273	1,065,484
Interest expense	(6,854)	(12,838)	(31,510)	(38,694)
Homebuilding income	520,929	395,108	1,582,763	1,026,790
Mortgage Banking:				
Mortgage banking fees	37,455	59,025	155,518	195,798
Interest income	3,437	2,336	8,283	6,577
Other income	1,294	1,022	3,669	2,877
General and administrative	(24,252)	(22,959)	(70,646)	(67,228)
Interest expense	(348)	(405)	(1,115)	(1,216)
Mortgage banking income	17,586	39,019	95,709	136,808
Income before taxes	538,515	434,127	1,678,472	1,163,598
Income tax expense	(127,122)	(102,046)	(407,665)	(261,460)
Net income	$ 411,393	$ 332,081	$ 1,270,807	$ 902,138
Basic earnings per share	$ 125.97	$ 93.25	$ 383.68	$ 249.30
Diluted earnings per share	$ 118.51	$ 86.44	$ 358.61	$ 231.75
Basic weighted average shares outstanding	3,266	3,561	3,312	3,619
Diluted weighted average shares outstanding	3,471	3,842	3,544	3,893

(unaudited)

See notes to condensed consolidated financial statements.

NVR, Inc.

Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2022	**2021**
Cash flows from operating activities:		
Net income	$ 1,270,807	$ 902,138
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	13,237	14,720
Equity-based compensation expense	58,441	42,859
Contract land deposit impairments (recoveries), net	2,482	(17,474)
Gain on sale of loans, net	(120,035)	(162,729)
Mortgage loans closed	(4,791,742)	(4,599,324)
Mortgage loans sold and principal payments on mortgage loans held for sale	4,925,431	4,918,464
Distribution of earnings from unconsolidated joint ventures	7,500	7,500
Net change in assets and liabilities:		
Increase in inventory	(223,083)	(154,443)
Increase in contract land deposits	(26,915)	(48,153)
Increase in receivables	(69,132)	(2,349)
Increase (decrease) in accounts payable and accrued expenses	42,087	(44,970)
(Decrease) increase in customer deposits	(41,303)	140,836
Other, net	5,131	(14,783)
Net cash provided by operating activities	1,052,906	982,292
Cash flows from investing activities:		
Investments in and advances to unconsolidated joint ventures	(9,222)	(861)
Purchase of property, plant and equipment	(11,972)	(11,946)
Proceeds from the sale of property, plant and equipment	553	821
Net cash used in investing activities	(20,641)	(11,986)
Cash flows from financing activities:		
Purchase of treasury stock	(1,384,193)	(1,152,855)
Redemption of senior notes	(600,000)	—
Principal payments on finance lease liabilities	(1,107)	(1,008)
Proceeds from the exercise of stock options	137,406	121,835
Net cash used in financing activities	(1,847,894)	(1,032,028)
Net decrease in cash, restricted cash, and cash equivalents	(815,629)	(61,722)
Cash, restricted cash, and cash equivalents, beginning of the period	2,636,984	2,809,782
Cash, restricted cash, and cash equivalents, end of the period	$ 1,821,355	$ 2,748,060
Supplemental disclosures of cash flow information:		
Interest paid during the period, net of interest capitalized	$ 33,475	$ 39,473
Income taxes paid during the period, net of refunds	$ 403,875	$ 289,850

See notes to condensed consolidated financial statements.

NVR, Inc.
Notes to Condensed Consolidated Financial Statements
(dollars in thousands, except per share data)
(unaudited)

1. Significant Accounting Policies

Basis of Presentation

The accompanying unaudited, condensed consolidated financial statements include the accounts of NVR, Inc. (“NVR”, the “Company”, "we", "us" or "our") and its subsidiaries and certain other entities in which the Company is deemed to be the primary beneficiary (see Notes 2 and 3 to the accompanying condensed consolidated financial statements). Intercompany accounts and transactions have been eliminated in consolidation. The statements have been prepared in conformity with accounting principles generally accepted in the United States of America (“GAAP”) for interim financial information and with the instructions to Form 10-Q and Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. Because the accompanying condensed consolidated financial statements do not include all of the information and footnotes required by GAAP, they should be read in conjunction with the financial statements and notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2021. In the opinion of management, all adjustments (consisting only of normal recurring accruals except as otherwise noted herein) considered necessary for a fair presentation have been included. Operating results for the three and nine months ended September 30, 2022 are not necessarily indicative of the results that may be expected for the year ending December 31, 2022.

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

For the three and nine months ended September 30, 2022 and 2021, comprehensive income equaled net income; therefore, a separate statement of comprehensive income is not included in the accompanying condensed consolidated financial statements.

Cash and Cash Equivalents

The beginning-of-period and end-of-period cash, restricted cash, and cash equivalent balances presented on the accompanying condensed consolidated statements of cash flows includes cash related to a consolidated joint venture which is included in homebuilding "Other assets" on the accompanying condensed consolidated balance sheets. The cash related to this consolidated joint venture as of September 30, 2022 and December 31, 2021 was $255 and $268, respectively, and as of September 30, 2021 and December 31, 2020 was $271 and $269, respectively.

Revenue Recognition

Homebuilding revenue is recognized on the settlement date at the contract sales price, when control is transferred to our customers. Our contract liabilities, which consist of deposits received from customers on homes not settled, were $376,160 and $417,463 as of September 30, 2022 and December 31, 2021, respectively. We expect that substantially all of the customer deposits held at December 31, 2021 will be recognized in revenue in 2022. Our contract assets consist of prepaid sales compensation and totaled approximately $20,100 and $25,200, as of September 30, 2022 and December 31, 2021, respectively. Prepaid sales compensation is included in homebuilding “Other assets” on the accompanying condensed consolidated balance sheets.

(dollars in thousands, except per share data)

2. Variable Interest Entities ("VIEs")

Fixed Price Finished Lot Purchase Agreements ("LPAs")

We generally do not engage in the land development business. Instead, we typically acquire finished building lots at market prices from various development entities under LPAs. The LPAs require deposits that may be forfeited if we fail to perform under the LPAs. The deposits required under the LPAs are in the form of cash or letters of credit in varying amounts, and typically range up to 10% of the aggregate purchase price of the finished lots.

The deposit placed by us pursuant to the LPA is deemed to be a variable interest in the respective development entities. Those development entities are deemed to be VIEs. Therefore, the development entities with which we enter into LPAs, including the joint venture limited liability corporations discussed below, are evaluated for possible consolidation by us. We have concluded that we are not the primary beneficiary of the development entities with which we enter into LPAs, and therefore, we do not consolidate any of these VIEs.

As of September 30, 2022, we controlled approximately 125,600 lots under LPAs with third parties through deposits in cash and letters of credit totaling approximately $543,400 and $7,300, respectively. Our sole legal obligation and economic loss for failure to perform under these LPAs is limited to the amount of the deposit pursuant to the liquidated damage provisions contained in the LPAs and, in very limited circumstances, specific performance obligations. For the three and nine months ended September 30, 2022, we incurred pre-tax impairment charges on lot deposits of approximately $8,800 and $2,500, respectively, based on current market conditions. For the three and nine months ended September 30, 2021, we recorded a net reversal of approximately $4,100 and $17,500, respectively, related to previously impaired lot deposits. Our contract land deposit asset is shown net of a $32,240 and $30,041 impairment reserve at September 30, 2022 and December 31, 2021, respectively.

In addition, we have certain properties under contract with land owners that are expected to yield approximately 23,100 lots, which are not included in the number of total lots controlled. Some of these properties may require rezoning or other approvals to achieve the expected yield. These properties are controlled with deposits in cash totaling approximately $10,400 as of September 30, 2022, of which approximately $4,600 is refundable if certain contractual conditions are not met. We generally expect to assign the raw land contracts to a land developer and simultaneously enter into an LPA with the assignee if the project is determined to be feasible.

Our total risk of loss related to contract land deposits is limited to the amount of the deposits pursuant to the liquidated damages provision of the LPAs. As of September 30, 2022 and December 31, 2021, our total risk of loss was as follows:

	September 30, 2022	December 31, 2021
Contract land deposits	$ 553,812	$ 527,180
Loss reserve on contract land deposits	(32,240)	(30,041)
Contract land deposits, net	521,572	497,139
Contingent obligations in the form of letters of credit	7,266	10,145
Total risk of loss	$ 528,838	$ 507,284

3. Joint Ventures

On a limited basis, we obtain finished lots using joint venture limited liability corporations ("JVs"). The JVs are typically structured such that we are a non-controlling member and are at risk only for the amount we have invested, or have committed to invest, in addition to any deposits placed under LPAs with the joint venture. We are not a borrower, guarantor or obligor on any debt of the JVs, as applicable. We enter into LPAs to purchase lots from these JVs, and as a result have a variable interest in these JVs.

At September 30, 2022, we had an aggregate investment totaling approximately $27,800 in five JVs that are expected to produce approximately 5,400 finished lots, of which approximately 5,000 lots were controlled by us and the remaining approximately 400 lots were either under contract with unrelated parties or not currently under contract. We had additional funding commitments totaling approximately $13,500 to one of the JVs at September 30, 2022.

We determined that we are not the primary beneficiary in four of the JVs because we and the other JV partner either share power or the other JV partner has the controlling financial interest. The aggregate investment in unconsolidated JVs was approximately $27,800 and $20,300 at September 30, 2022 and December 31, 2021, respectively, and is reported in the homebuilding "Other assets" line item on the accompanying condensed consolidated balance sheets. None of the unconsolidated JVs had any indicators of impairment as of September 30, 2022. For the remaining JV, we concluded that we are the primary beneficiary because we have the controlling financial interest in the JV. All activities under the consolidated JV have been completed and we have no remaining investment in the JV. As of September 30, 2022, the JV had remaining balances of $255 in cash and $229 in accrued expenses, which are included in homebuilding "Other assets" and "Accrued expenses and other liabilities," respectively, in the accompanying condensed consolidated balance sheets.

We recognize income from the JVs as a reduction to the lot cost of the lots purchased from the respective JVs when the homes are settled, based on the expected total profitability and the total number of lots expected to be produced by the respective JVs.

We classify distributions received from unconsolidated JVs using the cumulative earnings approach. As a result, distributions received up to the amount of cumulative earnings recognized by us are reported as distributions of earnings and those in excess of that amount are reported as a distribution of capital. These distributions are classified within the accompanying condensed consolidated statements of cash flows as cash flows from operating activities and investing activities, respectively.

4. Land Under Development

On a limited basis, we directly acquire raw land parcels already zoned for their intended use to develop into finished lots. Land under development includes the land acquisition costs, direct improvement costs, capitalized interest, where applicable, and real estate taxes.

As of September 30, 2022, we owned land parcels with a carrying value of $15,230 that we intend to develop into approximately 800 finished lots. We have additional funding commitments of approximately $2,200 under a joint development agreement related to one parcel, a portion of which we expect will be offset by development credits of approximately $900. None of the raw parcels had any indicators of impairment as of September 30, 2022.

5. Capitalized Interest

We capitalize interest costs to land under development during the active development of finished lots. In addition, we capitalize interest costs on our JV investments while the investments are considered qualified assets pursuant to ASC Topic 835-20 - *Interest*. Capitalized interest is transferred to sold or unsold inventory as the development of finished lots is completed, then charged to cost of sales upon our settlement of homes and the respective lots. Interest incurred in excess of the interest capitalizable based on the level of qualified assets is expensed in the period incurred.

(dollars in thousands, except per share data)

The following table reflects the changes in our capitalized interest during the three and nine months ended September 30, 2022 and 2021:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Interest capitalized, beginning of period	$ 680	$ 644	$ 593	$ 1,025
Interest incurred	7,118	13,263	32,721	39,977
Interest charged to interest expense	(7,202)	(13,243)	(32,625)	(39,910)
Interest charged to cost of sales	(32)	(100)	(125)	(528)
Interest capitalized, end of period	$ 564	$ 564	$ 564	$ 564

6. Earnings per Share

The following weighted average shares and share equivalents were used to calculate basic and diluted earnings per share ("EPS") for the three and nine months ended September 30, 2022 and 2021:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Weighted average number of shares outstanding used to calculate basic EPS	3,265,914	3,561,374	3,312,145	3,618,724
Dilutive securities:				
Stock options and restricted share units	205,473	280,559	231,559	273,953
Weighted average number of shares and share equivalents outstanding used to calculate diluted EPS	3,471,387	3,841,933	3,543,704	3,892,677

The following non-qualified stock options ("Options") and restricted stock units ("RSUs") issued under equity incentive plans were outstanding during the three and nine months ended September 30, 2022 and 2021, but were not included in the computation of diluted EPS because the effect would have been anti-dilutive.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Anti-dilutive securities	203,340	16,022	193,248	22,132

(dollars in thousands, except per share data)

7. Equity-Based Compensation

Our equity-based compensation plans provide for the granting of Options and RSUs to key management employees, including executive officers and members of our Board of Directors ("Directors"). The exercise price of Options granted is equal to the closing price of our common stock on the New York Stock Exchange (the "NYSE") on the day prior to the date of grant. Options are granted for a 10-year term and typically vest in separate tranches over periods of 3 to 6 years. RSUs generally vest in separate tranches over periods of 2 to 6 years. Grants to key management employees are generally divided such that vesting for 50% of the grant is contingent solely on continued employment, while vesting for the remaining 50% of the grant is contingent upon both continued employment and the achievement of a performance metric based on our return on capital performance relative to a peer group during a 3-year period specified on the date of grant. Grants to directors generally vest solely based on continued service as a Director.

During the second quarter of 2022, we issued 165,456 Options and 16,864 RSUs in a block grant to key management employees and Directors. Block grants are generally made once every four years. Option and RSU grants for the nine month period ended September 30, 2022 totaled 170,806 and 17,906, respectively, and were granted under the NVR, Inc. 2014 Equity Incentive Plan (the "2014 Plan") and the NVR, Inc. 2018 Equity Incentive Plan (the "2018 Plan") as follows:

Options Granted	**2014 Plan**	**2018 Plan**
Options - service-only (1)	55,655	32,331
Options - performance-based (2)	55,655	27,165
Total Options Granted	**111,310**	**59,496**
RSUs Granted		
RSUs - service-only (3)	—	8,976
RSUs - performance-based (4)	—	8,930
Total RSUs Granted	**—**	**17,906**

(1) Of the 87,986 service-only Options granted, 69,361 Options will vest in 25% increments on December 31, 2024, 2025, 2026, and 2027; 16,415 Options will vest in 50% increments on December 31, 2026 and 2027; and the remaining 2,210 Options will vest in 50% increments on December 31, 2024 and 2025. Vesting for the Options is contingent solely upon continued employment or continued service as a Director.

(2) Of the 82,820 performance-based Options granted, 64,195 will vest in 25% increments on December 31, 2024, 2025, 2026, and 2027; 16,415 Options will vest in 50% increments on December 31, 2026 and 2027; and the remaining 2,210 Options will vest in 50% increments on December 31, 2024 and 2025. Vesting for the performance-based Options is contingent upon both continued employment and the Company's return on capital performance during 2022 through 2024.

(3) Of the 8,976 service-only RSUs granted, 5,215 will vest in 50% increments on December 31, 2024 and 2025; 3,119 RSUs will vest in 25% increments on December 31, 2024, 2025, 2026, and 2027; and the remaining 642 RSUs will vest in 50% increments on December 31, 2026 and 2027. Vesting for the RSUs is contingent solely upon continued employment.

(4) Of the 8,930 performance-based RSUs granted, 5,215 will vest in 50% increments on December 31, 2024 and 2025; 3,119 RSUs will vest in 25% increments on December 31, 2024, 2025, 2026, and 2027; and the remaining 596 RSUs will vest in 50% increments on December 31, 2026 and 2027. Vesting for the performance-based RSUs is contingent upon both continued employment and the Company's return on capital performance during 2022 through 2024.

(dollars in thousands, except per share data)

All Options were granted at an exercise price equal to the closing price of the Company's common stock on the day prior to the date of grant, and expire ten years from the date of grant.

The following table provides additional information relative to our equity-based compensation plans for the nine months ended September 30, 2022:

	Shares	Weighted Avg. Per Share Exercise Price	Weighted Avg. Remaining Contract Life (years)	Aggregate Intrinsic Value
Stock Options				
Outstanding at December 31, 2021	534,695	$ 2,424.62		
Granted	170,806	4,481.92		
Exercised	(59,559)	2,303.55		
Forfeited	(12,126)	3,352.37		
Outstanding at September 30, 2022	633,816	$ 2,972.67	5.9	$ 740,513
Exercisable at September 30, 2022	281,825	$ 1,952.12	3.5	$ 573,502
RSUs				
Outstanding at December 31, 2021	16,564			
Granted	17,906			
Vested	—			
Forfeited	(1,438)			
Outstanding at September 30, 2022	33,032			$ 131,701
Vested, but not issued at September 30, 2022	—			$ —

To estimate the grant-date fair value of our Options, we use the Black-Scholes option-pricing model (the "Pricing Model"). The Pricing Model estimates the per share fair value of an option on its date of grant based on the following factors: the Option's exercise price, the price of the underlying stock on the date of grant, the estimated dividend yield, a risk-free interest rate, the estimated option term, and the expected volatility. For the risk-free interest rate, we use U.S. Treasury STRIPS which mature at approximately the same time as the Option's expected holding term. For expected volatility, we have concluded that our historical volatility over the Option's expected holding term provides the most reasonable basis for this estimate.

The fair value of the Options granted during the first nine months of 2022 was estimated on the grant date using the Pricing Model, based on the following assumptions:

Estimated option life (years)	5.60
Risk free interest rate (range)	1.17%-3.40%
Expected volatility (range)	24.93%-30.89%
Expected dividend rate	—%
Weighted average grant-date fair value per share of options granted	$ 1,432.72

The weighted average grant date fair value per share of $4,505.90 for the RSUs was the closing price of our common stock on the day immediately preceding the date of grant.

Compensation cost for Options and RSUs is recognized on a straight-line basis over the requisite service period for the entire award (from the date of grant through the period of the last separately vesting portion of the grant). For the recognition of equity-based compensation, the Options and RSUs that are subject to a performance condition are treated as a separate award from the "service-only" Options and RSUs, and compensation cost is recognized when it becomes probable that the stated performance target will be achieved. We currently believe that it is probable that the stated performance condition will be satisfied at the target level for all of our Options and RSUs granted. Compensation cost is recognized within the income statement in the same expense line as the cash compensation paid to the respective employees.

(dollars in thousands, except per share data)

We recognize forfeitures of equity-based awards as a reduction to compensation costs in the period in which they occur. During the three and nine months ended September 30, 2022, we recognized $26,686 and $58,441 in equity-based compensation costs, respectively. During the three and nine months ended September 30, 2021, we recognized $15,009 and $42,859 in equity-based compensation costs, respectively.

As of September 30, 2022, the total unrecognized compensation cost for all outstanding Options and RSUs equaled approximately $381,700. The unrecognized compensation cost will be recognized over each grant's applicable vesting period with the latest vesting date being December 31, 2027. The weighted-average period over which the unrecognized compensation cost will be recorded is equal to approximately 2.6 years.

8. Shareholders' Equity

A summary of changes in shareholders' equity for the three months ended September 30, 2022 is presented below:

	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Deferred Compensation Trust	Deferred Compensation Liability	Total
Balance, June 30, 2022	$ 206	$ 2,498,123	$ 10,907,253	$ (10,413,916)	$ (16,710)	$ 16,710	$ 2,991,666
Net income	—	—	411,393	—	—	—	411,393
Purchase of common stock for treasury	—	—	—	(368,490)	—	—	(368,490)
Equity-based compensation	—	26,686	—	—	—	—	26,686
Proceeds from Options exercised	—	23,584	—	—	—	—	23,584
Treasury stock issued upon Option exercise	—	(9,581)	—	9,581	—	—	—
Balance, September 30, 2022	$ 206	$ 2,538,812	$ 11,318,646	$ (10,772,825)	$ (16,710)	$ 16,710	$ 3,084,839

A summary of changes in shareholders' equity for the nine months ended September 30, 2022 is presented below:

	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Deferred Compensation Trust	Deferred Compensation Liability	Total
Balance, December 31, 2021	$ 206	$ 2,378,191	$ 10,047,839	$ (9,423,858)	$ (16,710)	$ 16,710	$ 3,002,378
Net income	—	—	1,270,807	—	—	—	1,270,807
Purchase of common stock for treasury	—	—	—	(1,384,193)	—	—	(1,384,193)
Equity-based compensation	—	58,441	—	—	—	—	58,441
Proceeds from Options exercised	—	137,406	—	—	—	—	137,406
Treasury stock issued upon Option exercise	—	(35,226)	—	35,226	—	—	—
Balance, September 30, 2022	$ 206	$ 2,538,812	$ 11,318,646	$ (10,772,825)	$ (16,710)	$ 16,710	$ 3,084,839

(dollars in thousands, except per share data)

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We repurchased 88,016 and 295,148 shares of our outstanding common stock during the three and nine months ended September 30, 2022, respectively. We settle Option exercises and vesting of RSUs by issuing shares of treasury stock. We issued 15,840 and 59,559 shares from the treasury account during the three and nine months ended September 30, 2022, respectively, in settlement of Option exercises. Shares are relieved from the treasury account based on the weighted average cost basis of treasury shares.

A summary of changes in shareholders' equity for the three months ended September 30, 2021 is presented below:

	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Deferred Compensation Trust	Deferred Compensation Liability	Total
Balance, June 30, 2021	$ 206	$ 2,314,564	$ 9,381,177	$ (8,653,659)	$ (16,710)	$ 16,710	$ 3,042,288
Net income	—	—	332,081	—	—	—	332,081
Purchase of common stock for treasury	—	—	—	(398,489)	—	—	(398,489)
Equity-based compensation	—	15,009	—	—	—	—	15,009
Proceeds from Options exercised	—	26,162	—	—	—	—	26,162
Treasury stock issued upon Option exercise and RSU vesting	—	(6,735)	—	6,735	—	—	—
Balance, September 30, 2021	$ 206	$ 2,349,000	$ 9,713,258	$ (9,045,413)	$ (16,710)	$ 16,710	$ 3,017,051

A summary of changes in shareholders' equity for the nine months ended September 30, 2021 is presented below:

	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Deferred Compensation Trust	Deferred Compensation Liability	Total
Balance, December 31, 2020	$ 206	$ 2,214,426	$ 8,811,120	$ (7,922,678)	$ (16,710)	$ 16,710	$ 3,103,074
Net income	—	—	902,138	—	—	—	902,138
Purchase of common stock for treasury	—	—	—	(1,152,855)	—	—	(1,152,855)
Equity-based compensation	—	42,859	—	—	—	—	42,859
Proceeds from Options exercised	—	121,835	—	—	—	—	121,835
Treasury stock issued upon Option exercise and RSU vesting	—	(30,120)	—	30,120	—	—	—
Balance, September 30, 2021	$ 206	$ 2,349,000	$ 9,713,258	$ (9,045,413)	$ (16,710)	$ 16,710	$ 3,017,051

We repurchased 79,620 and 244,595 shares of our outstanding common stock during the three and nine months ended September 30, 2021, respectively. We issued 13,116 and 61,704 shares from the treasury account during the three and nine months ended September 30, 2021, respectively, in settlement of Option exercises and vesting of RSUs.

(dollars in thousands, except per share data)

9. Product Warranties

We establish warranty and product liability reserves ("Warranty Reserve") to provide for estimated future expenses as a result of construction and product defects, product recalls and litigation incidental to our homebuilding business. Liability estimates are determined based on management's judgment, considering such factors as historical experience, the estimated current cost of corrective action, manufacturers' and subcontractors' participation in sharing the cost of corrective action, consultations with third party experts such as engineers, and discussions with our general counsel and outside counsel retained to handle specific product liability cases.

The following table reflects the changes in our Warranty Reserve during the three and nine months ended September 30, 2022 and 2021:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Warranty reserve, beginning of period	$ 138,240	$ 127,502	$ 134,859	$ 119,638
Provision	28,624	22,789	71,142	66,878
Payments	(23,066)	(20,188)	(62,203)	(56,413)
Warranty reserve, end of period	$ 143,798	$ 130,103	$ 143,798	$ 130,103

10. Segment Disclosures

Our homebuilding operations are aggregated geographically into four homebuilding reportable segments and our mortgage banking operations are presented as one reportable segment. The homebuilding reportable segments are comprised of operating divisions in the following geographic areas:

Mid Atlantic:	Maryland, Virginia, West Virginia, Delaware and Washington, D.C.
North East:	New Jersey and Eastern Pennsylvania
Mid East:	New York, Ohio, Western Pennsylvania, Indiana and Illinois
South East:	North Carolina, South Carolina, Tennessee, Florida and Georgia

Homebuilding profit before tax includes all revenues and income generated from the sale of homes, less the cost of homes sold, selling, general and administrative expenses and a corporate capital allocation charge. The corporate capital allocation charge is eliminated in consolidation and is based on the segment's average net assets employed. The corporate capital allocation charged to the operating segment allows the Chief Operating Decision Maker ("CODM") to determine whether the operating segment's results are providing the desired rate of return after covering our cost of capital.

Assets not allocated to the operating segments are not included in either the operating segment's corporate capital allocation charge or the CODM's evaluation of the operating segment's performance. We record charges on contract land deposits when it is determined that it is probable that recovery of the deposit is impaired. For segment reporting purposes, impairments on contract land deposits are generally charged to the operating segment upon the termination of an LPA with the developer, or the restructuring of an LPA resulting in the forfeiture of the deposit. Mortgage banking profit before tax consists of revenues generated from mortgage financing, title insurance and closing services, less the costs of such services and general and administrative costs. Mortgage banking operations are not charged a corporate capital allocation charge.

In addition to the corporate capital allocation and contract land deposit impairments discussed above, the other reconciling items between segment profit and consolidated profit before tax include unallocated corporate overhead (including all management incentive compensation), equity-based compensation expense, consolidation adjustments and external corporate interest expense. Our overhead functions such as accounting, treasury and human resources are centrally performed and these costs are not allocated to our operating segments. Consolidation adjustments consist of such items necessary to convert the reportable segments' results, which are predominantly maintained on a cash basis, to a full accrual basis for external financial statement presentation purposes, and are not allocated to our operating segments. External corporate interest expense primarily consists of interest charges on our 3.95% Senior Notes due 2022 and 3.00% Senior Notes due 2030 (the "Senior Notes"), which are not charged to the operating segments because the charges are included in the corporate capital allocation discussed above.

(dollars in thousands, except per share data)

The following tables present segment revenues, profit and assets with reconciliations to the amounts reported for the consolidated enterprise, where applicable:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Revenues:				
Homebuilding Mid Atlantic	$ 1,282,504	$ 1,082,710	$ 3,632,524	$ 3,067,267
Homebuilding North East	250,067	213,087	663,012	568,524
Homebuilding Mid East	569,991	503,232	1,552,434	1,406,364
Homebuilding South East	636,883	537,586	1,810,764	1,482,731
Mortgage Banking	37,455	59,025	155,518	195,798
Total consolidated revenues	$ 2,776,900	$ 2,395,640	$ 7,814,252	$ 6,720,684

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Income before taxes:				
Homebuilding Mid Atlantic	$ 272,860	$ 222,504	$ 774,380	$ 526,052
Homebuilding North East	49,614	33,885	116,839	70,622
Homebuilding Mid East	92,364	81,021	246,059	189,849
Homebuilding South East	145,619	100,688	409,895	236,272
Mortgage Banking	18,993	40,249	97,899	140,183
Total segment profit before taxes	579,450	478,347	1,645,072	1,162,978
Reconciling items:				
Contract land deposit reserve adjustment (1)	(8,736)	4,126	(2,391)	17,500
Equity-based compensation expense (2)	(26,686)	(15,009)	(58,441)	(42,859)
Corporate capital allocation (3)	81,020	64,055	228,276	188,638
Unallocated corporate overhead	(22,565)	(27,801)	(100,109)	(101,605)
Consolidation adjustments and other (4)	(57,165)	(56,786)	(2,561)	(22,456)
Corporate interest expense	(6,803)	(12,805)	(31,374)	(38,598)
Reconciling items sub-total	(40,935)	(44,220)	33,400	620
Consolidated income before taxes	$ 538,515	$ 434,127	$ 1,678,472	$ 1,163,598

(1) This item represents changes to the contract land deposit impairment reserve, which are not allocated to the reportable segments. See further discussion of lot deposit impairment charges in Note 2.

(2) The increase in equity-based compensation expense for the three and nine months ended September 30, 2022 was primarily attributable to a four year block grant of Options and RSUs in May 2022. See Note 7 for additional discussion of equity-based compensation.

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(3) This item represents the elimination of the corporate capital allocation charge included in the respective homebuilding reportable segments. The corporate capital allocation charge is based on the segment's monthly average asset balance, and was as follows for the periods presented:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Corporate capital allocation charge:				
Homebuilding Mid Atlantic	$ 37,305	$ 31,057	$ 108,514	$ 92,788
Homebuilding North East	7,994	6,719	23,238	19,214
Homebuilding Mid East	14,509	11,114	38,801	32,804
Homebuilding South East	21,212	15,165	57,723	43,832
Total	$ 81,020	$ 64,055	$ 228,276	$ 188,638

(4) The consolidation adjustments and other for the three and nine month periods of 2022 and 2021 is primarily driven by changes in lumber prices in the respective periods. Our reportable segments' results include the intercompany profits of our production facilities for home packages delivered to our homebuilding divisions. Costs related to homes not yet settled are reversed through the consolidation adjustment and recorded in inventory. These costs are subsequently recorded through the consolidation adjustment when the respective homes are settled. Due to higher lumber prices in the first half of both 2022 and 2021, the previously reversed intercompany profits were recognized in the third quarter of the respective years through the consolidation adjustment as homes were settled, which negatively impacted margins in the respective periods.

	September 30, 2022	December 31, 2021
Assets:		
Homebuilding Mid Atlantic	$ 1,289,036	$ 1,322,818
Homebuilding North East	268,794	235,048
Homebuilding Mid East	515,947	438,700
Homebuilding South East	791,054	629,198
Mortgage Banking	464,293	371,685
Total segment assets	3,329,124	2,997,449
Reconciling items:		
Cash and cash equivalents	1,748,506	2,545,069
Deferred taxes	144,590	132,894
Intangible assets and goodwill	49,368	49,368
Operating lease right-of-use assets	69,933	59,010
Finance lease right-of-use assets	13,875	14,578
Contract land deposit reserve	(32,240)	(30,041)
Consolidation adjustments and other	66,378	66,148
Reconciling items sub-total	2,060,410	2,837,026
Consolidated assets	$ 5,389,534	$ 5,834,475

(dollars in thousands, except per share data)

11. Fair Value

GAAP assigns a fair value hierarchy to the inputs used to measure fair value. Level 1 inputs are quoted prices in active markets for identical assets and liabilities. Level 2 inputs are inputs other than quoted market prices that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs.

Financial Instruments

The following table presents the estimated fair values and carrying values of our Senior Notes as of September 30, 2022 and December 31, 2021. The estimated fair value is based on recent market prices of similar transactions, which is classified as Level 2 within the fair value hierarchy.

	September 30, 2022	December 31, 2021
Estimated Fair Values:		
3.95% Senior Notes due 2022	$ —	$ 610,452
3.00% Senior Notes due 2030	735,804	942,192
Total	$ 735,804	$ 1,552,644
Carrying Values:		
3.95% Senior Notes due 2022	$ —	$ 599,553
3.00% Senior Notes due 2030	915,346	916,702
Total	$ 915,346	$ 1,516,255

Except as otherwise noted below, we believe that insignificant differences exist between the carrying value and the fair value of our financial instruments, which consist primarily of cash equivalents, due to their short term nature.

Derivative Instruments and Mortgage Loans Held for Sale

In the normal course of business, our wholly-owned mortgage subsidiary, NVR Mortgage Finance, Inc. ("NVRM"), enters into contractual commitments to extend credit to our homebuyers with fixed expiration dates. The commitments become effective when the borrowers "lock-in" a specified interest rate within time frames established by NVRM. All mortgagors are evaluated for credit worthiness prior to the extension of the commitment. Market risk arises if interest rates move adversely between the time of the "lock-in" of rates by the borrower and the sale date of the loan to a broker/dealer. To mitigate the effect of the interest rate risk inherent in providing rate lock commitments to borrowers, NVRM enters into optional or mandatory delivery forward sale contracts to sell whole loans and mortgage-backed securities to broker/dealers. The forward sales contracts lock in an interest rate and price for the sale of loans similar to the specific rate lock commitments. NVRM does not engage in speculative or trading derivative activities. Both the rate lock commitments to borrowers and the forward sale contracts to broker/dealers are undesignated derivatives and, accordingly, are marked to fair value through earnings. At September 30, 2022, there were rate lock commitments to extend credit to borrowers aggregating $2,213,239 and open forward delivery contracts aggregating $2,446,322, which hedge both the rate lock commitments and closed loans held for sale.

The fair value of NVRM's rate lock commitments to borrowers and the related input levels include, as applicable:

i) the assumed gain/loss of the expected resultant loan sale (Level 2);

ii) the effects of interest rate movements between the date of the rate lock and the balance sheet date (Level 2); and

iii) the value of the servicing rights associated with the loan (Level 2).

The assumed gain/loss considers the excess servicing to be received or buydown fees to be paid upon securitization of the loan. The excess servicing and buydown fees are calculated pursuant to contractual terms with investors. To calculate the effects of interest rate movements, NVRM utilizes applicable published mortgage-backed security prices, and multiplies the price movement between the rate lock date and the balance sheet date by the notional loan commitment amount. NVRM sells all of its loans on a servicing released basis, and receives a servicing released premium upon sale. Thus, the value of the servicing rights is included in the fair value measurement and is based upon contractual terms with investors and varies depending on the loan type. NVRM assumes a fallout rate when measuring the fair value of rate lock commitments. Fallout is defined as locked loan commitments for which NVRM does not close a mortgage loan and is based on historical experience.

The fair value of NVRM's forward sales contracts to broker/dealers solely considers the market price movement of the same type of security between the trade date and the balance sheet date (Level 2). The market price changes are multiplied by the notional amount of the forward sales contracts to measure the fair value.

Mortgage loans held for sale are recorded at fair value when closed, and thereafter are carried at the lower of cost or fair value, net of deferred origination costs, until sold. Fair value is measured using Level 2 inputs. As of September 30, 2022, the fair value of loans held for sale of $316,094 included on the accompanying condensed consolidated balance sheet was decreased by $14,407 from the aggregate principal balance of $330,501. As of

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December 31, 2021, the fair value of loans held for sale of $302,192 was increased by $4,296 from the aggregate principal balance of $297,896.

The fair value measurement of NVRM's undesignated derivative instruments was as follows:

	September 30, 2022	December 31, 2021
Rate lock commitments:		
Gross assets	$ 36,695	$ 15,949
Gross liabilities	88,697	1,790
Net rate lock commitments	$ (52,002)	$ 14,159
Forward sales contracts:		
Gross assets	$ 41,536	$ 708
Gross liabilities	3,148	926
Net forward sales contracts	$ 38,388	$ (218)

As of September 30, 2022, the net rate lock commitments are reported in mortgage banking "Accrued expenses and other liabilities," and the net forward sales contracts are reported in mortgage banking "Other assets" on the accompanying condensed consolidated balance sheets. As of December 31, 2021, the net rate lock commitments are reported in mortgage banking "Other assets" and the net forward sales contracts are reported in mortgage banking "Accrued expenses and other liabilities".

The fair value measurement as of September 30, 2022 was as follows:

	Notional or Principal Amount	Assumed Gain From Loan Sale	Interest Rate Movement Effect	Servicing Rights Value	Security Price Change	Total Fair Value Measurement
Rate lock commitments	$ 2,213,239	$ 3,359	$ (85,498)	$ 30,137	$ —	$ (52,002)
Forward sales contracts	$ 2,446,322	—	—	—	38,388	38,388
Mortgages held for sale	$ 330,501	710	(19,807)	4,690	—	(14,407)
Total fair value measurement		$ 4,069	$ (105,305)	$ 34,827	$ 38,388	$ (28,021)

The total fair value measurement as of December 31, 2021 was $18,237. NVRM recorded a fair value adjustment to expense of $28,828 and $46,258 for the three and nine months ended September 30, 2022, respectively. Unrealized gains/losses from the change in the fair value measurements are included in earnings as a component of mortgage banking fees in the accompanying condensed consolidated statements of income. The fair value measurement will be impacted in the future by the change in the value of the servicing rights, interest rate movements, security price fluctuations, and the volume and product mix of NVRM's closed loans and locked loan commitments.

12. Debt

During the second quarter of 2022, we redeemed the outstanding $600,000 principal amount of 3.95% Senior Notes due September 15, 2022, at par, plus accrued interest.

As of September 30, 2022, we had the following debt instruments outstanding:

3.00% Senior Notes due 2030 ("2030 Senior Notes")

The 2030 Senior Notes have an aggregate principal balance of $900,000 and mature on May 15, 2030. The 2030 Senior Notes bear interest at 3.00%, payable semi-annually in arrears on May 15 and November 15. The 2030 Senior Notes were issued in three separate issuances, $600,000 issued at a discount to yield 3.02%, and the two additional issuances totaling $300,000 issued at a premium to yield 2.00%. The 2030 Senior Notes have been reflected net of the unamortized discount or premium, as applicable, and the unamortized debt issuance costs in the accompanying condensed consolidated balance sheet.

Credit Agreement

We have an unsecured Credit Agreement (the “Credit Agreement”), which provides for aggregate revolving loan commitments of $300,000 (the “Facility”). Under the Credit Agreement, we may request increases of up to $300,000 to the Facility in the form of revolving loan commitments or term loans to the extent that new or existing lenders agree to provide additional revolving loan or term loan commitments. The Credit Agreement provides for a $100,000 sublimit for the issuance of letters of credit, of which approximately $13,400 was outstanding at September 30, 2022. The Credit Agreement termination date is February 12, 2026. There was no debt outstanding under the Facility at September 30, 2022.

Repurchase Agreement

NVRM provides for its mortgage origination and other operating activities using cash generated from its operations, borrowings from its parent company, NVR, as well as a revolving mortgage repurchase agreement (the “Repurchase Agreement”), which is non-recourse to NVR. The Repurchase Agreement provides for loan purchases up to $150,000, subject to certain sub-limits. Amounts outstanding under the Repurchase Agreement are collateralized by the Company’s mortgage loans held for sale.

In July 2022, NVRM entered into The Second Amended and Restated Master Repurchase Agreement with U.S. Bank National Association, as Agent and a Buyer (the "Amended MRA"), which replaced the Repurchase Agreement in its entirety. The Amended MRA provides for loan purchases up to $150,000, subject to certain sub-limits. Advances under the Amended MRA bear interest at the secured overnight financing rate published by the Board of Governors of the Federal Reserve System ("SOFR") plus the SOFR Margin of 1.70%, per annum. All other terms and conditions of the Amended MRA are materially consistent with the Repurchase Agreement. The Amended MRA expires on July 19, 2023. At September 30, 2022, there were no borrowing base limitations reducing the amount available under the Amended MRA and there was no debt outstanding under the Amended MRA.

13. Commitments and Contingencies

We are involved in various litigation arising in the ordinary course of business. In the opinion of management, and based on advice of legal counsel, this litigation is not expected to have a material adverse effect on our financial position, results of operations or cash flows. Legal costs incurred in connection with outstanding litigation are expensed as incurred.

14. Leases

We have operating leases for our corporate and division offices, production facilities, model homes, and certain office and production equipment. Additionally, we have finance leases for certain plant equipment and one of our production facilities which are recorded in homebuilding "Property, plant and equipment, net" and "Accrued expenses and other liabilities" on the accompanying condensed consolidated balance sheets. Our finance lease ROU assets and finance lease liabilities were $13,875 and $15,030, respectively, as of September 30, 2022, and $14,578 and $15,413, respectively, as of December 31, 2021. Our leases have remaining lease terms of up to 18 years, some of which include options to extend the lease for up to 20 years, and some of which include options to terminate the lease.

We recognize operating lease expense on a straight-line basis over the lease term. We have elected to use the portfolio approach for certain equipment leases which have similar lease terms and payment schedules. Additionally, for certain equipment we account for the lease and non-lease components as a single lease component. Our sublease income is de minimis.

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We have certain leases, primarily the leases of model homes, which have initial lease terms of twelve months or less ("Short-term leases"). We elected to exclude these leases from the recognition requirements under Topic 842, and these leases have not been included in our recognized ROU assets and lease liabilities.

The components of lease expense were as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Lease expense				
Operating lease expense	$ 9,422	$ 7,906	$ 26,051	$ 23,395
Finance lease expense:				
Amortization of ROU assets	489	454	1,426	1,342
Interest on lease liabilities	106	107	313	324
Short-term lease expense	7,395	6,001	20,219	17,752
Total lease expense	$ 17,412	$ 14,468	$ 48,009	$ 42,813

Other information related to leases was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Supplemental Cash Flows Information:				
Cash paid for amounts included in the measurement of lease liabilities:				
Operating cash flows from operating leases	$ 7,197	$ 7,143	$ 21,301	$ 20,831
Operating cash flows from finance leases	106	107	313	324
Financing cash flows from finance leases	384	347	1,107	1,008
ROU assets obtained in exchange for lease obligations:				
Operating leases	$ 11,169	$ 3,711	$ 35,055	$ 23,282
Finance leases	$ —	$ 187	$ 723	$ 276

	September 30, 2022	December 31, 2021
Weighted-average remaining lease term (in years):		
Operating leases	6.1	6.3
Finance leases	11.0	11.7
Weighted-average discount rate:		
Operating leases	3.4 %	3.0 %
Finance leases	2.9 %	2.8 %

15. Income Taxes

Our effective tax rate for the three and nine months ended September 30, 2022 was 23.6% and 24.3%, respectively, compared to 23.5% and 22.5% for the three and nine months ended September 30, 2021, respectively. The increase in the effective tax rate for the nine month period of 2022 compared to the same period in 2021 was primarily attributable to a lower income tax benefit recognized for excess tax benefits from stock option exercises of $27,748 and $37,834 for the nine months ended September 30, 2022 and 2021, respectively.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

(dollars in thousands, except per share data)

Forward-Looking Statements

Some of the statements in this Quarterly Report on Form 10-Q, as well as statements made by us in periodic press releases or other public communications, constitute “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Certain, but not necessarily all, of such forward-looking statements can be identified by the use of forward-looking terminology, such as “believes,” “expects,” “may,” “will,” “should” or “anticipates” or the negative thereof or other comparable terminology. All statements other than of historical facts are forward-looking statements. Forward-looking statements contained in this document may include those regarding market trends, our financial position and financial results, business strategy, the impact of the COVID-19 pandemic on our business and customers, supply chain disruptions, the outcome of pending litigation, investigations or similar contingencies, projected plans and objectives of management for future operations. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results or performance to be materially different from future results, performance or achievements expressed or implied by the forward-looking statements. Such risk factors include, but are not limited to the following: the economic impact of COVID-19 and related supply chain disruption; general economic and business conditions (on both a national and regional level); interest rate changes; access to suitable financing by us and our customers; increased regulation in the mortgage banking industry; the ability of our mortgage banking subsidiary to sell loans it originates into the secondary market; competition; the availability and cost of land and other raw materials used by us in our homebuilding operations; shortages of labor; weather related slow-downs; building moratoriums; governmental regulation; fluctuation and volatility of stock and other financial markets; mortgage financing availability; and other factors over which we have little or no control. We undertake no obligation to update such forward-looking statements except as required by law. For additional information regarding risk factors, see Part II, Item 1A of this Quarterly Report on Form 10-Q and Part I, Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

Unless the context otherwise requires, references to “NVR,” “we,” “us,” or “our” include NVR and its consolidated subsidiaries.

Results of Operations for the Three and Nine Months Ended September 30, 2022 and 2021

Business Environment and Current Outlook

During the third quarter of 2022, we experienced a continued decline in the demand for new homes as home affordability continued to be negatively impacted by rising mortgage interest rates and higher home prices. In addition to affordability concerns, current market conditions including a high rate of inflation, anticipated further interest rate increases and the possibility of a recession have contributed to lower consumer confidence levels. We also continue to face higher costs for certain materials and labor as strong demand in prior quarters has resulted in increased construction activity and demand for building materials and contractor labor. These factors have led to supply chain disruptions and longer construction cycle times. We expect to continue to face some disruption and continue to work closely with our suppliers and trade partners to manage these disruptions and reduce construction cycle times.

We expect that demand for new homes will continue to be negatively impacted by higher mortgage interest rates and lower consumer confidence driven by affordability issues, high inflation, anticipated further interest rate increases and the possibility of a recession. We also expect to continue to face cost pressures related to building materials, labor and land costs, as well as pricing pressures, which will impact profit margins based on our ability to manage these costs while balancing sales pace and declining home prices. Although we are unable to predict the extent to which this will impact our operational and financial performance, we believe that we are well positioned to take advantage of opportunities that may arise from future economic and homebuilding market volatility due to the strength of our balance sheet and our disciplined lot acquisition strategy.

Business

Our primary business is the construction and sale of single-family detached homes, townhomes and condominiums, all of which are primarily constructed on a pre-sold basis. To fully serve customers of our homebuilding operations, we also operate a mortgage banking and title services business. We primarily conduct our operations in mature markets. Additionally, we generally grow our business through market share gains in our existing markets and by expanding into markets contiguous to our current active markets. Our four homebuilding reportable segments consist of the following regions:

Mid Atlantic:	Maryland, Virginia, West Virginia, Delaware and Washington, D.C.
North East:	New Jersey and Eastern Pennsylvania
Mid East:	New York, Ohio, Western Pennsylvania, Indiana and Illinois
South East:	North Carolina, South Carolina, Tennessee, Florida and Georgia

Our lot acquisition strategy is predicated upon avoiding the financial requirements and risks associated with direct land ownership and development. We generally do not engage in land development (see discussion below of our land development activities). Instead, we typically acquire finished building lots from various third party land developers pursuant to fixed price finished lot purchase agreements ("LPAs"). These LPAs require deposits, typically ranging up to 10% of the aggregate purchase price of the finished lots, in the form of cash or letters of credit that may be forfeited if we fail to perform under the LPA. This strategy has allowed us to maximize inventory turnover, which we believe enables us to minimize market risk and to operate with less capital, thereby enhancing rates of return on equity and total capital.

In addition to constructing homes primarily on a pre-sold basis and utilizing what we believe is a conservative lot acquisition strategy, we focus on obtaining and maintaining a leading market position in each market we serve. This strategy allows us to gain valuable efficiencies and competitive advantages in our markets, which we believe contributes to minimizing the adverse effects of regional economic cycles and provides growth opportunities within these markets. Our continued success is contingent upon our ability to control an adequate supply of finished lots on which to build.

In certain specific strategic circumstances, we deviate from our historical lot acquisition strategy and engage in joint venture arrangements with land developers or directly acquire raw ground already zoned for its intended use for development. Once we acquire control of raw ground, we determine whether to sell the raw parcel to a developer and enter into an LPA with the developer to purchase the finished lots or to hire a developer to develop the land on our behalf. While joint venture arrangements and direct land development activity are not our preferred method of acquiring finished building lots, we may enter into additional transactions in the future on a limited basis where there exists a compelling strategic or prudent financial reason to do so. We expect, however, to continue to acquire substantially all our finished lot inventory using LPAs with forfeitable deposits.

As of September 30, 2022, we controlled approximately 131,400 lots as described below.

Lot Purchase Agreements

We controlled approximately 125,600 lots under LPAs with third parties through deposits in cash and letters of credit totaling approximately $543,400 and $7,300, respectively. Included in the number of controlled lots are approximately 7,300 lots for which we have recorded a contract land deposit impairment reserve of approximately $32,200 as of September 30, 2022.

Joint Venture Limited Liability Corporations ("JVs")

We had an aggregate investment totaling approximately $27,800 in five JVs, expected to produce approximately 5,400 lots. Of the lots to be produced by the JVs, approximately 5,000 lots were controlled by us and approximately 400 were either under contract with unrelated parties or currently not under contract. We had additional funding commitments totaling approximately $13,500 to one of the JVs at September 30, 2022.

Land Under Development

We owned land with a carrying value of approximately $15,200 that we intend to develop into approximately 800 finished lots. We had additional funding commitments of approximately $2,200 under a joint development agreement related to one parcel, a portion of which we expect will be offset by development credits of approximately $900.

See Notes 2, 3 and 4 to the condensed consolidated financial statements included herein for additional information regarding LPAs, JVs and land under development, respectively.

Raw Land Purchase Agreements

In addition, we have certain properties under contract with land owners that are expected to yield approximately 23,100 lots, which are not included in the number of total lots controlled. Some of these properties may require rezoning or other approvals to achieve the expected yield. As of September 30, 2022, these properties are controlled with deposits in cash totaling approximately $10,400, of which approximately $4,600 is refundable if certain contractual conditions are not met. We generally expect to assign the raw land contracts to a land developer and simultaneously enter into an LPA with the assignee if the project is determined to be feasible.

Key Financial Results

Our consolidated revenues for the third quarter of 2022 totaled $2,776,900, a 16% increase from the third quarter of 2021. Net income for the third quarter ended September 30, 2022 was $411,393, or $118.51 per diluted share, increases of 24% and 37% when compared to net income and diluted earnings per share in the third quarter of 2021, respectively. Our homebuilding gross profit margin percentage increased to 23.6% in the third quarter of 2022 from 22.2% in the third quarter of 2021. New orders, net of cancellations ("New Orders") decreased by 15% in the third quarter of 2022 compared to the third quarter of 2021. The New Order cancellation rate for the third quarter of 2022 increased to 15% from 9% in the same period in 2021. The average sales price for New Orders in the third quarter of 2022 was $453.4, an increase of 3% compared to the third quarter of 2021.

Homebuilding Operations

The following table summarizes the results of operations and other data for our homebuilding operations:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Financial Data:				
Revenues	$ 2,739,445	$ 2,336,615	$ 7,658,734	$ 6,524,886
Cost of sales	$ 2,092,457	$ 1,817,939	$ 5,668,549	$ 5,117,065
Gross profit margin percentage	23.6 %	22.2 %	26.0 %	21.6 %
Selling, general and administrative expenses	$ 129,416	$ 112,226	$ 391,358	$ 347,051
Operating Data:				
New orders (units)	4,421	5,201	15,011	17,036
Average new order price	$ 453.4	$ 442.0	$ 463.9	$ 429.8
Settlements (units)	5,949	5,683	16,983	16,440
Average settlement price	$ 460.5	$ 411.1	$ 450.9	$ 396.9
Backlog (units)			10,758	12,145
Average backlog price			$ 472.8	$ 442.4
New order cancellation rate	15.0 %	9.2 %	13.0 %	9.1 %

Consolidated Homebuilding - Three Months Ended September 30, 2022 and 2021

Homebuilding revenues increased 17% in the third quarter of 2022 compared to the same period in 2021, as a result of a 5% increase in settlements and a 12% increase in the average settlement price. The increase in settlements was attributable to a higher backlog turnover rate quarter over quarter. The increase in the average settlement price was primarily attributable to an 11% higher average sales price of units in backlog entering the third quarter of 2022 compared to the same period of 2021.

Gross profit margin percentage in the third quarter of 2022 increased to 23.6%, from 22.2% in the third quarter of 2021. Gross profit margins were favorably impacted by the increase in the average settlement price attributable to improved pricing power in prior quarters, offset partially by higher material and labor costs.

New Orders decreased 15%, while the average sales price of New Orders increased 3% in the third quarter of 2022 compared to the third quarter of 2021. New Orders were negatively impacted in each of our reportable segments by the significant increase in mortgage interest rates during the quarter, which resulted in a decline in affordability and in turn, led to lower absorption rates and to an increase in the cancellation rate quarter over quarter. The increase in the average sales price of New Orders was primarily attributable to significant price appreciation resulting from strong demand through the first quarter of 2022.

Selling, general and administrative ("SG&A") expense in the third quarter of 2022 increased by approximately $17,200 compared to the third quarter of 2021, but as a percentage of revenue remained relatively flat at 4.7% quarter over quarter. The increase in SG&A expense was due primarily to an $11,200 increase in equity-based compensation due to a block grant of non-qualified stock options ("Options") and restricted share units ("RSUs") in the second quarter of 2022 to key management employees and directors, as further discussed in Note 7 in the accompanying condensed consolidated financial statements.

Consolidated Homebuilding - Nine Months Ended September 30, 2022 and 2021

Homebuilding revenues increased 17% in the first nine months of 2022 compared to the same period in 2021, as a result of a 3% increase in settlements and a 14% increase in the average settlement price. The increase in settlements was attributable to a 10% higher backlog unit balance entering 2022 compared to the same period in 2021, offset partially by an 11% decrease in New Orders in the first six months of 2022 compared to the same period in 2021. The increase in the average settlement price was primarily attributable to a 15% higher average sales price of units in backlog entering 2022 compared to the same period of 2021, coupled with a 10% increase in the average sales price of New Orders during the first six months of 2022 compared to the same period in 2021.

Gross profit margin percentage in the first nine months of 2022 increased to 26.0%, from 21.6% in the first nine months of 2021. Gross profit margins were favorably impacted by the increase in the aforementioned average settlement price attributable to improved pricing power in prior quarters, offset partially by higher material and labor costs year over year.

New Orders decreased 12% while the average sales price of New Orders increased 8% in the first nine months of 2022 compared to the same period in 2021. New Orders were negatively impacted by a 4% decrease in the average number of active communities year over year. In addition, New Orders in each of our reportable segments were negatively impacted by the significant increase in mortgage interest rates in 2022, which resulted in a decline in affordability, and in turn led to lower absorption rates and to an increase in the cancellation rate year over year. The increase in the average sales price of New Orders was primarily attributable to significant price appreciation resulting from strong demand through the first quarter of 2022.

SG&A expense in the first nine months of 2022 increased by approximately $44,300 compared to the same period in 2021, but as a percentage of revenue decreased to 5.1% in 2022 from 5.3% in 2021 due to improved leveraging of SG&A costs. The increase in SG&A expense was due primarily to an increase of approximately $16,500 in equity-based compensation due to a block grant of Options and RSUs in the second quarter of 2022 and an increase of approximately $12,400 in personnel costs attributable to increased headcount year over year.

Our backlog represents homes sold but not yet settled with our customers. As of September 30, 2022, our backlog decreased on a unit basis by 11% to 10,758 units and on a dollar basis by 5% to $5,086,766 when compared to 12,145 units and $5,372,859, respectively, as of September 30, 2021. The decrease in backlog units and dollars was primarily attributable to a 15% decrease in New Orders in the six-month period ended September 30, 2022 compared to the same period in 2021.

Our backlog may be impacted by customer cancellations for various reasons that are beyond our control, such as failure to obtain mortgage financing, inability to sell an existing home, job loss, or a variety of other reasons. In any period, a portion of the cancellations that we experience are related to new sales that occurred during the same period, and a portion are related to sales that occurred in prior periods and therefore appeared in the opening backlog for the current period. Calculated as the total of all cancellations during the period as a percentage of gross sales during that same period, our cancellation rate was approximately 13% and 9% in the first nine months of 2022 and 2021, respectively. During the most recent four quarters, approximately 3% of a reporting quarter's opening backlog cancelled during the fiscal quarter. We can provide no assurance that our historical cancellation rates are indicative of the actual cancellation rate that may occur during the remainder of 2022 or future years. Other than those units that are cancelled, and subject to potential construction delays resulting from continued supply chain and/or COVID-19 related disruptions, we expect to settle substantially all of our September 30, 2022 backlog within the next twelve months.

The backlog turnover rate is impacted by various factors, including, but not limited to, changes in New Order activity, internal production capacity, external subcontractor capacity, building material supply chain disruptions and other external factors over which we do not exercise control.

Reportable Segments

Homebuilding segment profit includes all revenues and income generated from the sale of homes, less the cost of homes sold, SG&A expenses, and a corporate capital allocation charge determined by corporate management. The corporate capital allocation charge eliminates in consolidation and is based on the segment's average net assets employed. The corporate capital allocation charged to the operating segment allows the Chief Operating Decision Maker to determine whether the operating segment is providing the desired rate of return after covering our cost of capital.

We record charges on contract land deposits when we determine that it is probable that recovery of the deposit is impaired. For segment reporting purposes, impairments on contract land deposits are generally charged to the operating segment upon the termination of an LPA with the developer, or the restructuring of an LPA resulting in the forfeiture of the deposit. We evaluate our entire net contract land deposit portfolio for impairment each quarter. For presentation purposes below, the contract land deposit reserve at September 30, 2022 and December 31, 2021 has been allocated to the respective year's reportable segments to show contract land deposits on a net basis. The net contract land deposit balances below also include approximately $7,300 and $10,100 at September 30, 2022 and December 31, 2021, respectively, of letters of credit issued as deposits in lieu of cash.

The following tables summarize certain homebuilding operating activity by reportable segment for the three and nine months ended September 30, 2022 and 2021.

Selected Segment Financial Data:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Revenues:				
Mid Atlantic	$ 1,282,504	$ 1,082,710	$ 3,632,524	$ 3,067,267
North East	250,067	213,087	663,012	568,524
Mid East	569,991	503,232	1,552,434	1,406,364
South East	636,883	537,586	1,810,764	1,482,731

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Gross profit margin:				
Mid Atlantic	$ 346,395	$ 285,563	$ 988,595	$ 712,809
North East	67,092	48,904	167,958	113,940
Mid East	128,529	111,465	345,785	278,672
South East	191,612	135,577	537,947	338,166

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Gross profit margin percentage:				
Mid Atlantic	27.0 %	26.4 %	27.2 %	23.2 %
North East	26.8 %	23.0 %	25.3 %	20.0 %
Mid East	22.5 %	22.2 %	22.3 %	19.8 %
South East	30.1 %	25.2 %	29.7 %	22.8 %

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Segment profit:				
Mid Atlantic	$ 272,860	$ 222,504	$ 774,380	$ 526,052
North East	49,614	33,885	116,839	70,622
Mid East	92,364	81,021	246,059	189,849
South East	145,619	100,688	409,895	236,272

Operating Activity:

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2022		2021		2022		2021	
	Units	Average Price	Units	Average Price	Units	Average Price	Units	Average Price
New orders, net of cancellations:								
Mid Atlantic	1,813	$ 516.2	2,024	$ 523.7	5,980	$ 527.1	6,405	$ 519.8
North East	348	$ 510.5	403	$ 496.7	1,249	$ 512.7	1,237	$ 489.7
Mid East	955	$ 406.7	1,190	$ 376.8	3,603	$ 404.4	4,305	$ 365.4
South East	1,305	$ 385.0	1,584	$ 372.9	4,179	$ 410.2	5,089	$ 356.2
Total	4,421	$ 453.4	5,201	$ 442.0	15,011	$ 463.9	17,036	$ 429.8

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2022		2021		2022		2021	
	Units	Average Price	Units	Average Price	Units	Average Price	Units	Average Price
Settlements:								
Mid Atlantic	2,417	$ 530.6	2,177	$ 497.3	6,889	$ 527.3	6,411	$ 478.4
North East	487	$ 513.5	455	$ 468.3	1,307	$ 507.3	1,260	$ 451.2
Mid East	1,468	$ 388.3	1,430	$ 351.8	4,034	$ 384.8	4,097	$ 343.2
South East	1,577	$ 403.9	1,621	$ 331.6	4,753	$ 381.0	4,672	$ 317.3
Total	5,949	$ 460.5	5,683	$ 411.1	16,983	$ 450.9	16,440	$ 396.9

	As of September 30,			
	2022		2021	
	Units	Average Price	Units	Average Price
Backlog:				
Mid Atlantic	4,009	$ 536.2	4,473	$ 530.3
North East	911	$ 519.1	927	$ 499.0
Mid East	2,596	$ 407.8	3,082	$ 375.4
South East	3,242	$ 433.5	3,663	$ 377.0
Total	10,758	$ 472.8	12,145	$ 442.4

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
New order cancellation rate:				
Mid Atlantic	16.1 %	9.3 %	13.6 %	8.9 %
North East	19.1 %	7.6 %	12.0 %	8.4 %
Mid East	15.3 %	11.7 %	14.4 %	9.9 %
South East	12.0 %	7.6 %	11.0 %	8.7 %

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Average active communities:				
Mid Atlantic	164	151	157	154
North East	37	34	36	34
Mid East	126	125	126	130
South East	96	104	92	108
Total	423	414	411	426

Homebuilding Inventory:

	September 30, 2022	December 31, 2021
Sold inventory:		
Mid Atlantic	$ 838,952	$ 867,892
North East	176,912	154,053
Mid East	416,365	342,011
South East	518,242	439,892
Total (1)	$ 1,950,471	$ 1,803,848

	September 30, 2022	December 31, 2021
Unsold lots and housing units inventory:		
Mid Atlantic	$ 137,197	$ 87,412
North East	18,524	14,656
Mid East	13,915	12,892
South East	26,338	14,193
Total (1)	$ 195,974	$ 129,153

(1) The reconciling items between segment inventory and consolidated inventory include certain consolidation adjustments necessary to convert the reportable segments' results, which are predominantly maintained on a cash basis, to a full accrual basis for external financial statement presentation purposes. These consolidation adjustments are not allocated to our operating segments.

Lots Controlled and Land Deposits:

	September 30, 2022	December 31, 2021
Total lots controlled:		
Mid Atlantic	47,800	47,900
North East	11,700	11,900
Mid East	22,600	23,700
South East	49,300	41,400
Total	131,400	124,900

	September 30, 2022	December 31, 2021
Contract land deposits, net:		
Mid Atlantic	$ 229,918	$ 257,244
North East	57,858	51,257
Mid East	51,037	52,537
South East	190,025	146,246
Total	$ 528,838	$ 507,284

Mid Atlantic

Three Months Ended September 30, 2022 and 2021

The Mid Atlantic segment had an approximate $50,400, or 23%, increase in segment profit in the third quarter of 2022 compared to the third quarter of 2021. The increase in segment profit was driven by an increase in segment revenues of approximately $199,800, or 18%, coupled with an increase in gross profit margins. Segment revenues increased due to increases in settlements and the average settlement price of 11% and 7%, respectively. The increase in settlements was attributable to a higher backlog turnover rate quarter over quarter. The increase in the average settlement price was primarily attributable to a 5% higher average sales price of units in backlog entering the third quarter of 2022 compared to the same period of 2021. The Mid Atlantic segment's gross profit margin percentage increased to 27.0% in the third quarter of 2022 from 26.4% in the third quarter of 2021. Gross profit margins were favorably impacted primarily by the aforementioned 7% increase in the average settlement price, offset partially by higher material and labor costs quarter over quarter.

Segment New Orders and the average sales price of New Orders decreased 10% and 1%, respectively, in the third quarter of 2022 compared to the third quarter of 2021. As previously discussed in the "*Consolidated Homebuilding"* section above, New Orders were negatively impacted by the significant increase in mortgage interest rates.

Nine Months Ended September 30, 2022 and 2021

The Mid Atlantic segment had an approximate $248,300, or 47%, increase in segment profit in the first nine months of 2022 compared to the first nine months of 2021. The increase in segment profit was driven by an increase in segment revenues of approximately $565,300, or 18%, coupled with an increase in gross profit margins. Segment revenues increased due to increases in settlements and the average settlement price of 7% and 10%, respectively. The increases in settlements and the average settlement price were primarily attributable to a 10% higher backlog unit balance and a 14% higher average sales price of units in backlog entering 2022 compared to backlog entering 2021. The Mid Atlantic segment's gross profit margin percentage increased to 27.2% in the first nine months of 2022 from 23.2% in the first nine months of 2021. Gross profit margins were favorably impacted primarily by the aforementioned 10% increase in the average settlement price attributable to improved pricing power in prior quarters, offset partially by higher material and labor costs period over period.

Segment New Orders decreased 7% in the first nine months of 2022 compared to the first nine months of 2021, while the average sales price of New Orders increased 1% year over year. As previously discussed in the "*Consolidated Homebuilding"* section above, New Orders were negatively impacted by the significant increase in mortgage interest rates. The increase in the average sales price of New Orders was attributable to significant price appreciation resulting from strong demand in through the first quarter of 2022.

North East

Three Months Ended September 30, 2022 and 2021

The North East segment had an approximate $15,700, or 46%, increase in segment profit in the third quarter of 2022 compared to the third quarter of 2021, due primarily to an increase in segment revenues of approximately $37,000, or 17%, coupled with an increase in gross profit margins. Segment revenues increased due to increases in settlements and the average settlement price of 7% and 10%, respectively. The increase in settlements was attributable to a 7% higher backlog unit balance entering the third quarter of 2022 compared to backlog entering the third quarter of 2021. The increase in the average settlement price was primarily attributable to a 7% higher average sales price of units in backlog entering the third quarter of 2022 compared to backlog entering the third quarter of 2021, coupled with a shift in settlements to higher priced markets. The segment’s gross profit margin percentage increased to 26.8% in the third quarter of 2022 from 23.0% in the third quarter of 2021. Gross profit margins were favorably impacted by the aforementioned 10% increase in the average settlement price quarter over quarter, offset partially by higher material and labor costs quarter over quarter.

Segment New Orders decreased 14% in the third quarter of 2022 compared to the third quarter of 2021, while the average sales price of New Orders increased 3% quarter over quarter. As previously discussed in the "*Consolidated Homebuilding"* section above, New Orders were negatively impacted by the significant increase in mortgage interest rates.

Nine Months Ended September 30, 2022 and 2021

The North East segment had an approximate $46,200, or 65%, increase in segment profit in the first nine months of 2022 compared to the first nine months of 2021, due primarily to an increase in segment revenues of approximately $94,500, or 17%, coupled with an increase in gross profit margins. Segment revenues increased due to increases in settlements and the average settlement price of 4% and 12%, respectively. The increase in settlements was primarily attributable to a 2% higher backlog unit balance entering 2022 compared to backlog entering 2021, coupled with an 8% increase in New Orders in the segment during the first six months of 2022 compared to the same period in 2021. The increase in the average settlement price was primarily attributable to a 14% higher average sales price of units in backlog entering 2022 compared to backlog entering 2021. The segment’s gross profit margin percentage increased to 25.3% in the first nine months of 2022 from 20.0% in the first nine months of 2021. Gross profit margins were favorably impacted by the aforementioned 12% increase in the average settlement price, offset partially by higher material and labor costs period over period.

Segment New Orders and the average sales price of New Orders increased 1% and 5%, respectively, in the first nine months of 2022 compared to the first nine months of 2021. The increase in New Orders was primarily attributable to an 8% increase in the average number of active communities year over year, offset partially by lower absorption rates and an increase in the cancellation rate year over year. The increase in the average sales price of New Orders was primarily attributable to significant price appreciation resulting from strong demand through the first quarter of 2022.

Mid East

Three Months Ended September 30, 2022 and 2021

The Mid East segment had an approximate $11,300, or 14%, increase in segment profit in the third quarter of 2022 compared to the third quarter of 2021, due primarily to an increase in segment revenues of approximately $66,800, or 13%. Segment revenues increased due to increases in settlements and the average settlement price of 3% and 10%, respectively. The increase in the average settlement price was primarily attributable to a 9% higher average sales price of units in backlog entering the third quarter of 2022 compared to same period in 2021. The increase in settlements was attributable to a higher backlog turnover rate quarter over quarter. The segment's gross profit margin percentage increased to 22.5% in the third quarter of 2022 from 22.2% in the third quarter of 2021. Gross profit margins were favorably impacted primarily by the aforementioned 10% increase in the average settlement price, offset partially by higher material and labor costs quarter over quarter.

Segment New Orders decreased 20% in the third quarter of 2022 compared to the third quarter of 2021, while the average sales price of New Orders increased 8%. As previously discussed in the "*Consolidated Homebuilding"* section above, New Orders were negatively impacted by the significant increase in mortgage interest rates. The increase in the average sales price of New Orders was primarily attributable to significant price appreciation resulting from strong demand through the first quarter of 2022.

Nine Months Ended September 30, 2022 and 2021

The Mid East segment had an approximate $56,200, or 30%, increase in segment profit in the first nine months of 2022 compared to the first nine months of 2021, due primarily to an increase in segment revenues of approximately $146,100, or 10%, coupled with an increase in gross profit margins. Segment revenues increased due to a 12% increase in the average settlement price, offset partially by a 2% decrease in settlements year over year. The increase in the average settlement price was primarily attributable to an 11% higher average sales price of units in backlog entering 2022 compared to backlog entering 2021. The decrease in settlements was primarily attributable to a lower backlog turnover rate year over year. The segment's gross profit margin percentage increased to 22.3% in the first nine months of 2022 from 19.8% in the first nine months of 2021. Gross profit margins were favorably impacted primarily by the aforementioned 12% increase in the average settlement price, offset partially by higher material and labor costs period over period.

Segment New Orders decreased 16% in the first nine months of 2022 compared to the first nine months of 2021, while the average sales price of New Orders increased 11%. As previously discussed in the "*Consolidated Homebuilding"* section above, New Orders were negatively impacted by the significant increase in mortgage interest rates. In addition, New Orders were also negatively impacted by a 4% decrease in the average number of active communities year over year. The increase in the average sales price of New Orders was primarily attributable to significant price appreciation resulting from strong demand through the first quarter of 2022.

South East

Three Months Ended September 30, 2022 and 2021

The South East segment had an approximate $44,900, or 45%, increase in segment profit in the third quarter of 2022 compared to the third quarter of 2021. The increase in segment profit was primarily driven by an increase in segment revenues of approximately $99,300, or 18%, coupled with an increase in gross profit margins. The increase in revenues was attributable to a 22% increase in the average settlement price, offset partially by a 3% decrease in settlements quarter over quarter. The increase in the average settlement price was primarily attributable to a 22% higher average sales price of units in backlog entering the third quarter of 2022 compared to backlog entering the third quarter of 2021. The decrease in settlements was attributable to a 5% lower backlog unit balance entering the third quarter of 2022 compared to the backlog unit balance entering the third quarter of 2021. The segment's gross profit margin percentage increased to 30.1% in the third quarter of 2022 from 25.2% in the third quarter of 2021. Gross profit margins were favorably impacted primarily by the aforementioned 22% increase in the average settlement price, offset partially by higher material and labor costs quarter over quarter.

Segment New Orders decreased 18% in the third quarter of 2022 compared to the third quarter of 2021, while the average sales price of New Orders increased 3% quarter over quarter. As previously discussed in the "*Consolidated Homebuilding"* section above, New Orders were negatively impacted by the significant increase in mortgage interest rates. In addition, New Orders were also negatively impacted by an 8% decrease in the average number of active communities quarter over quarter. The increase in the average sales price of New Orders was primarily attributable to significant price appreciation resulting from strong demand through the first quarter of 2022.

Nine Months Ended September 30, 2022 and 2021

The South East segment had an approximate $173,600, or 73%, increase in segment profit in the first nine months of 2022 compared to the first nine months of 2021. The increase in segment profit was driven by an increase in segment revenues of approximately $328,000, or 22%, coupled with an increase in gross profit margins. Segment revenues increased due to increases in settlements and the average settlement price of 2% and 20%, respectively, year over year. The increase in settlements was attributable to an 18% higher backlog unit balance entering 2022 compared to the backlog unit balance entering 2021, offset partially by a lower backlog turnover rate year over year due in part to the impact of supply chain issues on our construction cycle times. The increase in the average settlement price was primarily attributable to a 22% higher average sales price of units in backlog entering 2022 compared to backlog entering 2021. The segment's gross profit margin percentage increased to 29.7% in the first nine months of 2022 from 22.8% in the first nine months of 2021. Gross profit margins were favorably impacted by the aforementioned 20% increase in the average settlement price, offset partially by higher material and labor costs period over period.

Segment New Orders decreased 18% in the first nine months of 2022 compared to the first nine months of 2021, while the average sales price of New Orders increased 15% year over year. The decrease in New Orders was primarily attributable to a 15% decrease in the average number of active communities, coupled with the previously discussed impact of the significant increase in mortgage interest rates. The increase in the average sales price of New Orders was primarily attributable to significant price appreciation resulting from strong demand through the first quarter of 2022.

Homebuilding Segment Reconciliations to Consolidated Homebuilding Operations

In addition to the corporate capital allocation and contract land deposit impairments discussed above, the other reconciling items between homebuilding segment profit and homebuilding consolidated income before tax include unallocated corporate overhead (which includes all management incentive compensation), equity-based compensation expense, consolidation adjustments and external corporate interest expense. Our overhead functions, such as accounting, treasury and human resources, are centrally performed and the costs are not allocated to our operating segments. Consolidation adjustments consist of such items to convert the reportable segments' results, which are predominantly maintained on a cash basis, to a full accrual basis for external financial statement presentation purposes, and are not allocated to our operating segments. External corporate interest expense primarily consists of interest charges on our Senior Notes, and is not charged to the operating segments because the charges are included in the corporate capital allocation discussed above.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Homebuilding consolidated gross profit:				
Mid Atlantic	$ 346,395	$ 285,563	$ 988,595	$ 712,809
North East	67,092	48,904	167,958	113,940
Mid East	128,529	111,465	345,785	278,672
South East	191,612	135,577	537,947	338,166
Consolidation adjustments and other	(86,640)	(62,833)	(50,100)	(35,766)
Homebuilding consolidated gross profit	$ 646,988	$ 518,676	$ 1,990,185	$ 1,407,821

	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Homebuilding consolidated income before taxes:				
Mid Atlantic	$ 272,860	$ 222,504	$ 774,380	$ 526,052
North East	49,614	33,885	116,839	70,622
Mid East	92,364	81,021	246,059	189,849
South East	145,619	100,688	409,895	236,272
Reconciling items:				
Contract land deposit reserve adjustment (1)	(8,736)	4,126	(2,391)	17,500
Equity-based compensation expense (2)	(25,279)	(13,779)	(56,251)	(39,484)
Corporate capital allocation (3)	81,020	64,055	228,276	188,638
Unallocated corporate overhead	(22,565)	(27,801)	(100,109)	(101,605)
Consolidation adjustments and other (4)	(57,165)	(56,786)	(2,561)	(22,456)
Corporate interest expense	(6,803)	(12,805)	(31,374)	(38,598)
Reconciling items sub-total	(39,528)	(42,990)	35,590	3,995
Homebuilding consolidated income before taxes	$ 520,929	$ 395,108	$ 1,582,763	$ 1,026,790

(1) This item represents changes to the contract land deposit impairment reserve, which are not allocated to the reportable segments. See further discussion of lot deposit impairment charges in Note 2 in the accompanying condensed consolidated financial statements.

(2) The increase in equity-based compensation expense for the three and nine-month periods ended September 30, 2022 was primarily attributable to a four-year block grant of Options and RSUs in May 2022. See additional discussion of equity-based compensation in Note 7 in the accompanying condensed consolidated financial statements.

(3) This item represents the elimination of the corporate capital allocation charge included in the respective homebuilding reportable segments. The corporate capital allocation charge is based on the segment's monthly average asset balance, and is as follows for the periods presented:

	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Corporate capital allocation charge:				
Mid Atlantic	$ 37,305	$ 31,057	$ 108,514	$ 92,788
North East	7,994	6,719	23,238	19,214
Mid East	14,509	11,114	38,801	32,804
South East	21,212	15,165	57,723	43,832
Total	$ 81,020	$ 64,055	$ 228,276	$ 188,638

(4) The consolidation adjustments and other for the three and nine month periods of 2022 and 2021 is primarily driven by changes in lumber prices in the respective periods. Our reportable segments' results include the intercompany profits of our production facilities for home packages delivered to our homebuilding divisions. Costs related to homes not yet settled are reversed through the consolidation adjustment and recorded in inventory. These costs are subsequently recorded through the consolidation adjustment when the respective homes are settled. Due to higher lumber prices in the first half of both 2022 and 2021, the previously reversed intercompany profits were recognized in the third quarter of the respective years through the consolidation adjustment as homes were settled, which negatively impacted margins in the respective periods.

Mortgage Banking Segment

Three and Nine Months Ended September 30, 2022 and 2021

We conduct our mortgage banking activity through NVR Mortgage Finance, Inc. ("NVRM"), a wholly owned subsidiary. NVRM focuses exclusively on serving the homebuilding segment customer base. NVRM sells all of the mortgage loans it closes to investors in the secondary markets on a servicing-released basis, typically within 30 days from the loan closing. The following table summarizes the results of our mortgage banking operations and certain statistical data for the three and nine months ended September 30, 2022 and 2021:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Loan closing volume:				
Total principal	$ 1,656,186	$ 1,615,880	$ 4,788,751	$ 4,593,854
Loan volume mix:				
Adjustable rate mortgages	8 %	4 %	8 %	3 %
Fixed-rate mortgages	92 %	96 %	92 %	97 %
Operating profit:				
Segment profit	$ 18,993	$ 40,249	$ 97,899	$ 140,183
Equity-based compensation expense	(1,407)	(1,230)	(2,190)	(3,375)
Mortgage banking income before tax	$ 17,586	$ 39,019	$ 95,709	$ 136,808
Capture rate:	81 %	88 %	84 %	89 %
Mortgage banking fees:				
Net gain on sale of loans	$ 25,222	$ 47,577	$ 120,035	$ 162,729
Title services	12,154	11,246	35,327	32,478
Servicing fees	79	202	156	591
	$ 37,455	$ 59,025	$ 155,518	$ 195,798

Loan closing volume for the three and nine months ended September 30, 2022 increased by approximately $40,300, or 2%, and $194,900, or 4%, respectively, from the same periods in 2021. The increase in loan closing volume during both the three and nine months ended September 30, 2022 was primarily attributable to the 12% and 14% increases, respectively, in the homebuilding segment's average home settlement price in each period compared to the same periods in 2021. These increases were partially offset by a 5% decrease in number of loans closed in both periods, which was primarily attributable to the decreases in the capture rate in the three and nine month periods ended September 30, 2022, respectively, compared to the same periods in 2021.

Segment profit for the three and nine months ended September 30, 2022 decreased by approximately $21,300, or 53%, and $42,300, or 30%, respectively, from the same periods in 2021. These decreases were primarily attributable to decreases of approximately $21,600, or 37%, and $40,300, or 21%, respectively, in mortgage banking fees, primarily due to decreases in gains on sales of loans due to a more competitive mortgage environment.

Seasonality

We generally have higher New Order activity in the first half of the year and higher home settlements, revenue and net income in the second half of the year. However, our typical seasonal New Order and settlement trends have been affected since 2020 by the pandemic and supply chain disruptions.

Effective Tax Rate

Our effective tax rate for the three and nine months ended September 30, 2022 was 23.6% and 24.3%, respectively, compared to 23.5% and 22.5% for the three and nine months ended September 30, 2021, respectively. The increase in the effective tax rate in the nine month period of 2022 compared to the same period in 2021 was primarily attributable to a lower income tax benefit recognized for excess tax benefits from stock option exercises totaling $27,748 and $37,834 for the nine months ended September 30, 2022 and 2021, respectively.

We expect to experience volatility in our effective tax rate in future quarters as the amount of the excess tax benefit from equity-based awards is dependent on our stock price when awards are exercised as well as on the timing of exercises, which historically has varied from quarter to quarter.

Liquidity and Capital Resources

We fund our operations primarily from our current cash holdings and cash flows generated by operating activities. In addition, we have available a short-term unsecured working capital revolving credit facility and revolving mortgage repurchase facility, as further described below. As of September 30, 2022, we had approximately $1,800,000 in cash and cash equivalents, approximately $286,600 in unused committed capacity under our revolving credit facility and $150,000 in unused committed capacity under our revolving mortgage repurchase facility.

Material Cash Requirements

We believe that our current cash holdings, cash generated from operations, and cash available under our short-term unsecured credit agreement and revolving mortgage repurchase facility, as well as the public debt and equity markets, will be sufficient to satisfy both our short term and long term cash requirements for working capital to support our daily operations and meet commitments under our contractual obligations with third parties. Our material contractual obligations primarily consist of the following:

(i) Payments due to service our debt and interest on that debt. In June 2022, we used cash holdings to redeem $600,000 in outstanding 3.95% Senior Notes that were set to mature in September 2022. The Senior Notes were redeemed at par, plus accrued interest. Future interest payments on our remaining outstanding senior notes total approximately $212,550, with approximately $27,000 due within the next twelve months.

(ii) Payment obligations totaling approximately $337,000 under existing LPAs for deposits to be paid to land developers, assuming that contractual development milestones are met by the developers and we exercise our option to acquire finished lots under those LPAs. We expect to make the majority of these payments within the next three years.

(iii) Obligations under operating and finance leases related primarily to office space and our production facilities. See Note 14 of this Quarterly Report on Form 10-Q for additional discussion of our leases.

In addition to funding growth in our homebuilding and mortgage banking operations, we historically have used a substantial portion of our excess liquidity to repurchase outstanding shares of our common stock in open market and privately negotiated transactions. This ongoing repurchase program assists us in accomplishing our primary objective, creating increases in shareholder value. See Part II, Item 2, Unregistered Sales of Equity Securities and Use of Proceeds, of this Quarterly Report on Form 10-Q for further discussion of repurchase activity during the third quarter of 2022. For the nine months ended September 30, 2022, we repurchased 295,148 shares of our common stock at an aggregate purchase price of $1,384,193. As of September 30, 2022, we had approximately $623,850 available under Board approved repurchase authorizations.

Capital Resources

Senior Notes

During the second quarter of 2022, we redeemed the outstanding $600,000 principal amount of 3.95% Senior Notes due September 15, 2022, at par, plus accrued interest.

As of September 30, 2022, we had a total of $900,000 in outstanding Senior Notes which mature in May 2030. The Senior Notes are senior unsecured obligations and rank equally in right of payment with any of our existing and future unsecured senior indebtedness, will rank senior in right of payment to any of our future indebtedness that is by its terms expressly subordinated to the Senior Notes and will be effectively subordinated to any of our existing and future secured indebtedness to the extent of the value of the collateral securing such indebtedness. The indenture governing the Senior Notes does not contain any financial covenants; however, it does contain, among other items, and subject to certain exceptions, covenants that restrict our ability to create, incur, assume or guarantee secured debt, enter into sale and leaseback transactions and conditions related to mergers and/or the sale of assets. We were in compliance with all covenants under the Senior Notes at September 30, 2022.

Credit Agreement

We have an unsecured revolving credit agreement (the "Credit Agreement") with a group of lenders which may be used for working capital and general corporate purposes. The Credit Agreement provides for aggregate revolving loan commitments of $300,000 (the "Facility"). Under the Credit Agreement, we may request increases of up to $300,000 to the Facility in the form of revolving loan commitments or term loans to the extent that new or existing lenders agree to provide additional revolving loan or term loan commitments. In addition, the Credit Agreement provides for a $100,000 sublimit for the issuance of letters of credit of which there was approximately $13,400 outstanding at September 30, 2022. The Credit Agreement termination date is February 12, 2026. There was no debt outstanding under the Facility at September 30, 2022.

Repurchase Agreement

In July 2022, NVRM entered into The Second Amended and Restated Master Repurchase Agreement with U.S. Bank National Association, as Agent and a Buyer (the "Amended MRA"), which replaced our prior repurchase agreement in its entirety. The Amended MRA provides for loan purchases up to $150,000, subject to certain sub-limits. Advances under the Amended MRA bear interest at the secured overnight financing rate published by the Board of Governors of the Federal Reserve System ("SOFR") plus the SOFR Margin of 1.70%, per annum. All other terms and conditions of the Amended MRA are materially consistent with the prior repurchase agreement. The Amended MRA expires on July 19, 2023. At September 30, 2022, there were no borrowing base limitations reducing the amount available under the Amended MRA. There was no debt outstanding under the Amended MRA at September 30, 2022.

For additional information regarding the Credit Agreement and Senior Notes, see Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2021.

Cash Flows

For the nine months ended September 30, 2022, cash, restricted cash, and cash equivalents decreased by $815,629. Net cash provided by operating activities was $1,052,906. Cash was provided by earnings for the nine months ended September 30, 2022 and net proceeds of $129,479 from mortgage loan activity. Cash was primarily used to fund the increase in inventory of $223,083, attributable to an increase in units under construction at September 30, 2022 compared to December 31, 2021.

Net cash used in investing activities for the nine months ended September 30, 2022 was $20,641. Cash was used primarily for purchases of property, plant and equipment of $11,972 and investments in unconsolidated joint ventures totaling $9,222.

Net cash used in financing activities was $1,847,894 for the nine months ended September 30, 2022. Cash was used to repurchase 295,148 shares of our common stock at an aggregate purchase price of $1,384,193 under our ongoing common stock repurchase program, discussed above. In addition, cash was used to redeem the outstanding $600,000 principal amount of 3.95% Senior Notes due September 15, 2022. Cash was provided from stock option exercise proceeds totaling $137,406.

Critical Accounting Policies and Estimates

There have been no material changes to our critical accounting policies and estimates as previously disclosed in Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2021.

Item 3. Quantitative and Qualitative Disclosure about Market Risk

There have been no material changes in our market risks during the nine months ended September 30, 2022. For additional information regarding our market risks, see Part II, Item 7A of our Annual Report on Form 10-K for the year ended December 31, 2021.

Item 4. Controls and Procedures

As of the end of the period covered by this report, an evaluation was performed under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Exchange Act Rule 13a-15. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that the design and operation of these disclosure controls and procedures were effective. There have been no changes in our internal control over financial reporting in the last fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

We are involved in various litigation arising in the ordinary course of business. In the opinion of management, and based on advice of legal counsel, this litigation is not expected to have a material adverse effect on our financial position, results of operations or cash flows. Legal costs incurred in connection with outstanding litigation are expensed as incurred.

Item 1A. Risk Factors

There have been no material changes to the risk factors as previously disclosed in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2021.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

We had two share repurchase authorizations outstanding during the quarter ended September 30, 2022. On May 4, 2022 and August 3, 2022, we publicly announced that our Board of Directors authorized the repurchase of our outstanding common stock in one or more open market and/or privately negotiated transactions, up to an aggregate of $500 million per authorization. The repurchase authorizations do not have expiration dates. We repurchased the following shares of our common stock during the third quarter of 2022:

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in thousands)
July 1 - 31, 2022	9,430	$ 4,330.10	9,430	$ 451,507
August 1 - 31, 2022	29,460	$ 4,302.45	29,460	$ 824,757
September 1 - 30, 2022	49,126	$ 4,089.62	49,126	$ 623,850
Total	88,016	$ 4,186.62	88,016	

Item 6. Exhibits

Exhibit Number	Exhibit Description
31.1	Certification of NVR's Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.
31.2	Certification of NVR's Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.
32	Certification of NVR's Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. Furnished herewith.
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

NVR, Inc.

Date: November 4, 2022	By:	/s/ Daniel D. Malzahn
		Daniel D. Malzahn
		Senior Vice President, Chief Financial Officer and Treasurer

Exhibit 31.1

SARBANES-OXLEY ACT SECTION 302 CERTIFICATIONS

I, Eugene J. Bredow, certify that:

1. I have reviewed this report on Form 10-Q of NVR, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 4, 2022

By: /s/ Eugene J. Bredow
Eugene J. Bredow
President and Chief Executive Officer

Exhibit 31.2

SARBANES-OXLEY ACT SECTION 302 CERTIFICATIONS

I, Daniel D. Malzahn, certify that:

1. I have reviewed this report on Form 10-Q of NVR, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 4, 2022

By: /s/ Daniel D. Malzahn
Daniel D. Malzahn
Senior Vice President, Chief Financial Officer and Treasurer

Exhibit 32

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of NVR, Inc. for the period ended September 30, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), each of the undersigned officers of NVR, Inc., hereby certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of NVR, Inc.

Date: November 4, 2022

By: /s/ Eugene J. Bredow
Eugene J. Bredow
President and Chief Executive Officer

By: /s/ Daniel D. Malzahn
Daniel D. Malzahn
Senior Vice President, Chief Financial Officer and Treasurer