PART II

ITEM 5. ***Market for Registrant's Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities.***

At December 31, 2020, all of our Shares were owned by Ford Holdings LLC, a wholly owned subsidiary of Ford. We did not issue or sell any equity interests during 2020, and there is no market for our Shares. We paid cash distributions to our parent of $2.9 billion and $2.4 billion in 2019 and 2020, respectively.

ITEM 6. ***Selected Financial Data.***

Not required.

ITEM 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations.***

Overview

Our primary focus is to profitably support the sale of Ford and Lincoln vehicles. We work with Ford to maximize customer and dealer satisfaction and loyalty, offering a wide variety of financing products and outstanding service. We strive to continually improve processes focusing on the customer and the dealer to manage costs and ensure the efficient use of capital. As a result, Ford Credit is uniquely positioned to drive incremental sales, improve customer satisfaction and owner loyalty to Ford, and direct profits and distributions back to Ford to support its overall business, including vehicle development.

We leverage three fundamental strategies in the management of our operations:

- To employ prudent origination practices while maintaining a managed level of risk;
- To have efficient and effective servicing and collection practices; and
- To fund the business efficiently while managing our balance sheet risk.

Generation of Revenue, Income, and Cash

The principal factors that influence our earnings are the amount and mix of finance receivables, operating leases, and financing margins. The performance of these receivables and operating leases over time, mainly through the impact of credit losses and variations in the residual value of leased vehicles, also affects our earnings.

The amount of our finance receivables and operating leases depends on many factors, including:

- The volume of new and used vehicle sales and leases;
- The extent to which we purchase retail financing and operating lease contracts and the extent to which we provide wholesale financing;
- The sales price of the vehicles financed;
- The level of dealer inventories;
- Ford-sponsored special financing programs available exclusively through us; and
- The availability of cost-effective funding.

For finance receivables, financing margin equals the difference between revenue earned on finance receivables and the cost of borrowed funds. For operating leases, financing margin equals revenue earned on operating leases, less depreciation expense and the cost of borrowed funds. Interest rates earned on most receivables and rental charges on operating leases generally are fixed at the time the contracts are originated. On some receivables, primarily dealer wholesale financing, we charge interest at a floating rate that varies with changes in short-term interest rates.

Business Performance

We review our business performance by segment (United States and Canada, Europe, and All Other) on a managed basis. Receivables are presented on a managed basis, as it closely approximates the customer's outstanding balance on the receivables, which is the basis for earning revenue. Our managed receivables equal net finance receivables, net investment in operating leases, and held-for-sale receivables, excluding unearned interest supplements and residual support, allowance for credit losses, and other (primarily accumulated supplemental depreciation). To evaluate our performance we monitor a number of measures, such as delinquencies, repossession statistics, losses on repossessions, and the number of bankruptcy filings.

We measure the performance of our segments primarily on an income before income taxes basis, after excluding market valuation adjustments to derivatives and exchange-rate fluctuations on foreign currency-denominated transactions, which are reflected in Unallocated Other. These adjustments are excluded when assessing our segment performance because they are carried out at the corporate level. We also adjust segment performance to reallocate interest expense among the segments reflecting debt and equity levels proportionate to their product risk. For additional information regarding our segments, see Note 14 of our Notes to the Financial Statements.

COVID-19

The impact of COVID-19, including changes in consumer behavior, pandemic fears and market downturns, and restrictions on business and individual activities, has created significant volatility in the global economy and led to reduced economic activity. There have been extraordinary actions taken by international, federal, state, and local public health and governmental authorities to contain and combat the outbreak and spread of COVID-19 in regions throughout the world, including travel bans, quarantines, "stay-at-home" orders, and similar mandates for many individuals to substantially restrict daily activities and for many businesses to curtail or cease normal operations. Although restrictions have been eased in many locations, some areas that had previously eased restrictions have reverted to more stringent limitations on daily activities. Further, if new strains of COVID-19 develop or sufficient amounts of vaccines are not available, not widely administered for a significant period of time, or otherwise prove ineffective, the impact of COVID-19 on the global economy, and, in turn, on Ford and Ford Credit, could be material.

The remote work arrangements that we implemented in 2020 remain in place in most locations. Our remote work arrangements have been designed to allow for continued operation of business functions, including originating and servicing customer contracts, financial reporting, and internal control. Our controls and procedures have incorporated remote work arrangements using appropriate digital tools.

We established new protocols to help protect the health and safety of our employees who have returned to work. Those measures include a daily, online health self-certification, a no-touch temperature scan upon entering our facilities, a policy requiring the use of face masks in our facilities, and measures to provide additional personal protective equipment, including face shields, when employees' jobs do not allow them to socially distance. We have also enhanced our cleaning protocols.

The full impact of COVID-19 on future results depends on future developments, such as the ultimate duration and scope of the outbreak (including any potential future waves and the success of vaccination programs) and its impact on Ford and Ford Credit's customers, dealers, and suppliers. For additional information on the impact and potential impact of COVID-19 on us, see "Item 1A. Risk Factors".

Definitions and Information Regarding Causal Factors

In general, we measure period-to-period changes in earnings before taxes ("EBT") using the causal factors listed below:

- *Volume and Mix* – Volume and Mix are primarily reflected within *Net financing margin* on the income statements.
  - Volume primarily measures changes in net financing margin driven by changes in average managed receivables at prior period financing margin yield (defined below in financing margin) at prior period exchange rates. Volume changes are primarily driven by the volume of new and used vehicles sold and leased, the extent to which we purchase retail financing and operating lease contracts, the extent to which we provide wholesale financing, the sales price of the vehicles financed, the level of dealer inventories, Ford-sponsored special financing programs available exclusively through us, and the availability of cost-effective funding.
  - Mix primarily measures changes in net financing margin driven by period-over-period changes in the composition of our average managed receivables by product within each region.

- *Financing Margin* – Financing Margin is reflected within *Net financing margin* on the income statements.
  - Financing margin variance is the period-to-period change in financing margin yield multiplied by the present period average managed receivables at prior period exchange rates. This calculation is performed at the product and country level and then aggregated. Financing margin yield equals revenue, less interest expense and scheduled depreciation for the period, divided by average managed receivables for the same period.
  - Financing margin changes are driven by changes in revenue and interest expense. Changes in revenue are primarily driven by the level of market interest rates, cost assumptions in pricing, mix of business, and competitive environment. Changes in interest expense are primarily driven by the level of market interest rates, borrowing spreads, and asset-liability management.

- *Credit Loss* – Credit Loss is reflected within the *Provision for credit losses* on the income statements.
  - Credit loss is the change in the provision for credit losses at prior period exchange rates. For analysis purposes, management splits the provision for credit losses into net charge-offs and the change in the allowance for credit losses.
  - Net charge-off changes are primarily driven by the number of repossessions, severity per repossession, and recoveries. Changes in the allowance for credit losses are primarily driven by changes in historical trends in credit losses and recoveries, changes in the composition and size of our present portfolio, changes in trends in historical used vehicle values, and changes in forward-looking macroeconomic conditions. For additional information, refer to the "Critical Accounting Estimates" section.

- *Lease Residual* – Lease Residual is reflected within *Depreciation on vehicles subject to operating leases* on the income statements.
  - Lease residual measures changes to residual performance at prior period exchange rates. For analysis purposes, management splits residual performance primarily into residual gains and losses, and the change in accumulated supplemental depreciation.
  - Residual gain and loss changes are primarily driven by the number of vehicles returned to us and sold, and the difference between the auction value and the depreciated value (which includes both base and accumulated supplemental depreciation) of the vehicles sold. Changes in accumulated supplemental depreciation are primarily driven by changes in our estimate of the expected auction value at the end of the lease term, and changes in our estimate of the number of vehicles that will be returned to us and sold. For additional information, refer to the "Critical Accounting Estimates" section.

- *Exchange* – Reflects changes in EBT driven by the effects of converting functional currency income to U.S. dollars.

- *Other* – Primarily includes *Operating expenses*, *Other revenue*, *Insurance expenses*, and *Other income, net* on the income statements at prior period exchange rates.
  - Changes in operating expenses are primarily driven by salaried personnel costs, facilities costs, and costs associated with the origination and servicing of customer contracts.
  - In general, other income changes are primarily driven by changes in earnings related to market valuation adjustments to derivatives (primarily related to movements in interest rates), which are included in unallocated risk management, and other miscellaneous items.

In addition, the following definitions and calculations apply to the charts contained in Item 7 of this Report:

- *Cash* (as shown in the Funding and Liquidity and Leverage sections) – *Cash and cash equivalents and Marketable securities* reported on Ford Credit's balance sheets, excluding amounts related to insurance activities.

- *Debt* (as shown in the Key Metrics and Leverage tables) – *Debt* on Ford Credit's balance sheets. Includes debt issued in securitizations and payable only out of collections on the underlying securitized assets and related enhancements. Ford Credit holds the right to receive the excess cash flows not needed to pay the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions.

- *Earnings Before Taxes ("EBT")* – Reflects *Income before income taxes* as reported on Ford Credit's income statements.

- *Return on Equity ("ROE")* (as shown in the Key Metrics table) – Reflects return on equity calculated by annualizing net income for the period and dividing by monthly average equity for the period.

- *Securitization and Restricted Cash* (as shown in the Liquidity table) – Securitization cash is held for the benefit of the securitization investors (for example, a reserve fund). Restricted cash primarily includes cash held to meet certain local governmental and regulatory reserve requirements and cash held under the terms of certain contractual agreements.

- *Securitizations* (as shown in the Public Term Funding Plan table) – Public securitization transactions, Rule 144A offerings sponsored by Ford Credit, and widely distributed offerings by Ford Credit Canada.

- *Term Asset-Backed Securities* (as shown in the Funding Structure table) – Obligations issued in securitization transactions that are payable only out of collections on the underlying securitized assets and related enhancements.

- *Total Net Receivables* (as shown in the Key Metrics and Financial Condition tables) – Includes finance receivables (retail financing and wholesale) sold for legal purposes and net investment in operating leases included in securitization transactions that do not satisfy the requirements for accounting sale treatment. These receivables and operating leases are reported on Ford Credit's balance sheets and are available only for payment of the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions; they are not available to pay the other obligations of Ford Credit or the claims of Ford Credit's other creditors.

- *Unallocated Other* (as shown in the Segment Results table) – Items excluded in assessing segment performance because they are managed at the corporate level, including market valuation adjustments to derivatives and exchange-rate fluctuations on foreign currency-denominated transactions.

Results of Operations

Key Metrics

The following table shows our full year 2020 key metrics compared with full year 2019:

	Full Year		
GAAP Financial Measures	**2019**	**2020**	**H / (L)**
Total net receivables (billions)	$ 142	$ 132	(7)%
Loss-to-receivables (bps) (a)	52	36	(16)
Auction values (b)	$ 19,305	$ 19,950	3 %
EBT (millions)	$ 2,998	$ 2,608	$ (390)
ROE (%)	15 %	14 %	(1) ppt
Other Balance Sheet Metrics			
Debt (billions)	$ 140	$ 138	(1)%
Net liquidity (billions)	$ 33	$ 35	6 %
Financial statement leverage (to 1)	9.8	9.8	—

(a) United States retail financing only.
(b) United States 36-month off-lease auction values at full year 2020 mix.

Non-GAAP Financial Measures	**December 31, 2019**	**December 31, 2020**	**H / (L)**
Managed receivables (billions) (a)	$ 152	$ 141	(7)%
Managed leverage (to 1) (b)	8.9	8.3	(0.6)

(a) See "Financial Condition" section for reconciliation to GAAP.
(b) See "Leverage" section for reconciliation to GAAP.

Full Year 2020 Compared with Full Year 2019

The following table shows the factors that contributed to the strong full year 2020 EBT (in millions):

Change in EBT by Causal Factor	
Full year 2019 EBT	$ 2,998
Volume / mix	(173)
Financing margin	20
Credit loss	(539)
Lease residual	304
Exchange	(9)
Other	7
Full year 2020 EBT	**$ 2,608**

Our 2020 EBT of $2,608 million was $390 million lower than a year ago, driven primarily by an increase to the credit loss reserve due to COVID-19 and unfavorable volume and mix resulting from lower receivables, partially offset by favorable lease residual performance driven by improved auction values. Total net receivables at December 31, 2020 were lower than a year ago. Consumer credit metrics were healthy and stable in the United States, with the loss-to-receivables ratio at 0.36%, 16 basis points lower than a year ago. United States auction values were up 3% compared with 2019. ROE was 14%, 1 percentage point lower than a year ago, primarily reflecting lower EBT.

Our balance sheet is strong and inherently liquid reflecting cumulative debt maturities having a longer tenor than asset maturities. This means we generate liquidity as our balance sheet size declines because of lower Ford volume. Managed receivables of $141 billion at year end were $11 billion lower year-over-year. At December 31, 2020, we had $35.4 billion in net liquidity.

Segment Results

As of January 1, 2020, we updated our reportable segments in our consolidated financial statements to align with our new management reporting structure and reflect the manner in which our Chief Operating Decision Maker manages our business, including resource allocation and performance assessment. These segments are: the United States and Canada, Europe, and All Other. Items excluded in assessing segment performance, because they are managed at the corporate level, are reflected in Unallocated Other. Results of operations by segment and Unallocated Other for full year 2019 and 2020 are shown below (in millions):

	Full Year		
	2019	2020	H / (L)
Results			
United States and Canada segment	$ 2,365	$ 2,241	$ (124)
Europe segment	352	196	(156)
All Other segment	143	38	(105)
Total segments	$ 2,860	$ 2,475	$ (385)
Unallocated Other	138	133	(5)
Earnings before taxes	$ 2,998	$ 2,608	$ (390)
(Provision for) / Benefit from income taxes	(770)	(684)	86
Net Income	$ 2,228	$ 1,924	$ (304)

For additional information, see Note 14 of our Notes to the Financial Statements.

United States and Canada Segment

The United States and Canada segment EBT of $2,241 million for full year 2020 was $124 million lower than 2019, explained by an increase to the credit loss reserve due to COVID-19 and higher supplemental depreciation on operating leases, partially offset by favorable auction performance on off-lease vehicles, lower borrowing costs, and lower year-over-year credit losses.

Europe Segment

The Europe segment EBT of $196 million for full year 2020 was $156 million lower than 2019, primarily due to the impact of COVID-19, which has resulted in lower receivables, increased credit loss reserves, and reduced margins.

All Other Segment

The All Other segment EBT of $38 million for full year 2020 was $105 million lower than 2019, explained primarily by lower receivables, weakening currency exchange in Argentina and Brazil, and unfavorable credit loss performance.

Unallocated Other

Unallocated Other was a $133 million gain for full year 2020, a $5 million decrease from 2019, reflecting a lower gain in market valuation adjustments to derivatives.

Results of Operations - 2019

The following chart shows our full year 2019 key metrics compared with full year 2018:

	Full Year		
GAAP Financial Measures	**2018**	**2019**	**H / (L)**
Total net receivables (billions)	$ 146	$ 142	(3)%
Loss-to-receivables (bps) (a)	55	52	(3)
Auction values (b)	$ 19,770	$ 19,305	(2)%
EBT (millions)	$ 2,627	$ 2,998	$ 371
ROE (%)	14 %	15 %	1 ppt
Other Balance Sheet Metrics			
Debt (billions)	$ 140	$ 140	— %
Net liquidity (billions)	$ 27	$ 33	22 %
Financial statement leverage (to 1)	9.4	9.8	0.4

(a) United States retail financing only.
(b) United States 36-month off-lease auction values at full year 2020 mix.

Non-GAAP Financial Measures	**December 31, 2018**	**December 31, 2019**	**H / (L)**
Managed receivables (billions) (a)	$ 155	$ 152	(2)%
Managed leverage (to 1) (b)	8.8	8.9	0.1

(a) See "Financial Condition" section for reconciliation to GAAP.
(b) See "Leverage" section for reconciliation to GAAP.

Full Year 2019 Compared with Full Year 2018

The following table shows the factors that contributed to the strong full year 2019 EBT:

Change in EBT by Causal Factor	
Full year 2018 EBT	$ 2,627
Volume / mix	(38)
Financing margin	(86)
Credit loss	127
Lease residual	249
Exchange	(71)
Other	190
Full year 2019 EBT	**$ 2,998**

Our 2019 EBT of $2,998 million was $371 million higher than prior year, driven by favorable lease residual, credit loss, and derivative performance. Total net receivables at December 31, 2019 were lower than the prior year. Consumer credit metrics were healthy in the United States, with the loss-to-receivables ratio at 0.52%, which decreased three basis points from 2018. United States auction values were down 2% from 2018. ROE was 15%, one percentage point higher than 2018, primarily reflecting higher EBT.

Segment Results - 2019

Results of operations by segment and Unallocated Other for full year 2018 and 2019 are shown below (in millions):

	Full Year		
	2018	2019	H / (L)
Results			
United States and Canada segment	$ 2,132	$ 2,365	$ 233
Europe segment	382	352	(30)
All Other segment	187	143	(44)
Total segments	$ 2,701	$ 2,860	$ 159
Unallocated Other	(74)	138	212
Earnings before taxes	$ 2,627	$ 2,998	$ 371
(Provision for) / Benefit from income taxes	(403)	(770)	(367)
Net Income	$ 2,224	$ 2,228	$ 4

For additional information, see Note 14 of our Notes to the Financial Statements.

United States and Canada Segment

The United States and Canada segment EBT of $2,365 million for full year 2019 was $233 million higher than 2018, explained by favorable lease residual and credit loss performance, partially offset by unfavorable financing margin. The favorable lease residual performance was driven by lower supplemental depreciation on vehicles in Ford Credit's lease portfolio, partially offset by the non-recurrence of 2018 auction performance gains. The favorable credit loss performance reflects lower reserves and the non-recurrence of 2018 non-consumer losses. The unfavorable financing margin was primarily driven by higher borrowing cost.

Europe Segment

The Europe segment EBT of $352 million for full year 2019 was $30 million lower than 2018, primarily due to the sale of the Forso Nordic AB ("Forso") operations, separation costs for restructuring actions, and weakening European currencies, partially offset by favorable volume and mix and lower other operating costs.

All Other Segment

The All Other segment EBT of $143 million for full year 2019 was $44 million lower than 2018, explained primarily by unfavorable volume and mix as the result of lower receivables, partially offset by favorable credit loss performance and financing margin improvements.

Unallocated Other

Unallocated Other was a $138 million gain for full year 2019, a $212 million improvement from 2018, reflecting favorable performance in market valuation adjustments to derivatives.

Financing Shares and Contract Placement Volume

Our focus is on supporting Ford and Lincoln dealers and customers. This includes going to market with Ford and our dealers to support vehicle sales with financing products and marketing programs. Ford's marketing programs may encourage or require Ford Credit financing and influence the financing choices customers make. As a result, our financing share, volume, and contract characteristics vary from period to period as Ford's marketing programs change.

The following table shows our retail financing and operating lease share of new Ford and Lincoln vehicle sales, wholesale financing share of new Ford and Lincoln vehicles acquired by dealers (in percent), and contract placement volume for new and used vehicles (in thousands) in several key markets:

	For the Years Ended December 31,		
	2018	2019	2020
Share of Ford and Lincoln Sales (a)			
United States	58 %	51 %	56 %
Canada	75	66	74
U.K.	37	39	40
Germany	48	47	41
China	35	35	39
Wholesale Share			
United States	76 %	75 %	74 %
Canada	59	57	40
U.K.	100	100	100
Germany	93	93	92
China	63	60	62
Contract Placement Volume - New and Used (000)			
United States	1,151	952	954
Canada	168	141	137
U.K.	150	139	101
Germany	160	165	107
China	170	108	119

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(a) United States and Canada exclude Fleet sales, other markets include Fleet.

In 2020, the United States and China contract placement volume were up compared with a year ago, primarily reflecting higher financing share. In 2020, Canada, the U.K., and Germany contract volume were down compared with a year ago, explained by lower Ford sales.

Financial Condition

Our receivables, including finance receivables and operating leases, were as follows (in billions):

	For the Years Ended December 31,		
Net Receivables	2018	2019	2020
United States and Canada Segment			
Consumer financing	$ 55.7	$ 55.4	$ 58.4
Non-Consumer financing	31.2	29.4	19.5
Net investment in operating leases	27.0	27.3	26.4
Total United States and Canada Segment	$ 113.9	$ 112.1	$ 104.3
Europe Segment			
Consumer financing	$ 15.5	$ 14.8	$ 15.1
Non-Consumer financing	9.6	9.8	7.4
Net investment in operating leases	0.4	0.4	0.3
Total Europe Segment	$ 25.5	$ 25.0	$ 22.8
All Other Segment			
Consumer financing	$ 4.6	$ 3.3	$ 3.4
Non-Consumer financing	2.3	1.6	1.2
Net investment in operating leases	—	—	—
Total All Other Segment	$ 6.9	$ 4.9	$ 4.6
Total net receivables	$ 146.3	$ 142.0	$ 131.7
Managed Receivables			
Total net receivables (GAAP)	$ 146.3	$ 142.0	$ 131.7
Held-for-sale receivables (GAAP)	—	1.5	0.0
Unearned interest supplements and residual support	6.8	6.7	6.5
Allowance for credit losses	0.6	0.5	1.3
Other, primarily accumulated supplemental depreciation	1.2	1.0	1.0
Total managed receivables (Non-GAAP)	$ 154.9	$ 151.7	$ 140.5
United States and Canada Segment Lease Mix			
SUV / CUV	56 %	57 %	59 %
Truck	27	30	32
Car	17	13	9

At December 31, 2018, 2019, and 2020, total net receivables includes consumer receivables before allowance for credit losses of $40.7 billion, $38.3 billion, and $43.7 billion, respectively, and non-consumer receivables before allowance for credit losses of $25.7 billion, $26.8 billion, and $16.4 billion, respectively, that have been sold for legal purposes in securitization transactions but continue to be reported in our consolidated financial statements. In addition, at December 31, 2018, 2019, and 2020, total net receivables includes net investment in operating leases of $16.3 billion, $14.9 billion, and $12.8 billion, respectively, that have been included in securitization transactions but continue to be reported in our consolidated financial statements. These net receivables are available only for payment of the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions; they are not available to pay the other obligations or the claims of Ford Credit's other creditors. Ford Credit holds the right to receive the excess cash flows not needed to pay the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions. For additional information on our securitization transactions, refer to the "Securitization Transactions" and "On-Balance Sheet Arrangements" sections and Note 6 of our Notes to the Financial Statements.

Total net receivables at December 31, 2020 were $10.3 billion lower compared with December 31, 2019 and $14.6 billion lower compared with December 31, 2018, primarily reflecting lower Ford vehicle production because of COVID-19.

Our operating lease portfolio was 20% of total net receivables at December 31, 2020. Leasing is an important product, and our leasing strategy balance sales, share, residuals, and long-term profitability. Operating leases in the United States and Canada represent 99% of our total operating lease portfolio.

Credit Risk

Credit risk is the possibility of loss from a customer's or dealer's failure to make payments according to contract terms. Credit losses are a normal part of a lending business, and credit risk has a significant impact on our business. We manage the credit risk of our consumer (retail financing) and non-consumer (dealer financing) receivables to balance our level of risk and return using our consistent underwriting standards, effective proprietary scoring system (discussed below), and world-class servicing. The allowance for credit losses (also referred to as the credit loss reserve) represents our estimate of the expected credit losses inherent in our finance receivables for the lifetime of those receivables as of the balance sheet date. The allowance for credit losses is estimated using a combination of models and management judgment and is based on such factors as historical loss performance, portfolio quality, receivable levels, and forward-looking macroeconomic scenarios. The adequacy of our allowance for credit losses is assessed quarterly and the assumptions and models used in establishing the allowance are evaluated regularly. A description of our allowance setting process is provided in the "Critical Accounting Estimates - Allowance for Credit Losses" section.

Most of our charge-offs are related to retail financing. Charge-offs are affected by the number of vehicle repossessions, the unpaid balance outstanding at the time of repossession, the auction price of repossessed vehicles, and other amounts owed. We also incur credit losses on our dealer financing, but default rates for these receivables historically have been substantially lower than those for retail financing. For additional information refer to the "Critical Accounting Estimates - Allowance for Credit Losses" section.

In purchasing retail financing contracts, we use a proprietary scoring system that measures credit quality using information in the credit application, proposed contract terms, credit bureau data, and other information. After a proprietary risk score is generated, we decide whether to purchase a contract using a decision process based on a judgmental evaluation of the applicant, the credit application, the proposed contract terms, credit bureau information (e.g., FICO score), proprietary risk score, and other information. Our evaluation emphasizes the applicant's ability to pay and creditworthiness focusing on payment, affordability, applicant credit history, and stability as key considerations. While FICO is a part of our scoring system, our models enable us to more effectively determine the probability that a customer will pay than using credit scores alone. When we originate business, our models project expected losses and we price accordingly. We ensure that the business fits our risk appetite.

For additional information on the quality of our receivables and COVID-19 impacts, see Note 4 of our Notes to the Financial Statements.

United States Origination Metrics

The following table shows United States retail financing and operating lease average placement FICO and higher risk portfolio mix metrics. Also shown are extended term mix and United States retail financing average placement terms.

	2018	2019	2020
Origination Metrics			
Average placement FICO	746	748	739
Higher risk portfolio mix	6 %	6 %	6 %
Greater than or equal to 84 months placement mix	4 %	3 %	9 %
Average placement term (months)	65	65	68

The 2020 average placement FICO score remained strong. We support customers across the credit spectrum. Our higher risk business, as classified at contract inception, consistently represents 6% of our portfolio and has been stable for over 10 years.

In 2020, our average retail financing placement term was up by three months compared with a year ago. Retail financing contracts of 84 months and longer increased by six percentage points compared with a year ago as a result of marketing campaigns, primarily in the second quarter of 2020, that offered 0% financing for 84 months in response to COVID-19. Longer term contracts returned to historical levels in the second half of 2020. Ford Credit remains focused on managing the trade cycle – building customer relationships and loyalty while offering financing products and terms customers want. Ford Credit's origination and risk management processes deliver robust portfolio performance.

United States Retail Financing Credit Losses

The following table shows the primary drivers of credit losses in the United States retail financing business, which comprised 64% of our worldwide consumer finance receivables at December 31, 2020.

	2018	2019	2020
Credit Loss Drivers			
Over-60-Day delinquencies (excl. bankruptcies)	0.13 %	0.13 %	0.15 %
Repossessions (000)	28	27	21
Repossession ratio	1.28 %	1.24 %	0.95 %
Loss severity (000) (a)	$ 10.4	$ 10.7	$ 10.7
Charge-offs (millions)	$ 258	$ 247	$ 180
LTR ratio (b)	0.55 %	0.52 %	0.36 %

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(a) The expected difference between the amount a customer owes when the finance contract is charged off and the amount received, net of expenses, from selling the repossessed vehicle.
(b) Loss-to-Receivables ("LTR") ratios are charge-offs divided by average managed receivables.

Compared with a year ago, the repossession rate has improved while delinquencies increased by two basis points. Severity was unchanged year-over-year. Our 2020 charge-offs and LTR ratio improved compared with the prior year reflecting government relief programs and our customer payment deferral programs, as well as changes in consumer spending behavior. The impact of COVID-19 has created significant volatility in the economy and the full impact of COVID-19 on our retail customers is uncertain. Given our assessment of the macroeconomic uncertainty and expectation of continued higher unemployment, we expect the impact of the economic conditions attributable to COVID-19 to have an adverse effect on credit losses in future periods.

To help our existing customers, we implemented various retail financing and lease extension programs, including payment deferrals, due date changes, and lease-end extensions. From mid-March through May 31, 2020, for customers who requested assistance, we granted extensions on about 10% of our global retail financing and operating lease contracts. As of December 31, 2020, 99% of the customers receiving these extensions have made at least one payment following their extension. Requests for contract extensions have now returned to pre-pandemic levels of about 1-2%.

Worldwide Credit Losses

The following table shows key metrics related to worldwide credit losses:

	2018	2019	2020
Charge-offs (millions)	$ 425	$ 371	$ 301
LTR ratio	0.35 %	0.31 %	0.27 %
Credit loss reserve (millions)	$ 589	$ 513	$ 1,305
Reserve as percent of EOP managed receivables	0.48 %	0.43 %	1.18 %

Our worldwide credit loss metrics remain strong and stable. The worldwide LTR ratio in 2020 improved from a year ago. Our credit loss reserve is based on such factors as historical loss performance, portfolio quality, receivables level, and forward-looking macroeconomic scenarios. The credit loss reserve and reserve as a percent of managed receivables were both higher than a year ago, reflecting a $252 million increase to account for the Current Expected Credit Losses ("CECL") adoption, with the remainder primarily related to a reserve increase driven by a higher probability of default reflecting an increase in unemployment outlook as a result of COVID-19. The full impact of COVID-19 on our worldwide credit losses depends on future developments, such as the ultimate duration and scope of the outbreak (including any potential future waves and the success of vaccination programs), resolution of macroeconomic uncertainty, and the extent to which our customers and dealers are able to utilize government relief and payment deferral programs. Our credit loss reserve reflects lifetime expected losses as of the balance sheet date. See Note 4 of our Notes to the Financial Statements for more information.

Residual Risk

Leasing is an important product that many customers want and value, and operating lease customers also are more likely to buy or lease another Ford or Lincoln vehicle. We manage our lease share with an enterprise view to support sales, protect residual values, and manage the trade cycle. Ford Credit and Ford work together under a leasing strategy that considers share, term, model mix, geography, and other factors.

We are exposed to residual risk on operating leases and similar balloon payment products where the customer may return the financed vehicle to us. Residual risk is the possibility that the amount we obtain from returned vehicles will be less than our estimate of the expected residual value for the vehicle. We estimate the expected residual value by evaluating recent auction values, return volumes for our leased vehicles, industrywide used vehicle prices, marketing incentive plans, and vehicle quality data. For operating leases, changes in expected residual values impact depreciation expense, which is recognized on a straight-line basis over the life of the lease.

For additional information on our residual risk on operating leases, refer to the "Critical Accounting Estimates - Accumulated Depreciation on Vehicles Subject to Operating Leases" section and Note 5 of our Notes to the Financial Statements.

United States Ford and Lincoln Operating Lease

The following table shows our share of Ford and Lincoln retail financing and operating lease sales, placement volume, and residual performance metrics for our United States operating lease portfolio, which represents 87% of our total net investment in operating leases at December 31, 2020.

	2018	2019	2020
Lease Share of Retail Sales			
Ford Credit	22 %	20 %	17 %
Industry (a)	30 %	30 %	28 %
Placement Volume (000)			
24-Month	43	41	43
36-Month	288	236	180
39-Month / other	54	52	35
Total	385	329	258
Residual Performance			
Return rates	78 %	78 %	69 %
Return volume (000)	281	290	243
Off-lease auction values (b)	$ 19,770	$ 19,305	$ 19,950

(a) Source: J.D. Power PIN.
(b) 36-month off-lease auction values at 2020 mix.

Our United States operating lease share of retail sales in 2020 was lower compared with a year ago and remains below the industry, reflecting the Ford sales mix.

Our total 2020 lease placement volume was down compared with a year ago, reflecting lower Ford sales and lower Ford Credit share as the result of Ford marketing programs. We are planning for full-year 2021 auction values to be lower than 2020.

Credit Ratings

Our short-term and long-term debt is rated by four credit rating agencies designated as nationally recognized statistical rating organizations ("NRSROs") by the United States Securities and Exchange Commission: DBRS, Fitch, Moody's, and S&P.

In several markets, locally recognized rating agencies also rate us. A credit rating reflects an assessment by the rating agency of the credit risk associated with a corporate entity or particular securities issued by that entity. Rating agencies' ratings of us are based on information provided by us and other sources. Credit ratings assigned to us from all of the NRSROs are closely associated with their opinions on Ford. Credit ratings are not recommendations to buy, sell, or hold securities and are subject to revision or withdrawal at any time by the assigning rating agency. Each rating agency may have different criteria for evaluating company risk and, therefore, ratings should be evaluated independently for each rating agency.

There have been no rating actions taken by these NRSROs since the filing of our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020.

The following table summarizes certain of the credit ratings and outlook presently assigned by these four NRSROs:

	NRSRO RATINGS			
	Ford Credit			NRSROs
	Long-Term Senior Unsecured	Short -Term Unsecured	Outlook/ Trend	Minimum Long-Term Investment Grade Rating
DBRS	BB (high)	R-4	Negative	BBB (low)
Fitch	BB+	B	Negative	BBB-
Moody's	Ba2	NP	Negative	Baa3
S&P	BB+	B	Negative	BBB-

Funding and Liquidity

We ended 2020 with $35.4 billion of liquidity. During the year, we completed $27 billion of public term funding.

Key elements of our funding strategy include:

- Maintain strong liquidity; continue to renew and expand committed ABS capacity
- Prudently access public markets
- Flexibility to increase ABS mix as needed; preserving assets and committed capacity
- Target managed leverage of 8:1 to 9:1
- Maintain self-liquidating balance sheet

Our liquidity profile continues to be diverse, robust, and focused on maintaining liquidity levels that meet our business and funding requirements. We regularly stress test our balance sheet and liquidity to ensure that we continue to meet our financial obligations through economic cycles.

Funding Sources

Our funding sources include primarily unsecured debt and securitization transactions (including other structured financings). We issue both short-term and long-term debt that is held by both institutional and retail investors, with long-term debt having an original maturity of more than 12 months.

We sponsor a number of securitization programs that can be structured to provide both short-term and long-term funding through institutional investors and other financial institutions in the United States and international capital markets. For additional information on our securitization transactions, refer to the "Securitization Transactions" section.

We obtain short-term unsecured funding from the sale of demand notes under our Ford Interest Advantage program, through the FCE Retail Deposit program, and through the Ford Bank Retail Deposit program, which began in December 2020. At December 31, 2020, the principal amount outstanding of Ford Interest Advantage notes, which may be redeemed at any time at the option of the holders thereof without restriction, FCE deposits, and Ford Bank deposits was $6 billion.

We maintain multiple sources of readily available liquidity to fund the payment of our unsecured short-term debt obligations.

Cost of Funding Sources

The cost of securitization transactions and unsecured debt funding is based on a margin or spread over a benchmark interest rate. Spreads are typically measured in basis points. Our asset-backed funding and unsecured long-term debt costs are based on spreads over United States Treasury securities of similar maturities, a comparable London Interbank Offered Rate ("LIBOR"), or other comparable benchmark rates. The funding costs of our floating rate demand notes change depending on market conditions. For additional information on funding, see Note 9 of our Notes to the Financial Statements.

Funding and Liquidity

The following table shows funding for our managed receivables (in billions):

Funding Structure	December 31, 2018	December 31, 2019	December 31, 2020
Term debt (incl. bank borrowings)	$ 70	$ 73	$ 77
Term asset-backed securities	60	57	55
Commercial paper	4	4	0
Ford Interest Advantage / Deposits	6	7	6
Other	10	9	7
Equity	15	14	14
Adjustments for cash	(10)	(12)	(18)
Total managed receivables (a)	$ 155	$ 152	$ 141
Securitized funding as a percent of managed receivables	39 %	38 %	39 %

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(a) Reconciliation to GAAP provided in the "Financial Condition" section.

Managed receivables of $141 billion at December 31, 2020, were funded primarily with term debt and term asset-backed securities. Securitized funding as a percent of managed receivables was 39%. The calendarization of the funding plan will result in quarterly fluctuations of the securitized funding percentage.

Public Term Funding Plan

The following table shows our issuances for full year 2018, 2019, and 2020, and planned issuances for full year 2021, excluding short-term funding programs (in billions):

	2018 Actual	2019 Actual	2020 Actual	2021 Forecast
Unsecured	$ 13	$ 17	$ 14	$ 7 - 11
Securitizations	14	14	13	11 - 14
Total public	$ 27	$ 31	$ 27	$ 18 - 25

In 2020, we completed $27 billion of public term funding. For 2021, we project full-year public term funding in the range of $18 billion - $25 billion. Through February 3, 2021, we have completed $1 billion of public term issuances.

Liquidity

We define gross liquidity as cash, cash equivalents, and marketable securities (excluding amounts related to insurance activities) and committed capacity (which includes our asset-backed facilities and unsecured credit facilities), less utilization of liquidity. Utilization of liquidity is the amount funded under our liquidity sources and also includes the cash required to support securitization transactions and restricted cash. Net liquidity available for use is defined as gross liquidity less certain adjustments as described below. While not included in available liquidity, these adjustments represent additional funding sources for future originations.

The following table shows our liquidity sources and utilization (in billions):

	December 31, 2018	December 31, 2019	December 31, 2020
Liquidity Sources			
Cash	$ 10.2	$ 11.7	$ 18.5
Committed asset-backed facilities	35.4	36.6	38.1
Other unsecured credit facilities	3.0	3.0	2.5
Ford corporate credit facility allocation	3.0	3.0	—
Total liquidity sources	$ 51.6	$ 54.3	$ 59.1
Utilization of Liquidity			
Securitization and restricted cash	$ (3.1)	$ (3.6)	$ (3.9)
Committed asset-backed facilities	(20.7)	(17.3)	(16.7)
Other unsecured credit facilities	(0.7)	(0.8)	(0.5)
Ford corporate credit facility allocation	—	—	—
Total utilization of liquidity	$ (24.5)	$ (21.7)	$ (21.1)
Gross liquidity	$ 27.1	$ 32.6	$ 38.0
Asset-backed capacity in excess of eligible receivables and other adjustments	0.1	0.4	(2.6)
Net liquidity available for use	$ 27.2	$ 33.0	$ 35.4

Our net liquidity available for use will fluctuate quarterly based on factors including near-term debt maturities, receivable growth, and timing of funding transactions. At December 31, 2020, our net liquidity available for use was $35.4 billion, $2.4 billion higher than year-end 2019. At December 31, 2020, our liquidity sources totaled $59.1 billion, up $4.8 billion from year-end 2019.

Cash. At December 31, 2020, our cash totaled $18.5 billion compared with $11.7 billion at year-end 2019. In the normal course of our funding activities, we may generate more proceeds than are required for our immediate funding needs. These excess amounts are held primarily in highly liquid investments, which provide liquidity for our anticipated and unanticipated cash needs and give us flexibility in the use of our other funding programs. Our Cash primarily includes United States Department of Treasury obligations, federal agency securities, bank time deposits with investment-grade institutions, investment-grade commercial paper, debt obligations of a select group of non-U.S. governments, non-U.S. governmental agencies, supranational institutions, non-U.S. central banks, and money market funds that carry the highest possible ratings.

The average maturity of these investments ranges from approximately three to six months and is adjusted based on market conditions and liquidity needs. We monitor our Cash levels and average maturity on a daily basis. Cash includes restricted cash and amounts to be used only to support our securitization transactions of $3.6 billion and $3.9 billion at December 31, 2019 and 2020, respectively.

Committed Capacity. At December 31, 2020, our committed capacity totaled $40.6 billion, compared with $42.6 billion at December 31, 2019. Our committed capacity is primarily comprised of committed ABS facilities from bank-sponsored commercial paper conduits and other financial institutions and committed unsecured credit facilities with financial institutions.

Committed Asset-Backed Facilities. We and our subsidiaries have entered into agreements with a number of bank-sponsored asset-backed commercial paper conduits and other financial institutions. Such counterparties are contractually committed, at our option, to purchase from us eligible retail financing receivables or to purchase or make advances under asset-backed securities backed by retail financing or wholesale finance receivables or operating leases for proceeds of up to $38.1 billion ($22.2 billion of retail financing, $4.8 billion of wholesale financing, and $11.1 billion of operating leases) at December 31, 2020. In the United States, we are able to obtain funding within two days for our unutilized capacity in some of our committed asset-backed facilities. These committed facilities have varying maturity dates, with $16.8 billion having maturities within the next twelve months and the remaining balance having maturities through 2022. We plan capacity renewals to protect our global funding needs and to optimize capacity utilization.

Our ability to obtain funding under these facilities is subject to having a sufficient amount of eligible assets as well as our ability to obtain interest rate hedging arrangements for certain facilities. At December 31, 2020, $16.7 billion of these commitments were in use and we had $3.1 billion of asset-backed capacity that was in excess of eligible receivables primarily due to the decline in wholesale asset balances. These programs are free of material adverse change clauses, restrictive financial covenants (for example, debt-to-equity limitations and minimum net worth requirements), and generally, credit rating triggers that could limit our ability to obtain funding. However, the unused portion of these commitments may be terminated if the performance of the underlying assets deteriorates beyond specified levels. Based on our experience and knowledge as servicer of the related assets, we do not expect any of these programs to be terminated due to such events.

As of December 31, 2020, Ford Bank had liquidity in the form of €104 million (equivalent to $128 million) of senior ABS notes eligible for collateral in the European Central Bank's monetary policy programs.

Unsecured Credit Facilities. At December 31, 2020, we and our majority-owned subsidiaries had $2.5 billion of contractually committed unsecured credit facilities with financial institutions, including the FCE Credit Agreement and the Ford Bank Credit Agreement. At December 31, 2020, $2.0 billion was available for use.

FCE's £780 million (equivalent to $1,066 million at December 31, 2020) syndicated credit facility (the "FCE Credit Agreement") and Ford Bank's €240 million (equivalent to $294 million at December 31, 2020) syndicated credit facility (the "Ford Bank Credit Agreement") both mature in 2023, except for £95 million of the FCE Credit Agreement that matures in 2022. At December 31, 2020, all £780 million under the FCE Credit Agreement and all €240 million under the Ford Bank Credit Agreement were available for use.

Both the FCE Credit Agreement and Ford Bank Credit Agreement contain certain covenants, including an obligation for FCE and Ford Bank to maintain their ratio of regulatory capital to risk-weighted assets at no less than the applicable regulatory minimum. The FCE Credit Agreement requires the support agreement between FCE and Ford Credit to remain in effect (and enforced by FCE to ensure that its net worth is maintained at no less than $500 million). The Ford Bank Credit Agreement requires a guarantee of Ford Bank's obligations under the agreement, provided by Ford Credit, to remain in effect.

Funding and Liquidity Risks

Our funding plan is subject to risks and uncertainties, many of which are beyond our control, including disruption in the capital markets (such as from the impact of COVID-19) that could impact both unsecured debt and asset-backed securities issuance and the effects of regulatory changes on the financial markets.

Despite our diverse sources of funding and liquidity, our ability to maintain liquidity may be affected by, among others, the following factors (not necessarily listed in order of importance or probability of occurrence):

- Prolonged disruption of the debt and securitization markets;
- Global capital markets volatility;
- Credit ratings assigned to Ford and us;
- Market capacity for Ford- and Ford Credit-sponsored investments;
- General demand for the type of securities we offer;
- Our ability to continue funding through asset-backed financing structures;
- Performance of the underlying assets within our asset-backed financing structures;
- Inability to obtain hedging instruments;
- Accounting and regulatory changes (including LIBOR); and
- Our ability to maintain credit facilities and committed asset-backed facilities.

Stress Tests

We regularly conduct stress testing on funding and liquidity sources to ensure we can continue to meet our financial obligations and support the sale of Ford and Lincoln vehicles during firm-specific and market-wide stress events. Stress tests are intended to quantify the potential impact of various adverse scenarios on the balance sheet and liquidity. These scenarios include assumptions on access to unsecured and secured debt markets, runoff of short-term funding, and ability to renew expiring liquidity commitments and are measured over various time periods, including 30 days, 90 days, and longer term. Our stress test does not assume any additional funding, liquidity, or capital support from Ford. We routinely develop contingency funding plans as part of our liquidity stress testing.

Balance Sheet Liquidity Profile

We define our balance sheet liquidity profile as the cumulative maturities, including the impact of expected prepayments and allowance for credit losses, of our finance receivables, investment in operating leases, and cash, less the cumulative debt maturities over upcoming annual periods. Our balance sheet is inherently liquid because of the short-term nature of our finance receivables, investment in operating leases, and Cash. We ensure our cumulative debt maturities have a longer tenor than our cumulative asset maturities. This positive maturity profile is intended to provide additional liquidity after all of our assets have been funded and is in addition to our liquidity stress test.

The following table shows our cumulative maturities for assets and total debt for the periods presented and unsecured long-term debt maturities in the individual periods presented (in billions):

	2021	2022	2023	2024 & Beyond
Balance Sheet Liquidity Profile				
Assets (a)	$ 80	$ 111	$ 135	$ 157
Total debt (b)	60	86	103	136
Memo: Unsecured long-term debt maturities	17	14	11	29

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(a) Includes gross finance receivables less the allowance for credit losses, investment in operating leases net of accumulated depreciation and cash. Amounts shown include the impact of expected prepayments.
(b) Excludes unamortized debt (discount) / premium, unamortized issuance costs, and fair value adjustments.

Maturities of investment in operating leases consist primarily of the portion of rental payments attributable to depreciation over the remaining life of the lease and the expected residual value at lease termination. Maturities of finance receivables and investment in operating leases in the table above include expected prepayments for our retail installment sale contracts and investment in operating leases. The table above also reflects adjustments to debt maturities to match the asset-backed debt maturities with the underlying asset maturities.

All wholesale securitization transactions and wholesale receivables are shown maturing in the next 12 months, even if the maturities extend beyond 2021. The retail securitization transactions under certain committed asset-backed facilities are assumed to amortize immediately rather than amortizing after the expiration of the commitment period. As of December 31, 2020, we had $157 billion of assets, $81 billion of which were unencumbered. For additional information on finance receivables, investment in operating leases, and debt, see Notes 4, 5, and 9 of our Notes to the Financial Statements.

Securitization Transactions

Overview

We securitize finance receivables and net investment in operating leases through a variety of programs using amortizing, variable funding, and revolving structures. We also engage in other structured financing transactions. Due to the similarities between securitization and structured financing, we refer to structured financings as securitization transactions. Our securitization programs are targeted to institutional investors and other financial institutions in both public and private transactions. We completed our first securitization transaction in 1988, and participate in a number of securitization markets primarily in the United States, Canada, the United Kingdom, Germany, and China.

Securitization provides us with a lower cost source of funding compared with other alternatives, diversifies our funding among different markets and investors, and provides additional liquidity. In the United States, we are able to obtain funding within two days for our unutilized capacity in some of our committed asset-backed facilities.

Our securitization transactions involve sales to consolidated entities or we maintain control over the assets. As a result, the securitized assets and related debt remain on our balance sheets and affect our financial condition, operating results, and liquidity.

Use of Special Purpose Entities

In a securitization transaction, the securitized assets are generally held by a bankruptcy-remote special purpose entity ("SPE") in order to isolate the securitized assets from the claims of our creditors and ensure that the cash flows on the securitized assets are available for the benefit of securitization investors. Payments to securitization investors are made from cash flows on the securitized assets and any enhancements in the SPE, and not by Ford Credit and are not based on our creditworthiness. Senior asset-backed securities issued by the SPEs generally receive the highest credit ratings from the rating agencies that rate them.

Securitization SPEs have limited purposes and generally are only permitted to purchase the securitized assets, issue asset-backed securities, and make payments on the securities. Some SPEs, such as certain trusts that issue securities backed by retail installment sale contracts, only issue a single series of securities and are dissolved when those securities have been paid in full. Other SPEs, such as the trust that issues securities backed by wholesale receivables, issue multiple series of securities from time to time and may not be dissolved until the last series of securities is paid in full.

Our use of SPEs in our securitization transactions is consistent with conventional practices in the consumer asset-backed securitization industry. We sponsor the SPEs used in all of our securitization programs with the exception of bank-sponsored conduits. None of our officers, directors, or employees holds any equity interests in our SPEs or receives any direct or indirect compensation from the SPEs. These SPEs do not own our Shares or shares of any of our affiliates.

Selection of Assets, Enhancements, and Retained Interests

In order to be eligible for inclusion in a securitization transaction, each asset must satisfy certain eligibility criteria designed for the specific transaction. For example, for securitization transactions of retail installment sale contracts, the selection criteria may be based on factors such as location of the obligor, contract term, payment schedule, interest rate, financing program, the type of financed vehicle, and whether the contracts are active and in good standing (e.g., when the obligor is not more than 30-days delinquent or bankrupt). Subject to regulatory or rating agency requirements, it is our preferred practice to satisfy the applicable eligibility criteria by randomly selecting the assets to be included in a particular securitization from our entire portfolio of assets.

We provide various forms of credit and payment enhancement to increase the likelihood of receipt by securitization investors of the full amount of interest and principal due on their asset-backed securities. Credit enhancement includes (i) over-collateralization (when the principal amount of the securitized assets exceeds the principal amount of related asset-backed securities), (ii) segregated cash reserve funds, (iii) subordinated securities, and (iv) excess spread (when interest collections on the securitized assets exceed the related fees and expenses, including interest payments on the related asset-backed securities). Payment enhancement includes interest rate swaps and other hedging arrangements, liquidity facilities, and certain cash deposits.

We retain interests in our securitization transactions, including in the form of subordinated securities issued by the SPE, rights to cash held for the benefit of the securitization investors, and residual interests. Residual interests represent the right to receive collections on the securitized assets in excess of amounts needed to pay securitization investors and to pay other transaction participants and expenses. We retain credit risk in securitization transactions, including the most subordinated interests in the securitized assets, which are structured to absorb expected credit losses on the securitized assets before any losses would be experienced by investors. Based on past experience, we expect that any losses in the pool of securitized assets would likely be limited to our retained interests. Our retention of credit risk is legally required in certain jurisdictions, including the United States, to be at least 5% of the credit risk of the securitized assets and is typically required to be retained for at least two years.

Our Continuing Obligations

We are engaged as servicer to service the securitized assets and securitization transactions. Our servicing duties include collecting payments on the securitized assets, preparing monthly investor reports on the performance of the securitized assets and the securitization transaction, and facilitating payments to securitization investors. While servicing securitized assets, we apply the same servicing policies and procedures that we apply to our owned assets and maintain our normal relationship with our financing customers.

We generally have no obligation to repurchase or replace any securitized asset that becomes delinquent in payment or otherwise is in default. As the seller and servicer of the securitized assets and as the administrator of the securitization SPE, we are obligated to provide certain kinds of support to our securitization transactions, which are customary in the securitization industry. These obligations include performing administrative duties for the SPE and some transaction parties, indemnifications, repurchase obligations on assets that do not meet representations or warranties on eligibility criteria or that have been materially modified, the mandatory sale of additional assets in some revolving transactions, the payment or reimbursement of transaction party expenses, and, in some cases, servicer advances of certain amounts. Securitization investors have no recourse to us or our other assets and have no right to require us to repurchase the asset-backed securities. We generally have no obligation to provide liquidity or contribute cash or additional assets to our SPEs either due to the performance of the securitized assets or the credit rating of our short-term or long-term debt. We do not guarantee any asset-backed securities. We may be required to support the performance of certain securitization transactions, however, by increasing cash reserves.

For certain public offerings of asset-backed securities, we have obligations to report certain information, including asset-level data on the securitized assets, ensure the engagement of an independent asset representations reviewer, cooperate and provide access to information necessary for an asset representations review, and participate in dispute resolution proceedings for unresolved asset repurchase requests.

Structural Features Under Certain Securitization Programs

The following securitization programs contain structural features that could prevent us from using these sources of funding in certain circumstances:

- *Revolving Retail Program*. Asset-backed securities under the FordREV program may be supported by a combination of a revolving pool of United States retail installment sale contracts and cash collateral. Cash generated by the receivables during the revolving period in excess of what is needed to pay certain expenses of the trust and interest on the notes may be used to purchase additional receivables provided that certain tests are met after the purchase. The revolving period ends upon the occurrence of certain events that include if credit losses or delinquencies on the pool of assets supporting the securities exceed specified levels, if certain segregated account balances are below their required levels, and if interest is not paid on the securities.
- *Retail Committed Facilities*. If credit losses or delinquencies on a pool of assets held by a facility exceed specified levels, or if the level of over-collateralization or other credit enhancement for that pool decreases below a specified level, we will not have the right to sell additional pools of assets to that facility.
- *Lease Facility Program*. If delinquencies in our portfolio of retail operating lease contracts exceed specified levels, we will be unable to obtain additional funding from the securitization of retail lease contracts through our committed lease facilities.
- *Wholesale Program*. If the payment rates on wholesale receivables in the securitization trust are lower than specified levels or if there are significant dealer defaults, we will be unable to obtain additional funding and any existing funding would begin to amortize.

On-Balance Sheet Arrangements

Our securitization transactions involve sales to consolidated entities or we maintain control over the assets and, therefore, the securitized assets and related debt remain on our balance sheets. The securitized assets are available only for payment of the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions. They are not available to pay our other obligations or the claims of our other creditors. We hold the right to receive the excess cash flows not needed to pay the debt issued by, and other obligations of, the securitization entities that are parties to those securitization transactions. This debt is the obligation of our consolidated securitization entities and not the obligation of Ford Credit or our other subsidiaries. For additional information on our on-balance sheet arrangements, see Note 6 of our Notes to the Financial Statements.

The following table shows worldwide cash and cash equivalents, receivables, and related debt by segment and product for our on-balance sheet securitization transactions at December 31 (in billions):

	2019			2020		
	Cash and Cash Equivalents	**Finance Receivables and Net Investment in Operating Leases (a)**	**Related Debt (b)**	**Cash and Cash Equivalents**	**Finance Receivables and Net Investment in Operating Leases (a)**	**Related Debt (b)**
Finance Receivables						
United States and Canada Segment						
Retail financing	$ 1.8	$ 32.1	$ 28.2	$ 2.0	$ 36.1	$ 32.0
Wholesale financing (c)	0.8	22.9	12.5	0.1	14.2	10.2
Total United States and Canada Segment	2.6	55.0	40.7	2.1	50.3	42.2
Europe Segment						
Retail financing	0.3	5.7	4.5	0.4	6.9	3.5
Wholesale financing (c)	0.1	3.6	1.4	0.1	2.0	0.5
Total Europe Segment	0.4	9.3	5.9	0.5	8.9	4.0
All Other Segment						
Retail financing	—	0.5	0.4	—	0.7	0.5
Wholesale financing (c)	—	0.3	0.1	—	0.2	0.2
Total All Other Segment	—	0.8	0.5	—	0.9	0.7
Total finance receivables	3.0	65.1	47.1	2.6	60.1	46.9
Net investment in operating leases	0.5	14.9	9.5	0.6	12.8	7.7
Total on-balance sheet arrangements	$ 3.5	$ 80.0	$ 56.6	$ 3.2	$ 72.9	$ 54.6

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(a) Finance receivables, before allowances for credit losses. Unearned interest supplements and residual support are excluded from securitization transactions.
(b) Includes unamortized discount and debt issuance costs.
(c) The global adjusted pool balance of the wholesale finance receivables owned by the securitization trusts was $26.8 billion and $16.4 billion and the required pool balance was $18.4 billion and $14.1 billion at December 31, 2019 and December 31, 2020, respectively. As of December 31, 2019, and December 31, 2020, the adjusted pool balance was $8.4 billion and $2.3 billion, higher, respectively than the required pool balance.

Leverage

We use leverage, or the debt-to-equity ratio, to make various business decisions, including evaluating and establishing pricing for finance receivable and operating lease financing, and assessing our capital structure. We refer to our shareholder's interest as equity.

The following table shows the calculation of our financial statement leverage and managed leverage (in billions):

	December 31, 2018	December 31, 2019	December 31, 2020
Leverage Calculation			
Debt	$ 140.1	$ 140.0	$ 137.7
Adjustments for cash	(10.2)	(11.7)	(18.5)
Adjustments for derivative accounting	0.2	(0.5)	(1.5)
Total adjusted debt	$ 130.1	$ 127.8	$ 117.7
Equity	$ 15.0	$ 14.3	$ 14.0
Adjustments for derivative accounting	(0.2)	—	0.1
Total adjusted equity	$ 14.8	$ 14.3	$ 14.1
Financial statement leverage (to 1) (GAAP)	9.4	9.8	9.8
Managed leverage (to 1) (Non-GAAP)	8.8	8.9	8.3

We believe that managed leverage is useful to our investors. For our managed leverage calculation, we deduct cash because it generally corresponds to excess debt beyond the amount required to support our operations and amounts to support on-balance sheet securitization transactions. We make derivative accounting adjustments to our assets, debt, and equity positions to reflect the impact of interest rate instruments we use in connection with our term-debt issuances and securitization transactions. The derivative accounting adjustments vary over the term of the underlying debt and securitized funding obligations based on changes in market interest rates. We generally repay our debt obligations as they mature. As a result, we exclude the impact of these derivative accounting adjustments on both the numerator and denominator in order to exclude the interim effects of changes in market interest rates. For additional information on our use of interest rate instruments and other derivatives, refer to Item 7A.

We plan our managed leverage by considering market conditions and the risk characteristics of our business. At December 31, 2019 and 2020, our financial statement leverage was 9.8:1 and 9.8:1, respectively, and managed leverage was 8.9:1 and 8.3:1, respectively. Managed leverage decreased relative to financial statement leverage primarily due to the higher cash balance at year-end 2020. We target managed leverage in the range of 8:1 to 9:1.

Aggregate Contractual Obligations

We are party to certain contractual obligations involving commitments to make payments to others. Most of these are debt obligations, which are recorded on our balance sheets and disclosed in our Notes to the Financial Statements. Long-term debt may have fixed or variable interest rates. For long-term debt with variable rate interest, we estimate the future interest payments based on projected market interest rates for various floating rate benchmarks received from third parties. In addition, we may enter into contracts with suppliers for purchases of certain services, including operating lease commitments. These arrangements may contain minimum levels of service requirements. Our aggregate contractual obligations at December 31, 2020 are shown below (in millions):

	Payments Due by Period				
	2021	2022 - 2023	2024 - 2025	2026 and Thereafter	Total
Long-term debt (a)	$ 38,530	$ 47,087	$ 28,747	$ 10,639	$ 125,003
Interest payments relating to long-term debt	2,946	3,815	1,980	1,053	9,794
Operating lease	22	36	32	20	110
Purchase obligations	29	40	4	—	73
Total	$ 41,527	$ 50,978	$ 30,763	$ 11,712	$ 134,980

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(a) Excludes unamortized discounts, unamortized issuance costs, and fair value adjustments.

Liabilities recorded for unrecognized tax benefits of $109 million are excluded from the table above. Due to the high degree of uncertainty regarding the timing of future cash flows associated with income tax liabilities, we are unable to make a reasonably reliable estimate of the amount and period of payment. For additional information on income taxes, see Note 10 of our Notes to the Financial Statements.

For additional information on our long-term debt and operating lease obligations, see Notes 9 and 16, respectively, of our Notes to the Financial Statements.

Critical Accounting Estimates

We consider an accounting estimate to be critical if (1) the accounting estimate requires us to make assumptions about matters that were highly uncertain at the time the accounting estimate was made; and (2) changes in the estimate that are reasonably likely to occur from period to period, or use of different estimates that we reasonably could have used in the current period, would have a material impact on our financial condition or results of operations.

The accounting estimates that are most important to our business involve:

- Allowance for credit losses; and
- Accumulated depreciation on vehicles subject to operating leases.

Management has discussed the development and selection of these critical accounting estimates with Ford's and our audit committees, and these audit committees have reviewed these estimates and disclosures.

Allowance for Credit Losses

The allowance for credit losses represents our estimate of the expected lifetime credit losses inherent in finance receivables as of the balance sheet date. The adequacy of the allowance for credit losses is assessed quarterly and the assumptions and models used in establishing the allowance are evaluated regularly. Because credit losses can vary substantially over time, estimating credit losses requires a number of assumptions about matters that are uncertain. Changes in our assumptions affect *Provision for credit losses* on our income statements and the allowance for credit losses contained within *Total finance receivables, net* on our balance sheets. For additional information regarding our allowance for credit losses, see Note 4 of our Notes to the Financial Statements.

Nature of Estimates Required. We estimate the allowance for credit losses for receivables that share similar risk characteristics based on a collective assessment using a combination of measurement models and management judgment. The models consider factors such as historical trends in credit losses, recent portfolio performance, and forward-looking macroeconomic conditions. The models vary by portfolio and receivable type including consumer finance receivables, wholesale loans, and dealer loans. If management does not believe the models reflect lifetime expected credit losses for the portfolio, an adjustment is made to reflect management judgment regarding qualitative factors including economic uncertainty, observable changes in portfolio performance, and other relevant factors.

Assumptions Used. Our allowance for credit losses is based on our assumptions regarding:

- *Probability of default.* The expected probability of payment and time to default which include assumptions about macroeconomic factors and recent performance.

- *Loss given default.* The percentage of the expected balance due at default that is not recoverable. The loss given default takes into account the expected collateral value and future recoveries.

Macroeconomic factors used in our models are country specific and include variables such as unemployment rates, housing prices, and gross domestic product.

Sensitivity Analysis. Changes in the probability of default and loss given default assumptions would affect the allowance for credit losses. The effect of the indicated increase / decrease in the assumptions for our United States Ford and Lincoln retail financing is as follows (in millions):

Assumption	Basis Point Change	Increase / (Decrease)
Probability of default (lifetime)	+ / - 100	$200 / (200)
Loss given default	+ / - 100	$15 / (15)

Accumulated Depreciation on Vehicles Subject to Operating Leases

Accumulated depreciation on vehicles subject to operating leases reduces the value of the leased vehicles in our operating lease portfolio from their original acquisition value to their expected residual value at the end of the lease term. For additional information on net investment in operating leases, including the amount of accumulated depreciation, see Note 5 of our Notes to the Financial Statements.

We monitor residual values each month, and we review the adequacy of our accumulated depreciation on a quarterly basis. If we believe that the expected residual values for our vehicles have changed, we revise depreciation to ensure that our net investment in operating leases (equal to our acquisition value of the vehicles less accumulated depreciation) will be adjusted to reflect our revised estimate of the expected residual value at the end of the lease term. Such adjustments to depreciation expense would result in a change in the depreciation rates of the vehicles subject to operating leases and are recorded prospectively on a straight-line basis.

Each lease customer has the option to buy the leased vehicle at the end of the lease or to return the vehicle to the dealer. For additional information on our residual risk on operating leases, refer to the "Residual Risk" section.

Nature of Estimates Required. Each operating lease in our portfolio represents a vehicle we own that has been leased to a customer. At the time we purchase a lease, we establish an expected residual value for the vehicle. We estimate the expected residual value by evaluating recent auction values, return volumes for our leased vehicles, industrywide used vehicle prices, marketing incentive plans, and vehicle quality data.

Assumptions Used. Our accumulated depreciation on vehicles subject to operating leases is based on our assumptions regarding:

- *Auction value.* Our projection of the market value of the vehicles when sold at the end of the lease; and
- *Return volume.* Our projection of the number of vehicles that will be returned at lease end.

Sensitivity Analysis. For returned vehicles, we face a risk that the amount we obtain from the vehicle sold at auction will be less than our estimate of the expected residual value for the vehicle. The impact of the change in assumptions on future auction values and return volumes would increase or decrease accumulated supplemental depreciation and depreciation expense over the remaining terms of the operating leases. The effect of the indicated increase / decrease in the assumptions for our United States Ford and Lincoln brand operating lease portfolio is as follows (in millions):

Assumption	**Basis Point Change**	**Increase / (Decrease)**
Future auction values	+ / - 100 bps	$(124) / $124
Return volumes	+ / - 100	13 / (13)

Adjustments to the amount of accumulated supplemental depreciation on operating leases would be reflected on our balance sheets as *Net investment in operating leases* and on the income statements in *Depreciation on vehicles subject to operating leases.*

Accounting Standards Issued But Not Yet Adopted

The Financial Accounting Standards Board has issued the following Accounting Standards Updates ("ASU") which are not expected to have a material impact (with the exception of ASU 2019-12 which is being evaluated) to our financial statements or financial statement disclosures. For additional information, see Note 2 of the Notes to the Financial Statements.

Standard		**Effective Date (a)**
2019-12	Simplifying the Accounting for Income Taxes	January 1, 2021 (b)
2020-06	Accounting for Convertible Instruments and Contracts in an Entity's Own Equity	January 1, 2022

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(a) Early adoption for each of the standards is permitted.
(b) For additional information see Note 2 of our Notes to the Financial Statements.

Outlook

We expect full-year 2021 EBT to be improved compared to 2020.

Cautionary Note on Forward-Looking Statements

Statements included or incorporated by reference herein may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based on expectations, forecasts, and assumptions by our management and involve a number of risks, uncertainties, and other factors that could cause actual results to differ materially from those stated, including, without limitation:

- Ford and Ford Credit's financial condition and results of operations have been and may continue to be adversely affected by public health issues, including epidemics or pandemics such as COVID-19;
- Ford is highly dependent on its suppliers to deliver components in accordance with Ford's production schedule, and a shortage of key components, such as semiconductors, can disrupt Ford's production of vehicles;
- Ford's long-term competitiveness depends on the successful execution of its Plan;
- Ford's vehicles could be affected by defects that result in delays in new model launches, recall campaigns, or increased warranty costs;
- Ford may not realize the anticipated benefits of existing or pending strategic alliances, joint ventures, acquisitions, divestitures, or new business strategies;
- Operational systems, security systems, and vehicles could be affected by cyber incidents and other disruptions;
- Ford's production, as well as Ford's suppliers' production, could be disrupted by labor issues, natural or man-made disasters, financial distress, production difficulties, or other factors;
- Ford's ability to maintain a competitive cost structure could be affected by labor or other constraints;
- Ford's ability to attract and retain talented, diverse, and highly skilled employees is critical to its success and competitiveness;
- Ford's new and existing products and mobility services are subject to market acceptance and face significant competition from existing and new entrants in the automotive and mobility industries;
- Ford's results are dependent on sales of larger, more profitable vehicles, particularly in the United States;
- With a global footprint, Ford's results could be adversely affected by economic, geopolitical, protectionist trade policies, or other events, including tariffs;
- Industry sales volume in any of Ford's key markets can be volatile and could decline if there is a financial crisis, recession, or significant geopolitical event;
- Ford may face increased price competition or a reduction in demand for its products resulting from industry excess capacity, currency fluctuations, competitive actions, or other factors;
- Fluctuations in commodity prices, foreign currency exchange rates, interest rates, and market value of Ford or Ford Credit's investments can have a significant effect on results;
- Ford and Ford Credit's access to debt, securitization, or derivative markets around the world at competitive rates or in sufficient amounts could be affected by credit rating downgrades, market volatility, market disruption, regulatory requirements, or other factors;
- Ford's receipt of government incentives could be subject to reduction, termination, or clawback;
- Ford Credit could experience higher-than-expected credit losses, lower-than-anticipated residual values, or higher-than-expected return volumes for leased vehicles;
- Economic and demographic experience for pension and other postretirement benefit plans (e.g., discount rates or investment returns) could be worse than Ford has assumed;
- Pension and other postretirement liabilities could adversely affect Ford's liquidity and financial condition;
- Ford could experience unusual or significant litigation, governmental investigations, or adverse publicity arising out of alleged defects in products, perceived environmental impacts, or otherwise;
- Ford may need to substantially modify its product plans to comply with safety, emissions, fuel economy, autonomous vehicle, and other regulations;
- Ford and Ford Credit could be affected by the continued development of more stringent privacy, data use, and data protection laws and regulations as well as consumers' heightened expectations to safeguard their personal information; and
- Ford Credit could be subject to new or increased credit regulations, consumer protection regulations, or other regulations.

We cannot be certain that any expectation, forecast, or assumption made in preparing forward-looking statements will prove accurate, or that any projection will be realized. It is to be expected that there may be differences between projected and actual results. Our forward-looking statements speak only as of the date of their initial issuance, and we do not undertake any obligation to update or revise publicly any forward-looking statement, whether as a result of new information, future events, or otherwise. For additional discussion, see "Item 1A. Risk Factors" above.