UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

Form 10-Q

☑ **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 001-34960

GENERAL MOTORS COMPANY

(Exact name of registrant as specified in its charter)

Delaware	**27-0756180**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
300 Renaissance Center, Detroit, Michigan	**48265 -3000**
(Address of principal executive offices)	*(Zip Code)*

(313) 667-1500
(Registrant's telephone number, including area code)

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, $0.01 par value	GM	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, a 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 October 12, 2022 there were 1,420,696,787 shares of common stock outstanding.

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PART I

Item 1. Condensed Consolidated Financial Statements

CONDENSED CONSOLIDATED INCOME STATEMENTS
(In millions, except per share amounts) (Unaudited)

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Net sales and revenue				
Automotive	$ 38,703	$ 23,426	$ 104,141	$ 83,237
GM Financial	3,185	3,353	9,486	10,183
Total net sales and revenue (Note 3)	41,889	26,779	113,627	93,420
Costs and expenses				
Automotive and other cost of sales	33,700	20,672	92,314	73,053
GM Financial interest, operating and other expenses	2,320	2,314	6,335	6,487
Automotive and other selling, general and administrative expense	2,477	2,148	7,274	6,076
Total costs and expenses	38,497	25,134	105,922	85,616
Operating income (loss)	3,392	1,645	7,704	7,804
Automotive interest expense	259	230	719	723
Interest income and other non-operating income, net	598	800	1,410	2,383
Equity income (loss) (Note 8)	367	323	615	1,015
Income (loss) before income taxes	4,097	2,538	9,009	10,479
Income tax expense (benefit) (Note 15)	845	152	1,308	2,300
Net income (loss)	3,252	2,386	7,701	8,179
Net loss (income) attributable to noncontrolling interests	53	34	234	99
Net income (loss) attributable to stockholders	$ 3,305	$ 2,420	$ 7,935	$ 8,278
Net income (loss) attributable to common stockholders	$ 3,278	$ 2,375	$ 6,931	$ 8,141
Earnings per share (Note 17)				
Basic earnings per common share	$ 2.26	$ 1.64	$ 4.76	$ 5.61
Weighted-average common shares outstanding – basic	1,448	1,452	1,455	1,450
Diluted earnings per common share	$ 2.25	$ 1.62	$ 4.73	$ 5.55
Weighted-average common shares outstanding – diluted	1,457	1,467	1,464	1,467
Dividends declared per common share	$ 0.09	$ —	$ 0.09	$ —

CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions) (Unaudited)

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Net income (loss)	$ 3,252	$ 2,386	$ 7,701	$ 8,179
Other comprehensive income (loss), net of tax (Note 16)				
Foreign currency translation adjustments and other	(736)	(210)	(746)	87
Defined benefit plans	282	197	660	385
Other comprehensive income (loss), net of tax	(454)	(13)	(86)	472
Comprehensive income (loss)	2,798	2,373	7,616	8,651
Comprehensive income (loss) attributable to noncontrolling interests	70	40	276	112
Comprehensive income (loss) attributable to stockholders	$ 2,868	$ 2,413	$ 7,891	$ 8,763

Reference should be made to the notes to condensed consolidated financial statements.
Amounts may not add due to rounding.

GENERAL MOTORS COMPANY AND SUBSIDIARIES

CONDENSED CONSOLIDATED BALANCE SHEETS
(In millions, except per share amounts) (Unaudited)

	September 30, 2022	December 31, 2021
ASSETS		
Current Assets		
Cash and cash equivalents	$ 20,745	$ 20,067
Marketable debt securities (Note 4)	9,566	8,609
Accounts and notes receivable, net of allowance of $219 and $192	14,021	7,394
GM Financial receivables, net of allowance of $824 and $703 (Note 5; Note 9 at VIEs)	31,049	26,649
Inventories (Note 6)	16,367	12,988
Other current assets (Note 4; Note 9 at VIEs)	6,524	6,396
Total current assets	98,271	82,103
Non-current Assets		
GM Financial receivables, net of allowance of $1,263 and $1,183 (Note 5; Note 9 at VIEs)	39,551	36,167
Equity in net assets of nonconsolidated affiliates (Note 8)	9,910	9,677
Property, net	42,795	41,115
Goodwill and intangible assets, net	4,968	5,087
Equipment on operating leases, net (Note 7; Note 9 at VIEs)	33,778	37,929
Deferred income taxes	20,572	21,152
Other assets (Note 4; Note 9 at VIEs)	10,684	11,488
Total non-current assets	162,259	162,615
Total Assets	$ 260,529	$ 244,718
LIABILITIES AND EQUITY		
Current Liabilities		
Accounts payable (principally trade)	$ 26,886	$ 20,391
Short-term debt and current portion of long-term debt (Note 10)		
Automotive	450	463
GM Financial (Note 9 at VIEs)	34,634	33,257
Accrued liabilities	24,034	20,297
Total current liabilities	86,003	74,408
Non-current Liabilities		
Long-term debt (Note 10)		
Automotive	18,333	16,355
GM Financial (Note 9 at VIEs)	59,190	59,304
Postretirement benefits other than pensions (Note 13)	5,512	5,743
Pensions (Note 13)	6,928	8,008
Other liabilities	14,795	15,085
Total non-current liabilities	104,759	104,495
Total Liabilities	190,762	178,903
Commitments and contingencies (Note 14)		
Noncontrolling interest - Cruise stock incentive awards (Note 18)	228	—
Equity (Note 16)		
Common stock, $0.01 par value	14	15
Additional paid-in capital	26,657	27,061
Retained earnings	47,910	41,937
Accumulated other comprehensive loss	(9,313)	(9,269)
Total stockholders' equity	65,268	59,744
Noncontrolling interests	4,271	6,071
Total Equity	69,540	65,815
Total Liabilities and Equity	$ 260,529	$ 244,718

Reference should be made to the notes to condensed consolidated financial statements.

Amounts may not add due to rounding.

GENERAL MOTORS COMPANY AND SUBSIDIARIES

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions) (Unaudited)

	Nine Months Ended	
	September 30, 2022	September 30, 2021
Cash flows from operating activities		
Net income (loss)	$ 7,701	$ 8,179
Depreciation and impairment of Equipment on operating leases, net	3,628	4,757
Depreciation, amortization and impairment charges on Property, net	4,892	4,357
Foreign currency remeasurement and transaction (gains) losses	26	(59)
Undistributed earnings of nonconsolidated affiliates, net	(124)	(306)
Pension contributions and OPEB payments	(586)	(624)
Pension and OPEB income, net	(901)	(1,205)
Provision (benefit) for deferred taxes	504	1,963
Change in other operating assets and liabilities	(4,722)	(8,683)
Net cash provided by (used in) operating activities	10,419	8,379
Cash flows from investing activities		
Expenditures for property	(5,933)	(4,310)
Available-for-sale marketable securities, acquisitions	(7,450)	(5,784)
Available-for-sale marketable securities, liquidations	6,145	8,236
Purchases of finance receivables, net	(26,444)	(25,518)
Principal collections and recoveries on finance receivables	20,522	18,297
Purchases of leased vehicles, net	(9,062)	(16,698)
Proceeds from termination of leased vehicles	11,052	15,513
Other investing activities	198	(675)
Net cash provided by (used in) investing activities	(10,971)	(10,939)
Cash flows from financing activities		
Net increase (decrease) in short-term debt	1,208	3,203
Proceeds from issuance of debt (original maturities greater than three months)	36,053	34,843
Payments on debt (original maturities greater than three months)	(31,649)	(38,266)
Payments to purchase common stock	(1,500)	—
Issuance (redemption) of subsidiary stock (Note 16)	(2,121)	1,736
Dividends paid	(270)	(170)
Other financing activities	(1,022)	(134)
Net cash provided by (used in) financing activities	699	1,212
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(190)	(118)
Net increase (decrease) in cash, cash equivalents and restricted cash	(43)	(1,466)
Cash, cash equivalents and restricted cash at beginning of period	23,542	23,117
Cash, cash equivalents and restricted cash at end of period	$ 23,499	$ 21,651
Significant Non-cash Investing and Financing Activity		
Non-cash property additions	$ 5,011	$ 4,311

Reference should be made to the notes to condensed consolidated financial statements.
Amounts may not add due to rounding.

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CONDENSED CONSOLIDATED STATEMENTS OF EQUITY
(In millions) (Unaudited)

	Common Stockholders'						
	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interests	Total Equity (Permanent Equity)	Noncontrolling Interest Cruise Stock Incentive Awards (Temporary Equity)
Balance at January 1, 2021	$ 14	$ 26,542	$ 31,962	$ (13,488)	$ 4,647	$ 49,677	$ —
Net income (loss)	—	—	3,022	—	(8)	3,014	—
Other comprehensive income (loss)	—	—	—	162	(7)	155	—
Issuance (redemption) of subsidiary stock (Note 16)	—	—	—	—	1,537	1,537	—
Stock based compensation	—	132	—	—	—	132	—
Dividends to noncontrolling interests	—	—	—	—	(61)	(61)	—
Other	—	(7)	4	—	(8)	(11)	—
Balance at March 31, 2021	14	26,667	34,988	(13,326)	6,100	54,443	—
Net income (loss)	—	—	2,836	—	(57)	2,779	—
Other comprehensive income (loss)	—	—	—	330	—	330	—
Issuance (redemption) of subsidiary stock (Note 16)	—	—	—	—	199	199	—
Stock based compensation	—	177	(4)	—	—	173	—
Dividends to noncontrolling interests	—	—	—	—	(64)	(64)	—
Other	1	—	(14)	—	29	16	—
Balance at June 30, 2021	15	26,844	37,806	(12,996)	6,207	57,876	—
Net income (loss)	—	—	2,420	—	(34)	2,386	—
Other comprehensive income (loss)	—	—	—	(7)	(6)	(13)	—
Stock based compensation	—	82	1	—	—	83	—
Dividends to noncontrolling interests	—	—	—	—	(1)	(1)	—
Other	—	—	(15)	—	5	(10)	—
Balance at September 30, 2021	$ 15	$ 26,926	$ 40,212	$ (13,003)	$ 6,171	$ 60,321	$ —
Balance at January 1, 2022	$ 15	$ 27,061	$ 41,937	$ (9,269)	$ 6,071	$ 65,815	$ —
Net income (loss)	—	—	2,939	—	(131)	2,807	—
Other comprehensive income (loss)	—	—	—	456	(13)	442	—
Issuance (redemption) of subsidiary stock (Note 16)	—	—	(909)	—	(1,215)	(2,124)	—
Stock based compensation	—	(31)	(1)	—	—	(32)	289
Dividends to noncontrolling interests	—	—	(12)	—	(1)	(14)	—
Other	—	(15)	(74)	—	(31)	(120)	—
Balance at March 31, 2022	15	27,015	43,879	(8,814)	4,679	66,774	289
Net income (loss)	—	—	1,692	—	(50)	1,642	—
Other comprehensive income (loss)	—	—	—	(62)	(12)	(74)	—
Issuance (redemption) of subsidiary stock	—	—	—	—	(3)	(3)	—
Stock based compensation	—	93	—	—	—	93	—
Dividends to noncontrolling interests	—	—	—	—	(50)	(50)	—
Other	—	153	(17)	—	(258)	(122)	(174)
Balance at June 30, 2022	15	27,261	45,554	(8,876)	4,306	68,260	115
Net income (loss)	—	—	3,305	—	(53)	3,252	—
Other comprehensive income (loss)	—	—	—	(437)	(17)	(454)	—
Issuance (redemption) of subsidiary stock	—	—	—	—	6	6	—
Purchase of common stock	—	(682)	(817)	—	—	(1,500)	—
Stock based compensation	—	94	(2)	—	—	92	5
Cash dividends paid on common stock	—	—	(130)	—	—	(130)	—
Other	—	(15)	—	—	29	14	109
Balance at September 30, 2022	$ 14	$ 26,657	$ 47,910	$ (9,313)	$ 4,271	$ 69,540	$ 228

Reference should be made to the notes to condensed consolidated financial statements.
Amounts may not add due to rounding.

GENERAL MOTORS COMPANY AND SUBSIDIARIES

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Nature of Operations and Basis of Presentation

General Motors Company (sometimes referred to in this Quarterly Report on Form 10-Q as we, our, us, ourselves, the Company, General Motors or GM) designs, builds and sells trucks, crossovers, cars and automobile parts and provides software-enabled services and subscriptions worldwide. Additionally, we are investing in and growing an autonomous vehicle (AV) business. We also provide automotive financing services through General Motors Financial Company, Inc. (GM Financial). We analyze the results of our operations through the following segments: GM North America (GMNA), GM International (GMI), Cruise, and GM Financial. Cruise is our global segment responsible for the development and commercialization of AV technology. Nonsegment operations are classified as Corporate. Corporate includes certain centrally recorded income and costs such as interest, income taxes, corporate expenditures and certain nonsegment-specific revenues and expenses.

The condensed consolidated financial statements are prepared in conformity with U.S. GAAP pursuant to the rules and regulations of the Securities and Exchange Commission (SEC) for interim financial information. Accordingly, they do not include all of the information and notes required by U.S. GAAP for complete financial statements. The condensed consolidated financial statements include all adjustments, which consist of normal recurring adjustments and transactions or events discretely impacting the interim periods, considered necessary by management to fairly state our results of operations, financial position and cash flows. The operating results for interim periods are not necessarily indicative of results that may be expected for any other interim period or for the full year. These condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in our 2021 Form 10-K. Except for per share amounts or as otherwise specified, amounts presented within tables are stated in millions. Certain columns and rows may not add due to rounding.

Principles of Consolidation We consolidate entities that we control due to ownership of a majority voting interest and we consolidate variable interest entities (VIEs) when we are the primary beneficiary. All intercompany balances and transactions are eliminated in consolidation. Our share of earnings or losses of nonconsolidated affiliates is included in our consolidated operating results using the equity method of accounting when we are able to exercise significant influence over the operating and financial decisions of the affiliate.

GM Financial The amounts presented for GM Financial are adjusted to reflect the impact on GM Financial's deferred tax positions and provision for income taxes resulting from the inclusion of GM Financial in our consolidated tax return and to eliminate the effect of transactions between GM Financial and the other members of the consolidated group. Accordingly, the amounts presented will differ from those presented by GM Financial on a stand-alone basis.

Note 2. Significant Accounting Policies

The information presented on Stock Incentive Plans updates our Significant Accounting Policies information presented in our 2021 Form 10-K to reflect the effect of modifications made to Cruise stock incentive awards during the three months ended March 31, 2022. Refer to Note 18 to our condensed consolidated financial statements for additional information on the modifications made.

Stock Incentive Plans Our stock incentive plans include Restricted Stock Units (RSUs), Restricted Stock Awards (RSAs), Performance Stock Units (PSUs), stock options and awards that may be settled in our stock, the stock of our subsidiaries or in cash. We measure and record compensation expense based on the fair value of GM or Cruise's common stock on the date of grant for RSUs, RSAs and PSUs and the grant date fair value, determined utilizing a lattice model or the Black-Scholes formula for stock options and PSUs. We record compensation cost for service-based RSUs, RSAs, PSUs and service-based stock options on a straight-line basis over the entire vesting period, or for retirement eligible employees over the requisite service period. In March 2022, all outstanding RSUs that settle in Cruise's common stock were modified to remove the liquidity vesting condition. Prospectively, RSUs that will settle in Cruise's common stock will vest solely upon satisfaction of a service condition. Compensation cost for awards that do not have an established accounting grant date, but for which the service inception date has been established, or are settled in cash is based generally on the fair value of GM or Cruise's common stock at the end of each reporting period. Compensation cost is also recorded on stock issued to settle awards based on the fair value of Cruise's common stock until such time that the stock has been issued for more than six months. We use the graded vesting method to record compensation cost for stock options with market conditions over the lesser of the vesting period or the time period an employee becomes eligible to retain the award at retirement.

Accounting Standards Not Yet Adopted In March 2022, the Financial Accounting Standards Board issued Accounting Standards Update (ASU) 2022-02 "Financial Instruments - Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures" (ASU 2022-02), which eliminates the accounting guidance for troubled debt restructurings (TDRs) by creditors that have adopted ASU 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments" and enhances certain disclosure requirements. The adoption of ASU 2022-02 is expected to be insignificant.

Note 3. Revenue

The following table disaggregates our revenue by major source:

	Three Months Ended September 30, 2022							
	GMNA	GMI	Corporate	Total Automotive	Cruise	GM Financial	Eliminations/Reclassifications	Total
Vehicle, parts and accessories	$ 33,749	$ 3,613	$ 1	$ 37,363	$ —	$ —	$ —	$ 37,363
Used vehicles	143	12	—	155	—	—	—	155
Services and other	799	355	31	1,185	25	—	(25)	1,185
Automotive net sales and revenue	34,691	3,980	32	38,703	25	—	(25)	38,703
Leased vehicle income	—	—	—	—	—	1,912	—	1,912
Finance charge income	—	—	—	—	—	1,158	—	1,157
Other income	—	—	—	—	—	118	(1)	117
GM Financial net sales and revenue	—	—	—	—	—	3,187	(2)	3,185
Net sales and revenue	$ 34,691	$ 3,980	$ 32	$ 38,703	$ 25	$ 3,187	$ (27)	$ 41,889

	Three Months Ended September 30, 2021							
	GMNA	GMI	Corporate	Total Automotive	Cruise	GM Financial	Eliminations/ Reclassifications	Total
Vehicle, parts and accessories	$ 19,633	$ 2,548	$ 6	$ 22,187	$ —	$ —	$ —	$ 22,187
Used vehicles	115	14	—	129	—	—	—	129
Services and other	806	281	21	1,108	26	—	(24)	1,110
Automotive net sales and revenue	20,554	2,843	27	23,424	26	—	(24)	23,426
Leased vehicle income	—	—	—	—	—	2,246	—	2,246
Finance charge income	—	—	—	—	—	1,035	—	1,035
Other income	—	—	—	—	—	73	(1)	72
GM Financial net sales and revenue	—	—	—	—	—	3,354	(1)	3,353
Net sales and revenue	$ 20,554	$ 2,843	$ 27	$ 23,424	$ 26	$ 3,354	$ (25)	$ 26,779

	Nine Months Ended September 30, 2022							
	GMNA	GMI	Corporate	Total Automotive	Cruise	GM Financial	Eliminations/Reclassifications	Total
Vehicle, parts and accessories	$ 90,147	$ 10,092	$ 28	$ 100,267	$ —	$ —	$ —	$ 100,267
Used vehicles	355	23	—	378	—	—	—	378
Services and other	2,405	985	104	3,494	76	—	(75)	3,495
Automotive net sales and revenue	92,907	11,100	132	104,140	76	—	(75)	104,141
Leased vehicle income	—	—	—	—	—	5,967	—	5,967
Finance charge income	—	—	—	—	—	3,230	—	3,229
Other income	—	—	—	—	—	293	(3)	290
GM Financial net sales and revenue	—	—	—	—	—	9,489	(3)	9,486
Net sales and revenue	$ 92,907	$ 11,100	$ 132	$ 104,140	$ 76	$ 9,489	$ (79)	$ 113,627

	Nine Months Ended September 30, 2021							
	GMNA	GMI	Corporate	Total Automotive	Cruise	GM Financial	Eliminations/ Reclassifications	Total
Vehicle, parts and accessories	$ 71,546	$ 7,825	$ 8	$ 79,379	$ —	$ —	$ —	$ 79,379
Used vehicles	480	40	—	520	—	—	—	520
Services and other	2,417	856	59	3,332	81	—	(75)	3,338
Automotive net sales and revenue	74,443	8,721	67	83,231	81	—	(75)	83,237
Leased vehicle income	—	—	—	—	—	6,871	—	6,871
Finance charge income	—	—	—	—	—	3,087	—	3,087
Other income	—	—	—	—	—	229	(4)	225
GM Financial net sales and revenue	—	—	—	—	—	10,187	(4)	10,183
Net sales and revenue	$ 74,443	$ 8,721	$ 67	$ 83,231	$ 81	$ 10,187	$ (79)	$ 93,420

Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. Adjustments to sales incentives for previously recognized sales increased revenue by an insignificant amount and $290 million in the three months ended September 30, 2022 and 2021.

Contract liabilities in our Automotive segments primarily consist of maintenance, extended warranty and other service contracts of $3.1 billion and $2.5 billion at September 30, 2022 and December 31, 2021, which are included in Accrued liabilities and Other liabilities. We recognized revenue of $256 million and $982 million related to contract liabilities in the three and nine months ended September 30, 2022 and $262 million and $951 million in the three and nine months ended September 30, 2021. We expect to recognize revenue of $550 million in the three months ending December 31, 2022 and $988 million, $518 million and $1.0 billion in the years ending December 31, 2023, 2024 and thereafter related to contract liabilities at September 30, 2022.

Note 4. Marketable and Other Securities

The following table summarizes the fair value of cash equivalents and marketable debt securities, which approximates cost:

	Fair Value Level	September 30, 2022	December 31, 2021
Cash and cash equivalents			
Cash and time deposits		$ 9,315	$ 7,881
Available-for-sale debt securities			
U.S. government and agencies	2	788	722
Corporate debt	2	3,974	5,321
Sovereign debt	2	1,169	2,105
Total available-for-sale debt securities – cash equivalents		5,931	8,148
Money market funds	1	5,499	4,038
Total cash and cash equivalents(a)		$ 20,745	$ 20,067
Marketable debt securities			
U.S. government and agencies	2	$ 2,856	$ 2,071
Corporate debt	2	3,646	3,396
Mortgage and asset-backed	2	572	575
Sovereign debt	2	2,492	2,567
Total available-for-sale debt securities – marketable securities(b)		$ 9,566	$ 8,609
Restricted cash			
Cash and cash equivalents		$ 296	$ 466
Money market funds	1	2,458	3,009
Total restricted cash		$ 2,755	$ 3,475
Available-for-sale debt securities included above with contractual maturities(c)			
Due in one year or less		$ 10,152	
Due between one and five years		4,709	
Total available-for-sale debt securities with contractual maturities		$ 14,862	

(a) Includes $1.7 billion and $1.6 billion in Cruise at September 30, 2022 and December 31, 2021.
(b) Includes $1.6 billion and $1.5 billion in Cruise at September 30, 2022 and December 31, 2021.
(c) Excludes mortgage and asset-backed securities of $572 million at September 30, 2022 as these securities are not due at a single maturity date.

Proceeds from the sale of available-for-sale debt securities sold prior to maturity were $441 million and $301 million in the three months ended September 30, 2022 and 2021 and $1.4 billion in the nine months ended September 30, 2022 and 2021. Net unrealized losses on available-for-sale debt securities were insignificant in the three months ended September 30, 2022 and 2021 and were $367 million and insignificant in the nine months ended September 30, 2022 and 2021. Cumulative unrealized losses on available-for-sale debt securities were $384 million and insignificant at September 30, 2022 and December 31, 2021.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the condensed consolidated balance sheets to the total shown in the condensed consolidated statement of cash flows:

	September 30, 2022
Cash and cash equivalents	$ 20,745
Restricted cash included in Other current assets	2,296
Restricted cash included in Other assets	459
Total	$ 23,499

Note 5. GM Financial Receivables and Transactions

	September 30, 2022			December 31, 2021		
	Retail	Commercial(a)	Total	Retail	Commercial(a)	Total
GM Financial receivables, net of fees	$ 63,461	$ 9,225	$ 72,686	$ 58,093	$ 6,609	$ 64,702
Less: allowance for loan losses	(2,044)	(42)	(2,086)	(1,839)	(47)	(1,886)
GM Financial receivables, net	$ 61,416	$ 9,183	$ 70,600	$ 56,254	$ 6,562	$ 62,816
Fair value of GM Financial receivables utilizing Level 2 inputs			$ 9,183			$ 6,562
Fair value of GM Financial receivables utilizing Level 3 inputs			$ 59,890			$ 57,613

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(a) Net of dealer cash management balances of $1.5 billion and $1.0 billion at September 30, 2022 and December 31, 2021. Under the cash management program, subject to certain conditions, a dealer may choose to reduce the amount of interest on its floorplan line by making principal payments to GM Financial in advance.

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Allowance for loan losses at beginning of period	$ 2,027	$ 1,850	$ 1,886	$ 1,978
Provision for loan losses	180	141	500	174
Charge-offs	(289)	(207)	(811)	(664)
Recoveries	173	133	511	429
Effect of foreign currency	(4)	(14)	—	(14)
Allowance for loan losses at end of period	$ 2,086	$ 1,903	$ 2,086	$ 1,903

Retail Finance Receivables GM Financial's retail finance receivable portfolio includes loans made to consumers and businesses to finance the purchase of vehicles for personal and commercial use. The following tables are consolidated summaries of the retail finance receivables by FICO score or its equivalent, determined at origination, for each vintage of the retail finance receivables portfolio at September 30, 2022 and December 31, 2021:

	Year of Origination						September 30, 2022	
	2022	2021	2020	2019	2018	Prior	Total	Percent
Prime – FICO score 680 and greater	$ 17,901	$ 14,587	$ 8,858	$ 2,614	$ 1,272	$ 311	$ 45,543	71.8 %
Near-prime – FICO score 620 to 679	2,521	2,843	1,653	792	375	147	8,331	13.1 %
Sub-prime – FICO score less than 620	2,615	3,019	1,785	1,195	591	382	9,587	15.1 %
Retail finance receivables, net of fees	$ 23,037	$ 20,449	$ 12,296	$ 4,601	$ 2,238	$ 840	$ 63,461	100.0 %

	Year of Origination						December 31, 2021	
	2021	2020	2019	2018	2017	Prior	Total	Percent
Prime – FICO score 680 and greater	$ 19,729	$ 12,408	$ 4,078	$ 2,298	$ 763	$ 143	$ 39,419	67.9 %
Near-prime – FICO score 620 to 679	3,856	2,388	1,229	648	274	84	8,479	14.6 %
Sub-prime – FICO score less than 620	4,053	2,528	1,777	972	570	295	10,195	17.5 %
Retail finance receivables, net of fees	$ 27,638	$ 17,324	$ 7,084	$ 3,918	$ 1,607	$ 522	$ 58,093	100.0 %

GM Financial reviews the ongoing credit quality of retail finance receivables based on customer payment activity. A retail account is considered delinquent if a substantial portion of a scheduled payment has not been received by the date the payment was contractually due. Retail finance receivables are collateralized by vehicle titles and, subject to local laws, GM Financial generally has the right to repossess the vehicle in the event the customer defaults on the payment terms of the contract. The accrual of finance charge income had been suspended on delinquent retail finance receivables with contractual amounts due of $618 million and $602 million at September 30, 2022 and December 31, 2021. The following tables are consolidated summaries of the delinquency status of the outstanding amortized cost of retail finance receivables for each vintage of the portfolio at September 30, 2022 and December 31, 2021, as well as summary totals for September 30, 2021:

	Year of Origination						September 30, 2022		September 30, 2021	
	2022	2021	2020	2019	2018	Prior	Total	Percent	Total	Percent
0-to-30 days	$ 22,792	$ 19,917	$ 11,944	$ 4,359	$ 2,096	$ 729	$ 61,836	97.4 %	$ 56,086	97.7 %
31-to-60 days	183	381	256	179	106	81	1,185	1.9 %	989	1.7 %
Greater-than-60 days	54	133	87	58	33	29	394	0.6 %	315	0.5 %
Finance receivables more than 30 days delinquent	236	514	343	237	139	109	1,579	2.5 %	1,304	2.2 %
In repossession	9	18	9	5	3	2	46	0.1 %	34	0.1 %
Finance receivables more than 30 days delinquent or in repossession	245	532	352	242	142	111	1,625	2.6 %	1,338	2.3 %
Retail finance receivables, net of fees	$ 23,037	$ 20,449	$ 12,296	$ 4,601	$ 2,238	$ 840	$ 63,461	100.0 %	$ 57,424	100.0 %

	Year of Origination						December 31, 2021	
	2021	2020	2019	2018	2017	Prior	Total	Percent
0-to-30 days	$ 27,270	$ 16,945	$ 6,772	$ 3,721	$ 1,478	$ 440	$ 56,626	97.5 %
31-to-60 days	273	276	230	147	97	60	1,083	1.8 %
Greater-than-60 days	83	93	76	46	30	21	349	0.6 %
Finance receivables more than 30 days delinquent	356	369	306	193	127	81	1,432	2.4 %
In repossession	12	10	6	4	2	1	35	0.1 %
Finance receivables more than 30 days delinquent or in repossession	368	379	312	197	129	82	1,467	2.5 %
Retail finance receivables, net of fees	$ 27,638	$ 17,324	$ 7,084	$ 3,918	$ 1,607	$ 522	$ 58,093	100.0 %

The outstanding amortized cost of retail finance receivables that are considered TDRs was $2.0 billion at September 30, 2022, including $217 million in nonaccrual loans.

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Commercial Finance Receivables GM Financial's commercial finance receivables consist of dealer financings, primarily for inventory purchases. Proprietary models are used to assign a risk rating to each dealer. GM Financial performs periodic credit reviews of each dealership and adjusts the dealership's risk rating, if necessary. There were no commercial finance receivables on nonaccrual status at September 30, 2022.

GM Financial's commercial risk model and risk rating categories are as follows:

Rating	Description
I	Performing accounts with strong to acceptable financial metrics with at least satisfactory capacity to meet financial commitments.
II	Performing accounts experiencing potential weakness in financial metrics and repayment prospects resulting in increased monitoring.
III	Non-Performing accounts with inadequate paying capacity for current obligations and have the distinct possibility of creating a loss if deficiencies are not corrected.
IV	Non-Performing accounts with inadequate paying capacity for current obligations and inherent weaknesses that make collection of liquidation in full highly questionable or improbable.

Dealers with III and IV risk ratings are subject to additional monitoring and restrictions on funding, including suspension of lines of credit and liquidation of assets. The following tables summarize the credit risk profile by dealer risk rating of commercial finance receivables at September 30, 2022 and December 31, 2021:

	Year of Origination							September 30, 2022	
	Revolving	2022	2021	2020	2019	2018	Prior	Total	Percent
I	$ 7,677	$ 387	$ 368	$ 365	$ 93	$ 40	$ 20	$ 8,950	97.0 %
II	196	15	2	—	7	—	—	221	2.4 %
III	50	—	—	—	5	—	—	55	0.6 %
IV	—	—	—	—	—	—	—	—	— %
Commercial finance receivables, net of fees	$ 7,922	$ 403	$ 370	$ 365	$ 105	$ 40	$ 20	$ 9,225	100.0 %

	Year of Origination							December 31, 2021	
	Revolving	2021	2020	2019	2018	2017	Prior	Total	Percent
I	$ 5,210	$ 420	$ 396	$ 120	$ 50	$ 50	$ 10	$ 6,256	94.7 %
II	207	3	16	12	—	3	—	241	3.6 %
III	81	8	15	2	—	2	4	112	1.7 %
IV	—	—	—	—	—	—	—	—	— %
Commercial finance receivables, net of fees	$ 5,498	$ 431	$ 427	$ 134	$ 50	$ 55	$ 14	$ 6,609	100.0 %

Floorplan advances comprise 94% of the total revolving balance at September 30, 2022 and December 31, 2021. Dealer term loans are presented by year of origination.

Transactions with GM Financial The following table shows transactions between our Automotive segments and GM Financial. These amounts are presented in GM Financial's condensed consolidated balance sheets and statements of income.

	September 30, 2022	December 31, 2021
Condensed Consolidated Balance Sheets(a)		
Commercial finance receivables, net due from GM consolidated dealers	$ 177	$ 163
Subvention receivable(b)	$ 480	$ 282
Commercial loan funding payable	$ 45	$ 26

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Condensed Consolidated Statements of Income				
Interest subvention earned on finance receivables	$ 260	$ 211	$ 715	$ 610
Leased vehicle subvention earned	$ 456	$ 670	$ 1,503	$ 2,095

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(a) All balance sheet amounts are eliminated upon consolidation.
(b) Our Automotive segments made cash payments to GM Financial for subvention of $732 million and $828 million in the three months ended September 30, 2022 and 2021 and $1.7 billion and $2.9 billion in the nine months ended September 30, 2022 and 2021.

GM Financial's Board of Directors declared and paid dividends of $275 million and $600 million on its common stock in the three months ended September 30, 2022 and 2021 and $1.0 billion and $1.8 billion in the nine months ended September 30, 2022 and 2021.

Note 6. Inventories

	September 30, 2022	December 31, 2021
Total productive material, supplies and work in process	$ 8,759	$ 8,240
Finished product, including service parts	7,608	4,748
Total inventories	$ 16,367	$ 12,988

Note 7. Equipment on Operating Leases

Equipment on operating leases consists of leases to retail customers of GM Financial.

	September 30, 2022	December 31, 2021
Equipment on operating leases	$ 42,082	$ 47,423
Less: accumulated depreciation	(8,305)	(9,494)
Equipment on operating leases, net	$ 33,778	$ 37,929

The estimated residual value of our leased assets at the end of the lease term was $25.7 billion and $29.1 billion at September 30, 2022 and December 31, 2021.

Depreciation expense related to Equipment on operating leases, net was $1.2 billion and $1.6 billion in the three months ended September 30, 2022 and 2021 and $3.6 billion and $4.8 billion in the nine months ended September 30, 2022 and 2021.

The following table summarizes lease payments due to GM Financial on leases to retail customers:

	Year Ending December 31,						
	2022	2023	2024	2025	2026	Thereafter	Total
Lease receipts under operating leases	$ 1,396	$ 4,515	$ 2,373	$ 696	$ 56	$ 1	$ 9,037

Note 8. Equity in Net Assets of Nonconsolidated Affiliates

Nonconsolidated affiliates are entities in which we maintain an equity ownership interest and for which we use the equity method of accounting due to our ability to exert significant influence over decisions relating to their operating and financial affairs. Revenue and expenses of our joint ventures are not consolidated into our financial statements; rather, our proportionate share of the earnings of each joint venture is reflected as Equity income (loss).

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Automotive China equity income (loss)	$ 330	$ 270	$ 477	$ 854
Other joint ventures equity income (loss)	38	53	138	161
Total Equity income (loss)	$ 367	$ 323	$ 615	$ 1,015

There have been no significant ownership changes in our Automotive China joint ventures (Automotive China JVs) since December 31, 2021.

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Summarized Operating Data of Automotive China JVs				
Automotive China JVs' net sales	$ 10,393	$ 10,321	$ 25,467	$ 29,150
Automotive China JVs' net income (loss)	$ 661	$ 546	$ 959	$ 1,659

Dividends declared but not paid from our nonconsolidated affiliates were $413 million and an insignificant amount at September 30, 2022 and December 31, 2021. Dividends received from our nonconsolidated affiliates were $491 million and $709 million in the nine months ended September 30, 2022 and September 30, 2021. Undistributed earnings from our nonconsolidated affiliates were $2.2 billion and $2.1 billion at September 30, 2022 and December 31, 2021.

Note 9. Variable Interest Entities

Consolidated VIEs

Automotive Financing – GM Financial

GM Financial uses special purpose entities (SPEs) that are considered VIEs to issue variable funding notes to third party, bank-sponsored warehouse facilities or asset-backed securities to investors in securitization transactions. The debt issued by these VIEs is backed by finance receivables and leasing-related assets transferred to the VIEs (Securitized Assets). GM Financial determined that it is the primary beneficiary of the SPEs because the servicing responsibilities for the Securitized Assets give GM Financial the power to direct the activities that most significantly impact the performance of the VIEs and the variable interests in the VIEs give GM Financial the obligation to absorb losses and the right to receive residual returns that could potentially be significant. The assets of the VIEs serve as the sole source of repayment for the debt issued by these entities. Investors in the notes issued by the VIEs do not have recourse to GM Financial or its other assets, with the exception of customary representation and warranty repurchase provisions and indemnities that GM Financial provides as the servicer. GM Financial is not required to provide additional financial support to these SPEs. While these subsidiaries are included in GM Financial's condensed consolidated financial statements, they are separate legal entities and the finance receivables, lease-related assets and cash held by them are legally owned by them and are not available to GM Financial's creditors or creditors of GM Financial's other subsidiaries.

The following table summarizes the assets and liabilities related to GM Financial's consolidated VIEs:

	September 30, 2022	December 31, 2021
Restricted cash – current	$ 2,106	$ 2,291
Restricted cash – non-current	$ 380	$ 449
GM Financial receivables, net of fees – current	$ 18,019	$ 15,344
GM Financial receivables, net of fees – non-current	$ 17,883	$ 16,518
GM Financial equipment on operating leases, net	$ 17,143	$ 16,143
GM Financial short-term debt and current portion of long-term debt	$ 20,413	$ 19,876
GM Financial long-term debt	$ 20,301	$ 19,401

GM Financial recognizes finance charge, leased vehicle and fee income on the Securitized Assets and interest expense on the secured debt issued in a securitization transaction and records a provision for loan losses to recognize loan losses expected over the remaining life of the finance receivables.

Nonconsolidated VIEs

Automotive

Nonconsolidated VIEs principally include automotive related operating entities to which we provided financial support to ensure that our supply needs for production are met or are not disrupted. Our variable interests in these nonconsolidated VIEs include equity investments, accounts and loans receivable, committed financial support and other off-balance sheet arrangements. The carrying amounts of assets were approximately $1.5 billion and liabilities were insignificant related to our nonconsolidated VIEs at September 30, 2022. The carrying amounts of assets were approximately $850 million and liabilities were insignificant related to our nonconsolidated VIEs at December 31, 2021. Our maximum exposure to loss as a result of our involvement with these VIEs was approximately $3.2 billion and $2.1 billion, inclusive of approximately $1.6 billion and $1.2 billion in committed capital contributions to Ultium Cells LLC, at September 30, 2022 and December 31, 2021. Our maximum exposure to loss, and required capital contributions, could increase by $750 million depending on Ultium Cells LLC’s ability to raise debt proceeds. We currently lack the power through voting or similar rights to direct the activities of these entities that most significantly affect their economic performance.

Note 10. Debt

Automotive The following table presents debt in our automotive operations:

	September 30, 2022		December 31, 2021	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Secured debt	$ 110	$ 112	$ 192	$ 212
Unsecured debt(a)	18,350	16,950	16,277	19,995
Finance lease liabilities	323	319	349	362
Total automotive debt(b)	$ 18,782	$ 17,381	$ 16,818	$ 20,569
Fair value utilizing Level 1 inputs		$ 16,311		$ 19,085
Fair value utilizing Level 2 inputs		$ 1,070		$ 1,484
Available under credit facility agreements(c)		$ 15,152		$ 15,208
Weighted-average interest rate on outstanding short-term debt(d)		14.2 %		9.8 %
Weighted-average interest rate on outstanding long-term debt(d)		5.7 %		5.8 %

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(a) Primarily consists of senior notes.
(b) Includes net discount and debt issuance costs of $512 million at September 30, 2022 and December 31, 2021.
(c) Excludes our 364-day, $2.0 billion facility allocated for exclusive use by GM Financial.
(d) Includes coupon rates on debt denominated in various foreign currencies and interest free loans.

In April 2022, we renewed our 364-day, $2.0 billion revolving credit facility allocated for the exclusive use of GM Financial, which now matures on April 4, 2023.

In August 2022, we issued $2.25 billion in aggregate principal amount of senior unsecured notes under our new Sustainable Finance Framework with a weighted average interest rate of 5.51% and maturity dates in 2029 and 2032. We intend to allocate an amount equal to the net proceeds from these senior unsecured notes to finance or refinance, in whole or in part, new or existing green projects, assets, or activities undertaken or owned by the Company that meet one or more eligibility criteria outlined in our Sustainable Finance Framework.

GM Financial The following table presents debt of GM Financial:

	September 30, 2022		December 31, 2021	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Secured debt	$ 40,733	$ 40,056	$ 39,338	$ 39,401
Unsecured debt	53,090	50,055	53,223	54,357
Total GM Financial debt	$ 93,823	$ 90,111	$ 92,561	$ 93,758
Fair value utilizing Level 2 inputs		$ 88,350		$ 92,250
Fair value utilizing Level 3 inputs		$ 1,761		$ 1,508

Secured debt consists of revolving credit facilities and securitization notes payable. Most of the secured debt was issued by VIEs and is repayable only from proceeds related to the underlying pledged assets. Refer to Note 9 to our condensed consolidated financial statements for additional information on GM Financial's involvement with VIEs. In the nine months ended September 30, 2022, GM Financial renewed revolving credit facilities with total borrowing capacity of $18.3 billion and issued $18.0 billion in aggregate principal amount of securitization notes payable with an initial weighted average interest rate of 2.85% and maturity dates ranging from 2023 to 2030.

Unsecured debt consists of senior notes, credit facilities and other unsecured debt. In the nine months ended September 30, 2022, GM Financial issued $7.7 billion in aggregate principal amount of senior notes with an initial weighted average interest rate of 3.39% and maturity dates ranging from 2024 to 2032.

Note 11. Derivative Financial Instruments

Automotive The following table presents the notional amounts of derivative financial instruments in our automotive operations:

	Fair Value Level	September 30, 2022	December 31, 2021
Derivatives not designated as hedges(a)			
Foreign currency	2	$ 4,484	$ 4,228
Commodity	2	1,192	1,549
Stellantis warrants(b)	2	—	45
Total derivative financial instruments		$ 5,676	$ 5,822

(a) The fair value of these derivative instruments at September 30, 2022 and December 31, 2021 and the gains/losses included in our condensed consolidated income statements for the three and nine months ended September 30, 2022 and 2021 were insignificant, unless otherwise noted.
(b) At December 31, 2021, we held 39.7 million warrants in Stellantis N.V. (Stellantis), which we exercised in September 2022. Upon exercise, the warrants converted into 69.1 million common shares of Stellantis, which we immediately sold back to Stellantis. Total net pre-tax proceeds, including dividends received, in connection with this transaction were approximately $1.1 billion. The fair value of these warrants, located in Other assets, was $1.4 billion at December 31, 2021. We recorded an insignificant gain and an insignificant loss in Interest income and other non-operating income in the three months ended September 30, 2022 and 2021 and a loss of $363 million and a gain of $333 million in the nine months ended September 30, 2022 and 2021.

GM Financial The following table presents the gross fair value amounts of GM Financial's derivative financial instruments and the associated notional amounts:

	Fair Value Level	September 30, 2022			December 31, 2021		
		Notional	Fair Value of Assets	Fair Value of Liabilities	Notional	Fair Value of Assets	Fair Value of Liabilities
Derivatives designated as hedges(a)							
Fair value hedges							
Interest rate swaps	2	$ 20,950	$ —	$ 864	$ 15,058	$ 74	$ 88
Foreign currency swaps	2	—	—	—	682	—	59
Cash flow hedges							
Interest rate swaps	2	1,117	26	3	611	12	4
Foreign currency swaps	2	6,329	4	1,036	7,419	85	201
Derivatives not designated as hedges(a)							
Interest rate contracts	2	106,973	2,250	1,965	110,053	846	339
Foreign currency contracts	2	—	—	—	148	—	—
Total derivative financial instruments(b)		$ 135,369	$ 2,280	$ 3,867	$ 133,971	$ 1,017	$ 691

(a) The gains/losses included in our condensed consolidated income statements and statements of comprehensive income for the three and nine months ended September 30, 2022 and 2021 were insignificant, unless otherwise noted. Amounts accrued for interest payments in a net receivable position are included in Other assets. Amounts accrued for interest payments in a net payable position are included in Other liabilities.
(b) GM Financial held $471 million and $376 million of collateral from counterparties available for netting against GM Financial's asset positions, and posted $1.4 billion and an insignificant amount of collateral to counterparties available for netting against GM Financial's liability positions at September 30, 2022 and December 31, 2021.

The fair value for Level 2 instruments was derived using the market approach based on observable market inputs including quoted prices of similar instruments and foreign exchange and interest rate forward curves.

The following amounts were recorded in the condensed consolidated balance sheets related to items designated and qualifying as hedged items in fair value hedging relationships:

	September 30, 2022		December 31, 2021	
	Carrying Amount of Hedged Items	Cumulative Amount of Fair Value Hedging Adjustments(a)	Carrying Amount of Hedged Items	Cumulative Amount of Fair Value Hedging Adjustments(a)
Short-term unsecured debt	$ 3,045	$ 5	$ 1,338	$ (1)
Long-term unsecured debt	25,254	796	23,626	(225)
GM Financial unsecured debt	$ 28,299	$ 801	$ 24,964	$ (226)

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(a) Includes an insignificant amount and $246 million of unamortized gains remaining on hedged items for which hedge accounting has been discontinued at September 30, 2022 and December 31, 2021.

Note 12. Product Warranty and Related Liabilities

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Product Warranty and Related Liabilities				
Warranty balance at beginning of period	$ 8,969	$ 9,180	$ 9,774	$ 8,242
Warranties issued and assumed in period – recall campaigns	168	1,237	490	2,686
Warranties issued and assumed in period – product warranty	516	345	1,426	1,250
Payments	(1,001)	(756)	(3,090)	(2,275)
Adjustments to pre-existing warranties	78	86	150	178
Effect of foreign currency and other	(49)	(28)	(68)	(17)
Warranty balance at end of period	8,682	10,064	8,682	10,064
Less: Supplier recoveries balance at end of period(a)	1,189	2,062	1,189	2,062
Warranty balance, net of supplier recoveries at end of period	$ 7,493	$ 8,002	$ 7,493	$ 8,002

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(a) The current portion of supplier recoveries is recorded in Accounts and notes receivable, net of allowance and the non-current portion is recorded in Other assets.

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Product Warranty Expense, Net of Recoveries				
Warranties issued and assumed in period	$ 685	$ 1,582	$ 1,916	$ 3,936
Supplier recoveries accrued in period	(57)	(1,938)	(196)	(2,098)
Adjustments and other	29	58	82	161
Warranty expense, net of supplier recoveries	$ 657	$ (298)	$ 1,802	$ 1,999

We estimate our reasonably possible loss in excess of amounts accrued for recall campaigns to be insignificant at September 30, 2022. Refer to Note 14 to our condensed consolidated financial statements for more details.

Note 13. Pensions and Other Postretirement Benefits

	Three Months Ended September 30, 2022			Three Months Ended September 30, 2021		
	Pension Benefits		Global OPEB Plans	Pension Benefits		Global OPEB Plans
	U.S.	Non-U.S.		U.S.	Non-U.S.	
Service cost	$ 58	$ 35	$ 4	$ 65	$ 35	$ 4
Interest cost	323	71	37	269	60	31
Expected return on plan assets	(750)	(130)	—	(796)	(154)	—
Amortization of prior service cost (credit)	(1)	1	(1)	—	1	(2)
Amortization of net actuarial (gains) losses	5	32	17	7	53	25
Net periodic pension and OPEB (income) expense	$ (365)	$ 9	$ 57	$ (455)	$ (5)	$ 58

	Nine Months Ended September 30, 2022			Nine Months Ended September 30, 2021		
	Pension Benefits		Global OPEB Plans	Pension Benefits		Global OPEB Plans
	U.S.	Non-U.S.		U.S.	Non-U.S.	
Service cost	$ 174	$ 103	$ 12	$ 196	$ 105	$ 13
Interest cost	969	221	111	806	180	93
Expected return on plan assets	(2,250)	(404)	—	(2,385)	(464)	—
Amortization of prior service cost (credit)	(2)	3	(4)	(2)	4	(5)
Amortization of net actuarial (gains) losses	14	101	51	20	161	73
Net periodic pension and OPEB (income) expense	$ (1,095)	$ 24	$ 170	$ (1,365)	$ (14)	$ 174

The non-service cost components of net periodic pension and other postretirement benefits (OPEB) income of $376 million and $484 million in the three months ended September 30, 2022 and 2021 and $1.1 billion and $1.5 billion in the nine months ended September 30, 2022 and 2021 are presented in Interest income and other non-operating income, net.

Note 14. Commitments and Contingencies

Litigation-Related Liability and Tax Administrative Matters In the normal course of our business, we are named from time to time as a defendant in various legal actions, including arbitrations, class actions and other litigation. We identify below the material individual proceedings and investigations where we believe a material loss is reasonably possible or probable. We accrue for matters when we believe that losses are probable and can be reasonably estimated. At September 30, 2022 and December 31, 2021, we had accruals of $1.1 billion and $1.4 billion in Accrued liabilities and Other liabilities. In many matters, it is inherently difficult to determine whether loss is probable or reasonably possible or to estimate the size or range of the possible loss. Accordingly, while we believe that appropriate accruals have been established for losses that are probable and can be reasonably estimated, it is possible that adverse outcomes from such proceedings could exceed the amounts accrued by an amount that could be material to our results of operations or cash flows in any particular reporting period.

GM Korea Wage Litigation GM Korea Company (GM Korea) is party to litigation with current and former subcontract workers over allegations that they are entitled to the same wages and benefits provided to full-time employees, and to be hired as full-time employees. In May 2018 and September 2020, the Korean labor authorities issued adverse administrative orders finding that GM Korea must hire certain current subcontract workers as full-time employees. GM Korea appealed the May 2018 and September 2020 orders. In June 2020, the Seoul High Court (an intermediate-level appellate court) ruled against GM Korea in one of the subcontract worker claims. Although GM Korea has appealed this decision to the Supreme Court of the Republic of Korea (Korea Supreme Court), GM Korea has since hired certain of its subcontract workers as full-time employees. At September 30, 2022, our accrual covering certain asserted claims and claims that we believe are probable of assertion and for which liability is probable was approximately $237 million. We estimate the reasonably possible loss in excess of amounts accrued for other current subcontract workers who may assert similar claims to be approximately $86 million at September 30, 2022. We are currently unable to estimate any reasonably possible material loss or range of loss that may result from additional claims that may be asserted by former subcontract workers.

Other Litigation-Related Liability and Tax Administrative Matters Various other legal actions, including class actions, governmental investigations, claims and proceedings are pending against us or our related companies or joint ventures, including, but not limited to, matters arising out of alleged product defects; employment-related matters; product and workplace safety, vehicle emissions and fuel economy regulations; product warranties; financial services; dealer, supplier and other contractual relationships; government regulations relating to competition issues; tax-related matters not subject to the provision of Accounting Standards Codification 740, "Income Taxes" (indirect tax-related matters); product design, manufacture and performance; consumer protection laws; and environmental protection laws, including laws regulating air emissions, water discharges, waste management and environmental remediation from stationary sources. We also from time to time receive subpoenas and other inquiries or requests for information from agencies or other representatives of U.S. federal, state and foreign governments on a variety of issues.

There are several putative class actions pending against GM in federal courts in the U.S. and in the Provincial Courts in Canada alleging that various vehicles sold, including model year 2011-2016 Duramax Diesel Chevrolet Silverado and GMC Sierra vehicles, violate federal, state and foreign emission standards. We are currently unable to estimate any reasonably possible material loss or range of loss that may result from these actions. GM has also faced a series of additional lawsuits in the U.S. based on these allegations, including a shareholder demand lawsuit that remains pending.

There are several putative class actions and one certified class action pending against GM in federal courts in the U.S. alleging that various 2011-2014 model year vehicles are defective because they excessively consume oil. While many of these proceedings have been dismissed or have been settled for insignificant amounts, several remain outstanding, and in October 2022, we received an adverse jury verdict in the certified class action proceeding. We do not believe that the verdict is supported by the evidence and plan to pursue post-trial motions and, if necessary, appeal. We are currently unable to estimate any reasonably possible material loss or range of loss that may result from the putative class action proceedings and have previously accrued an immaterial amount related to the certified class action proceeding.

Beyond the class action litigations disclosed, we have several other class action litigations pending at any given time. Historically, relatively few classes have been certified in these types of cases. Therefore, we will generally only disclose specific class actions if a class is certified and we believe there is a reasonably possible material exposure to the Company.

Indirect tax-related matters are being litigated globally pertaining to value added taxes, customs, duties, sales taxes and other non-income tax-related tax exposures. The various non-U.S. labor-related matters include claims from current and former employees related to alleged unpaid wage, benefit, severance and other compensation matters. Certain administrative proceedings are indirect tax-related and may require that we deposit funds in escrow or provide an alternative form of security. Some of the matters may involve compensatory, punitive or other treble damage claims, environmental remediation programs or sanctions that, if granted, could require us to pay damages or make other expenditures in amounts that could not be reasonably estimated at September 30, 2022. For indirect tax-related matters, we estimate our reasonably possible loss in excess of amounts accrued to be up to approximately $1.0 billion at September 30, 2022.

Takata Matters In November 2020, the National Highway Traffic Safety Administration (NHTSA) directed that we replace the Takata Corporation (Takata) airbag inflators in our GMT900 vehicles, which are full-size pickup trucks and sport utility vehicles (SUVs), and we decided not to contest NHTSA's decision. While we have already begun the process of executing the recall, given the number of vehicles in this population, the recall will take several years to be completed. Accordingly, in the year ended December 31, 2020, we recorded a warranty accrual of $1.1 billion for the expected costs of complying with the recall remedy, and we believe the currently accrued amount remains reasonable.

GM has recalled certain vehicles sold outside of the U.S. to replace Takata inflators in those vehicles. There are significant differences in vehicle and inflator design between the relevant vehicles sold internationally and those sold in the U.S. We continue to gather and analyze evidence about these inflators and to share our findings with regulators. Any additional recalls relating to these inflators could be material to our results of operations and cash flows.

There are several putative class actions that have been filed against GM, including in the federal courts in the U.S., in the Provincial Courts in Canada, and in Mexico, arising out of allegations that airbag inflators manufactured by Takata are defective. At this stage of these proceedings, we are unable to provide an estimate of the amounts or range of reasonably possible material loss.

Chevrolet Bolt Recall In July 2021, we initiated a voluntary recall for certain 2017-2019 model year Chevrolet Bolt electric vehicles (EVs) due to the risk that two manufacturing defects present in the same battery cell could cause a high voltage battery fire in certain of these vehicles. Accordingly, in the three months ended June 30, 2021, we recorded a warranty accrual of $812 million. After further investigation into the manufacturing processes at our battery supplier, LG Energy Solution (LG), and disassembling battery packs, we determined that the risk of battery cell defects was not confined to the initial recall population. As a result, in August 2021, we expanded the recall to include all 2017-2022 model year Chevrolet Bolt EV and Electric Utility Vehicles (EUVs) and recorded an additional warranty accrual of $1.2 billion in the three months ended September 30, 2021. In October 2021, we reached an agreement with LG, under which LG will reimburse GM for costs and expenses associated with the recall. As a result, in the three months ended September 30, 2021, we recognized a receivable of $1.9 billion, which substantially offsets the warranty charges we recognized in connection with the recall. These charges reflect our current best estimate for the cost of the recall remedy. The actual costs of the recall and GM's associated recovery from LG could be materially higher or lower. For 2017-2019 model year vehicles, the recall remedy will be to replace the high voltage battery modules in these vehicles with new modules. For 2020-2022 model year vehicles, the recall remedy will be to replace any defective high voltage battery modules in these vehicles with new modules.

In addition, putative class actions have been filed against GM in federal courts in the U.S. and in the Provincial Courts in Canada alleging that the batteries contained in the Bolt EVs and EUVs included in the recall population are defective. At this stage of these proceedings, we are unable to provide an estimate of the amounts or range of reasonably possible material loss.

Opel/Vauxhall Sale In 2017, we sold the Opel and Vauxhall businesses and certain other assets in Europe (the Opel/Vauxhall Business) to PSA Group (now Stellantis) under a Master Agreement (the Agreement). We also sold the European financing subsidiaries and branches to Banque PSA Finance S.A. and BNP Paribas Personal Finance S.A. Although the sale reduced our new vehicle presence in Europe, we may still be impacted by actions taken by regulators related to vehicles sold before the sale. Our wholly owned subsidiary (the Seller) agreed to indemnify Stellantis for certain losses resulting from any inaccuracy of the representations and warranties or breaches of our covenants included in the Agreement and for certain other liabilities, including costs related to certain emissions claims, product liabilities and recalls. The Company entered into a guarantee for the benefit of Stellantis, pursuant to which the Company agreed to guarantee the Seller's obligation to indemnify Stellantis. We are unable to estimate any reasonably possible material loss or range of loss that may result from these actions either directly or through an indemnification claim from Stellantis. Certain of these indemnification obligations are subject to time limitations, thresholds and/or caps as to the amount of required payments.

Currently, various consumer lawsuits have been filed against the Seller and Stellantis in Germany, the United Kingdom and the Netherlands alleging that Opel and Vauxhall vehicles sold by the Seller violated applicable emissions standards. In addition, in the three months ended September 30, 2022, we agreed to indemnify Stellantis for an immaterial amount for certain recalls that Stellantis has conducted or will conduct, including recalls in certain geographic locations that Stellantis intends to conduct related to Takata inflators in legacy Opel vehicles. We may in the future be required to further indemnify Stellantis relating to its Takata recalls, but we believe such further indemnification to be remote at this time.

Patent Royalty Matters Several owners of patents are seeking past royalties from various automotive manufacturers, including GM, for the use of certain technologies. As of March 31, 2022, we had accrued approximately $200 million relating to these matters. We have resolved substantially all of these matters and, accordingly, our accrual was insignificant as of September 30, 2022. We currently anticipate no material reasonably possible loss in excess of amounts accrued.

Product Liability We recorded liabilities of $573 million and $587 million in Accrued liabilities and Other liabilities at September 30, 2022 and December 31, 2021 for the expected cost of all known product liability claims, plus an estimate of the expected cost for product liability claims that have already been incurred and are expected to be filed in the future for which we are self-insured. It is reasonably possible that our accruals for product liability claims may increase in future periods in material amounts, although we cannot estimate a reasonable range of incremental loss based on currently available information. We believe that any judgment against us involving our products for actual damages will be adequately covered by our recorded accruals and, where applicable, excess liability insurance coverage.

Guarantees We enter into indemnification agreements for liability claims involving products manufactured primarily by certain joint ventures. These guarantees terminate in years ranging from 2022 to 2027, or upon the occurrence of specific events or are ongoing. We believe that the related potential costs incurred are adequately covered by our recorded accruals, which are insignificant. The maximum future undiscounted payments mainly based on royalties received associated with vehicles sold to date were $3.6 billion and $3.1 billion for these guarantees at September 30, 2022 and December 31, 2021, the majority of which relates to the indemnification agreements.

We provide payment guarantees on commercial loans outstanding with third parties such as dealers. In some instances, certain assets of the party or our payables to the party whose debt or performance we have guaranteed may offset, to some degree, the amount of any potential future payments. We are also exposed to residual value guarantees associated with certain sales to rental car companies.

We periodically enter into agreements that incorporate indemnification provisions in the normal course of business. It is not possible to estimate our maximum exposure under these indemnifications or guarantees due to the conditional nature of these obligations. Insignificant amounts have been recorded for such obligations as the majority of them are not probable or estimable at this time and the fair value of the guarantees at issuance was insignificant. Refer to the Opel/Vauxhall Sale section of this note for additional information on our indemnification obligations to Stellantis under the Agreement.

Note 15. Income Taxes

In the three months ended September 30, 2022, Income tax expense of $845 million was primarily due to tax expense attributable to entities included in our effective tax rate calculation. In the three months ended September 30, 2021, Income tax expense of $152 million was primarily due to tax expense attributable to entities included in our effective tax rate calculation, partially offset by tax benefit related to a deduction for an investment in a subsidiary.

In the nine months ended September 30, 2022, Income tax expense of $1.3 billion was primarily due to tax expense attributable to entities included in our effective tax rate calculation, partially offset by the release of a valuation allowance against certain Cruise deferred tax assets that were considered realizable due to the reconsolidation of Cruise for U.S. tax purposes. In the nine months ended September 30, 2021, Income tax expense of $2.3 billion was primarily due to tax expense attributable to entities included in our effective tax rate calculation and the establishment of a valuation allowance against Cruise deferred tax assets that were considered no longer realizable, partially offset by tax benefit related to a deduction for an investment in a subsidiary.

In the nine months ended September 30, 2022, GM entered into a Share Purchase Agreement with SoftBank Vision Fund (AIV M2) L.P. (SoftBank), pursuant to which GM acquired SoftBank's equity ownership stake in GM Cruise Holdings LLC (Cruise Holdings) and, separately, made an additional $1.35 billion investment in Cruise in place of SoftBank. As of March 31, 2022, GM's ownership in Cruise increased above the 80% threshold which allowed for inclusion of Cruise in our U.S. Federal consolidated income tax return and the release of a valuation allowance of $482 million against certain Cruise deferred tax assets. Refer to Note 16 to our condensed consolidated financial statements for additional information regarding the Share Purchase Agreement with SoftBank.

At September 30, 2022, we had $19.8 billion of net deferred tax assets consisting of net operating losses and income tax credits, capitalized research expenditures and other timing differences that are available to offset future income tax liabilities, partially offset by valuation allowances.

Note 16. Stockholders' Equity and Noncontrolling Interests

Preferred and Common Stock We have 2.0 billion shares of preferred stock and 5.0 billion shares of common stock authorized for issuance. We had no shares of preferred stock issued and outstanding at September 30, 2022 and December 31, 2021. We had 1.4 billion and 1.5 billion shares of common stock issued and outstanding at September 30, 2022 and December 31, 2021.

Common Stock Holders of our common stock are entitled to dividends at the sole discretion of our Board of Directors. Our dividends declared per common share were $0.09 and our total dividends paid on common stock were $130 million for the three and nine months ended September 30, 2022. Dividends were not declared or paid on our common stock for the nine months ended September 30, 2021.

In August 2022, our Board of Directors increased the capacity under our previously announced common stock repurchase program to $5.0 billion from the $3.3 billion that remained under the program as of June 30, 2022. In the three and nine months ended September 30, 2022, we purchased 38 million shares of our outstanding common stock for $1.5 billion as part of the program. We did not purchase shares of our outstanding common stock in the nine months ended September 30, 2021.

Cruise Preferred Shares In 2021, Cruise Holdings issued $2.7 billion of Class G Preferred Shares (Cruise Class G Preferred Shares) to Microsoft Corporation (Microsoft), Walmart Inc. (Walmart) and other investors, including $1.0 billion to General Motors Holdings LLC. All proceeds related to the Cruise Class G Preferred Shares are designated exclusively for working capital and general corporate purposes of Cruise Holdings. In addition, we, Cruise Holdings and Microsoft entered into a long-term strategic relationship to accelerate the commercialization of self-driving vehicles with Microsoft being the preferred public cloud provider.

The Cruise Class G Preferred Shares participate pari passu with holders of Cruise Holdings common stock and Class F Preferred Shares (Cruise Class F Preferred Shares) in any dividends declared. The Cruise Class G and Cruise Class F Preferred Shares convert into the class of shares to be issued to the public in an initial public offering (IPO) at specified exchange ratios. No covenants or other events of default exist that can trigger redemption of the Cruise Class G and Cruise Class F Preferred Shares. The Cruise Class G and Cruise Class F Preferred Shares are entitled to receive the greater of their carrying value or a pro-rata share of any proceeds or distributions upon the occurrence of a merger, sale, liquidation or dissolution of Cruise Holdings, and are classified as noncontrolling interests in our condensed consolidated financial statements.

In March 2022, under the Share Purchase Agreement, we acquired SoftBank’s Cruise Class A-1, Class F and Class G Preferred Shares for $2.1 billion and made an additional $1.35 billion investment in Cruise in place of SoftBank. SoftBank no longer has an ownership interest in or has any rights with respect to Cruise.

Cruise Common Shares During the three and nine months ended September 30, 2022, Cruise Holdings issued an insignificant amount and approximately $0.8 billion of Class B Common Shares to settle vested awards under Cruise's 2018 Employee Incentive Plan and issued an insignificant amount and approximately $0.5 billion of Class B Common Shares, primarily to us, to fund the payment of statutory tax withholding obligations resulting from the settlement or exercise of vested awards. Also, GM conducted quarterly tender offers, and paid an insignificant amount and approximately $0.3 billion in cash to settle tendered Cruise Class B Common Shares during the three and nine months ended September 30, 2022. The Class B Common Shares are classified as noncontrolling interests in our condensed consolidated financial statements except for certain shares that are liability classified that have a recorded value of approximately $0.3 billion at September 30, 2022. Refer to Note 18 for additional information on Cruise stock incentive awards.

During the three months ended September 30, 2022, the effect on the equity attributable to us for changes in our ownership interest in Cruise was insignificant. For the nine months ended September 30, 2022, net income attributable to shareholders and transfers to the noncontrolling interest in Cruise and other subsidiaries was $7.1 billion, which included a $820 million decrease in equity attributable to us, mainly due to the redemption of Cruise preferred shares.

The following table summarizes the significant components of Accumulated other comprehensive loss:

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Foreign Currency Translation Adjustments				
Balance at beginning of period	$ (2,557)	$ (2,445)	$ (2,653)	$ (2,735)
Other comprehensive income (loss) and noncontrolling interests, net of reclassification adjustment and tax(a)(b)	(645)	(202)	(550)	88
Balance at end of period	$ (3,202)	$ (2,647)	$ (3,202)	$ (2,647)
Defined Benefit Plans				
Balance at beginning of period	$ (6,150)	$ (10,466)	$ (6,528)	$ (10,654)
Other comprehensive income (loss) before reclassification adjustment, net of tax(b)	235	123	514	161
Reclassification adjustment, net of tax(b)	47	74	146	224
Other comprehensive income (loss), net of tax(b)	282	197	660	385
Balance at end of period(c)	$ (5,868)	$ (10,269)	$ (5,868)	$ (10,269)

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(a) The noncontrolling interests and reclassification adjustment were insignificant in the three and nine months ended September 30, 2022 and 2021.
(b) The income tax effect was insignificant in the three and nine months ended September 30, 2022 and 2021.
(c) Primarily consists of unamortized actuarial loss on our defined benefit plans. Refer to Note 2. Significant Accounting Policies of our 2021 Form 10-K for additional information.

Note 17. Earnings Per Share

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Basic earnings per share				
Net income (loss) attributable to stockholders	$ 3,305	$ 2,420	$ 7,935	$ 8,278
Less: cumulative dividends on subsidiary preferred stock(a)	(26)	(45)	(1,004)	(137)
Net income (loss) attributable to common stockholders	$ 3,278	$ 2,375	$ 6,931	$ 8,141
Weighted-average common shares outstanding	1,448	1,452	1,455	1,450
Basic earnings per common share	$ 2.26	$ 1.64	$ 4.76	$ 5.61
Diluted earnings per share				
Net income (loss) attributable to common stockholders – diluted	$ 3,278	$ 2,375	$ 6,931	$ 8,141
Weighted-average common shares outstanding – basic	1,448	1,452	1,455	1,450
Dilutive effect of awards under stock incentive plans	9	15	9	17
Weighted-average common shares outstanding – diluted	1,457	1,467	1,464	1,467
Diluted earnings per common share	$ 2.25	$ 1.62	$ 4.73	$ 5.55
Potentially dilutive securities(b)	10	2	10	2

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(a) Includes a $909 million deemed dividend related to the redemption of Cruise preferred shares from SoftBank in the nine months ended September 30, 2022.
(b) Potentially dilutive securities attributable to outstanding stock options and RSUs at September 30, 2022 and 2021 were excluded from the computation of diluted earnings per share (EPS) because the securities would have had an antidilutive effect.

Note 18. Stock Incentive Plans

GM Stock Incentive Awards We grant to certain employees RSUs, RSAs, PSUs and stock options (collectively, stock incentive awards). Total compensation expense related to the above awards was $95 million and $82 million in the three months ended September 30, 2022 and 2021 and $267 million and $286 million in the nine months ended September 30, 2022 and 2021. At September 30, 2022, the total unrecognized compensation expense for nonvested equity awards granted was $350 million. This expense is expected to be recorded over a weighted-average period of 1.5 years.

Cruise Stock Incentive Awards Cruise granted RSUs and stock options that will settle in common shares of Cruise Holdings in the nine months ended September 30, 2022 and 2021. In March 2022, Cruise modified its RSUs that settle in Cruise Class B Common Shares to remove the liquidity vesting condition such that all granted RSU awards vest solely upon satisfaction of a service condition. The service condition for the majority of these awards is satisfied over four years. Upon modification, 31 million RSUs whose service condition was previously met became immediately vested, thereby resulting in the immediate recognition of compensation expense. In addition, at Cruise's election, GM intends to conduct quarterly tender offers whereby holders of Cruise Class B Common Shares issued to settle vested awards can tender their shares generally at the fair value of Cruise’s common stock. The planned tenders result in certain awards to be classified as liabilities and other awards to be presented in temporary equity, which triggers the immediate recognition of incremental compensation expense associated with the stock options. These awards were granted under Cruise's 2018 Employee Incentive Plan approved by Cruise Holdings' Board of Directors in August 2018. Shares awarded under the plan are subject to forfeiture if the participant leaves the company for reasons other than those permitted under the plan. Stock options vest ratably over four to 10 years, as defined in the terms of each award. Stock options expire 10 years from the grant date.

	Cruise Restricted Stock Units			Cruise Stock Options		
	Shares (in millions)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term in Years	Shares (in millions)	Weighted-Average Grant Date Fair Value	Weighted-Average Remaining Contractual Term in Years
Units outstanding at January 1, 2022	66.2	$ 18.82	8.1	23.8	$ 7.07	2.0
Granted	41.7	$ 27.96		2.9	$ 15.77	
Settled or exercised	(40.3)	$ 29.00		(2.3)	$ 20.89	
Forfeited or expired	(5.9)	$ 26.40		—	$ —	
Units outstanding at September 30, 2022(a)	61.7	$ 29.00	1.6	24.5	$ 8.22	1.8

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(a) Weighted average fair values include the impact of the remeasurement triggered by the modification. Post modification, certain awards are liability-awards resulting in ongoing remeasurement based on changes to the awards' fair value.

Our weighted-average assumptions used to value Cruise stock options are a dividend yield of 0.00% and 0.00%, expected volatility of 57.26% and 57.03%, a risk-free interest rate of 2.47% and 1.31% and an expected option life of 6.57 and 5.49 years for options issued during the nine months ended September 30, 2022 and 2021. The expected volatility is based on the historical volatility of comparable public company data as Cruise Holdings is not publicly traded and therefore, does not have any trading history of its common stock.

Total compensation expense related to Cruise Holdings' share-based awards was $150 million for the three months ended September 30, 2022 and an insignificant amount for the three months ended September 30, 2021. Total compensation expense related to Cruise Holdings' share-based awards was $1.5 billion for the nine months ended September 30, 2022, which, when excluding the compensation expense in the period April 1, 2022 through September 30, 2022, primarily represents the impact of the modification to outstanding awards, and an insignificant amount for the nine months ended September 30, 2021. GM conducted quarterly tender offers and paid an insignificant amount and approximately $0.3 billion in cash to settle tendered Cruise Class B Common Shares during the three and nine months ended September 30, 2022. No cash was paid to settle share-based awards for the three months ended March 31, 2022. Total unrecognized compensation expense for Cruise Holdings’ nonvested equity awards granted was $1.7 billion at September 30, 2022. Total units outstanding were 86 million at September 30, 2022. The expense related to RSUs and stock options is expected to be recorded over a weighted-average period of 1.8 years.

Note 19. Segment Reporting

We analyze the results of our business through the following reportable segments: GMNA, GMI, Cruise and GM Financial. The chief operating decision-maker evaluates the operating results and performance of our automotive segments and Cruise through earnings before interest and income taxes (EBIT)-adjusted, which is presented net of noncontrolling interests. The chief operating decision-maker evaluates GM Financial through earnings before income taxes (EBT)-adjusted because interest income and interest expense are part of operating results when assessing and measuring the operational and financial performance of the segment. Each segment has a manager responsible for executing our strategic initiatives. While not all vehicles within a segment are individually profitable on a fully allocated cost basis, those vehicles attract customers to dealer showrooms and help maintain sales volumes for other, more profitable vehicles and contribute towards meeting required fuel efficiency standards. As a result of these and other factors, we do not manage our business on an individual brand or vehicle basis.

Substantially all of the trucks, crossovers, cars and automobile parts produced are marketed through retail dealers in North America and through distributors and dealers outside of North America, the substantial majority of which are independently owned. In addition to the products sold to dealers for consumer retail sales, trucks, crossovers and cars are also sold to fleet customers, including daily rental car companies, commercial fleet customers, leasing companies and governments. Fleet sales are completed through the dealer network and in some cases directly with fleet customers. Retail and fleet customers can obtain a wide range of after-sale vehicle services and products through the dealer network, such as maintenance, light repairs, collision repairs, vehicle accessories and extended service warranties.

GMNA meets the demands of customers in North America and GMI primarily meets the demands of customers outside North America with vehicles developed, manufactured and/or marketed under the Buick, Cadillac, Chevrolet and GMC brands. We also have equity ownership stakes in entities that meet the demands of customers in other countries, primarily China, with vehicles developed, manufactured and/or marketed under the Baojun, Buick, Cadillac, Chevrolet and Wuling brands. Cruise is our global segment responsible for the development and commercialization of AV technology, and includes AV-related engineering and other costs. We provide automotive financing services through our GM Financial segment.

Our automotive interest income and interest expense, legacy costs from the Opel/Vauxhall Business (primarily pension costs), corporate expenditures and certain nonsegment specific revenues and expenses are recorded centrally in Corporate. Corporate assets primarily consist of cash and cash equivalents, marketable debt securities and intersegment balances. All intersegment balances and transactions have been eliminated in consolidation.

The following tables summarize key financial information by segment:

	At and For the Three Months Ended September 30, 2022								
	GMNA	GMI	Corporate	Eliminations	Total Automotive	Cruise	GM Financial	Eliminations/Reclassifications	Total
Net sales and revenue	$ 34,691	$ 3,980	$ 32		$ 38,703	$ 25	$ 3,187	$ (27)	$ 41,889
Earnings (loss) before interest and taxes-adjusted	$ 3,894	$ 334	$ (352)		$ 3,876	$ (497)	$ 911	$ (2)	$ 4,287
Adjustments	$ —	$ —	$ —		$ —	$ —	$ —	$ —	—
Automotive interest income									122
Automotive interest expense									(259)
Net income (loss) attributable to noncontrolling interests									(53)
Income (loss) before income taxes									4,097
Income tax benefit (expense)									(845)
Net income (loss)									3,252
Net loss (income) attributable to noncontrolling interests									53
Net income (loss) attributable to stockholders									$ 3,305
Equity in net assets of nonconsolidated affiliates	$ 1,641	$ 6,564	$ —	$ —	$ 8,205	$ —	$ 1,705	$ —	$ 9,910
Goodwill and intangibles	$ 2,160	$ 744	$ 4	$ —	$ 2,908	$ 721	$ 1,339	$ —	$ 4,968
Total assets	$ 134,823	$ 23,756	$ 38,693	$ (59,941)	$ 137,331	$ 5,669	$ 118,917	$ (1,388)	$ 260,529
Depreciation and amortization	$ 1,419	$ 124	$ 5	$ —	$ 1,548	$ 15	$ 1,212	$ —	$ 2,774
Impairment charges	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Equity income (loss)	$ (6)	$ 329	$ —	$ —	$ 323	$ —	$ 44	$ —	$ 367

	At and For the Three Months Ended September 30, 2021								
	GMNA	GMI	Corporate	Eliminations	Total Automotive	Cruise	GM Financial	Eliminations/Reclassifications	Total
Net sales and revenue	$ 20,554	$ 2,843	$ 27		$ 23,424	$ 26	$ 3,354	$ (25)	$ 26,779
Earnings (loss) before interest and taxes-adjusted	$ 2,125	$ 229	$ (242)		$ 2,112	$ (286)	$ 1,093	$ 3	$ 2,922
Adjustments(a)	$ (158)	$ —	$ —		$ (158)	$ —	$ —	$ —	(158)
Automotive interest income									38
Automotive interest expense									(230)
Net income (loss) attributable to noncontrolling interests									(34)
Income (loss) before income taxes									2,538
Income tax benefit (expense)									(152)
Net income (loss)									2,386
Net loss (income) attributable to noncontrolling interests									34
Net income (loss) attributable to stockholders									$ 2,420
Equity in net assets of nonconsolidated affiliates	$ 585	$ 7,000	$ —	$ —	$ 7,585	$ —	$ 1,649	$ —	$ 9,234
Goodwill and intangibles	$ 2,267	$ 780	$ —	$ —	$ 3,047	$ 739	$ 1,340	$ —	$ 5,126
Total assets	$ 114,012	$ 21,953	$ 31,907	$ (46,752)	$ 121,120	$ 4,912	$ 113,741	$ (1,216)	$ 238,557
Depreciation and amortization	$ 1,370	$ 138	$ 6	$ —	$ 1,514	$ 13	$ 1,554	$ —	$ 3,081
Impairment charges	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Equity income (loss)	$ 1	$ 269	$ —	$ —	$ 270	$ —	$ 53	$ —	$ 323

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(a) Consists of restructuring charges related to Cadillac dealer strategy in GMNA.

	At and For the Nine Months Ended September 30, 2022								
	GMNA	GMI	Corporate	Eliminations	Total Automotive	Cruise	GM Financial	Eliminations/Reclassifications	Total
Net sales and revenue	$ 92,907	$ 11,100	$ 132		$ 104,140	$ 76	$ 9,489	$ (79)	$ 113,627
Earnings (loss) before interest and taxes-adjusted	$ 9,334	$ 871	$ (1,470)		$ 8,735	$ (1,365)	$ 3,301	$ 4	$ 10,675
Adjustments(a)	$ 100	$ —	$ —		$ 100	$ (1,057)	$ —	$ —	(957)
Automotive interest income									245
Automotive interest expense									(719)
Net income (loss) attributable to noncontrolling interests									(234)
Income (loss) before income taxes									9,009
Income tax benefit (expense)									(1,308)
Net income (loss)									7,701
Net loss (income) attributable to noncontrolling interests									234
Net income (loss) attributable to stockholders									$ 7,935
Depreciation and amortization	$ 4,399	$ 389	$ 16	$ —	$ 4,804	$ 39	$ 3,666	$ —	$ 8,509
Impairment charges	$ 11	$ —	$ —	$ —	$ 11	$ —	$ —	$ —	$ 11
Equity income (loss)	$ (6)	$ 472	$ —	$ —	$ 467	$ —	$ 148	$ —	$ 615

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(a) Consists of the resolution of substantially all royalty matters accrued with respect to past-year vehicle sales in GMNA; and charges related to the one-time modification of Cruise stock incentive awards.

GENERAL MOTORS COMPANY AND SUBSIDIARIES

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS —— (Continued)

	At and For the Nine Months Ended September 30, 2021								
	GMNA	GMI	Corporate	Eliminations	Total Automotive	Cruise	GM Financial	Eliminations/Reclassifications	Total
Net sales and revenue	$ 74,443	$ 8,721	$ 67		$ 83,231	$ 81	$ 10,187	$ (79)	$ 93,420
Earnings (loss) before interest and taxes-adjusted	$ 8,153	$ 552	$ (250)		$ 8,455	$ (847)	$ 3,856	$ (8)	$ 11,456
Adjustments(a)	$ (175)	$ (82)	$ —		$ (257)	$ —	$ —	$ —	(257)
Automotive interest income									102
Automotive interest expense									(723)
Net income (loss) attributable to noncontrolling interests									(99)
Income (loss) before income taxes									10,479
Income tax benefit (expense)									(2,300)
Net income (loss)									8,179
Net loss (income) attributable to noncontrolling interests									99
Net income (loss) attributable to stockholders									$ 8,278
Depreciation and amortization	$ 3,849	$ 407	$ 16	$ —	$ 4,272	$ 37	$ 4,801	$ —	$ 9,110
Impairment charges	$ —	$ —	$ —	$ —	$ —	$ 4	$ —	$ —	$ 4
Equity income (loss)	$ 8	$ 850	$ —	$ —	$ 858	$ —	$ 157	$ —	$ 1,015

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(a) Consists of restructuring charges related to Cadillac dealer strategy in GMNA and an adjustment related to unique events associated with Korea Supreme Court decisions related to our salaried workers in GMI.

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

Basis of Presentation This Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) should be read in conjunction with the accompanying condensed consolidated financial statements and the notes thereto, and the audited consolidated financial statements and notes thereto included in our 2021 Form 10-K.

Forward-looking statements in this MD&A are not guarantees of future performance and may involve risks and uncertainties that could cause actual results to differ materially from those projected. Refer to the "Forward-Looking Statements" section of this MD&A and Part 1, Item 1A. Risk Factors of our 2021 Form 10-K for a discussion of these risks and uncertainties. Except for per share amounts or as otherwise specified, dollar amounts presented within tables are stated in millions. Certain columns and rows may not add due to rounding.

Non-GAAP Measures Our non-GAAP measures include: EBIT-adjusted, presented net of noncontrolling interests; EBT-adjusted for our GM Financial segment; EPS-diluted-adjusted; effective tax rate-adjusted (ETR-adjusted); return on invested capital-adjusted (ROIC-adjusted) and adjusted automotive free cash flow. Our calculation of these non-GAAP measures may not be comparable to similarly titled measures of other companies due to potential differences between companies in the method of calculation. As a result, the use of these non-GAAP measures has limitations and should not be considered superior to, in isolation from, or as a substitute for, related U.S. GAAP measures.

These non-GAAP measures allow management and investors to view operating trends, perform analytical comparisons and benchmark performance between periods and among geographic regions to understand operating performance without regard to items we do not consider a component of our core operating performance. Furthermore, these non-GAAP measures allow investors the opportunity to measure and monitor our performance against our externally communicated targets and evaluate the investment decisions being made by management to improve ROIC-adjusted. Management uses these measures in its financial, investment and operational decision-making processes, for internal reporting and as part of its forecasting and budgeting processes. Further, our Board of Directors uses certain of these and other measures as key metrics to determine management performance under our performance-based compensation plans. For these reasons, we believe these non-GAAP measures are useful for our investors.

EBIT-adjusted EBIT-adjusted is presented net of noncontrolling interests and is used by management and can be used by investors to review our consolidated operating results because it excludes automotive interest income, automotive interest expense and income taxes as well as certain additional adjustments that are not considered part of our core operations. Examples of adjustments to EBIT include, but are not limited to, impairment charges on long-lived assets and other exit costs resulting from strategic shifts in our operations or discrete market and business conditions; costs arising from legal matters; and certain currency devaluations associated with hyperinflationary economies. For EBIT-adjusted and our other non-GAAP measures, once we have made an adjustment in the current period for an item, we will also adjust the related non-GAAP measure in any future periods in which there is an impact from the item. Our corresponding measure for our GM Financial segment is EBT-adjusted because interest income and interest expense are part of operating results when assessing and measuring the operational and financial performance of the segment.

EPS-diluted-adjusted EPS-diluted-adjusted is used by management and can be used by investors to review our consolidated diluted EPS results on a consistent basis. EPS-diluted-adjusted is calculated as net income attributable to common stockholders-diluted less adjustments noted above for EBIT-adjusted and certain income tax adjustments divided by weighted-average common shares outstanding-diluted. Examples of income tax adjustments include the establishment or reversal of significant deferred tax asset valuation allowances.

ETR-adjusted ETR-adjusted is used by management and can be used by investors to review the consolidated effective tax rate for our core operations on a consistent basis. ETR-adjusted is calculated as Income tax expense less the income tax related to the adjustments noted above for EBIT-adjusted and the income tax adjustments noted above for EPS-diluted-adjusted divided by Income before income taxes less adjustments. When we provide an expected adjusted effective tax rate, we do not provide an expected effective tax rate because the U.S. GAAP measure may include significant adjustments that are difficult to predict.

ROIC-adjusted ROIC-adjusted is used by management and can be used by investors to review our investment and capital allocation decisions. We define ROIC-adjusted as EBIT-adjusted for the trailing four quarters divided by ROIC-adjusted average net assets, which is considered to be the average equity balances adjusted for average automotive debt and interest liabilities, exclusive of finance leases; average automotive net pension and OPEB liabilities; and average automotive net income tax assets during the same period.

Adjusted automotive free cash flow Adjusted automotive free cash flow is used by management and can be used by investors to review the liquidity of our automotive operations and to measure and monitor our performance against our capital allocation program and evaluate our automotive liquidity against the substantial cash requirements of our automotive operations. We measure adjusted automotive free cash flow as automotive operating cash flow from operations less capital expenditures adjusted for management actions. Management actions can include voluntary events such as discretionary contributions to employee benefit plans or nonrecurring specific events such as a closure of a facility that are considered special for EBIT-adjusted purposes. Refer to the "Liquidity and Capital Resources" section of this MD&A for additional information.

The following table reconciles Net income (loss) attributable to stockholders under U.S. GAAP to EBIT (loss)-adjusted:

	Three Months Ended							
	September 30,		June 30,		March 31,		December 31,	
	2022	2021	2022	2021	2022	2021	2021	2020
Net income (loss) attributable to stockholders	$ 3,305	$ 2,420	$ 1,692	$ 2,836	$ 2,939	$ 3,022	$ 1,741	$ 2,846
Income tax expense (benefit)	845	152	490	971	(28)	1,177	471	642
Automotive interest expense	259	230	234	243	226	250	227	275
Automotive interest income	(122)	(38)	(73)	(32)	(50)	(32)	(44)	(46)
Adjustments								
Cruise compensation modifications(a)	—	—	—	—	1,057	—	—	—
Patent royalty matters(b)	—	—	—	—	(100)	—	250	—
GM Brazil indirect tax matters(c)	—	—	—	—	—	—	194	—
Cadillac dealer strategy(d)	—	158	—	17	—	—	—	99
GMI restructuring(e)	—	—	—	—	—	—	—	26
GM Korea wage litigation(f)	—	—	—	82	—	—	—	—
Ignition switch recall and related legal matters(g)	—	—	—	—	—	—	—	(130)
Total adjustments	—	158	—	99	957	—	444	(5)
EBIT (loss)-adjusted	$ 4,287	$ 2,922	$ 2,343	$ 4,117	$ 4,044	$ 4,417	$ 2,839	$ 3,712

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(a) This adjustment was excluded because it relates to the one-time modification of Cruise stock incentive awards.
(b) These adjustments were excluded because they relate to certain royalties accrued with respect to past-year vehicle sales in the three months ended December 31, 2021, and the resolution of substantially all of these matters in the three months ended March 31, 2022.
(c) This adjustment was excluded because it relates to a settlement with third parties in the three months ended December 31, 2021 relating to retrospective recoveries of indirect taxes in Brazil realized in prior periods.
(d) These adjustments were excluded because they relate to strategic activities to transition certain Cadillac dealers from the network as part of Cadillac's EV strategy.
(e) This adjustment was excluded because of a strategic decision to rationalize our core operations by exiting or significantly reducing our presence in various international markets to focus resources on opportunities expected to deliver higher returns. This adjustment primarily consists of employee separation charges in the three months ended December 31, 2020.
(f) This adjustment was excluded because of the unique events associated with Korea Supreme Court decisions related to our salaried workers.
(g) This adjustment was excluded because of the unique events associated with the ignition switch recall.

The following table reconciles diluted earnings (loss) per common share under U.S. GAAP to EPS-diluted-adjusted:

	Three Months Ended				Nine Months Ended			
	September 30, 2022		September 30, 2021		September 30, 2022		September 30, 2021	
	Amount	Per Share	Amount	Per Share	Amount	Per Share	Amount	Per Share
Diluted earnings per common share	$ 3,278	$ 2.25	$ 2,375	$ 1.62	$ 6,931	$ 4.73	$ 8,141	$ 5.55
Adjustments(a)	—	—	158	0.11	957	0.65	257	0.18
Tax effect on adjustments(b)	—	—	(39)	(0.03)	(296)	(0.20)	(43)	(0.03)
Tax adjustments(c)	—	—	(271)	(0.18)	(482)	(0.33)	45	0.03
Deemed dividend adjustment(d)	—	—	—	—	909	0.62	—	—
EPS-diluted-adjusted	$ 3,278	$ 2.25	$ 2,223	$ 1.52	$ 8,019	$ 5.48	$ 8,400	$ 5.73

(a) Refer to the reconciliation of Net income (loss) attributable to stockholders under U.S. GAAP to EBIT (loss)-adjusted within this section of MD&A for the details of each individual adjustment.
(b) The tax effect of each adjustment is determined based on the tax laws and valuation allowance status of the jurisdiction to which the adjustment relates.
(c) These adjustments consist of tax benefit related to the release of a valuation allowance against deferred tax assets considered realizable as a result of Cruise tax reconsolidation in the nine months ended September 30, 2022, tax benefit related to a deduction for an investment in a subsidiary in the three months ended September 30, 2021 and tax expense related to the establishment of a valuation allowance against Cruise deferred tax assets in the nine months ended September 30, 2021. These adjustments were excluded because of the unique nature of these events and significant impacts of valuation allowances are not considered part of our core operations.
(d) This adjustment consists of a deemed dividend related to the redemption of Cruise preferred shares from SoftBank in the nine months ended September 30, 2022.

The following table reconciles our effective tax rate under U.S. GAAP to ETR-adjusted:

	Three Months Ended						Nine Months Ended					
	September 30, 2022			September 30, 2021			September 30, 2022			September 30, 2021		
	Income before income taxes	Income tax expense (benefit)	Effective tax rate	Income before income taxes	Income tax expense (benefit)	Effective tax rate	Income before income taxes	Income tax expense (benefit)	Effective tax rate	Income before income taxes	Income tax expense (benefit)	Effective tax rate
Effective tax rate	$ 4,097	$ 845	20.6 %	$ 2,538	$ 152	6.0 %	$ 9,009	$ 1,308	14.5 %	$ 10,479	$ 2,300	21.9 %
Adjustments(a)	—	—		158	39		1,053	296		282	43	
Tax adjustments(b)		—			271			482			(45)	
ETR-adjusted	$ 4,097	$ 845	20.6 %	$ 2,696	$ 462	17.1 %	$ 10,062	$ 2,086	20.7 %	$ 10,761	$ 2,298	21.4 %

(a) Refer to the reconciliation of Net income (loss) attributable to stockholders under U.S. GAAP to EBIT (loss)-adjusted within this section of MD&A for adjustment details. These adjustments include Net income attributable to noncontrolling interests where applicable. The tax effect of each adjustment is determined based on the tax laws and valuation allowance status of the jurisdiction to which the adjustment relates.
(b) Refer to the reconciliation of diluted earnings (loss) per common share under U.S. GAAP to EPS-diluted-adjusted within this section of MD&A for adjustment details.

We define return on equity (ROE) as Net income (loss) attributable to stockholders for the trailing four quarters divided by average equity for the same period. Management uses average equity to provide comparable amounts in the calculation of ROE. The following table summarizes the calculation of ROE (dollars in billions):

	Four Quarters Ended	
	September 30, 2022	September 30, 2021
Net income (loss) attributable to stockholders	$ 9.7	$ 11.1
Average equity(a)	$ 64.9	$ 52.4
ROE	14.9 %	21.2 %

(a) Includes equity of noncontrolling interests where the corresponding earnings (loss) are included in Net income (loss) attributable to stockholders.

The following table summarizes the calculation of ROIC-adjusted (dollars in billions):

	Four Quarters Ended	
	September 30, 2022	September 30, 2021
EBIT (loss)-adjusted(a)	$ 13.5	$ 15.2
Average equity(b)	$ 64.9	$ 52.4
Add: Average automotive debt and interest liabilities (excluding finance leases)	17.3	17.3
Add: Average automotive net pension & OPEB liability	10.2	17.7
Less: Average automotive and other net income tax asset	(21.3)	(22.8)
ROIC-adjusted average net assets	$ 71.1	$ 64.6
ROIC-adjusted	19.0 %	23.5 %

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(a) Refer to the reconciliation of Net income (loss) attributable to stockholders under U.S. GAAP to EBIT (loss)-adjusted within this section of MD&A.
(b) Includes equity of noncontrolling interests where the corresponding earnings (loss) are included in EBIT (loss)-adjusted.

Overview Our vision for the future is a world with zero crashes, zero emissions and zero congestion, which guides our growth-focused strategy to invest in EVs and AVs, software-enabled services and subscriptions and new business opportunities, while strengthening our market position in profitable internal combustion engine vehicles, such as trucks and SUVs. We have committed to an all-electric future with a core focus on zero-emission battery EVs as part of our long-term strategy. We plan to execute our strategy with a diverse team and a steadfast commitment to good citizenship through sustainable operations and a leading health and safety culture.

The automotive industry and GM continue to experience supply chain disruptions, which impact multiple suppliers and our planned production schedules. We will continue prioritizing the production of our most popular and in-demand vehicles, including our full-size trucks, full-size SUVs and EVs. We do not expect these disruptions to impact our long-term growth and EV initiatives. In June 2021, we announced plans to increase our investment in EVs and AVs from $27.0 billion to more than $35.0 billion through 2025, which we expect may continue to evolve as we look to further accelerate our EV and AV future.

We continue to monitor the impact of the COVID-19 pandemic, and government actions and measures taken to prevent its spread, and the potential to affect our operations. Refer to Part I, Item 1A. Risk Factors of our 2021 Form 10-K for further discussion of these risks.

We also face continuing market, operating and regulatory challenges in several countries across the globe due to, among other factors, rising interest rates and higher material and service prices driven by inflationary pressures, competitive pressures, our product portfolio offerings, heightened emissions standards, potentially weakening economic conditions, labor disruptions, foreign exchange volatility, evolving trade policy and political uncertainty. Refer to Part I, Item 1A. Risk Factors of our 2021 Form 10-K for a discussion of these challenges.

As we continue to assess our performance and the needs of our evolving business, additional restructuring and rationalization actions could be required. These actions could give rise to future asset impairments or other charges, which may have a material impact on our operating results.

On August 16, 2022, the Inflation Reduction Act of 2022 (the “Act”) was signed into law. The Act modifies climate and clean energy corporate tax provisions, including amendments to the EV consumer tax credit available under current tax law. New tax credits for commercial EV purchases and investments in clean energy production, supply chains and manufacturing facilities are included in the Act effective beginning in 2023. The Act also implements a new 15% corporate minimum tax based on modified U.S. financial statement net income that is effective beginning in 2023. We are evaluating the potential impact of the tax credits and corporate minimum tax requirement on our financial results, including our net earnings and cash flow.

For the year ending December 31, 2022, we continue to expect Net income attributable to stockholders of between $9.6 billion and $11.2 billion, EBIT-adjusted of between $13.0 billion and $15.0 billion, EPS-diluted of between $5.76 and $6.76 and EPS-diluted-adjusted of between $6.50 and $7.50. We do not consider the potential impact of future adjustments on our expected financial results.

The following table reconciles expected Net income attributable to stockholders under U.S. GAAP to expected EBIT-adjusted (dollars in billions):

	Year Ending December 31, 2022
Net income attributable to stockholders	$ 9.6-11.2
Income tax expense	1.7-2.1
Automotive interest expense, net	0.7
Adjustments(a)	1.0
EBIT-adjusted(b)	$ 13.0-15.0

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(a) Refer to the reconciliation of Net income (loss) attributable to stockholders under U.S. GAAP to EBIT (loss)-adjusted within the MD&A for the details of each individual adjustment.
(b) We do not consider the potential future impact of adjustments on our expected financial results.

The following table reconciles expected EPS-diluted under U.S. GAAP to expected EPS-diluted-adjusted:

	Year Ending December 31, 2022
Diluted earnings per common share	$ 5.76-6.76
Adjustments(a)	0.74
EPS-diluted-adjusted(b)	$ 6.50-7.50

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(a) Refer to the reconciliation of diluted earnings (loss) per common share under U.S. GAAP to EPS-diluted-adjusted within the MD&A for the details of each individual adjustment.
(b) We do not consider the potential future impact of adjustments on our expected financial results.

GMNA Industry sales in North America were 12.8 million units in the nine months ended September 30, 2022, representing a decrease of 11.4% compared to the corresponding period in 2021. U.S. industry sales were 10.5 million units in the nine months ended September 30, 2022, representing a decrease of 12.8% compared to the corresponding period in 2021.

Our total vehicle sales in the U.S., our largest market in North America, were 1.7 million units for market share of 15.7% in the nine months ended September 30, 2022, representing an increase of 1.0 percentage points compared to the corresponding period in 2021.

We expect to sustain relatively strong EBIT-adjusted margins in 2022 on the continued strength of favorable vehicle pricing and strong U.S. industry light vehicle demand, partially offset by higher costs associated with commodities, raw materials and logistics. Our outlook is dependent on the pricing environment, continuing improvement of supply chain disruptions and overall economic conditions. As a result of supply chain disruptions, we experienced interruptions to our planned production schedules and continue to prioritize production of our most popular and in-demand products, including our full-size trucks, full-size SUVs and EVs. Additionally, we have been manufacturing vehicles without the impacted components and expect that a substantial number of these vehicles will be completed and sold to dealers before the end of 2022.

GMI Industry sales in China were 17.2 million units in the nine months ended September 30, 2022, representing a decrease of 10.1% compared to the corresponding period in 2021. Our total vehicle sales in China were 1.7 million units for market share of 10.0% in the nine months ended September 30, 2022, representing a decrease of 1.2 percentage points compared to the corresponding period in 2021. The ongoing supply chain disruptions, macro-economic impact and local restrictions due to COVID-19 and geopolitical tensions continue to place pressure on China's automotive industry and our vehicle sales in China. Our Automotive China JVs generated equity income of $0.5 billion in the nine months ended September 30, 2022. Although price competition, higher costs associated with commodities and raw materials and a more challenging regulatory environment related to emissions, fuel consumption and new energy vehicles will place pressure on our operations in China, we will continue to build upon our strong brands, network, and partnerships in China as well as drive improvements in vehicle mix and cost.

Outside of China, industry sales were 17.4 million units in the nine months ended September 30, 2022, representing an increase of 0.7% compared to the corresponding period in 2021. Our total vehicle sales outside of China were 0.7 million units for a market share of 4.1% in the nine months ended September 30, 2022, representing an increase of 0.6 percentage points compared to the corresponding period in 2021.

We historically operated a small import business in Russia and sold GM-badged vehicles into Russia through GM's alliance partner in Uzbekistan. GM's direct and indirect profitability in Russia was insignificant. With Russia's invasion of Ukraine, western sanctions on Russia have and may continue to progressively increase. In addition, reputational, legal and other concerns have impacted and may continue to impact our ability to operate in Russia. As of the end of February, we suspended our exports into Russia and instructed our Russian sales company to cease selling vehicles within Russia. In April, we took additional actions to extend the suspension of our Russian business, including the cessation of commercial operations. Although we have limited supply chain exposure to Russia and Ukraine, we are working closely with our supply base to mitigate any potential risks. Because of the deteriorating business environment in Russia and ongoing sanctions, our ability to operate in Russia in the future is uncertain. In the event we were to lose control of our Russian sales company or are otherwise unable to operate again in Russia, we would expect to record a non-cash charge of approximately $0.7 billion to write off our investment and release accumulated translation losses. These charges would be considered special for EBIT-adjusted and EPS-diluted-adjusted purposes. In addition, we are monitoring the situation and its macroeconomic impacts on our financial position and results of operations.

Cruise Gated by safety and regulation, Cruise continues to make significant progress towards commercialization of a network of on-demand AVs in the United States and globally. In 2021, Cruise received a driverless test permit from the California Public Utilities Commission (CPUC) to provide unpaid rides to the public in driverless vehicles and received approval of its Autonomous Vehicle Deployment Permit from the California Department of Motor Vehicles to commercially deploy driverless AVs. In June 2022, Cruise received the first ever Driverless Deployment Permit granted by the CPUC, which allows them to charge a fare for the driverless rides they are providing to members of the public in certain parts of San Francisco. Refer to the "Liquidity and Capital Resources" section of this MD&A for information about GM's additional investment in Cruise.

Vehicle Sales The principal factors that determine consumer vehicle preferences in the markets in which we operate include overall vehicle design, price, quality, available options, safety, reliability, fuel economy and functionality. Market leadership in individual countries in which we compete varies widely.

We present both wholesale and total vehicle sales data to assist in the analysis of our revenue and our market share. Wholesale vehicle sales data consists of sales to GM's dealers and distributors as well as sales to the U.S. Government and excludes vehicles sold by our joint ventures. Wholesale vehicle sales data correlates to our revenue recognized from the sale of vehicles, which is the largest component of Automotive net sales and revenue. In the nine months ended September 30, 2022, 30.6% of our wholesale vehicle sales volume was generated outside the U.S. The following table summarizes wholesale vehicle sales by automotive segment (vehicles in thousands):

	Three Months Ended				Nine Months Ended			
	September 30, 2022		September 30, 2021		September 30, 2022		September 30, 2021	
GMNA	784	81.2 %	423	79.0 %	2,139	81.9 %	1,729	81.7 %
GMI	182	18.8 %	113	21.0 %	474	18.1 %	388	18.3 %
Total	966	100.0 %	536	100.0 %	2,613	100.0 %	2,117	100.0 %

Total vehicle sales data represents: (1) retail sales (i.e., sales to consumers who purchase new vehicles from dealers or distributors); (2) fleet sales (i.e., sales to large and small businesses, governments, and daily rental car companies); and (3) vehicles used by dealers in their business. Total vehicle sales data for periods presented prior to 2022 reflect courtesy transportation vehicles used by U.S. dealers in their business; beginning in 2022, we stopped including such dealership courtesy transportation vehicles in total vehicle sales until such time as those vehicles were sold to the end customer. Total vehicle sales data includes all sales by joint ventures on a total vehicle basis, not based on our percentage ownership interest in the joint venture. Certain joint venture agreements in China allow for the contractual right to report vehicle sales of non-GM trademarked vehicles by those joint ventures, which are included in the total vehicle sales we report for China. While total vehicle sales data does not correlate directly to the revenue we recognize during a particular period, we believe it is indicative of the underlying demand for our vehicles. Total vehicle sales data represents management's good faith estimate based on sales reported by GM's dealers, distributors, and joint ventures, commercially available data sources such as registration and insurance data, and internal estimates and forecasts when other data is not available.

The following table summarizes industry and GM total vehicle sales and our related competitive position by geographic region (vehicles in thousands):

	Three Months Ended						Nine Months Ended					
	September 30, 2022			September 30, 2021			September 30, 2022			September 30, 2021		
	Industry	GM	Market Share	Industry	GM	Market Share	Industry	GM	Market Share	Industry	GM	Market Share
North America												
United States	3,489	556	15.9 %	3,500	447	12.8 %	10,484	1,651	15.7 %	12,020	1,777	14.8 %
Other	770	107	13.9 %	788	75	9.5 %	2,272	300	13.2 %	2,372	285	12.0 %
Total North America	4,259	663	15.6 %	4,288	522	12.2 %	12,757	1,950	15.3 %	14,391	2,062	14.3 %
Asia/Pacific, Middle East and Africa												
China(a)	6,392	630	9.9 %	5,825	624	10.7 %	17,244	1,727	10.0 %	19,190	2,154	11.2 %
Other	4,702	114	2.4 %	4,516	96	2.1 %	14,678	379	2.6 %	14,575	321	2.2 %
Total Asia/Pacific, Middle East and Africa	11,094	744	6.7 %	10,341	719	7.0 %	31,922	2,106	6.6 %	33,765	2,475	7.3 %
South America												
Brazil	583	88	15.0 %	503	36	7.2 %	1,500	203	13.6 %	1,577	161	10.2 %
Other	413	42	10.2 %	396	34	8.6 %	1,198	124	10.3 %	1,103	115	10.4 %
Total South America	997	130	13.0 %	899	70	7.8 %	2,698	327	12.1 %	2,680	276	10.3 %
Total in GM markets	16,350	1,537	9.4 %	15,528	1,312	8.4 %	47,376	4,384	9.3 %	50,836	4,813	9.5 %
Total Europe	3,538	—	— %	3,416	—	— %	10,593	1	— %	11,693	1	— %
Total Worldwide(b)(c)	19,888	1,537	7.7 %	18,944	1,312	6.9 %	57,969	4,385	7.6 %	62,529	4,814	7.7 %
United States												
Cars	686	49	7.2 %	762	21	2.8 %	2,095	152	7.3 %	2,639	111	4.2 %
Trucks	997	299	30.0 %	907	266	29.4 %	2,884	899	31.2 %	3,040	929	30.6 %
Crossovers	1,806	207	11.5 %	1,832	159	8.7 %	5,506	599	10.9 %	6,340	737	11.6 %
Total United States	3,489	556	15.9 %	3,500	447	12.8 %	10,484	1,651	15.7 %	12,020	1,777	14.8 %
China(a)												
SGMS		298			275			766			974	
SGMW		332			349			962			1,180	
Total China	6,392	630	9.9 %	5,825	624	10.7 %	17,244	1,727	10.0 %	19,190	2,154	11.2 %

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(a) Includes sales by the Automotive China JVs: SAIC General Motors Sales Co., Ltd. (SGMS) and SAIC GM Wuling Automobile Co., Ltd. (SGMW).

(b) Cuba, Iran, North Korea, Sudan and Syria are subject to broad economic sanctions. Accordingly, these countries are excluded from industry sales data and corresponding calculation of market share.

(c) As of March 2022, GM is no longer importing vehicles or parts to Russia, Belarus and other sanctioned provinces in Ukraine.

As discussed above, total vehicle sales and market share data provided in the table above includes fleet vehicles. Certain fleet transactions, particularly sales to daily rental car companies, are generally less profitable than retail sales to end customers. The following table summarizes estimated fleet sales and those sales as a percentage of total vehicle sales (vehicles in thousands):

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
GMNA	116	69	406	319
GMI	126	69	282	203
Total fleet sales	242	138	688	522
Fleet sales as a percentage of total vehicle sales	15.7 %	10.5 %	15.7 %	10.8 %

GM Financial We believe that offering a comprehensive suite of financing products will generate incremental sales of our vehicles, drive incremental GM Financial earnings and help support our sales throughout various economic cycles. GM Financial's leasing program is exposed to residual values, which are heavily dependent on used vehicle prices. Used vehicle prices were sustained at high levels for the three and nine months ended September 30, 2022, primarily due to low new vehicle inventory. The high levels of used vehicle prices also resulted in gains on terminations of leased vehicles of $0.3 billion and $1.0 billion included in GM Financial interest, operating and other expenses for the three and nine months ended September 30, 2022, compared to gains of $0.4 billion and $1.6 billion in the corresponding periods in 2021. The decrease in gains is primarily due to higher residual value estimates resulting in decreased depreciation expense as well as fewer vehicles returned for the three and nine months ended September 30, 2022 compared to the corresponding periods in 2021. For the remainder of 2022, GM Financial expects used vehicle prices to remain elevated primarily due to sustained low new vehicle inventory and reduced incentive levels, but to decrease relative to 2021 peak levels. The following table summarizes the estimated residual value based on GM Financial's most recent estimates and the number of units included in GM Financial Equipment on operating leases, net by vehicle type (units in thousands):

	September 30, 2022			December 31, 2021		
	Residual Value	Units	Percentage	Residual Value	Units	Percentage
Crossovers	$ 14,791	770	67.4 %	$ 16,696	897	67.3 %
Trucks	7,155	237	20.8 %	7,886	264	19.8 %
SUVs	2,666	68	5.9 %	3,104	80	5.9 %
Cars	1,041	67	5.9 %	1,430	93	7.0 %
Total	$ 25,654	1,141	100.0 %	$ 29,116	1,334	100.0 %

GM Financial's penetration of our retail sales in the U.S. was 45% in the nine months ended September 30, 2022 and 44% in the corresponding period in 2021. Penetration levels vary depending on incentive financing programs available and competing third-party financing products in the market. GM Financial's prime loan originations as a percentage of total loan originations in North America increased to 80% in the nine months ended September 30, 2022 from 72% in the nine months ended September 30, 2021. In the nine months ended September 30, 2022, GM Financial's revenue consisted of leased vehicle income of 63%, retail finance charge income of 31% and commercial finance charge income of 3%.

Consolidated Results We review changes in our results of operations under five categories: volume, mix, price, cost and other. Volume measures the impact of changes in wholesale vehicle volumes driven by industry volume, market share and changes in dealer stock levels. Mix measures the impact of changes to the regional portfolio due to product, model, trim, country and option penetration in current year wholesale vehicle volumes. Price measures the impact of changes related to Manufacturer’s Suggested Retail Price and various sales allowances. Cost primarily includes: (1) material and freight; (2) manufacturing, engineering, advertising, administrative and selling and warranty expense; and (3) non-vehicle related activity. Other primarily includes foreign exchange and non-vehicle related automotive revenues as well as equity income or loss from our nonconsolidated affiliates. Refer to the regional sections of this MD&A for additional information.

Total Net Sales and Revenue

	Three Months Ended				Variance Due To			
	September 30, 2022	September 30, 2021	Favorable/ (Unfavorable)	%	Volume	Mix	Price	Other
					(Dollars in billions)			
GMNA	$ 34,691	$ 20,554	$ 14,137	68.8 %	$ 14.6	$ (2.1)	$ 1.7	$ —
GMI	3,980	2,843	1,137	40.0 %	$ 1.4	$ (0.5)	$ 0.4	$ (0.1)
Corporate	32	27	5	18.5 %		$ —		$ —
Automotive	38,703	23,424	15,279	65.2 %	$ 16.0	$ (2.6)	$ 2.1	$ (0.2)
Cruise	25	26	(1)	(3.8)%				$ —
GM Financial	3,187	3,354	(167)	(5.0)%				$ (0.2)
Eliminations/reclassifications	(27)	(25)	(2)	(8.0)%				$ —
Total net sales and revenue	$ 41,889	$ 26,779	$ 15,110	56.4 %	$ 16.0	$ (2.6)	$ 2.1	$ (0.3)

	Nine Months Ended		Favorable/ (Unfavorable)	%	Variance Due To			
	September 30, 2022	September 30, 2021			Volume	Mix	Price	Other
					(Dollars in billions)			
GMNA	$ 92,907	$ 74,443	$ 18,464	24.8 %	$ 16.4	$ (3.3)	$ 5.0	$ 0.4
GMI	11,100	8,721	2,379	27.3 %	$ 1.7	$ (0.1)	$ 1.0	$ (0.2)
Corporate	132	67	65	97.0 %		$ —		$ 0.1
Automotive	104,140	83,231	20,909	25.1 %	$ 18.1	$ (3.4)	$ 6.0	$ 0.2
Cruise	76	81	(5)	(6.2)%				$ —
GM Financial	9,489	10,187	(698)	(6.9)%				$ (0.7)
Eliminations/reclassifications	(79)	(79)	—	— %				$ —
Total net sales and revenue	$ 113,627	$ 93,420	$ 20,207	21.6 %	$ 18.1	$ (3.4)	$ 6.0	$ (0.5)

Refer to the regional sections of this MD&A for additional information on volume, mix and price.

Automotive and Other Cost of Sales

	Three Months Ended		Favorable/ (Unfavorable)	%	Variance Due To			
	September 30, 2022	September 30, 2021			Volume	Mix	Cost	Other
					(Dollars in billions)			
GMNA	$ 29,326	$ 17,635	$ (11,691)	(66.3)%	$ (9.9)	$ 0.5	$ (2.5)	$ 0.2
GMI	3,773	2,702	(1,071)	(39.6)%	$ (1.1)	$ 0.3	$ (0.4)	$ 0.1
Corporate	135	54	(81)	n.m.		$ —	$ (0.1)	$ —
Cruise	467	282	(185)	(65.6)%			$ (0.2)	
Eliminations	—	(1)	(1)	n.m.			$ —	
Total automotive and other cost of sales	$ 33,700	$ 20,672	$ (13,028)	(63.0)%	$ (11.0)	$ 0.8	$ (3.2)	$ 0.3

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n.m. = not meaningful

	Nine Months Ended		Favorable/ (Unfavorable)	%	Variance Due To			
	September 30, 2022	September 30, 2021			Volume	Mix	Cost	Other
					(Dollars in billions)			
GMNA	$ 79,580	$ 63,658	$ (15,922)	(25.0)%	$ (11.1)	$ —	$ (5.1)	$ 0.3
GMI	10,244	8,449	(1,795)	(21.2)%	$ (1.4)	$ 0.2	$ (0.7)	$ 0.1
Corporate	397	125	(272)	n.m.		$ —	$ (0.2)	$ —
Cruise	2,094	822	(1,272)	n.m.			$ (1.3)	
Eliminations	(2)	(1)	1	n.m.			$ —	
Total automotive and other cost of sales	$ 92,314	$ 73,053	$ (19,261)	(26.4)%	$ (12.5)	$ 0.2	$ (7.3)	$ 0.4

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n.m. = not meaningful

In the three months ended September 30, 2022, increased Cost was primarily due to: (1) increased material and freight costs of $1.2 billion; (2) increased campaigns and other warranty-related costs of $0.9 billion, including non-recurrence of the Chevrolet Bolt recall and associated recoveries in 2021; (3) increased manufacturing costs of $0.3 billion; (4) increased costs of $0.3 billion primarily related to parts and accessories sales; and (5) increased engineering costs of $0.2 billion primarily related to accelerating our EV portfolio. In the three months ended September 30, 2022, favorable Other was primarily due to the foreign currency effect resulting from the weakening of the Korean Won and other currencies against the U.S. Dollar.

In the nine months ended September 30, 2022, increased Cost was primarily due to: (1) increased material and freight costs of $3.9 billion; (2) increased manufacturing costs of $0.9 billion; (3) increased costs of $0.9 billion primarily related to parts and accessories sales; (4) increased costs of $0.8 billion related to modification of Cruise stock incentive awards; and (5) increased engineering costs of $0.8 billion primarily related to accelerating our EV portfolio. In the nine months ended September 30, 2022, favorable Other was primarily due to the foreign currency effect resulting from the weakening of the Korean Won and other currencies against the U.S. Dollar.

Refer to the regional sections of this MD&A for additional information on volume and mix.

Automotive and Other Selling, General and Administrative Expense

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	Favorable/ (Unfavorable)	%	September 30, 2022	September 30, 2021	Favorable/ (Unfavorable)	%
Automotive and other selling, general and administrative expense	$ 2,477	$ 2,148	$ (329)	(15.3)%	$ 7,274	$ 6,076	$ (1,198)	(19.7)%

In the three months ended September 30, 2022, Automotive and other selling, general and administrative expense increased primarily due to several individually insignificant items.

In the nine months ended September 30, 2022, Automotive and other selling, general and administrative expense increased primarily due to (1) increased advertising, selling, and administrative costs of $0.9 billion; and (2) increased costs of $0.3 billion related to modification of Cruise stock incentive awards; partially offset by (3) charges of $0.2 billion related to Cadillac dealer strategy in 2021.

Interest Income and Other Non-operating Income, net

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	Favorable/ (Unfavorable)	%	September 30, 2022	September 30, 2021	Favorable/ (Unfavorable)	%
Interest income and other non-operating income, net	$ 598	$ 800	$ (202)	(25.3)%	$ 1,410	$ 2,383	$ (973)	(40.8)%

In the three months ended September 30, 2022, Interest income and other non-operating income, net decreased primarily due to several insignificant items.

In the nine months ended September 30, 2022, Interest income and other non-operating income, net decreased primarily due to (1) $0.4 billion in losses in the nine months ended September 30, 2022 compared to $0.3 billion in gains in the nine months ended September 30, 2021 related to Stellantis warrants; and (2) $0.3 billion decrease in non-service pension income.

Income Tax Expense (Benefit)

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	Favorable/ (Unfavorable)	%	September 30, 2022	September 30, 2021	Favorable/ (Unfavorable)	%
Income tax expense (benefit)	$ 845	$ 152	$ (693)	n.m.	$ 1,308	$ 2,300	$ 992	43.1 %

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n.m. = not meaningful

In the three months ended September 30, 2022, Income tax expense increased primarily due to higher pre-tax income and the absence of tax benefit related to a deduction for an investment in a subsidiary which occurred in the three months ended September 30, 2021.

In the nine months ended September 30, 2022, Income tax expense decreased primarily due to Cruise valuation allowance adjustments, lower effective tax rate as a result of Cruise reconsolidation and lower pre-tax income. The decrease was partially offset by the absence of a tax benefit related to a deduction for an investment in a subsidiary which occurred in the three months ended September 30, 2021.

For the three and nine months ended September 30, 2022, our ETR-adjusted was 20.6% and 20.7%. We expect our adjusted effective tax rate to be approximately 20% for the year ending December 31, 2022.

Refer to Note 15 to our condensed consolidated financial statements for additional information related to Income tax expense.

GM North America

	Three Months Ended		Favorable / (Unfavorable)	%	Variance Due To				
	September 30, 2022	September 30, 2021			Volume	Mix	Price	Cost	Other
					(Dollars in billions)				
Total net sales and revenue	$ 34,691	$ 20,554	$ 14,137	68.8 %	$ 14.6	$ (2.1)	$ 1.7		$ —
EBIT (loss)-adjusted	$ 3,894	$ 2,125	$ 1,769	83.2 %	$ 4.7	$ (1.6)	$ 1.7	$ (2.9)	$ (0.1)
EBIT (loss)-adjusted margin	11.2 %	10.3 %	0.9 %						
	(Vehicles in thousands)								
Wholesale vehicle sales	784	423	361	85.3 %					

	Nine Months Ended		Favorable / (Unfavorable)	%	Variance Due To				
	September 30, 2022	September 30, 2021			Volume	Mix	Price	Cost	Other
					(Dollars in billions)				
Total net sales and revenue	$ 92,907	$ 74,443	$ 18,464	24.8 %	$ 16.4	$ (3.3)	$ 5.0		$ 0.4
EBIT (loss)-adjusted	$ 9,334	$ 8,153	$ 1,181	14.5 %	$ 5.3	$ (3.3)	$ 5.0	$ (5.7)	$ (0.1)
EBIT (loss)-adjusted margin	10.0 %	11.0 %	(1.0)%						
	(Vehicles in thousands)								
Wholesale vehicle sales	2,139	1,729	410	23.7 %					

GMNA Total Net Sales and Revenue In the three months ended September 30, 2022, Total net sales and revenue increased primarily due to: (1) increased net wholesale volumes primarily due to increased sales of crossover vehicles, full-size pickup trucks, passenger cars, mid-size pickup trucks, vans and full-size SUVs; (2) favorable price as a result of low dealer inventory levels and strong demand for our products; partially offset by (3) unfavorable mix associated with increased sales of crossover vehicles, passenger cars and vans, partially offset by increased sales of full-size pickup trucks and full-size SUVs.

In the nine months ended September 30, 2022, Total net sales and revenue increased primarily due to: (1) increased net wholesale volumes primarily due to increased sales of crossover vehicles, passenger cars, full-size pickup trucks, vans, mid-size pickup trucks and full-size SUVs; (2) favorable price as a result of low dealer inventory levels and strong demand for our products; and (3) favorable Other due to increased sales of parts and accessories; partially offset by (4) unfavorable mix associated with increased sales of passenger cars, crossover vehicles, vans and mid-size pickup trucks, partially offset by increased sales of full-size pickup trucks and full-size SUVs.

GMNA EBIT (Loss)-Adjusted In the three months ended September 30, 2022, EBIT-adjusted increased primarily due to: (1) favorable volume; and (2) favorable price; partially offset by (3) unfavorable Cost primarily due to increased material and freight cost of $1.0 billion, increased campaigns and other warranty-related costs of $0.8 billion, including non-recurrence of the Chevrolet Bolt recall and associated recoveries in 2021, increased selling, general and administrative costs of $0.4 billion and increased manufacturing costs of $0.3 billion; and (4) unfavorable mix.

In the nine months ended September 30, 2022, EBIT-adjusted increased primarily due to: (1) favorable volume; and (2) favorable price; partially offset by (3) unfavorable Cost primarily due to increased material and freight cost of $3.4 billion, increased selling, general and administrative costs of $0.8 billion, increased manufacturing cost of $0.8 billion and increased engineering cost of $0.4 billion including accelerating our EV portfolio and (4) unfavorable mix.

GM International

	Three Months Ended		Favorable / (Unfavorable)	%	Variance Due To				
	September 30, 2022	September 30, 2021			Volume	Mix	Price	Cost	Other
					(Dollars in billions)				
Total net sales and revenue	$ 3,980	$ 2,843	$ 1,137	40.0 %	$ 1.4	$ (0.5)	$ 0.4		$ (0.1)
EBIT (loss)-adjusted	$ 334	$ 229	$ 105	45.9 %	$ 0.3	$ (0.2)	$ 0.4	$ (0.4)	$ —
EBIT (loss)-adjusted margin	8.4 %	8.1 %	0.3 %						
Equity income (loss) — Automotive China	*$ 330*	*$ 270*	*$ 60*	*22.2 %*					
EBIT (loss)-adjusted — excluding Equity income	*$ 5*	*$ (41)*	*$ 46*	*n.m.*					
	(Vehicles in thousands)								
Wholesale vehicle sales	182	113	69	61.1 %					

n.m. = not meaningful

	Nine Months Ended		Favorable / (Unfavorable)	%	Variance Due To				
	September 30, 2022	September 30, 2021			Volume	Mix	Price	Cost	Other
					(Dollars in billions)				
Total net sales and revenue	$ 11,100	$ 8,721	$ 2,379	27.3 %	$ 1.7	$ (0.1)	$ 1.0		$ (0.2)
EBIT (loss)-adjusted	$ 871	$ 552	$ 319	57.8 %	$ 0.4	$ —	$ 1.0	$ (0.7)	$ (0.4)
EBIT (loss)-adjusted margin	7.9 %	6.3 %	1.6 %						
Equity income (loss) — Automotive China	*$ 477*	*$ 854*	*$ (377)*	*(44.1)%*					
EBIT (loss)-adjusted — excluding Equity income	*$ 395*	*$ (302)*	*$ 697*	*n.m.*					
	(Vehicles in thousands)								
Wholesale vehicle sales	474	388	86	22.2 %					

n.m. = not meaningful

The vehicle sales of our Automotive China JVs are not recorded in Total net sales and revenue. The results of our joint ventures are recorded in Equity income (loss), which is included in EBIT (loss)-adjusted above.

GMI Total Net Sales and Revenue In the three months ended September 30, 2022, Total net sales and revenue increased primarily due to: (1) increased net wholesale volumes due to lost production volumes resulting from the shortage of semiconductors in 2021; (2) favorable pricing across multiple vehicle lines in South America and the Middle East; partially offset by (3) unfavorable mix in Brazil; and (4) unfavorable Other primarily due to the foreign currency effect resulting from the weakening of various currencies against the U.S. dollar, partially offset by increased components, parts and accessories sales.

In the nine months ended September 30, 2022, Total net sales and revenue increased primarily due to: (1) increased net wholesale volumes due to lost production volumes resulting from the shortage of semiconductors in 2021, partially offset by ongoing supply chain constraints; and (2) favorable pricing across multiple vehicle lines in South America and the Middle East; partially offset by (3) unfavorable mix in Brazil, partially offset by favorable mix in the Middle East and Asia/Pacific; and (4) unfavorable Other primarily due to the foreign currency effect resulting from the weakening of various currencies against the U.S. dollar, partially offset by increased components, parts and accessories sales.

GMI EBIT (Loss)-Adjusted In the three months ended September 30, 2022, EBIT-adjusted increased primarily due to: (1) favorable price; and (2) increased net wholesale volumes; partially offset by (3) unfavorable mix; and (4) unfavorable Cost primarily due to increased material and logistic costs and non-recurrence of the Chevrolet Bolt recall associated supplier recovery in 2021.

In the nine months ended September 30, 2022, EBIT-adjusted increased primarily due to: (1) favorable price; and (2) increased net wholesale volumes; partially offset by (3) unfavorable Cost primarily due to increased material and logistic costs; and (4) unfavorable Other primarily due to foreign currency effect resulting from the weakening of various currencies against the U.S. dollar and decreased equity income.

We view the Chinese market as important to our global growth strategy and are employing a multi-brand strategy. In the coming years we plan to leverage our global architectures to increase the number of product offerings under the Buick, Chevrolet and Cadillac brands in China and continue to grow our business under the local Baojun and Wuling brands while we are accelerating the development and rollout of EVs across our brands in China in response to our commitment to an all-electric future. We operate in the Chinese market through a number of joint ventures and maintaining strong relationships with our joint venture partners is an important part of our China growth strategy.

The following table summarizes certain key operational and financial data for the Automotive China JVs (vehicles in thousands):

	Three Months Ended		Nine Months Ended	
	September 30, 2022	September 30, 2021	September 30, 2022	September 30, 2021
Wholesale vehicle sales, including vehicles exported to markets outside of China	768	705	1,843	2,000
Total net sales and revenue	$ 10,393	$ 10,321	$ 25,467	$ 29,150
Net income (loss)	$ 661	$ 546	$ 959	$ 1,659

Cruise

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	Favorable / (Unfavorable)	%	September 30, 2022	September 30, 2021	Favorable / (Unfavorable)	%
Total net sales and revenue(a)	$ 25	$ 26	$ (1)	(3.8)%	$ 76	$ 81	$ (5)	(6.2)%
EBIT (loss)-adjusted(b)	$ (497)	$ (286)	$ (211)	(73.8)%	$ (1,365)	$ (847)	$ (518)	(61.2)%

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(a) Primarily reclassified to Interest income and other non-operating income, net in our condensed consolidated income statements in the three and nine months ended September 30, 2022 and 2021.
(b) Excludes $1.1 billion in compensation expense in the nine months ended September 30, 2022 resulting from modification of the Cruise stock incentive awards.

Cruise EBIT (Loss)-Adjusted In the three and nine months ended September 30, 2022, EBIT (loss)-adjusted increased primarily due to an increase in development costs as we progress towards the commercialization of a network of on-demand AVs in the United States and globally.

GM Financial

	Three Months Ended				Nine Months Ended			
	September 30, 2022	September 30, 2021	Increase/ (Decrease)	%	September 30, 2022	September 30, 2021	Increase/ (Decrease)	%
Total revenue	$ 3,187	$ 3,354	$ (167)	(5.0)%	$ 9,489	$ 10,187	$ (698)	(6.9)%
Provision for loan losses	$ 180	$ 141	$ 39	27.7 %	$ 500	$ 174	$ 326	n.m.
EBT (loss)-adjusted	$ 911	$ 1,093	$ (182)	(16.7)%	$ 3,301	$ 3,856	$ (555)	(14.4)%
Average debt outstanding (dollars in billions)	$ 93.7	$ 94.7	$ (1.0)	(1.1)%	$ 93.1	$ 94.4	$ (1.3)	(1.4)%
Effective rate of interest paid	3.2 %	3.0 %	0.2 %		2.8 %	2.8 %	— %	

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n.m. = not meaningful

GM Financial Revenue In the three months ended September 30, 2022, total revenue decreased primarily due to decreased leased vehicle income of $0.3 billion primarily due to a decrease in the average balance of the leased vehicles portfolio; partially offset by increased finance charge income of $0.1 billion primarily due to growth in the size of the portfolio.

In the nine months ended September 30, 2022, total revenue decreased primarily due to decreased leased vehicle income of $0.9 billion primarily due to a decrease in the average balance of the leased vehicles portfolio; partially offset by increased finance charge income of $0.1 billion primarily due to growth in the size of the portfolio.

GM Financial EBT-Adjusted In the three months ended September 30, 2022, EBT-adjusted decreased primarily due to: (1) decreased leased vehicle income net of leased vehicle expenses of $0.2 billion primarily due to decreased leased vehicle income primarily due to a decrease in the average balance of the leased vehicles portfolio and decreased lease termination gains associated with higher leased portfolio net book values and fewer vehicles returned for remarketing; partially offset by decreased depreciation on leased vehicles resulting from increased residual value estimates and a decrease in the size of the portfolio; and (2) increased interest expense of $0.1 billion primarily due to an increased effective rate of interest on our debt, partially offset by a decrease in the average debt outstanding; partially offset by (3) increased finance charge income of $0.1 billion primarily due to growth in the size of the portfolio.

In the nine months ended September 30, 2022, EBT-adjusted decreased primarily due to: (1) decreased leased vehicle income net of leased vehicle expenses of $0.4 billion primarily due to decreased leased vehicle income as a result of a decrease in the average balance of the leased vehicles portfolio and decreased lease termination gains associated with higher leased portfolio net book values and fewer vehicles returned for remarketing; partially offset by decreased depreciation on leased vehicles resulting from increased residual value estimates and a decrease in the size of the portfolio; (2) increased provision for loan losses of $0.3 billion primarily due to a reduction in reserve levels recorded in the nine months ended September 30, 2021 as a result of actual credit performance that was better than forecast and favorable expectations for future charge-offs and recoveries, as well as an economic forecast weighted more heavily to a weaker outlook as of September 30, 2022; partially offset by (3) increased finance charge income of $0.1 billion primarily due to growth in the size of the portfolio.

Liquidity and Capital Resources We believe our current levels of cash, cash equivalents, marketable debt securities, available borrowing capacity under our revolving credit facilities and other liquidity actions currently available to us are sufficient to meet our liquidity requirements. We also maintain access to the capital markets and may issue debt or equity securities, which may provide an additional source of liquidity. We have substantial cash requirements going forward, which we plan to fund through our total available liquidity, cash flows from operating activities and additional liquidity measures, if determined to be necessary.

Our known current material uses of cash include, among other possible demands: (1) capital spending and our investments in Ultium Cells LLC, our battery joint venture with LG Energy Solution, of approximately $9.0 billion to $10.0 billion in 2022, which we expect may increase in future years as we accelerate investments in our EV and AV future; (2) payments for engineering and product development activities; (3) payments associated with previously announced vehicle recalls and any other recall-related contingencies; (4) payments to service debt and other long-term obligations, including discretionary and mandatory contributions to our pension plans; and (5) payments associated with the previously announced liquidity program for holders of equity-based incentive awards issued to employees of Cruise pursuant to Cruise's 2018 Employee Incentive Plan, which we expect to be $1.0 billion to $1.5 billion in 2022, with ongoing expenditures thereafter. Our material future uses of cash, which may vary from time to time based on market conditions and other factors, are focused on the three objectives of our capital allocation program: (1) grow our business at an average target ROIC-adjusted rate of 20% or greater; (2) maintain a strong investment-grade balance sheet, including a target average automotive cash balance of $18 billion; and (3) after the first two objectives are met, return available cash to shareholders. Our senior management evaluates our capital allocation program on an ongoing basis and recommends any modifications to the program to our Board of Directors, not less than once annually.

Our liquidity plans are subject to a number of risks and uncertainties, including those described in the "Forward-Looking Statements" section of this MD&A and Part I, Item 1A. Risk Factors of our 2021 Form 10-K, some of which are outside of our control.

We continue to monitor and evaluate opportunities to strengthen our competitive position over the long term while maintaining a strong investment-grade balance sheet. These actions may include opportunistic payments to reduce our long-term obligations as well as the possibility of acquisitions, dispositions and investments with joint venture partners as well as strategic alliances that we believe would generate significant advantages and substantially strengthen our business.

In July 2022, the U.S. Department of Energy (DOE) announced its conditional commitment through the Advanced Technology Vehicles Manufacturing program to loan $2.5 billion to Ultium Cells LLC. We expect the loan will close in the fourth quarter of 2022, subject to negotiation of final documentation and satisfaction of certain conditions. Under the anticipated terms of the loan, the DOE will not have recourse on the principal and interest of the loan against General Motors Company or any of its consolidated subsidiaries.

In August 2022, our Board of Directors increased the capacity under our previously announced common stock repurchase program to $5.0 billion from the $3.3 billion that remained under the program as of June 30, 2022. During the three months ended September 30, 2022, we completed $1.5 billion of repurchases under the program and retired 38 million shares of our common stock.

Cash flows that occur amongst our Automotive, Cruise and GM Financial operations are eliminated when we consolidate our cash flows. Such eliminations include, among other things, collections by Automotive on wholesale accounts receivables financed by dealers through GM Financial, payments between Automotive and GM Financial for accounts receivables transferred by Automotive to GM Financial, loans to Automotive and Cruise from GM Financial, dividends issued by GM Financial to Automotive, tax payments by GM Financial to Automotive and Automotive cash injections in Cruise. The presentation of Automotive liquidity, Cruise liquidity and GM Financial liquidity presented below includes the impact of cash transactions amongst the sectors that are ultimately eliminated in consolidation.

Automotive Liquidity Total available liquidity includes cash, cash equivalents, marketable debt securities and funds available under credit facilities. The amount of available liquidity is subject to seasonal fluctuations and includes balances held by various business units and subsidiaries worldwide that are needed to fund their operations. We have not significantly changed the management of our liquidity, including our allocation of available liquidity, our portfolio composition and our investment guidelines since December 31, 2021. Refer to Part II, Item 7. MD&A of our 2021 Form 10-K.

We use credit facilities as a mechanism to provide additional flexibility in managing our global liquidity. Our Automotive borrowing capacity under credit facilities totaled $15.5 billion at September 30, 2022 and December 31, 2021. Total Automotive borrowing capacity under our credit facilities does not include our 364-day, $2.0 billion facility allocated for exclusive use of GM Financial. We did not have any borrowings against our primary facilities, but had letters of credit outstanding under our sub-facility of $0.3 billion at September 30, 2022 and December 31, 2021.

In April 2022, we renewed our 364-day, $2.0 billion revolving credit facility allocated for the exclusive use of GM Financial, which now matures on April 4, 2023. If available capacity permits, GM Financial continues to have access to our automotive credit facilities. GM Financial did not have borrowings outstanding against any of these facilities at September 30, 2022 and December 31, 2021. We had intercompany loans from GM Financial of $0.2 billion at September 30, 2022 and December 31, 2021, which primarily consisted of commercial loans to dealers we consolidate. We did not have intercompany loans to GM Financial at September 30, 2022 and December 31, 2021. Refer to Note 5 to our condensed consolidated financial statements for additional information.

In August 2022, we issued $2.25 billion in aggregate principal amount of senior unsecured notes under our new Sustainable Finance Framework with a weighted average interest rate of 5.51% and maturity dates of 2029 and 2032. We intend to allocate an amount equal to the net proceeds from these senior unsecured notes to finance or refinance, in whole or in part, new or existing green projects, assets or activities undertaken or owned by the Company that meet one or more eligibility criteria outlined in our Sustainable Finance Framework.

Several of our loan facilities, including our revolving credit facilities, require compliance with certain financial and operational covenants as well as regular reporting to lenders. We have reviewed our covenants in effect as of September 30, 2022 and determined we are in compliance and expect to remain in compliance in the future.

In March 2022, under the Share Purchase Agreement, we acquired SoftBank's equity ownership stake in Cruise for $2.1 billion and, separately, we made an additional $1.35 billion investment in Cruise in place of SoftBank. During the three and nine months ended September 30, 2022, we made additional investments in Cruise of $0.2 billion and $0.8 billion.

In September 2022, we exercised our 39.7 million warrants in Stellantis. Upon exercise, the warrants converted into 69.1 million common shares of Stellantis, which we immediately sold back to Stellantis. Total net pre-tax proceeds, including dividends received, in connection with this transaction were approximately $1.1 billion.

GM Financial's Board of Directors declared and paid dividends of $0.3 billion and $1.0 billion on its common stock in the three and nine months ended September 30, 2022 and $0.6 billion and $1.8 billion in the three and nine months ended September 30, 2021.

The following table summarizes our Automotive available liquidity (dollars in billions):

	September 30, 2022	December 31, 2021
Automotive cash and cash equivalents	$ 15.0	$ 14.5
Marketable debt securities	8.0	7.1
Automotive cash, cash equivalents and marketable debt securities	23.0	21.6
Available under credit facilities(a)	15.2	15.2
Total Automotive available liquidity	$ 38.1	$ 36.8

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(a) We had letters of credit outstanding under our sub-facility of $0.3 billion at September 30, 2022 and December 31, 2021.

The following table summarizes the changes in our Automotive available liquidity (dollars in billions):

	Nine Months Ended September 30, 2022
Operating cash flow	$ 11.6
Capital expenditures	(5.8)
Purchase of SoftBank's equity stake in Cruise	(2.1)
GM investment in Cruise	(2.1)
Dividends paid and payments to purchase common stock	(1.6)
Issuance of senior unsecured notes	2.2
Net proceeds from sale of Stellantis common shares(a)	0.9
Investment in Ultium Cells LLC	(0.6)
Other non-operating	(1.1)
Total change in automotive available liquidity	$ 1.3

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(a) Excludes dividends received and tax withholding.

	Nine Months Ended		
	September 30, 2022	September 30, 2021	Change
Operating Activities			
Net income (loss)	$ 6.7	$ 6.5	$ 0.2
Depreciation, amortization and impairment charges	4.8	4.3	0.5
Pension and OPEB activities	(1.5)	(1.8)	0.3
Working capital	(1.2)	(7.8)	6.6
Accrued and other liabilities and income taxes	1.8	(1.0)	2.8
Other	1.0	0.1	0.9
Net automotive cash provided by (used in) operating activities	$ 11.6	$ 0.3	$ 11.3

In the nine months ended September 30, 2022, the increase in Net automotive cash provided by operating activities was primarily due to: (1) working capital; and (2) lower sales incentive payments of $5.0 billion; partially offset by (3) lower dividends received from GM Financial of $0.8 billion.

	Nine Months Ended		
	September 30, 2022	September 30, 2021	Change
Investing Activities			
Capital expenditures	$ (5.8)	$ (4.2)	$ (1.6)
Acquisitions and liquidations of marketable securities, net	(1.3)	3.3	(4.6)
Other(a)	(4.0)	(1.8)	(2.2)
Net automotive cash provided by (used in) investing activities	$ (11.1)	$ (2.7)	$ (8.4)

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(a) Includes $2.1 billion and $1.0 billion for GM's investment in Cruise in the nine months ended September 30, 2022 and 2021, $2.1 billion related to the redemption of Cruise preferred shares from SoftBank in the nine months ended September 30, 2022, $0.9 billion related to the sale of Stellantis common shares, excluding dividends received and tax withholding, in the nine months ended September 30, 2022, and a $0.6 billion and $0.3 billion investment in Ultium Cells LLC in the nine months ended September 30, 2022 and 2021.

In the nine months ended September 30, 2022, cash used in acquisitions and liquidations of marketable securities, net increased due to acquisitions of securities and investments compared to liquidations of securities to fund operating activities and investments during the nine months ended September 30, 2021.

	Nine Months Ended		
	September 30, 2022	September 30, 2021	Change
Financing Activities			
Net proceeds (payments) from short-term debt	$ (0.2)	$ (0.5)	$ 0.3
Issuance of senior unsecured notes	2.2	—	2.2
Other(a)	(2.1)	(0.4)	(1.7)
Net automotive cash provided by (used in) financing activities	$ —	$ (0.9)	$ 0.8

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(a) Includes $1.6 billion for dividends paid and payments to purchase common stock in the nine months ended September 30, 2022.

Adjusted Automotive Free Cash Flow We measure adjusted automotive free cash flow as automotive operating cash flow from operations less capital expenditures adjusted for management actions. In the nine months ended September 30, 2022, net automotive cash provided by operating activities under U.S. GAAP was $11.6 billion, capital expenditures were $5.8 billion, and adjustments were insignificant.

In the nine months ended September 30, 2021, net automotive cash provided by operating activities under U.S. GAAP was $0.3 billion, capital expenditures were $4.2 billion, and adjustments for management actions were insignificant.

Status of Credit Ratings We receive ratings from four independent credit rating agencies: DBRS Limited (DBRS), Fitch Ratings (Fitch), Moody's Investors Service and Standard & Poor's. All four credit rating agencies currently rate our corporate credit at investment grade. In May 2022, Fitch raised our ratings outlook to positive from stable. In June 2022, DBRS upgraded our Issuer Rating and Revolving Credit Facility rating to BBB (high) from BBB and also changed its outlook to stable from positive. As of October 17, 2022, all other credit ratings remained unchanged since December 31, 2021.

Cruise Liquidity In January 2022, Cruise Holdings met the requirements for commercial deployment under its agreements with SoftBank, which triggered SoftBank's obligation to purchase additional Cruise convertible preferred shares for $1.35 billion. In March 2022, GM made the additional $1.35 billion investment in Cruise in place of SoftBank following GM's acquisition of SoftBank's equity ownership stake in Cruise pursuant to the Share Purchase Agreement.

Additionally, in March 2022, GM and Cruise announced a liquidity program for holders of equity-based incentive awards issued to the employees of Cruise pursuant to Cruise's 2018 Employee Incentive Plan, under which GM will purchase newly issued Cruise Class B Common Shares to fund the tax withholding on vested awards and GM will conduct tender offers for Cruise Class B Common Shares issued to settle vested awards. During the three and nine months ended September 30, 2022, Cruise issued an insignificant amount and approximately $0.5 billion of Cruise Class B Common Shares, primarily to us, to fund the payment of statutory tax withholding obligations resulting from the settlement or exercise of vested awards. Also, GM conducted quarterly tender offers, and paid an insignificant amount and approximately $0.3 billion in cash to settle tendered Cruise Class B Common Shares under the announced liquidity program during the three and nine months ended September 30, 2022. Refer to Note 16 to our condensed consolidated financial statements for additional information.

The following table summarizes Cruise's available liquidity (dollars in billions):

	September 30, 2022	December 31, 2021
Cruise cash and cash equivalents	$ 1.7	$ 1.6
Cruise marketable securities	1.6	1.5
Total Cruise available liquidity(a)	$ 3.2	$ 3.1

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(a) Excludes a multi-year credit agreement between Cruise and GM Financial whereby Cruise can request to borrow, over time, up to an aggregate of $5.0 billion, through 2024, to fund exclusively the purchase of AVs from GM.

The following table summarizes the changes in Cruise's available liquidity (dollars in billions):

	Nine Months Ended September 30, 2022
Operating cash flow(a)	$ (1.3)
GM investment in Cruise	2.1
Employee Incentive Plan	(0.5)
Other non-operating	(0.1)
Total change in Cruise available liquidity	$ 0.1

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(a) Includes $0.2 billion cash outflows related to tendered Cruise Class B Common Shares classified as liabilities.

Cruise Cash Flow (dollars in billions)

	Nine Months Ended		
	September 30, 2022	September 30, 2021	Change
Net cash provided by (used in) operating activities	$ (1.3)	$ (0.7)	$ (0.6)
Net cash provided by (used in) investing activities	$ (0.2)	$ (0.9)	$ 0.7
Net cash provided by (used in) financing activities	$ 1.6	$ 2.7	$ (1.1)

Automotive Financing – GM Financial Liquidity GM Financial's primary sources of cash are finance charge income, leasing income and proceeds from the sale of terminated leased vehicles, net proceeds from credit facilities, securitizations, secured and unsecured borrowings and collections and recoveries on finance receivables. GM Financial's primary uses of cash are purchases and funding of finance receivables and leased vehicles, repayment or repurchases of secured and unsecured debt, funding credit enhancement requirements in connection with securitizations and secured credit facilities, interest costs, operating expenses, income taxes and dividend payments. GM Financial continues to monitor and evaluate opportunities to optimize its liquidity position and the mix of its debt between secured and unsecured debt. The following table summarizes GM Financial's available liquidity (dollars in billions):

	September 30, 2022	December 31, 2021
Cash and cash equivalents	$ 4.1	$ 4.0
Borrowing capacity on unpledged eligible assets	20.8	19.2
Borrowing capacity on committed unsecured lines of credit	0.5	0.5
Borrowing capacity on revolving credit facility, exclusive to GM Financial	2.0	2.0
Total GM Financial available liquidity	$ 27.3	$ 25.7

At September 30, 2022, GM Financial's available liquidity increased from December 31, 2021 due to increased available borrowing capacity on unpledged eligible assets, resulting from the issuance of securitization transactions and unsecured debt, and an increase in cash and cash equivalents. GM Financial structures liquidity to support at least six months of GM Financial's expected net cash flows, including new originations, without access to new debt financing transactions or other capital markets activity.

GM Financial did not have any borrowings outstanding against our credit facility designated for their exclusive use or the remainder of our revolving credit facilities at September 30, 2022 and December 31, 2021. Refer to the Automotive Liquidity section of this MD&A for additional details.

Credit Facilities In the normal course of business, in addition to using its available cash, GM Financial utilizes borrowings under its credit facilities, which may be secured or unsecured, and GM Financial repays these borrowings as appropriate under its cash management strategy. At September 30, 2022, secured, committed unsecured and uncommitted unsecured credit facilities totaled $26.0 billion, $0.6 billion and $1.3 billion with advances outstanding of $3.8 billion, an insignificant amount and $1.3 billion.

GM Financial Cash Flow (dollars in billions)

	Nine Months Ended		
	September 30, 2022	September 30, 2021	Change
Net cash provided by (used in) operating activities	$ 3.8	$ 5.6	$ (1.8)
Net cash provided by (used in) investing activities	$ (6.7)	$ (3.2)	$ (3.5)
Net cash provided by (used in) financing activities	$ 2.4	$ (1.6)	$ 4.0

In the nine months ended September 30, 2022, Net cash provided by operating activities decreased primarily due to: (1) a net increase in cash used in counterparty derivative collateral posting activities of $1.0 billion; and (2) a decrease in leased vehicle income of $0.9 billion; partially offset by (3) a decrease in interest paid of $0.1 billion.

In the nine months ended September 30, 2022, Net cash used in investing activities increased primarily due to: (1) a decrease in the proceeds from termination of leased vehicles of $4.5 billion; (2) an increase in purchases and originations of finance receivables of $3.7 billion; and (3) a decrease in collections and recoveries on finance receivables of $2.8 billion; partially offset by (4) a decrease in purchases of leased vehicles of $7.6 billion.

In the nine months ended September 30, 2022, Net cash provided by financing activities increased primarily due to: (1) a decrease in debt repayments of $5.9 billion; and (2) a decrease in dividend payments of $0.8 billion; partially offset by (3) a decrease in borrowings of $2.7 billion.

Critical Accounting Estimates The condensed consolidated financial statements are prepared in conformity with U.S. GAAP, which requires the use of estimates, judgments and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses in the periods presented. We believe the accounting estimates employed are appropriate and the resulting balances are reasonable; however, due to the inherent uncertainties in developing estimates, actual results could differ from the original estimates, requiring adjustments to these balances in future periods. The critical accounting estimates that affect the condensed consolidated financial statements and the judgments and assumptions used are consistent with those described in the MD&A in our 2021 Form 10-K.

Forward-Looking Statements This report and the other reports filed by us with the SEC from time to time, as well as statements incorporated by reference herein and related comments by our management, may include "forward-looking statements" within the meaning of the U.S. federal securities laws. Forward-looking statements are any statements other than statements of historical fact. Forward-looking statements represent our current judgment about possible future events and are often identified by words like “aim,” “anticipate,” “appears,” “approximately,” “believe,” “continue,” “could,” “designed,” “effect,” “estimate,” “evaluate,” “expect,” “forecast,” “goal,” “initiative,” “intend,” “may,” “objective,” “outlook,” “plan,” “potential,” “priorities,” “project,” “pursue,” “seek,” “should,” “target,” “when,” “will,” “would,” or the negative of any of those words or similar expressions. In making these statements, we rely on assumptions and analysis based on our experience and perception of historical trends, current conditions and expected future developments as well as other factors we consider appropriate under the circumstances. We believe these judgments are reasonable, but these statements are not guarantees of any future events or financial results, and our actual results may differ materially due to a variety of important factors, many of which are beyond our control. These factors, which may be revised or supplemented in subsequent reports we file with the SEC, include, among others, the following: (1) our ability to deliver new products, services, technologies and customer experiences in response to increased competition and changing consumer preferences in the automotive industry; (2) our ability to timely fund and introduce new and improved vehicle models, including EVs, that are able to attract a sufficient number of consumers; (3) our ability to profitably deliver a broad portfolio of EVs that will help drive consumer adoption; (4) the success of our current line of full-size SUVs and full-size pickup trucks; (5) our highly competitive industry, which has been historically characterized by excess manufacturing capacity and the use of incentives, and the introduction of new and improved vehicle models by our competitors; (6) the unique technological, operational, regulatory and competitive risks related to the timing and commercialization of AVs; (7) risks associated with climate change, including increased regulation of greenhouse gas emissions, our transition to EVs and the potential increased impacts of severe weather events; (8) global automobile market sales volume, which can be volatile; (9) prices and uncertain availability of raw materials and commodities used by us and our suppliers, and instability in logistics and related costs; (10) our business in China, which is subject to unique operational, competitive, regulatory and economic risks; (11) the success of our ongoing strategic business relationships and of our joint ventures, which we cannot operate solely for our benefit and over which we may have limited control; (12) the international scale and footprint of our operations, which exposes us to a variety of unique political, economic, competitive and regulatory risks, including the risk of changes in government leadership and laws (including labor, trade, tax and other laws), political uncertainty or instability and economic tensions between governments and changes in international trade policies, new barriers to entry and changes to or withdrawals from free trade agreements, changes in foreign exchange rates and interest rates, economic downturns in the countries in which we operate, differing local product preferences and product requirements, changes to and compliance with U.S. and foreign countries' export controls and economic sanctions, differing labor regulations, requirements and union relationships, differing dealer and franchise regulations and relationships, difficulties in obtaining financing in foreign countries, and public health crises, including the occurrence of a contagious disease or illness, such as the COVID-19 pandemic; (13) any significant disruption, including any work stoppages, at any of our manufacturing facilities; (14) the ability of our suppliers to deliver parts, systems and components without disruption and at such times to allow us to meet production schedules; (15) the ongoing COVID-19 pandemic; (16) the success of any restructurings or other cost reduction actions; (17) the possibility that competitors may independently develop products and services similar to ours, or that our intellectual property rights are not sufficient to prevent competitors from developing or selling those products or services; (18) our ability to manage risks related to security breaches and other disruptions to our information technology systems and networked products, including connected vehicles and in-vehicle systems; (19) our ability to comply with increasingly complex, restrictive and punitive regulations relating to our enterprise data practices, including the collection, use, sharing and security of the Personal Identifiable Information of our customers, employees, or suppliers; (20) our ability to comply with extensive laws, regulations and policies applicable to our operations and products, including those relating to fuel economy, emissions and AVs; (21) costs and risks associated with litigation and government investigations; (22) the costs and effect on our reputation of product safety recalls and alleged defects in products and services; (23) any additional tax expense or exposure; (24) our continued ability to develop captive financing capability through GM Financial; and (25) any significant increase in our pension funding requirements. A further list and description of these risks, uncertainties and other factors can be found in our 2021 Form 10-K and our subsequent filings with the SEC.

We caution readers not to place undue reliance on forward-looking statements. Forward-looking statements speak only as of the date they are made, and we undertake no obligation to update publicly or otherwise revise any forward-looking statements, whether as a result of new information, future events or other factors, except where we are expressly required to do so by law.

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Item 3. Quantitative and Qualitative Disclosures About Market Risk

There have been no significant changes in our exposure to market risk since December 31, 2021. For further discussion on market risk, refer to Part II, Item 7A. of our 2021 Form 10-K.

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Item 4. Controls and Procedures

Disclosure Controls and Procedures We maintain disclosure controls and procedures designed to provide reasonable assurance that information required to be disclosed in reports filed under the Securities Exchange Act of 1934, as amended (Exchange Act), is recorded, processed, summarized and reported within the specified time periods and accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosures.

Our management, with the participation of our CEO and CFO, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) promulgated under the Exchange Act) as of September 30, 2022 as required by paragraph (b) of Rules 13a-15 or 15d-15. Based on this evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of September 30, 2022.

Changes in Internal Control over Financial Reporting There have not been any changes in our internal control over financial reporting during the three months ended September 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. For additional information refer to Part I, Item 1A. Risk Factors of our 2021 Form 10-K.

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PART II

Item 1. Legal Proceedings

SEC regulations require us to disclose certain information about environmental proceedings if a governmental authority is a party to such proceedings and such proceedings involve potential monetary sanctions that we reasonably believe will exceed a stated threshold. Pursuant to the SEC regulations, the Company will use a threshold of $1.0 million for purposes of determining whether disclosure of any such proceedings is required.

The discussion under "Litigation-Related Liability and Tax Administrative Matters" in Note 14 to our condensed consolidated financial statements is incorporated by reference into this Part II, Item 1.

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Item 1A. Risk Factors

We face a number of significant risks and uncertainties in connection with our operations. Our business and the results of our operations and financial condition could be materially adversely affected by these risk factors. There have been no material changes to the Risk Factors disclosed in our 2021 Form 10-K.

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

Purchases of Equity Securities The following table summarizes our purchases of common stock in the three months ended September 30, 2022:

	Total Number of Shares Purchased(a)(b)	Weighted Average Price Paid per Share(c)	Total Number of Shares Purchased Under Announced Programs(b)	Approximate Dollar Value of Shares That May Yet be Purchased Under Announced Programs
July 1, 2022 through July 31, 2022	5,813	$ 32.19	—	$3.3 billion
August 1, 2022 through August 31, 2022	15,499,447	$ 39.32	15,499,447	$4.4 billion
September 1, 2022 through September 30, 2022	22,450,580	$ 39.74	22,402,456	$3.5 billion
Total	37,955,840	$ 39.57	37,901,903	

(a) Shares purchased consist of shares delivered by employees or directors to us for the payment of taxes resulting from the issuance of common stock upon the vesting of RSUs and PSUs relating to compensation plans. Refer to our 2021 Form 10-K for additional details on employee stock incentive plans.

(b) In January 2017, we announced that our Board of Directors had authorized the purchase of up to $5.0 billion of our common stock with no expiration date. In August 2022, the Board of Directors increased the capacity to $5.0 billion from the $3.3 billion that remained as of June 30, 2022, with no expiration.

(c) The weighted-average price paid per share excludes broker commissions.

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Item 6. Exhibits

Exhibit Number	Exhibit Name	
3.1	Restated Certificate of Incorporation of General Motors Company dated December 7, 2010, incorporated herein by reference to Exhibit 3.2 to the Current Report on Form 8-K of General Motors Company filed December 13, 2010	Incorporated by Reference
3.2	General Motors Company Amended and Restated Bylaws, as amended August 17, 2021, incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of General Motors Company filed on August 23, 2021	Incorporated by Reference
4.1	Seventh Supplemental Indenture, dated as of August 2, 2022, to the Indenture, dated as of September 27, 2013, between General Motors Company, as issuer, and The Bank of New York Mellon, as Trustee, incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K of General Motors Company filed on August 2, 2022	Incorporated by Reference
31.1	Section 302 Certification of the Chief Executive Officer	Filed Herewith
31.2	Section 302 Certification of the Chief Financial Officer	Filed Herewith
32	Certification Pursuant to 18 U.S.C. Section 1350, As Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	Furnished with this Report
101	The following financial information from the Company’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, formatted in Inline Extensible Business Reporting Language (iXBRL) includes: (i) the Condensed Consolidated Income Statements, (ii) the Condensed Consolidated Statements of Comprehensive Income, (iii) the Condensed Consolidated Balance Sheets, (iv) the Condensed Consolidated Statements of Cash Flows, (v) the Condensed Consolidated Statements of Equity and (vi) Notes to the Condensed Consolidated Financial Statements	Filed Herewith
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, formatted as Inline XBRL and contained in Exhibit 101	Filed Herewith

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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.

GENERAL MOTORS COMPANY (Registrant)

By: /s/ CHRISTOPHER T. HATTO

Christopher T. Hatto, Vice President, Global Business Solutions and Chief Accounting Officer

Date: October 25, 2022

Exhibit 31.1

CERTIFICATION

I, Mary T. Barra, certify that:

1. I have reviewed this quarterly report on Form 10-Q of General Motors Company;

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.

/s/ MARY T. BARRA

Mary T. Barra
Chair and Chief Executive Officer

Date: October 25, 2022

Exhibit 31.2

CERTIFICATION

I, Paul A. Jacobson, certify that:

1. I have reviewed this quarterly report on Form 10-Q of General Motors Company;

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.

/s/ PAUL A. JACOBSON
Paul A. Jacobson
Executive Vice President and Chief Financial Officer

Date: October 25, 2022

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 of General Motors Company (the "Company") on Form 10-Q 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 the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to the best of such officer's knowledge:

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 the Company.

/s/ MARY T. BARRA
Mary T. Barra
Chair and Chief Executive Officer

/s/ PAUL A. JACOBSON
Paul A. Jacobson
Executive Vice President and Chief Financial Officer

Date: October 25, 2022