20231227027784

Årsredovisning

Ford VHC AB

Organisationsnummer 556566-7895

Räkenskapsåret 2022-01-01 - 2022-12-31

Fastställelseintyg

Undertecknad styrelseledamot i Ford VHC AB intygar härmed att resultaträkningen och balansräkningen i årsredovisningen har fastställts vid årsstämman 2023-12-14. Årsstämman beslutade även att godkänna de resultatdispositioner som styrelsen föreslagit.

Jag intygar också att innehållet i årsredovisningen och revisionsberättelsen överensstämmer med originalen.

Göteborg 2023-12-14

Andrew Rushing

Årsredovisning för räkenskapsåret 2022-01-01 - 2022-12-31

Styrelsen för Ford VHC AB lämnar härmed följande årsredovisning.

Innehåll	Sida
Förvaltningsberättelse	2
Resultaträkning	4
Balansräkning	5
Noter	6

Huvudkontor: Göteborg
Bolagets rapporteringsvaluta: Svenska kronor (SEK)
Om inget annat anges bokförs alla belopp i tusental (Tkr). Som ett resultat kan avrundningsskillnader uppstå.

20231227027785

Förvaltningsberättelse

Information om verksamheten

Ford VHC AB, med säte i Göteborg ("Bolaget"), ägs till 100 procent av Ford Motor Company, ett bolag bildat i delstaten Delaware i USA, som är moderbolag till den största koncernen som upprättar koncernredovisning. Kopior av det yttersta moderbolagets finansiella rapporter kan erhållas från: Ford Motor Company, One American Road, Dearborn, Michigan 48126 USA.

Enligt bolagsordningen är syftet med bolaget att förvärva, inneha och avyttra investeringar i Ford Motor Company och dess dotterbolag och därmed sammanhängande verksamhet.

Väsentliga händelser under räkenskapsåret

Den 3 januari 2022 ingick företaget, som en del av en global omstruktureringsprocess, ett aktieköpsavtal med Ford Credit International LLC för att förvärva Expertise Brokers Asesores de Seguros, S.A., ett företag organiserat enligt Argentinas lagar, till ett belopp av 3.374.188 USD som erhåller 99,916 % av ägandet.

Den 4 mars 2022 godkändes det att minska aktiekapitalet i Ford Motor Company Chile SpA till ett belopp av 2.325.420.000 CLP (36.251.922.SEK) och en kontantutdelning på 14.678.155.403 CLP (170.015.109 SEK). Den 20 april 2022 erhöll bolaget kontantutdelningen.

Den 29 mars 2022 erhöll bolaget en kontantutdelning från Ford Motor Company Chile SpA på 3.896.383.004 CLP (45.611.722 SEK).

Den 25 juni 2022 godkändes en kontantutdelning från Plan Ovalo S.A. de Ahorro till ett belopp av 49.671 ARS (4.059 SEK). Den 31 december 2022 betalades inte utdelningen ut.

Den 3 november 2022 erhöll bolaget en kontantutdelning från Ford Asia Pacific Automotive Holdings Ltd ("FAPAH") på 87.000.000 USD (974.121.619 SEK).

Den 28 november 2022 erhöll bolaget en kontantutdelning från Ford Motor Company Chile SpA på 48.904.978.922 CLP (568.814.299 SEK).

Den 28 november 2022 erhöll bolaget en kontantutdelning från Ford Motor de Columbia, S.A.S på 124.973.354.000 COP (275.433.774 SEK).

Den 29 november 2022 erhöll bolaget en kontantutdelning från Ford Peru på 39.862.080 PEN (109.360.988 SEK).

Under 2022 har en nedskrivning på 1.151.176.866 SEK gjorts över Bolagets investering i Ford Asia Pacific Automotive Holdings Ltd ("FAPAH"). Nedskrivningen baseras på uppdaterade marknadsförhållanden.

Betydande risker och osäkerheter

Valutarisk

Bolaget förvaltar värdepapper i olika valutor, vilket medför risk vid valutakursförändringar.

Flerårsöversikt (Tkr)	**2022**	**2021**	**2020**	**2019**	**2018**
Resultat efter finansiella poster	(409.187)	(11.041.179)	41.131	129.435	85.009
Balansomslutning	22.471.086	20.588.660	17.203.585	17.171.323	17.324.976
Soliditet (%)	99	100	100	100	98

För definitioner av nyckeltal, se not 1 Redovisnings- och värderingsprinciper

Förändringar i eget kapital (Tkr)

	Aktiekapital	Reservfond	Balanserat resultat	Årets resultat	Totalt
Saldo den 1 januari 2022	**100.100**	**20.000**	**31.513.866**	**(11.055.032)**	**20.578.934**
Disposition av vinst enligt årsstämmans beslut:	-	-	(11.055.032)	11.055.032	-
Kapitaltillskott	-	-	2.094.745	-	**2.094.745**
Årets resultat	-	-	-	(532.675)	**(532.675)**
Saldo den 31 december 2022	**100.100**	**20.000**	**22.553.579**	**(532.675)**	**22.141.004**

Förslag till vinstdisposition

Styrelsen föreslår att till förfogande stående vinstmedel (kronor):

Balanserat resultat	22,553,579,134
Årets resultat	(532.675.047)
	22.020.904.088
disponeras så att	
i ny räkning överförs	**22.020.904.088**

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RESULTATRÄKNING
(Tkr)

	Not	2022	2021
Resultat från finansiella poster			
Resultat från andelar i koncernföretag	2	1.050.190	(11.035.588)
Övriga ränteintäkter och liknande poster	3	11.412	123
Räntekostnader och liknande poster	4	(1.470.790)	(5.713)
Resultat efter finansiella poster		**(409.187)**	**(11.041.179)**
Resultat före skatt		**(409.187)**	**(11.041.179)**
Övriga skatter		(123.488)	(13.853)
Årets resultat		**(532.675)**	**(11.055.032)**

BALANSRÄKNING
(Tkr)

	Not	Per den 31 december, 2022	2021
TILLGÅNGAR			
Andelar i koncernföretag	5	9.227.380	9.316.023
Avtalat ägande av aktier	6	11.230.000	11.230.000
Anläggningstillgångar		**20.457.380**	**20.546.023**
Fordringar på koncernföretag		2.013.067	42.288
Kassa och bank		639	349
Summa omsättningstillgångar		**2.013.706**	**4.637**
Summa tillgångar		**22.471.086**	**20.588.660**
EGET KAPITAL OCH SKULDER			
Aktiekapital		100.100	100.100
Reservfond		20.000	20.000
Summa bundet eget kapital		**120.100**	**120.100**
Balanserat resultat		22.553.579	31.513.866
Årets resultat		(532.675)	(11.055.032)
Fritt eget kapital		**22.020.904**	**20.458.834**
Summa eget kapital		**22.141.004**	**20.578.934**
Skulder till koncernföretag		330.082	9.726
Kortfristiga skulder		**330.082**	**9.726**
Summa skulder		**330.082**	**9.726**
Summa skulder och eget kapital		**22.471.086**	**20.588.660**

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Noter

Not 1 Redovisnings- och värderingsprinciper

Allmänna upplysningar

Årsredovisningen upprättas i enlighet med årsredovisningslagen och BFNAR 2012:1 Årsredovisning och koncernredovisning (K3).

Redovisnings- och värderingsprinciperna är oförändrade jämfört med föregående år.

Omräkning i utländsk valuta

Fordringar och skulder i utländsk valuta har värderats till stängningskursen. Valuta- och valutakursförlust på rörelsefordringar och rörelseskulder redovisas i rörelseresultatet medan valuta- och valutakursförlust på finansiella fordringar och skulder redovisas som finansiella poster.

Finansiella instrument

Finansiella instrument värderas utifrån anskaffningsvärdet. Instrumentet redovisas i balansräkningen när bolaget blir part i avtalsvillkoren. Finansiella tillgångar tas bort från balansräkningen när rätten att erhålla kassaflöden från instrumentet har löpt ut eller överförts och företaget har överfört i stort sett alla risker och fördelar som är förknippade med ägandet.
Finansiella skulder tas bort från rapporten över finansiell ställning när förpliktelserna har reglerats eller på annat sätt avslutats.

Aktier i dotterföretag

Investeringar i dotterföretag redovisas till anskaffningspris minus eventuella nedskrivningar. I kostnaden ingår den köpeskilling som betalats för aktierna och anskaffningskostnaderna. Eventuella kapitaltillskott läggs till kostnaden när de uppstår.

Avtalat ägande av aktier

Bolaget ingick 2021 ett avtal med Ford Motor Company där alla ekonomiska rättigheter och skyldigheter relaterade till verksamheten i Ford Motor (China) Ltd överfördes till Bolaget. Endast det lagliga ägandet av aktierna kvarstår hos Ford Motor Company. Kontraktet ansågs utgöra en finansiell tillgång relaterad till Bolagets rättigheter inom ramen för kontraktet och redovisades till anskaffningsvärde, med avdrag för eventuella nedskrivningar, i balansräkningen.

Reglering av finansiella fordringar och ekonomiskt ansvar

En finansiell tillgång och en finansiell skuld kvittas och redovisas som ett nettobelopp i balansräkningen endast när det finns en rättsligt verkställbar kvittningsrätt och när en avveckling med ett nettobelopp är avsedd att ske, eller när en försäljning av tillgången och avveckling av skulden är avsedd att äga rum.

Nedskrivning av finansiella anläggningstillgångar

Vid varje balansdag beaktas om det finns indikationer på nedskrivning av finansiella anläggningstillgångar. Nedskrivning sker om värdeminskningarna anses vara ihållande och granskas individuellt.

Inkomstskatter
Total skatt består av aktuell skatt och uppskjuten skatt. Redovisade inkomstskatter inkluderar alla skatter som beräknas på bolagets skattepliktiga resultat och kupongskatt som betalas av *dotterbolag och intresseföretag vid utdelning till moderbolaget. Skatter redovisas i* resultaträkningen, utom när den underliggande transaktionen redovisas direkt i eget kapital, varvid tillhörande skatteeffekter redovisas i eget kapital.

Nuvarande skatt
Aktuell skatt avser inkomstskatt för innevarande beskattningsår och den del av föregående års inkomstskatt som ännu inte har rapporterats. Aktuell skatt beräknas utifrån den skattesats som gäller på balansdagen.

Uppskjuten skatt
Uppskjuten skatt är inkomstskatten för framtida räkenskapsår till följd av tidigare händelser. Redovisning sker med balansräkningsmetoden. Enligt denna metod redovisas uppskjutna skatteskulder och uppskjutna skattefordringar på temporära skillnader som uppstår mellan skattebasen för redovisade tillgångar och skulder och för övriga skattetillgodohavanden eller *underskott.*

Uppskjutna skattefordringar kvittas mot uppskjutna skatteskulder om, och endast om, de kan betalas med ett nettobelopp. Uppskjuten skatt beräknas utifrån tillämplig skattesats på balansdagen. Effekter av ändringar i tillämpliga skattesatser redovisas under den period då ändringen är lagstadgad. Uppskjutna skattefordringar redovisas som finansiella anläggningstillgångar och uppskjutna skatteskulder som avsättning.

Uppskjuten skattefordring som avser skatteförluster eller outnyttjade skattetillgodohavanden redovisas i den mån det är sannolikt att avdrag kan kvittas mot framtida skattepliktiga vinster.

På grund av sambandet mellan redovisning och beskattning identifieras inte den uppskjutna skatteskulden som är hänförlig till obeskattade reserver separat.

Koncernförhållanden
Företaget är ett moderförtag men med hänvisning till de undantagsreglern som beskrivs i 7 kap 2 § årsredovisningslagen har inga koncernredovisningar upprättats. Det översta moderbolaget är Ford Motor Company, Dearborn, Michigan, USA.

Uppskattningar och bedömningar
Upprättande av finansiella rapporter och tillämpning av redovisningsprinciper baseras ofta på bedömningar, uppskattningar och antaganden som anses rimliga vid den tidpunkt då bedömningen görs. Uppskattningar baseras på historiska erfarenheter och olika andra faktorer som anses rimliga med hänsyn till omständigheterna. Resultaten av dessa används för att bedöma de redovisade värdena för tillgångar och skulder, som inte på annat sätt framgår av andra källor. Det faktiska utfallet kan skilja sig från dessa uppskattningar. Uppskattningar och antaganden granskas regelbundet.

När indikation på nedskrivning inträffar på de investeringar som bolaget äger utförs ett test för återvinningsbarhet som jämför prognostiserade diskonterade framtida kassaflöden med tillgångens redovisade värde. Om testet för återvinningsvärde identifierar en möjlig nedskrivning värderas tillgångens verkliga värde med hänvisning till en diskonterad kassaflödesmetodik. En nedskrivning redovisas för det belopp med vilket tillgångens redovisade värde överstiger dess uppskattade verkliga värde

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Definition av viktiga affärsförhållanden
Resultat efter finansiella poster
Resultat efter finansiella poster och kostnader men före anslag och skatter.

Balansomslutning
Bolagets insamlade tillgångar.

Soliditet (%)
Justerat eget kapital (eget kapital och obeskattade reserver med avdrag för uppskjuten skatt) i procent av balansomslutningen.

Genomsnittligt antal anställda

Företaget har inte haft några anställda.

Not 2 Resultat från andelar i koncernföretag

	2022	2021
Erhållen utdelning	2.143.361	157.945
Nedskrivning i koncernbolag	(1.092.767)	(11.193.127)
Övriga kostnader	*(404)*	*(406)*
Total	**1.050.190**	**(11.035.588)**

Not 3 Övriga ränteintäkter och liknande resultatposter

	2022	2021
Ränteintäkter från koncernbolag	11.412	123
Total	**11.412**	**123**

Not 4 Övriga räntekostnader och liknande resultatposter

	2022	2021
Valutakursskillnader	(1.144.830)	3.121
Räntekostnader för koncernbolag	(325.958)	(8.834)
Övriga bankkostnader	(2)	-
Total	**(1.470.790)**	**(5.713)**

Not 5 Andelar i koncernföretag

	Per den 31 december,	
	2022	2021
Anskaffningsvärde, ingående balans	**9.316.023**	**17.162.172**
Nedskrivning i koncernbolag	(1.092.767)	(11.193.126)
Kapitaltillskott i koncernbolag	-	3.346.977
Kapitalminskning i koncernbolag	(33.871)	-
Omstrukturering i koncernbolag	1.037.993	-
Ackumulerat anskaffningsvärde, utgående balans	**9.227.380**	**9.316.023**

Not 6 Avtalat ägande av aktier

	Per den 31 december,	
	2022	2021
Anskaffningsvärde, ingående balans	**11.230.000**	-
Avtalat ägande av aktier, förvärv	-	11.230.000
Ackumulerat anskaffningsvärde, utgående balans	**11.230.000**	**11.230.000**

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Not 7 Information om moderbolaget

År 2021 bytte Ford VHC AB sitt moderbolag från Ford Global Technologies, LLC till Ford Motor Company under en omstruktureringsprocess som ägde rum i november 2021. Bolagets moderbolag är Ford Motor Company, ett bolag registrerat i delstaten Delaware i USA , som är moderföretaget till den största koncernen som konsoliderar dessa finansiella rapporter. Kopior av det slutliga moderbolagets finansiella rapporter kan erhållas från: Ford Motor Company, One American Road, Dearborn, Michigan 48126 USA.

Not 8 Väsentliga händelser efter räkenskapsåret

Inga väsentliga händelser har inträffat efter räkenskapsårets utgång.

Göteborg 2023-12-14

Andrew Rushing

Ordförande

Joost Van Dijk

Adrian Thomas Stead

William Richard Periam

Vår revisionsberättelse har avgivits 2023-12-14

PricewaterhouseCoopers AB

Johan Brobäck
Auktoriserad revisor

20231227027990

Not 7 Information om moderbolaget

År 2021 bytte Ford VHC AB sitt moderbolag från Ford Global Technologies, LLC till Ford Motor Company under en omstruktureringsprocess som ägde rum i november 2021. Bolagets moderbolag är Ford Motor Company, ett bolag registrerat i delstaten Delaware i USA , som är moderföretaget till den största koncernen som konsoliderar dessa finansiella rapporter. Kopior av det slutliga moderbolagets finansiella rapporter kan erhållas från: Ford Motor Company, One American Road, Dearborn, Michigan 48126 USA.

Not 8 Väsentliga händelser efter räkenskapsåret
Inga väsentliga händelser har inträffat efter räkenskapsårets utgång.

Göteborg 2023-12-14

Andrew Rushing

Ordförande

Joost Van Dijk

Adrian Thomas Stead

William Richard Periam

Vår revisionsberättelse har avgivits

PricewaterhouseCoopers AB

Johan Brobäck
Auktoriserad revisor

20231227027791

Not 7 Information om moderbolaget

År 2021 bytte Ford VHC AB sitt moderbolag från Ford Global Technologies, LLC till Ford Motor Company under en omstruktureringsprocess som ägde rum i november 2021. Bolagets moderbolag är Ford Motor Company, ett bolag registrerat i delstaten Delaware i USA , som är moderföretaget till den största koncernen som konsoliderar dessa finansiella rapporter. Kopior av det slutliga moderbolagets finansiella rapporter kan erhållas från: Ford Motor Company, One American Road, Dearborn, Michigan 48126 USA.

Not 8 Väsentliga händelser efter räkenskapsåret

Inga väsentliga händelser har inträffat efter räkenskapsårets utgång.

Göteborg 2023-12-14

Andrew Rushing

Ordförande

Joost Van Dijk

Adrian Thomas Stead

William Richard Periam

Vår revisionsberättelse har avgivits

PricewaterhouseCoopers AB

Johan Brobäck
Auktoriserad revisor

20231227027792

Not 7 Information om moderbolaget

År 2021 bytte Ford VHC AB sitt moderbolag från Ford Global Technologies, LLC till Ford Motor Company under en omstruktureringsprocess som ägde rum i november 2021. Bolagets moderbolag är Ford Motor Company, ett bolag registrerat i delstaten Delaware i USA , som är moderföretaget till den största koncernen som konsoliderar dessa finansiella rapporter. Kopior av det slutliga moderbolagets finansiella rapporter kan erhållas från: Ford Motor Company, One American Road, Dearborn, Michigan 48126 USA.

Not 8 Väsentliga händelser efter räkenskapsåret
Inga väsentliga händelser har inträffat efter räkenskapsårets utgång.

Göteborg 2023-12-14

Andrew Rushing

Ordförande

Joost Van Dijk

Adrian Thomas Stead

William Richard Periam

Vår revisionsberättelse har avgivits

PricewaterhouseCoopers AB

Johan Brobäck
Auktoriserad revisor

20231227027793

Fastställelseintyg till årsredovisning

Intyg om att balansräkningen och resultaträkningen har fastställts

Certification that the balance sheet and income statement have been adopted

Undertecknad styrelseledamot i Ford VHC AB, org.nr 556566-7895, intygar, dels att denna kopia av årsredovisningen stämmer överens med originalet, dels att resultaträkningen och balansräkningen har fastställts på årsstämma 14 december 2023. Årsstämman beslutade att godkänna styrelsens förslag till hur resultatet ska disponeras.

The undersigned board member of Ford VHC AB, reg. no. 556566-7895, hereby certifies that this copy of the annual report conforms to the original and that the income statement and balance sheet were adopted at the annual general meeting on 14 December 2023. The annual general meeting resolved to adopt the board's proposal regarding the allocation of the company's profits.

Datum: den 14 december 2023

Date: 14 December 2023

Andrew Rushing

20231227027794

Revisionsberättelse

Till bolagsstämman i Ford VHC AB, org.nr 556566-7895

Rapport om årsredovisningen

Uttalanden

Vi har utfört en revision av årsredovisningen för Ford VHC AB för år 2022.

Enligt vår uppfattning har årsredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av Ford VHC ABs finansiella ställning per den 31 december 2022 och av dess finansiella resultat för året enligt årsredovisningslagen. Förvaltningsberättelsen är förenlig med årsredovisningens övriga delar.

Vi tillstyrker därför att bolagsstämman fastställer resultaträkningen och balansräkningen för Ford VHC AB.

Grund för uttalanden

Vi har utfört revisionen enligt International Standards on Auditing (ISA) och god revisionssed i Sverige. Vårt ansvar enligt dessa standarder beskrivs närmare i avsnittet Revisorns ansvar. Vi är oberoende i förhållande till Ford VHC AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

Styrelsens ansvar

Det är styrelsen som har ansvaret för att årsredovisningen upprättas och att den ger en rättvisande bild enligt årsredovisningslagen. Styrelsen ansvarar även för den interna kontroll som de bedömer är nödvändig för att upprätta en årsredovisning som inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag.

Vid upprättandet av årsredovisningen ansvarar styrelsen för bedömningen av bolagets förmåga att fortsätta verksamheten. De upplyser, när så är tillämpligt, om förhållanden som kan påverka förmågan att fortsätta verksamheten och att använda antagandet om fortsatt drift. Antagandet om fortsatt drift tillämpas dock inte om styrelsen avser att likvidera bolaget, upphöra med verksamheten eller inte har något realistiskt alternativ till att göra något av detta.

Revisorns ansvar

Våra mål är att uppnå en rimlig grad av säkerhet om huruvida årsredovisningen som helhet inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag, och att lämna en revisionsberättelse som innehåller våra uttalanden. Rimlig säkerhet är en hög grad av säkerhet, men är ingen garanti för att en revision som utförs enligt ISA och god revisionssed i Sverige alltid kommer att upptäcka en väsentlig felaktighet om en sådan finns. Felaktigheter kan uppstå på grund av oegentligheter eller misstag och anses vara väsentliga om de enskilt eller tillsammans rimligen kan förväntas påverka de ekonomiska beslut som användare fattar med grund i årsredovisningen.

En ytterligare beskrivning av vårt ansvar för revisionen av årsredovisningen finns på Revisorsinspektionens webbplats: www.revisorsinspektionen.se/revisornsansvar. Denna beskrivning är en del av revisionsberättelsen.

Rapport om andra krav enligt lagar och andra författningar

Uttalanden

Utöver vår revision av årsredovisningen har vi även utfört en revision av styrelsens förvaltning för Ford VHC AB för år 2022 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

Vi tillstyrker att bolagsstämman disponerar vinsten enligt förslaget i förvaltningsberättelsen och beviljar styrelsens ledamöter ansvarsfrihet för räkenskapsåret.

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Grund för uttalanden

Vi har utfört revisionen enligt god revisionssed i Sverige. Vårt ansvar enligt denna beskrivs närmare i avsnittet Revisorns ansvar. Vi är oberoende i förhållande till Ford VHC AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

Styrelsens ansvar

Det är styrelsen som har ansvaret för förslaget till dispositioner beträffande bolagets vinst eller förlust. Vid förslag till utdelning innefattar detta bland annat en bedömning av om utdelningen är försvarlig med hänsyn till de krav som bolagets verksamhetsart, omfattning och risker ställer på storleken av bolagets egna kapital, konsolideringsbehov, likviditet och ställning i övrigt.

Styrelsen ansvarar för bolagets organisation och förvaltningen av bolagets angelägenheter. Detta innefattar bland annat att fortlöpande bedöma bolagets ekonomiska situation, och att tillse att bolagets organisation är utformad så att bokföringen, medelsförvaltningen och bolagets ekonomiska angelägenheter i övrigt kontrolleras på ett betryggande sätt.

Revisorns ansvar

Vårt mål beträffande revisionen av förvaltningen, och därmed vårt uttalande om ansvarsfrihet, är att inhämta revisionsbevis för att med en rimlig grad av säkerhet kunna bedöma om någon styrelseledamot i något väsentligt avseende:

- företagit någon åtgärd eller gjort sig skyldig till någon försummelse som kan föranleda ersättningsskyldighet mot bolaget, eller
- på något annat sätt handlat i strid med aktiebolagslagen, årsredovisningslagen eller bolagsordningen.

Vårt mål beträffande revisionen av förslaget till dispositioner av bolagets vinst eller förlust, och därmed vårt uttalande om detta, är att med rimlig grad av säkerhet bedöma om förslaget är förenligt med aktiebolagslagen.

Rimlig säkerhet är en hög grad av säkerhet, men ingen garanti för att en revision som utförs enligt god revisionssed i Sverige alltid kommer att upptäcka åtgärder eller försummelser som kan föranleda ersättningsskyldighet mot bolaget, eller att ett förslag till dispositioner av bolagets vinst eller förlust inte är förenligt med aktiebolagslagen.

En ytterligare beskrivning av vårt ansvar för revisionen av förvaltningen finns på Revisorsinspektionens webbplats: www.revisorsinspektionen.se/revisornsansvar. Denna beskrivning är en del av revisionsberättelsen.

Anmärkning

Årsredovisningen har inte upprättats i sådan tid att det varit möjligt att, enligt 7 kap. 10 § aktiebolagslagen, hålla årsstämma inom sex månader efter räkenskapsårets utgång.

Göteborg 2023- 12 – 14

PricewaterhouseCoopers AB

Johan Brobäck
Auktoriserad revisor

Bolagsverket
2024 -01- 31

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-K

☑ Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended December 31, 2022

or

☐ Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from _____ to _____
Commission file number 1-3950

Ford Motor Company

(Exact name of Registrant as specified in its charter)

Delaware	**38-0549190**
(State of incorporation)	*(I.R.S. Employer Identification No.)*
One American Road **Dearborn, Michigan**	**48126**
(Address of principal executive offices)	*(Zip Code)*

313-322-3000
(Registrant's telephone number, including area code)

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

Title of each class	Trading symbols	Name of each exchange on which registered
Common Stock, par value $.01 per share	F	New York Stock Exchange
6.200% Notes due June 1, 2059	FPRB	New York Stock Exchange
6.000% Notes due December 1, 2059	FPRC	New York Stock Exchange
6.500% Notes due August 15, 2062	FPRD	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☑

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 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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

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

As of June 30, 2022, Ford had outstanding 3,949,385,442 shares of Common Stock and 70,852,076 shares of Class B Stock. Based on the New York Stock Exchange Composite Transaction closing price of the Common Stock on that date ($11.13 per share), the aggregate market value of such Common Stock was $43,956,659,969. Although there is no quoted market for our Class B Stock, shares of Class B Stock may be converted at any time into an equal number of shares of Common Stock for the purpose of effecting the sale or other disposition of such shares of Common Stock. The shares of Common Stock and Class B Stock outstanding at June 30, 2022 included shares owned by persons who may be deemed to be "affiliates" of Ford. We do not believe, however, that any such person should be considered to be an affiliate. For information concerning ownership of outstanding Common Stock and Class B Stock, see the Proxy Statement for Ford's Annual Meeting of Stockholders currently scheduled to be held on May 11, 2023 (our "Proxy Statement"), which is incorporated by reference under various Items of this Report as indicated below.

As of January 30, 2023, Ford had outstanding 3,915,329,785 shares of Common Stock and 70,852,076 shares of Class B Stock. Based on the New York Stock Exchange Composite Transaction closing price of the Common Stock on that date ($12.89 per share), the aggregate market value of such Common Stock was $50,468,600,929.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Where Incorporated
Proxy Statement*	Part III (Items 10, 11, 12, 13, and 14)

* As stated under various Items of this Report, only certain specified portions of such document are incorporated by reference in this Report.

Exhibit Index begins on page 99

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FORD MOTOR COMPANY
ANNUAL REPORT ON FORM 10-K
For the Year Ended December 31, 2022

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PART I.

ITEM 1. *Business.*

Ford Motor Company was incorporated in Delaware in 1919. We acquired the business of a Michigan company, also known as Ford Motor Company, which had been incorporated in 1903 to produce and sell automobiles designed and engineered by Henry Ford. We are a global company based in Dearborn, Michigan. With about 173,000 employees worldwide, the Company is committed to helping build a better world, where every person is free to move and pursue their dreams. The Company's Ford+ plan for growth and value creation combines existing strengths, new capabilities, and always-on relationships with customers to enrich experiences for customers and deepen their loyalty. Ford develops and delivers innovative, must-have Ford trucks, sport utility vehicles, commercial vans and cars, and Lincoln luxury vehicles, along with connected services. With our change in segments effective January 1, 2023, the Company does that through three customer-centered business segments: Ford Blue, engineering iconic gas-powered and hybrid vehicles; Ford Model e, inventing breakthrough electric vehicles ("EVs") along with embedded software that defines always-on digital experiences for all customers; and Ford Pro, helping commercial customers transform and expand their businesses with vehicles and services tailored to their needs. Additionally, the Company is pursuing mobility solutions through Ford Next (previously Mobility) and provides financial services through Ford Motor Credit Company LLC ("Ford Credit").

In addition to the information about Ford and our subsidiaries contained in this Annual Report on Form 10-K for the year ended December 31, 2022 ("2022 Form 10-K Report" or "Report"), extensive information about our Company can be found at http://corporate.ford.com, including information about our management team, brands, products, services, and corporate governance principles.

The corporate governance information on our website includes our Corporate Governance Principles, Code of Ethics for Senior Financial Personnel, Code of Ethics for the Board of Directors, Code of Corporate Conduct for all employees, and the Charters for each of the Committees of our Board of Directors. In addition, any amendments to our Code of Ethics or waivers granted to our directors and executive officers will be posted on our corporate website. All of these documents may be accessed by going to our corporate website, or may be obtained free of charge by writing to our Shareholder Relations Department, Ford Motor Company, One American Road, P.O. Box 1899, Dearborn, Michigan 48126-1899.

Our recent periodic reports filed with the Securities and Exchange Commission ("SEC") pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge at http://shareholder.ford.com. This includes recent Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, and Current Reports on Form 8-K, as well as any amendments to those reports, and our Section 16 filings. We post each of these documents on our website as soon as reasonably practicable after it is electronically filed with the SEC. Our reports filed with the SEC also may be found on the SEC's website at www.sec.gov.

Our Integrated Sustainability and Financial Report, which details our performance and progress toward our sustainability and corporate responsibility goals, is available at http://sustainability.ford.com.

The foregoing information regarding our website and its content is for convenience only and not deemed to be incorporated by reference into this Report nor filed with the SEC.

Item 1. Business (Continued)

OVERVIEW

On January 1, 2023, we implemented a new operating model and reporting structure. With this change, we will analyze the results of our business through the following reportable segments: Ford Blue, Ford Model e, and Ford Pro (combined, replacing the Automotive segment); Ford Next (previously Mobility); and Ford Credit. As a result of the change, beginning with our Quarterly Report on Form 10-Q for the quarter ending March 31, 2023, we will report our results in these five reportable segments. Company adjusted EBIT will include the financial results of these five reportable segments and Corporate Other, and net income will comprise the financial results of the five reportable segments and Corporate Other, as well as Interest on Debt, Special Items, and Taxes.

Below is a description of our reportable segments and other activities as of December 31, 2022.

AUTOMOTIVE SEGMENT

The Automotive segment primarily includes the sale of Ford and Lincoln vehicles, service parts, and accessories worldwide, together with the associated costs to develop, manufacture, distribute, and service the vehicles, parts, and accessories. This segment includes revenues and costs related to our electrification vehicle programs and enterprise connectivity. The segment includes the following regional business units: North America, South America, Europe, China (including Taiwan), and the International Markets Group.

General

Our vehicle brands are Ford and Lincoln. In 2022, we sold approximately 4,231,000 vehicles at wholesale throughout the world. See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" ("Item 7") for a discussion of our calculation of wholesale unit volumes.

Substantially all of our vehicles, parts, and accessories are sold through distributors and dealers (collectively, "dealerships"), the substantial majority of which are independently owned. At December 31, the approximate number of dealerships worldwide distributing our vehicle brands was as follows:

Brand	2021	2022
Ford	8,900	8,596
Ford-Lincoln (combined)	654	607
Lincoln	401	408
Total	9,955	9,611

We do not depend on any single customer or a few customers to the extent that the loss of such customers would have a material adverse effect on our business.

In addition to the products we sell to our dealerships for retail sale, we also sell vehicles to our dealerships for sale to fleet customers, including commercial fleet customers, daily rental car companies, and governments. We also sell parts and accessories, primarily to our dealerships (which, in turn, sell these products to retail customers) and to authorized parts distributors (which, in turn, primarily sell these products to retailers). We also offer extended service contracts.

The worldwide automotive industry is affected significantly by general economic and political conditions over which we have little control. Vehicles are durable goods, and consumers and businesses have latitude in determining whether and when to replace an existing vehicle. The decision whether to purchase a vehicle may be affected significantly by slowing economic growth, geopolitical events, and other factors (including the cost of purchasing and operating cars, trucks, and utility vehicles and the availability and cost of financing and fuel). As a result, the number of cars, trucks, and utility vehicles sold may vary substantially from year to year. Further, the automotive industry is a highly competitive business that has a wide and growing variety of product and service offerings from a growing number of manufacturers.

Item 1. Business (Continued)

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Our wholesale unit volumes vary with the level of total industry demand and our share of that industry demand. Our wholesale unit volumes also are influenced by the level of dealer inventory, and our ability to maintain sufficient production levels to support desired dealer inventory in the event of supplier disruptions or other types of disruptions affecting our production. Our share is influenced by how our products are perceived by customers in comparison to those offered by other manufacturers based on many factors, including price, quality, styling, reliability, safety, fuel efficiency, functionality, and reputation. Our share also is affected by the timing and frequency of new model introductions. Our ability to satisfy changing consumer and business preferences with respect to type or size of vehicle, as well as design and performance characteristics, affects our sales and earnings significantly.

As with other manufacturers, the profitability of our business is affected by many factors, including:

- Wholesale unit volumes
- Margin of profit on each vehicle sold - which, in turn, is affected by many factors, such as:
  - Market factors - volume and mix of vehicles and options sold, and net pricing (reflecting, among other factors, incentive programs)
  - Costs of components and raw materials necessary for production of vehicles
  - Costs for customer warranty claims and additional service actions
  - Costs for safety, emissions, and fuel economy technology and equipment
- A high proportion of relatively fixed structural costs, so that small changes in wholesale unit volumes can significantly affect overall profitability

Although recent supply disruptions have resulted in near-term upward pressure on new vehicle prices, our industry has historically had a very competitive pricing environment, driven in part by excess capacity. For the past several decades, manufacturers typically have offered price discounts and other marketing incentives to provide value for customers and maintain market share and production levels, and we are beginning to see indications that some of these actions will resume in 2023 as industry production and inventories improve. The decline in value of foreign currencies in the past has also contributed significantly to competitive pressures in many of our markets.

Competitive Position. The worldwide automotive industry consists of many producers, with no single dominant producer. Certain manufacturers, however, account for the major percentage of total sales within particular countries, especially their countries of origin.

Seasonality. We manage our vehicle production schedule based on a number of factors, including retail sales (i.e., units sold by our dealerships to their customers at retail) and dealer stock levels (i.e., the number of units held in inventory by our dealerships for sale to their customers). Historically, we have experienced some seasonal fluctuation in the business, with production in many markets tending to be higher in the first half of the year to meet demand in the spring and summer (typically the strongest sales months of the year). In recent years, due to COVID-19, the semiconductor shortage, and other supply constraints, production has been higher in the second half of the year.

Backlog Orders. During the past year, gross stock levels at dealers were lower than normal due largely to the semiconductor shortage and other supply constraints, and the amount of time required to fill orders for certain vehicles increased.

Raw Materials. We purchase a wide variety of raw materials from numerous suppliers around the world for use in the production of, and development of technologies in, our vehicles. These materials include base metals (e.g., steel and aluminum), precious metals (e.g., palladium), energy (e.g., natural gas), and plastics/resins (e.g., polypropylene). As we transition to a greater mix of electric vehicles, we expect to increase our reliance on lithium, cobalt, nickel, graphite, and manganese, among other materials, for batteries. We expect to have adequate supplies or sources of availability of raw materials necessary to meet our needs; however, there always are risks and uncertainties with respect to the supply of raw materials that could impact availability in sufficient quantities and at cost effective prices to meet our needs. See "Item 1A. Risk Factors" for a discussion of the risks associated with a shortage of components or raw materials, supplier disruptions, and inflationary pressures, the "Key Trends and Economic Factors Affecting Ford and the Automotive Industry" section of Item 7 for a discussion of supplier disruptions caused by a shortage of key components, as well as commodity and energy price changes, and "Item 7A. Quantitative and Qualitative Disclosures about Market Risk" ("Item 7A") for a discussion of commodity price risks.

Item 1. Business (Continued)

Intellectual Property. We own or hold licenses to use numerous patents, trade secrets, copyrights, and trademarks on a global basis. We expect to continue building this portfolio as we actively pursue innovation in every part of our business. We also own numerous trademarks and service marks that contribute to the identity and recognition of our Company and its products and services globally. While our intellectual property rights in the aggregate are important to the operation of each of our businesses, we do not believe that our business would be materially affected by the expiration of any particular intellectual property right or termination of any particular intellectual property agreement.

Warranty Coverage, Field Service Actions, and Customer Satisfaction Actions. We provide warranties on vehicles we sell. Warranties are offered for specific periods of time and/or mileage, and vary depending upon the type of product and the geographic location of its sale. Pursuant to these warranties, we will repair, replace, or adjust parts on a vehicle that are defective in factory-supplied materials or workmanship during the specified warranty period. In addition to the costs associated with this warranty coverage provided on our vehicles, we also incur costs as a result of field service actions (i.e., safety recalls, emission recalls, and other product campaigns), and for customer satisfaction actions.

For additional information regarding warranty and related costs, see "Critical Accounting Estimates" in Item 7 and Note 25 of the Notes to the Financial Statements.

Wholesales

Wholesales consist primarily of vehicles sold to dealerships. For the majority of such sales, we recognize revenue when we ship the vehicles to our dealerships from our manufacturing facilities. See Item 7 for additional discussion of revenue recognition practices. Wholesales in each region and in certain key markets within each region during the past three years were as follows:

	Wholesales (a) (In thousands of units)		
	2020	**2021**	**2022**
United States	1,826	1,716	2,012
Canada	210	233	258
Mexico	34	40	42
North America	2,081	2,006	2,335
Brazil	135	27	21
Argentina	31	26	31
South America	185	81	83
United Kingdom	208	227	263
Germany	211	152	182
EU20 (b)	904	806	910
Türkiye	102	72	85
Europe	1,020	891	1,014
China (c)	617	649	495
Australia	57	70	71
India	46	34	—
ASEAN (d)	67	75	102
Russia	14	22	3
International Markets Group	284	315	304
Total Company	4,187	3,942	4,231

(a) Wholesale unit volumes include sales of medium and heavy trucks. Wholesale unit volumes also include all Ford and Lincoln badged units (whether produced by Ford or by an unconsolidated affiliate) that are sold to dealerships or others, units manufactured by Ford that are sold to other manufacturers, units distributed by Ford for other manufacturers, local brand units produced by our unconsolidated Chinese joint venture Jiangling Motors Corporation, Ltd. ("JMC") that are sold to dealerships or others, and from the second quarter of 2021, Ford badged vehicles produced in Taiwan by Lio Ho Group. Vehicles sold to daily rental car companies that are subject to a guaranteed repurchase option (i.e., rental repurchase), as well as other sales of finished vehicles for which the recognition of revenue is deferred (e.g., consignments), also are included in wholesale unit volumes. Revenue from certain vehicles in wholesale unit volumes (specifically, Ford badged vehicles produced and distributed by our unconsolidated affiliates, as well as JMC brand vehicles) are not included in our revenue.

(b) EU20 markets are United Kingdom, Germany, France, Italy, Spain, Austria, Belgium, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, and Switzerland.

(c) China includes Taiwan.

(d) ASEAN includes Philippines, Thailand, and Vietnam.

Item 1. Business (Continued)

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Retail Sales, Industry Volume, and Market Share

Retail sales, industry volume, and market share in each region and in certain key markets within each region during the past three years were as follows:

	Retail Sales (a) (in millions of units)			Industry Volume (b) (in millions of units)			Market Share (c) (as a percentage)		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
United States	2.0	1.9	1.9	14.9	15.4	14.2	13.7 %	12.4 %	13.1 %
Canada	0.2	0.2	0.2	1.6	1.7	1.6	15.1	14.3	15.2
Mexico	—	—	—	1.0	1.0	1.1	4.0	4.0	3.8
North America	2.3	2.2	2.2	17.6	18.4	17.3	13.2	12.0	12.5
Brazil	0.1	—	—	2.1	2.1	2.1	6.8	1.7	1.7
Argentina	—	—	—	0.3	0.4	0.4	9.7	7.9	7.0
South America	0.2	0.1	0.1	3.1	3.6	3.7	6.2	2.6	2.1
United Kingdom	0.2	0.2	0.2	1.9	2.0	1.9	12.9	11.8	12.1
Germany	0.2	0.2	0.2	3.3	3.0	3.0	7.4	5.7	5.7
EU20 (d)	1.0	0.9	0.8	13.7	13.7	13.0	7.1	6.4	6.4
Türkiye	0.1	0.1	0.1	0.8	0.8	0.8	12.4	9.7	10.5
Europe	1.1	1.0	0.9	15.1	15.1	14.4	7.2	6.4	6.5
China (e)	0.6	0.6	0.5	25.2	26.3	23.9	2.4	2.4	2.1
Australia	0.1	0.1	0.1	0.9	1.1	1.1	6.5	6.8	6.2
India	0.1	—	—	2.8	3.5	4.1	1.7	1.0	—
ASEAN (f)	0.1	0.1	0.1	1.3	1.4	1.7	5.3	5.3	5.7
Russia	—	—	—	1.5	1.7	1.7	0.9	1.2	—
International Markets Group	0.3	0.3	0.3	17.5	18.7	20.3	1.7	1.8	1.4
Global / Total Company	4.5	4.2	4.0	78.5	82.1	79.6	5.8 %	5.1 %	5.0 %

(a) Retail sales represents primarily sales by dealers and is based, in part, on estimated vehicle registrations; includes medium and heavy trucks.
(b) Industry volume is an internal estimate based on publicly available data collected from various government, private, and public sources around the globe; includes medium and heavy trucks.
(c) Market share represents reported retail sales of our brands as a percent of total industry volume in the relevant market or region.
(d) EU20 markets are United Kingdom, Germany, France, Italy, Spain, Austria, Belgium, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, and Switzerland.
(e) China includes Taiwan; China market share includes Ford brand and JMC brand vehicles produced and sold by our unconsolidated affiliates.
(f) ASEAN includes Philippines, Thailand, and Vietnam.

U.S. Sales by Type

The following table shows U.S. retail sales volume and U.S. wholesales segregated by truck, sport utility vehicle ("SUV"), and car sales. U.S. retail sales volume reflects transactions with (i) retail and fleet customers (as reported by dealers), (ii) government, and (iii) Ford management. U.S. wholesales reflect sales to dealers.

	U.S. Retail Sales		U.S. Wholesales	
	2021	2022	2021	2022
Trucks	1,011,198	955,543	942,472	1,051,900
SUVs	827,278	861,256	724,539	911,203
Cars	67,479	47,665	49,470	49,242
Total Vehicles	1,905,955	1,864,464	1,716,481	2,012,345

MOBILITY SEGMENT

The Mobility segment primarily includes development costs for Ford's autonomous vehicles and related businesses, Ford's equity ownership in Argo AI (a developer of autonomous driving systems), and other mobility businesses and investments. For additional information about our investment in Argo AI, see Note 14 of our Notes to the Financial Statements.

Effective January 1, 2023, our Ford Next segment (formerly Mobility) primarily includes expenses and investments for emerging business initiatives aimed at creating value for Ford in complementary market segments.

Item 1. Business (Continued)

FORD CREDIT SEGMENT

The Ford Credit segment is comprised of the Ford Credit business on a consolidated basis, which is primarily vehicle-related financing and leasing activities.

Ford Credit offers a wide variety of automotive financing products to and through automotive dealers throughout the world. The predominant share of Ford Credit's business consists of financing our vehicles and supporting our dealers. Ford Credit earns its revenue primarily from payments made under retail installment sale and finance lease (retail financing) and operating lease contracts that it originates and purchases; interest rate supplements and other support payments from us and our affiliates; and payments made under dealer financing programs.

As a result of these financing activities, Ford Credit has a large portfolio of finance receivables and operating leases which it classifies into two portfolios —"consumer" and "non-consumer." Finance receivables and operating leases in the consumer portfolio include products offered to individuals and businesses that finance the acquisition of our vehicles from dealers for personal and commercial use. Retail financing includes retail installment sale contracts for new and used vehicles and finance leases (comprised of sales-type and direct financing leases) for new vehicles to retail and commercial customers, including leasing companies, government entities, daily rental companies, and fleet customers. Finance receivables in the non-consumer portfolio include products offered to automotive dealers. Ford Credit makes wholesale loans to dealers to finance the purchase of vehicle inventory, also known as floorplan financing, as well as loans to dealers to finance working capital and improvements to dealership facilities, finance the purchase of dealership real estate, and finance other dealer vehicle programs. Ford Credit also purchases receivables generated by us and our affiliates, primarily related to the sale of parts and accessories to dealers and certain used vehicles from daily rental fleet companies. Ford Credit also provides financing to us for vehicles that we lease to our employees.

The majority of Ford Credit's business is in the United States and Canada. Outside of the United States, Europe is Ford Credit's largest operation. Ford Credit's European operations are managed primarily through its United Kingdom-based subsidiary, FCE Bank plc ("FCE"). Within Europe, Ford Credit's largest markets are the United Kingdom and Germany.

See Item 7 and Notes 10 and 12 of the Notes to the Financial Statements for a detailed discussion of Ford Credit's receivables, credit losses, allowance for credit losses, loss-to-receivables ratios, funding sources, and funding strategies. See Item 7A for a discussion of how Ford Credit manages its financial market risks.

We routinely sponsor special retail financing and lease incentives to dealers' customers who choose to finance or lease our vehicles from Ford Credit. In order to compensate Ford Credit for the lower interest or lease payments offered to the retail customer, we pay the discounted value of the incentive directly to Ford Credit when it originates the retail finance or lease contract with the dealer's customer. These programs increase Ford Credit's financing volume and share. See Note 2 of the Notes to the Financial Statements for information about our accounting for these programs.

We have a Third Amended and Restated Relationship Agreement with Ford Credit, pursuant to which, if Ford Credit's financial statement leverage for a calendar quarter were to be higher than 12.5:1 (as reported in its most recent periodic report), Ford Credit could require us to make or cause to be made a capital contribution to it in an amount sufficient to have caused such financial statement leverage to have been 12.5:1. No capital contributions have been made pursuant to this agreement. In a separate agreement with FCE, Ford Credit has agreed to maintain FCE's net worth in excess of $500 million. No payments have been made pursuant to that agreement.

Ford Credit files periodic reports with the SEC that contain additional information regarding Ford Credit. The reports are available through Ford Credit's website located at www.fordcredit.com/investor-center and can also be found on the SEC's website located at www.sec.gov.

The foregoing information regarding Ford Credit's website and its content is for convenience only and not deemed to be incorporated by reference into this Report nor filed with the SEC.

Item 1. Business (Continued)

CORPORATE OTHER

Corporate Other primarily includes corporate governance expenses, interest income (excluding interest earned on our extended service contract portfolio that is included in our Automotive segment) and gains and losses from our cash, cash equivalents, and marketable securities (excluding gains and losses on investments in equity securities), and foreign exchange derivatives gains and losses associated with intercompany lending. Corporate governance expenses are primarily administrative, delivering benefit on behalf of the global enterprise, that are not allocated to operating segments. These include expenses related to setting and directing global policy, providing oversight and stewardship, and promoting the Company's interests.

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Effective January 1, 2023, past service pension and other postretirement employee benefits ("OPEB") income/expense and related assets, previously reported in the Automotive segment, were realigned to Corporate Other.

INTEREST ON DEBT

Interest on Debt consists of interest expense on Company debt excluding Ford Credit.

GOVERNMENTAL STANDARDS

Many governmental standards and regulations relating to safety, fuel economy, emissions control, noise control, vehicle recycling, substances of concern, vehicle damage, and theft prevention are applicable to new motor vehicles, engines, and equipment. In addition, manufacturing and other automotive assembly facilities are subject to stringent standards regulating air emissions, water discharges, and the handling and disposal of hazardous substances. The most significant of the standards and regulations affecting us are discussed below:

Vehicle Emissions Control

U.S. Requirements - Federal and California Tailpipe Emission Standards. Both the U.S. Environmental Protection Agency ("EPA") and the California Air Resources Board ("CARB") have established motor vehicle tailpipe and evaporative emissions standards that become increasingly stringent over time. Seventeen states have adopted California's light-duty standards, four states have adopted California's heavy-duty standards, and other states are expected to join. Both federal and California regulations also require motor vehicles to be equipped with on-board diagnostic ("OBD") systems that monitor emission-related systems and components. In addition, light- and medium-duty vehicles and heavy-duty engines must be certified by EPA prior to sale in the United States and by CARB prior to sale in California and the relevant states. Canada accepts EPA certification. Compliance with emissions standards, OBD requirements, and related regulations can be challenging and can drive increased product development costs, warranty costs, and vehicle recalls.

CARB has adopted new emissions regulations applicable to model year 2024 heavy-duty engines, as well as extended heavy-duty warranty requirements beginning with the 2022 model year, and EPA has proposed more stringent heavy-duty standards beginning with the 2027 model year. These rules include more stringent emissions standards, as well as new requirements affecting durability testing, warranty, and OBD. CARB has also adopted new light-duty emissions standards applicable to 2026 model year vehicles, including a more stringent emissions standard and other new emissions requirements. These new rules are expected to impose increased challenges and costs on the development of light-duty vehicles and heavy-duty engines.

Compliance with automobile emissions standards depends in part on the widespread availability of high-quality and consistent automotive fuels that the vehicles were designed to use. Legislative, regulatory, and judicial developments related to fuel quality at both the national and state levels could affect vehicle manufacturers' warranty costs as well as their ability to comply with vehicle emissions standards.

Item 1. Business (Continued)

The California vehicle emissions program also includes requirements for manufacturers to produce and deliver for sale zero-emission vehicles ("ZEVs"). California's light-duty vehicle ZEV regulation, which uses a system based on credits that can be banked and carried forward, mandates annual increases in the production and sale of battery-electric, fuel cell, and plug-in hybrid vehicles. For 2025 model year, this regulation will require approximately 22% of a manufacturer's California light-duty vehicle sales volume be ZEVs. In August 2022, California approved a sweeping revision to the ZEV regulation. Beginning with the 2026 model year, the revised ZEV rule mandates a 35% ZEV sales requirement, rising to 100% by 2035. The revised regulation also imposes significant restrictions on credit usage, and new requirements for EV battery durability. California has also instituted ZEV regulations governing medium- and heavy-duty vehicles, beginning with the 2024 model year. These stringent ZEV requirements covering light-, medium-, and heavy-duty vehicles could entail significant costs and compliance challenges, and include complex warranty and recall requirements. Compliance with ZEV rules depends on market conditions (including the pace of adoption of EVs), technology readiness, and battery raw material availability as well as the availability of adequate infrastructure to support vehicle charging.

European Requirements. European Union ("EU") and U.K. regulations, directives, and related legislation limit the amount of regulated pollutants that may be emitted by new motor vehicles and engines sold in the EU and the United Kingdom. Regulatory stringency has increased significantly with the application of Stage VI emission standards (first introduced in 2014) and the implementation of a laboratory test cycle for CO_2 and emissions and the introduction of on-road emission testing using portable emission analyzers (Real Driving Emission or "RDE"). These on-road emission tests are in addition to the laboratory-based tests (first introduced in 2017). The divergence between the regulatory limit that is tested in laboratory conditions and the allowed values measured in RDE tests will ultimately be reduced to zero as the regulatory demands increase. In addition, new requirements for tailpipe and non-tailpipe emissions will be included in the upcoming Euro 7 regulation, and the lead-time for engineering and type approval may potentially be too short. The costs associated with complying with all of these requirements are significant, and following the EU Commission's indication of its intent to accelerate emissions rules in its road map publication "EU Green Deal" as well as the EU sustainable mobility action plan, these challenges will continue in European markets, including the United Kingdom. In addition, the Whole Vehicle Type Approval ("WVTA") regulation has been updated to increase the stringency of in-market surveillance. Moreover, following the U.K.'s withdrawal from the European Union, we may be subject to diverging requirements in our European markets, which could increase vehicle complexity and duties.

There is an increasing trend of city access restrictions for internal combustion engine powered vehicles. The access rules being introduced are developed by individual cities based on their specific concerns, resulting in rapid deployment of access rules that differ greatly among cities. The speed of implementation of access rules may directly influence customer vehicle residual values and choice of next purchase. In an effort to support the Paris Accord, some countries are adopting yearly increases in CO_2 taxes, where such a system is in place, and publishing dates by when internal combustion powered vehicles may no longer be registered, e.g., Norway in 2025 and the United Kingdom and the Netherlands in 2030.

Other National Requirements. Many countries, in an effort to address air quality and climate change concerns, are adopting previous versions of European or United Nations Economic Commission for Europe ("UN-ECE") mobile source emission regulations. Some countries have adopted more advanced regulations based on the most recent version of European or U.S. regulations. For example, the China Stage VI light-duty vehicle emission standards, based on European Stage VI emission standards for light-duty vehicles, U.S. evaporative and refueling emissions standards, and CARB OBD II requirements, incorporate two levels of stringency for tailpipe emissions. Under the level one (VI(a)) standard, which is currently in place nationwide in China, the emissions limits are comparable to the EU Stage VI limits, except for carbon monoxide, which is 30% lower than the EU Stage VI limit. The more stringent level two (VI(b)) standard's emissions limits are approximately 30-50% lower than the EU Stage VI limits, depending on the pollutant. While level two (VI(b)) is not slated for nationwide implementation until July 2023, the government has encouraged the more economically developed cities and provinces to pull ahead implementation. For example, Beijing, Shanghai, Tianjin, Hebei province, and Guangdong province have all begun implementing level two (VI(b)). Both China Stage VII light-duty vehicle and heavy duty vehicle emission regulations are currently under pre-study, and the Ministry of Ecology and Environment has advised that the Stage VII regulations will have more stringent limits on pollutant emissions and will establish limits for greenhouse gas (primarily CO_2) tailpipe emissions. In South America, most countries are evolving to implement more stringent requirements accepting Europe and U.S. regulations, except Brazil, which has a unique local process called PROCONVE based on U.S. regulations for light-duty vehicles and European regulations for heavy-duty vehicles.

Item 1. Business (Continued)

Canadian criteria emissions regulations are largely aligned with U.S. requirements; however, the existing ZEV regulations in Quebec and those published in British Columbia in July 2020 are more stringent than those in place in California. Both British Columbia and Quebec have proposed draft amendments to their regulations to increase requirements starting in 2025 and 2026, respectively. The federal government has published draft light-duty ZEV sales requirements through an amendment to the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations and has also published its intent to develop ZEV sales requirements for heavy-duty vehicles. Other provinces have signaled their interest in light-duty ZEV sales regulations but are awaiting the finalization of the federal ZEV regulations.

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Elsewhere, there is a mix of regulations and processes based on U.S. and EU standards. Not all countries have adopted appropriate fuel quality standards to accompany the stringent emission standards adopted. This could lead to compliance problems, particularly if OBD or in-use surveillance requirements are implemented.

Global Developments. In recent years, EPA and CARB have increased their focus on the use of "defeat devices." Defeat devices are elements of design (typically embedded in software) that improperly cause the emission control system to function less effectively during normal on-road driving than during an official laboratory emissions test, without justification. They are prohibited by law in many jurisdictions, and we do not use defeat devices in our vehicles.

Regulators around the world continue to scrutinize automakers' emission testing, which has led to a number of defeat device settlements by various manufacturers. EPA is carrying out additional non-standard tests as part of its vehicle certification program. CARB has also been conducting extensive non-standard emission tests, which in some cases have resulted in certification delays for diesel vehicles. In the past, several European countries have conducted non-standard emission tests and published the results, and, in some cases, this supplemental testing has triggered investigations of manufacturers for possible defeat devices. Testing is expected to continue on an ongoing basis. In addition, plaintiffs' attorneys are pursuing consumer class action lawsuits based on alleged excessive emissions from cars and trucks, which could, in turn, prompt further investigations by regulators.

Vehicle Fuel Economy and Greenhouse Gas Standards

U.S. Requirements - Light-Duty Vehicles. Federal law requires that light-duty vehicles meet minimum corporate average fuel economy ("CAFE") standards set by the National Highway Traffic Safety Administration ("NHTSA"). Manufacturers are subject to substantial civil penalties if they fail to meet the CAFE standard in any model year, after taking into account all available credits for the preceding five model years and expected credits for the three succeeding model years. The law requires NHTSA to promulgate and enforce separate CAFE standards applicable to each manufacturer's fleet of domestic passenger cars, imported passenger cars, and light-duty trucks.

EPA also regulates vehicle greenhouse gas ("GHG") emissions under the Clean Air Act. Because the vast majority of GHGs emitted by a vehicle are the result of fuel combustion, GHG emission standards are similar to fuel economy standards. Thus, NHTSA and EPA coordinate with each other on their fuel economy and GHG standards, respectively, to avoid potential inconsistencies.

Beginning with the 2012 model year, EPA and NHTSA jointly promulgated harmonized GHG and fuel economy regulations under what came to be known as the "One National Program" ("ONP") framework. California, which had promulgated its own state-specific set of GHG regulations, agreed that compliance with the federal program would satisfy compliance with its own GHG requirements, thereby avoiding a patchwork of potentially conflicting federal and state GHG standards. ONP has required manufacturers to achieve increasingly stringent year-over-year standards.

ONP was envisioned to continue at least through the 2025 model year. In 2020, EPA introduced significantly less stringent fuel economy and GHG standards applicable to model years 2021-2026. The federal government also revoked California's authority to set and enforce its own vehicle GHG standards, as well as the authority of other states that opted in to California's standards. California continued to assert its authority to regulate vehicle GHGs, challenged in court the federal government's preemption actions, withdrew from ONP, and planned to return to enforcing its own state-specific GHG standards.

Item 1. Business (Continued)

The litigation over both standards and preemption, with uncertain outcomes, created difficulty for purposes of Ford's future product planning. To avoid a "bifurcated" regulatory scenario in which California and the 15 other states that adopted California's GHG standards enforce one set of rules, while a different set of rules applies in the rest of the country, Ford reached an agreement with California on a set of terms for an alternative framework in which Ford committed to meet a designated set of standards on a national basis in lieu of the California regulatory program. This framework enabled Ford to continue its product planning on a nationwide basis, while being consistent with Ford's environmental goals. Ford finalized its agreement with California in 2020, and other states that adopted the California standards indicated they would respect the agreement.

In 2021, EPA again re-evaluated the stringency of light-duty fuel economy and GHG standards through the 2026 model year, and considered whether to restore the stringency to the previous ONP levels, or greater. EPA finalized this evaluation in December 2021, establishing GHG standards applicable to model years 2023-2026 with stringency that exceeded ONP levels. In 2022, NHTSA finalized more stringent fuel economy standards for model years 2024-2026, which are substantially aligned with EPA's GHG standards. The federal government also acted in December 2021 to repeal its rule blocking California's authority to set and enforce its own vehicle GHG standards, as well as the authority of other states that adopted California's standards, and EPA took similar action in early 2022 under the Clean Air Act. In late 2022, EPA began consideration of sweeping changes to light-duty GHG regulations for model years 2027 and beyond. These regulations are expected to extend through at least the 2030 model year, and to drive significant ZEV sales mix, along with rapid improvement of ICE vehicle performance, by virtue of greatly increased stringency. These new rules are expected to impose increased challenges and costs on the development of light-duty vehicles. If any federal or state agency imposes and enforces fuel economy and GHG standards that are misaligned with market conditions, Ford would likely be forced to take various actions that could have substantial adverse effects on its sales volumes and results of operations. Such actions likely would include restricting offerings of selected engines and popular options; increasing market support programs for Ford's most fuel-efficient vehicles; and ultimately curtailing the production and sale of certain vehicles, such as high-performance cars, utilities, and/or full-size light trucks in order to maintain compliance.

U.S. Requirements - Heavy-Duty Vehicles. EPA and NHTSA have jointly promulgated GHG and fuel economy standards for heavy-duty vehicles (generally, vehicles over 8,500 pounds gross vehicle weight rating) through the 2027 model year, and EPA is preparing a major update to these standards for the 2027 model year and beyond. In Ford's case, the standards primarily affect heavy-duty pickup trucks and vans, plus vocational vehicles such as shuttle buses and delivery trucks. As the heavy-duty standards increase in stringency, it may become more difficult to comply while continuing to offer a full lineup of heavy-duty trucks.

European Requirements. The European Union regulates passenger car and light commercial vehicle CO_2 emissions using sliding scales with different CO_2 targets for each manufacturer based on the respective average vehicle weight for its fleet of vehicles first registered in a calendar year, with separate targets for passenger cars and light commercial vehicles. A penalty system applies to manufacturers failing to meet the individual CO_2 targets. Pooling agreements between manufacturers to utilize credits are possible under certain conditions, and we have entered into such pooling agreements in order to comply with fuel economy regulations without paying a penalty and to enable other manufacturers to benefit from our positive CO_2 performance. For "multi-stage vehicles" (e.g., Ford's Transit chassis cabs), the base manufacturer (e.g., Ford) is fully responsible for the CO_2 performance of the final up-fitted vehicles. The initial target levels get significantly more stringent every five years (2025, 2030, and 2035, after which all new vehicles must be zero emission), requiring significant investments in propulsion technologies and extensive fleet management forcing low CO_2 emissions. The United Kingdom and Switzerland have introduced similar rules, and the United Kingdom is considering adopting ZEV mandates.

The EU Commission is investigating the introduction of Real Driving CO_2 and Life Cycle Assessment elements, and heavy-duty vehicles are addressed in separate regulations with analogous requirements and challenges. As discussed above, the EU Commission has announced a "Green Deal" that is likely to trigger more stringent requirements for CO_2 emissions (including stricter CO_2 fleet regulations) and other regulated emissions and include recycling and substance restrictions. While the EU Commission targets net climate neutrality by 2050 and a more ambitious 2030 interim target (a 55% instead of 40% CO_2 reduction compared to 1990), several countries, such as Germany, have adopted stricter interim targets and earlier net climate neutrality targets.

Ford also faces the risk of advance premium payments for both passenger cars and light commercial vehicles in all European markets due to, for example, unexpected market fluctuations and shorter lead times impacting average fleet performance.

Item 1. Business (Continued)

The United Nations developed a technical regulation for passenger car emissions and CO_2. This world light-duty test procedure ("WLTP") is focused primarily on better aligning laboratory CO_2 and fuel consumption figures with customer-reported figures. The introduction of WLTP in Europe started in September 2017 and requires updates to CO_2 labeling, thereby impacting taxes in countries with a CO_2 tax scheme as well as CO_2 fleet regulations for passenger cars and light commercial vehicles. Costs associated with new or incremental testing for WLTP are significant.

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Some European countries have implemented or are considering other initiatives for reducing CO_2 vehicle emissions, including fiscal measures and CO_2 labeling to address country specific targets associated with the Paris Accord. For example, the United Kingdom, France, Germany, Spain, Portugal, and the Netherlands, among others, have introduced taxation based on CO_2 emissions. The EU CO_2 requirements are likely to trigger further measures. In addition, delayed vehicle launches and supply shortages, as well as an insufficient charging infrastructure and lower demand for ZEV and low CO_2 emission vehicles as certain electric vehicle incentives are reduced, can trigger compliance risks in all European markets.

Other National Requirements. The Canadian federal government regulates vehicle GHG emissions under the Canadian Environmental Protection Act. In October 2014, the Canadian federal government published the final changes to the regulation for light-duty vehicles, which maintain alignment with U.S. EPA vehicle GHG standards for the 2017-2025 model years. The revised U.S. EPA standards were automatically adopted in Canada by reference for the 2022-2025 model years, and draft amendments for a few standalone administrative elements not automatically adopted by reference were published in December 2022. The heavy-duty vehicle and engine GHG emissions regulations for the 2021 model year and beyond were published in May 2018 and are in line with U.S. requirements, subject to any change in those requirements.

China's Corporate Average Fuel Consumption and New Energy Vehicle ("NEV") Credit Administrative Rules contain fuel consumption requirements as well as credit mandates for NEV passenger vehicles, i.e., plug-in hybrids, battery electric vehicles, or fuel cell vehicles. The fuel consumption requirement uses a weight-based approach to establish targets, with year-over-year target reductions. China set a target of 5.0L/100km for the 2020 passenger vehicle industry fuel consumption fleet average, which lowers to 4.0L/100km by 2025 based on the New European Driving Cycle system. The government is projecting a further fuel consumption reduction in 2030, and is targeting 3.5L/100km based on the WLTP cycle ("WLTC") system. The NEV mandate requires that OEMs generate a specific amount of NEV credits each year, with NEV credits of at least 16%, 18%, 28%, and 38% of the annual ICE passenger vehicle production or import volume required in 2022, 2023, 2024, and 2025, respectively. Future percentages are currently under consideration.

As discussed below in Item 1A. Risk Factors under "*Ford may need to substantially modify its product plans to comply with safety, emissions, fuel economy, autonomous vehicle, and other regulations,*" a production disruption, stop ship, lower than planned market acceptance of our vehicles, or other intervening events may cause us to modify our product plans or, in some cases, purchase credits in order to comply with fuel economy standards.

Vehicle Safety

U.S. Requirements. The National Traffic and Motor Vehicle Safety Act of 1966 (the "Safety Act") regulates vehicles and vehicle equipment in two primary ways. First, the Safety Act prohibits the sale in the United States of any new vehicle or equipment that does not conform to applicable vehicle safety standards established by NHTSA. Meeting or exceeding many safety standards is costly and has continued to evolve as global compliance and public domain (e.g., New Car Assessment Programs ("NCAPs"), Insurance Institute for Highway Safety ("IIHS")) requirements continue to evolve, are increasing in demands, and lack harmonization globally. As we expand our business priorities to include autonomous vehicles and broader mobility products and services, our financial exposure has increased. Second, the Safety Act requires that defects related to motor vehicle safety be remedied through safety recall campaigns. A manufacturer is obligated to recall vehicles if it determines the vehicles do not comply with a safety standard. Should we or NHTSA determine that either a safety defect or noncompliance issue exists with respect to any of our vehicles, the cost of such recall campaigns could be substantial.

European Requirements. The EU has established vehicle safety standards and regulations and is likely to adopt additional or more stringent requirements in the future, especially in the areas of access to in-vehicle data, artificial intelligence, and autonomous vehicles.

Item 1. Business (Continued)

The European General Safety Regulation ("GSR") introduced UN-ECE regulations, which are required for the European Type Approval process. The GSR includes the mandatory introduction of multiple active and passive safety features, including cybersecurity requirements for new vehicle models from 2022 and for all registrations in 2024. EU regulators are focusing on active safety features, such as lane departure warning systems, electronic stability control, and automatic brake assist. Furthermore, mobile network providers in certain EU Member States have begun shutting down their 2G and 3G networks, which form the basis for e-Call system functionality in existing vehicles. The e-Call systems in existing vehicles may need to be updated as these systems are phased out. It is also possible that the EU may mandate Member States to maintain these networks to allow for the continued functionality of existing e-Call systems.

Other National Requirements. Globally, governments generally have been adopting UN-ECE based regulations with minor variations to address local concerns. Any difference between North American and UN-ECE based regulations can add complexity and costs to the development of global platform vehicles, and we continue to support efforts to harmonize regulations to reduce vehicle design complexity while providing a common level of safety performance; several on-going bilateral negotiations on free trade can potentially contribute to this goal.

Safety and recall requirements in Brazil, China, India, South Korea, and Gulf Cooperation Council ("GCC") countries may add substantial costs and complexity to our global recall practice. Brazil has set mandatory fleet safety targets and penalties are applied if these levels are not maintained, while a tax reduction may be available for over-performance. In Canada, regulatory requirements are currently aligned with U.S. regulations; however, under the Canadian Motor Vehicle Safety Act, the Minister of Transport has broad powers to order manufacturers to submit a notice of defect or non-compliance when the Minister considers it to be in the interest of safety. In 2021, Canada started preliminary consultations on several new proposed regulations, including Administrative Monetary Penalties ("AMPs") and Analysis of Technical Information for Vehicles and Equipment ("ACTIVE") regulations. Draft language for the AMPs regulation was published in May 2022 with final regulations expected to be published at the end of 2023. In China, a new mandatory Event Data Recorder regulation that is more comprehensive than U.S. requirements has been released, and in China, Malaysia, and South Korea, mandatory e-Call requirements are being drafted. E-Call is mandatory in the UAE for new vehicles starting with the 2021 model year, and in Saudi Arabia from the 2025 model year.

New Car Assessment Programs. Organizations around the world rate and compare motor vehicles in NCAPs to provide consumers and businesses with additional information about the safety of new vehicles. NCAPs use crash tests and other evaluations that are different than what is required by applicable regulations, and use stars to rate vehicle safety, with five stars awarded for the highest rating and one for the lowest. Achieving high NCAP ratings, which may vary by country or region, can add complexity and cost to vehicles. Similarly, environmental rating systems exist in various regions, e.g., Green NCAP in Europe. In China, C-NCAP has a stringent rating structure to decrease the number of five-star ratings. Further, the China Insurance Auto Safety Index (similar to IIHS) has been implemented, with higher standards for passenger and pedestrian protection and driver assistance technologies. These protocols impose additional requirements relating to testing, evaluation, and mandatory safety features, and compliance with them (or any subsequent updates to them) may be costly.

Item 1. Business (Continued)

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HUMAN CAPITAL RESOURCES

People Strategy and Governance

We strive to create an employee experience that enables an inclusive environment of excellence, focus, and collaboration among team members, allowing us to deliver short- and long-term business success. Ford maintains an Executive People Forum consisting of the CEO and top leadership team that meets monthly with a specific focus on people and organizational topics that will enable and accelerate delivery of the business plan. Key topic areas include Compensation & Retention, Diversity, Equity, and Inclusion ("DEI"), Organization Design, Talent Planning & Development, and Culture.

Our Board of Directors and Board committees provide important oversight on certain human capital matters, including items discussed at the Executive People Forum. The Compensation, Talent and Culture Committee maintains responsibility to review, discuss, and set strategic direction for various people-related business strategies, including: compensation and benefit programs; leadership succession planning; culture; DEI; and talent development programs. The Sustainability, Innovation and Policy Committee is responsible for discussing and advising management on maintaining and improving sustainability strategies, the implementation of which creates value consistent with the long-term preservation and enhancement of shareholder value and social wellbeing, including human rights, working conditions, and responsible sourcing. The collective recommendations to the Board and its committees are how we proactively manage our human capital and create an employee experience that allows employees and our organization to thrive.

Diversity, Equity, and Inclusion

At Ford, we believe that creating a Culture of Inclusion for all our employees is both foundational to achieving our Ford+ plan and the right thing to do. Ford offers 12 Employee Resource Groups ("ERGs") that represent various dimensions of our employee population, including racial, ethnic, gender, religious, sexual orientation and gender identity, ability, and generational communities with chapters throughout the world, in addition to Ford Advocacy for Belonging ("FAB") Councils in every region. Our ERGs and FAB Councils are instrumental in providing a voice to our globally diverse workforce as well as sharing valuable insights into the development of products, services, and experiences.

Our business has developed DEI action plans specific to each region's unique needs and culture. From an enterprise perspective, we have taken several concrete steps to further these efforts, including embedding DEI into our corporate strategy and governance, ensuring that revisions to employee expected behaviors enable an inclusive culture, and establishing objectives for progress for every salaried employee. This holistic DEI strategy includes a strong focus on racial equity, growing representation of diverse talent throughout the pipeline, and DEI education.

Our diversity statistics include the following as of December 31, 2022 (based on self-reporting at the date of hire): 28.8% of our salaried employees worldwide are females (excludes certain employees in Europe in accordance with the European Union's General Data Protection Regulation); 25.4% of our total salaried and hourly employees in the United States are females; and 36.2% of our total salaried and hourly employees in the United States are minorities.

Talent Attraction, Growth, and Capability Assessment

The workplace is quickly evolving, and new working practices are constantly developing. Many employees are no longer bound to physical locations, where and how we source our talent is evolving, and employee expectations have shifted. From a growth perspective, we are focused on several key areas vital to our success (e.g., software, electrification, and data science). Ford continues to accelerate its efforts to attract new employees with diverse skill sets and capabilities, and more resources have been dedicated to recruiting these employees, who are critical to supporting our business model.

From a capability perspective, we are leveraging best practices in assessments and talent management to strengthen our current capabilities and future pipeline while reinforcing a culture of belonging, collaboration, empowerment, and innovation. The performance management process is reviewed regularly to ensure we set clear expectations, measure individual performance, and reward appropriately. We are also creating targeted learning experiences, democratizing learning and career development opportunities across the organization, and empowering employees to design their own career paths with skill development targeted for the roles of today and the future.

Item 1. Business (Continued)

Finally, the extent to which our People Leaders are equipped to care for, inspire, and empower our people plays a vital role in our strategy, and we are committed to helping our leaders strengthen these capabilities with dedicated learning paths and non-traditional learning opportunities. Our Leadership+ mechanism for developing People Leaders guides how we think about performance management and how we assess our talent to meet our organizational needs. Leadership+ will continue to prepare and empower our People Leaders to lead our teams through significant change at our Company and in our industry.

Employee Health and Safety

Nothing is more important than the health, safety, and wellbeing of our employees, and we consistently strive to achieve world-class levels of safety through the application of sound policies and best practices. We maintain a robust safety culture to reduce workplace injuries, supported by effective communication, reporting, and external benchmarking. We verify compliance with regulatory requirements as well as our internal safety standards and regularly report to Company management on key safety issues, including significant incidents and high potential near-misses, to prevent recurrences. We also participate in multi-industry groups, within and outside the automotive sector, to share safety best practices and collaborate to address common issues.

Our Safety Record

Any loss of life or serious injury in the workplace is unacceptable and deeply regretted. Unfortunately, there were two fatal incidents in 2022 in our China region. Another key safety indicator is our global lost-time case rate ("LTCR"), which is defined as the number of cases where one or more working days is lost due to work-related injury/illness per 200,000 hours worked. While our global LTCR remains stable overall, there was an increase to 0.39 in 2022 from 0.35 in 2021. We will continue our efforts to reduce workplace injuries.

Employee Wellbeing Initiatives

Our global, holistic approach to wellbeing encompasses the financial, social, mental/emotional, physical, and professional needs of our employees. Foundational to our wellbeing philosophy is providing a broad array of resources and solutions to educate employees, build capability, and meet individual and organizational wellbeing needs and goals. Wellbeing is an integral part of our total rewards strategy as we work to address business and employee challenges through a multi-channel approach that provides our diverse populations and global regions flexibility and choice to meet their specific needs.

We use data-driven insights gathered through surveys, focus groups, and claims data to understand employee needs and prioritize our wellbeing efforts. We provide global wellbeing programs, such as Employee Assistance Programs and mindfulness sessions, among other things. In addition, we provide employees with experiences, self-guided tools, and social connection opportunities, as well as access to the professional support and resources they need to achieve their own sense of wellbeing. We are committed to creating an environment where employees and People Leaders care for each other as we deliver Ford+.

Employee Sentiment Strategy

We leverage our ask/listen/observe framework to understand employee sentiment at Ford. This approach is a holistic and consistent methodology that enables us to understand how employees are feeling in real time and act accordingly. Our measurement focuses on several areas that are key to our business: Employee Mental and Emotional Wellbeing, Health & Safety, Employee Experience, Culture, DEI, Leadership, and Strategic Alignment. Our employee sentiment surveys guide the actions we take to address employee concerns and related risks, and also help us understand whether our efforts to drive change in these areas are effective.

A critical element of our measurement program is ensuring that data ends up in the hands of those who are best positioned to drive meaningful change. To this end, leaders at all levels have access to dashboards with data from their teams and organizations, as well as personalized next step recommendations embedded into action planning tools. Our measurement approach is also used to inform our areas of focus as an organization and to evaluate the effectiveness of talent initiatives across the enterprise.

Item 1. Business (Continued)

Employment Data

The approximate number of individuals employed by us and entities that we consolidated as of December 31 was as follows (in thousands):

	2021	2022
North America	99	98
South America	4	4
Europe	42	35
China (including Taiwan)	3	4
International Markets Group	16	14
Total Automotive	164	155
Ford Credit	5	5
Mobility	2	0
Corporate and Other	12	13
Total Company	183	173

The reduction in employees in 2022 is primarily a result of certain divestitures in Europe and in our Mobility segment, and the cessation of operations at certain plants in India.

Substantially all of the hourly employees in our Automotive operations are represented by unions and covered by collective bargaining agreements. In the United States, approximately 99% of these unionized hourly employees in our Automotive segment are represented by the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America ("UAW" or "United Auto Workers"). At December 31, 2022, approximately 57,000 hourly employees in the United States were represented by the UAW.

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ITEM 1A. ***Risk Factors.***

We have listed below the material risk factors applicable to us grouped into the following categories: Operational Risks; Macroeconomic, Market, and Strategic Risks; Financial Risks; and Legal and Regulatory Risks.

Operational Risks

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. We face various risks related to public health issues, including epidemics, pandemics, and other outbreaks, including the global outbreak of 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 periodically created significant volatility in the global economy. 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. For example, in 2020, consistent with the actions taken by governmental authorities, we idled our manufacturing operations in regions around the world before ultimately resuming our manufacturing operations taking a phased approach and after introducing new safety protocols at our plants. To the extent cases surge in any locations, stringent limitations on daily activities that may have been eased previously could be reinstated in those areas. A future suspension of our manufacturing operations could have a significant adverse effect on our financial condition and results of operations. Moreover, outbreaks in certain regions continue to cause intermittent disruptions in our supply chain and local manufacturing operations. For example, in China, outbreaks of COVID-19 have led the government to impose lockdowns and other restrictions, which have adversely affected our and our supply chain's production operations, our wholesales, and consumer demand for our products. Further, as new strains or variants of COVID-19 or other viruses, diseases, or public health issues develop or sufficient amounts of vaccines or treatments are not available, not widely administered for a significant period of time, or otherwise prove ineffective, the impact of a widespread public health issue on the global economy, and, in turn, our financial condition, liquidity, and results of operations could be material.

The predominant share of Ford Credit's business consists of financing Ford and Lincoln vehicles, and the duration or resurgence of public health issues such as COVID-19 may negatively impact the level of originations at Ford Credit. For example, Ford's suspension of manufacturing operations, a significant decline in dealer showroom traffic, and/or a reduction of operations at dealers may lead to a significant decline in Ford Credit's consumer and non-consumer originations. Moreover, economic uncertainty and higher unemployment arising from widespread public health issues or otherwise may result in higher defaults in Ford Credit's consumer portfolio, and prolonged unemployment may have a negative impact on both new and used vehicle demand.

As described in more detail below under "*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,*" the volatility created by COVID-19 adversely affected Ford and Ford Credit's access to the debt and securitization markets and its cost of funding, and any volatility in the capital markets as a result of a public health issue or for any other reason could have an adverse impact on Ford and Ford Credit's access to those markets and its cost of funding.

The full impact of COVID-19 or any widespread public health issue on our financial condition and results of operations will depend on the duration and scope of an outbreak (including any potential future waves, the emergence or re-emergence of variants and their transmissibility, and the success of vaccination programs and treatments), its impact on our customers, dealers, and suppliers, how quickly normal economic conditions, operations, and the demand for our products can resume, and any permanent behavioral changes that the pandemic may cause. For example, the duration of a suspension of manufacturing operations and a return to our full production schedule will depend, in part, on not only a sufficient number of employees being able to return to work but also whether our suppliers and dealers have resumed normal operations. Our Ford Blue, Ford Model e, and Ford Pro operations generally do not realize revenue while our manufacturing operations are suspended, but we continue to incur operating and non-operating expenses, resulting in a deterioration of our cash flow. Accordingly, any significant future disruption to our production schedule, regionally or globally, whether as a result of our own or a supplier's suspension of operations, could have a substantial adverse effect on our financial condition, liquidity, and results of operations. Moreover, our supply and distribution chains may be disrupted by supplier or dealer bankruptcies or their permanent discontinuation of operations triggered by a shutdown of operations due to a widespread public health issue or for other reasons.

Item 1A. Risk Factors (Continued)

Public health issues may also exacerbate other risks disclosed in our 2022 Form 10-K Report, including, but not limited to, our competitiveness, demand or market acceptance for our products and services, and shifting consumer preferences, and our ability to successfully execute our strategy.

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Ford is highly dependent on its suppliers to deliver components in accordance with Ford's production schedule and specifications, and a shortage of or inability to acquire key components, such as semiconductors, or raw materials, such as lithium, cobalt, nickel, graphite, and manganese, can disrupt Ford's production of vehicles. Our products contain components that we source globally from suppliers who, in turn, source components from their suppliers. If there is a shortage of a key component in our supply chain or a supplier is unable to deliver a component to us in accordance with our specifications, because of a production issue, limited availability of materials, shipping problems, restrictions on transactions with certain countries or companies, or other reason, and the component cannot be easily sourced from a different supplier, or we are unable to obtain a component on a timely basis, the shortage may disrupt our operations or increase our costs of production. For example, the automotive industry continues to face a significant shortage of semiconductors, which has a complex supply chain with long lead times required to increase production and capacity. The shortage is due in large part to strong cross-industry demand, which has presented challenges and production disruptions globally, including at our assembly plants, and COVID-19-related work restrictions in various parts of the world have further impacted semiconductor production. Accordingly, we and our competitors who need integrated circuits are experiencing various levels of semiconductor impact.

For the production of our electric vehicles, we are dependent on the supply of batteries and the raw materials (e.g., lithium, cobalt, nickel, graphite, and manganese) used by our suppliers to produce those batteries. As we increase our production of electric vehicles, we expect our need for such materials to increase significantly. At the same time, other companies are increasing their production of electric vehicles, which will further increase the demand for such raw materials. As a result, we may be unable to acquire raw materials needed for electric vehicle production in sufficient amounts that are responsibly sourced or at reasonable prices. As described below under "*To facilitate access to the raw materials necessary for the production of electric vehicles, Ford has entered into, and expects to continue to enter into, multi-year commitments to raw material suppliers that subject Ford to risks associated with lower future demand for such materials as well as costs that fluctuate and are difficult to accurately forecast*" as well as in the Liquidity and Capital Resources section in Item 7 below, we have entered into, and expect to continue to enter into, offtake agreements and other long-term purchase contracts that obligate us, subject to certain conditions such as quality or minimum output, to purchase a certain percentage or minimum amount of output from certain raw materials suppliers. In the event the supplier under those agreements or any of our or our suppliers' raw material supply contracts is unable to deliver sufficient quantities of raw materials needed for our or our suppliers' production operations, e.g., if a mine does not produce at expected levels, or the raw materials do not otherwise satisfy our requirements, and we or our suppliers are unable to find an alternative resource with sufficient quantities, at reasonable prices, responsibly sourced, and in a timely manner, it could impact our ability to produce electric vehicles.

A shortage of, or our inability to acquire or find adequate suppliers of, key components or raw materials as a result of disruptions in the supply chain, capacity constraints, limited availability, competition for those items within the automotive industry and other sectors, or otherwise can cause a significant disruption to our production schedule and have a substantial adverse effect on our financial condition or results of operations.

To facilitate access to the raw materials necessary for the production of electric vehicles, Ford has entered into, and expects to continue to enter into, multi-year commitments to raw material suppliers that subject Ford to risks associated with lower future demand for such materials as well as costs that fluctuate and are difficult to accurately forecast. We have announced plans to significantly increase our electric vehicle production volumes; however, our ability to produce higher volumes of electric vehicles is dependent upon the availability of raw materials necessary for the production of batteries, e.g., lithium, cobalt, nickel, graphite, and manganese, among others. As described above under "*Ford is highly dependent on its suppliers to deliver components in accordance with Ford's production schedule and specifications, and a shortage of or inability to acquire key components, such as semiconductors, or raw materials, such as lithium, cobalt, nickel, graphite, and manganese, can disrupt Ford's production of vehicles*," to facilitate our access to such raw materials, we have entered into, and expect to continue to enter into, offtake agreements and other long-term purchase contracts. Such agreements obligate us, subject to certain conditions such as quality or minimum output, to purchase a certain percentage or minimum amount of output from raw material suppliers over an agreed upon period of time pursuant to an agreed upon purchase price mechanism that is typically based upon the market price of the material at the time of delivery.

Item 1A. Risk Factors (Continued)

Unlike our historical arrangements with suppliers, which are typically annual commitments, under multi-year offtake agreements and other long-term purchase contracts, the risks associated with lower-than-expected electric vehicle production volumes or changes in battery technology that reduce the need for certain raw materials are borne by Ford rather than our suppliers. In the event we do not purchase the materials pursuant to the terms of these agreements, even if the supplier finds another purchaser, we may be obligated to reimburse the supplier for costs it incurs in finding the new purchaser as well as any lost revenue attributable to the replacement purchaser paying a lower price than required under the pricing mechanism in our agreement.

As a result of the competition for and limited availability of the raw materials needed for our electric vehicle business, the costs of such materials are difficult to accurately forecast as they may fluctuate during the term of the offtake agreements and other long-term purchase contracts based on market conditions. Accordingly, we may be subject to increases in the prices we pay for those raw materials, and our ability to recoup such costs through increased pricing to our customers may be limited. As a result, our margins, results of operations, financial condition, and reputation may be adversely impacted by commitments we make pursuant to offtake agreements and other long-term purchase contracts.

Ford's long-term competitiveness depends on the successful execution of Ford+. We previously announced our plan for growth and value creation – Ford+. Ford+ is focused on delivering distinctive and increasingly electric products plus "Always-On" customer relationships and user experiences. Our Ford+ plan is designed to leverage our foundational strengths to build new capabilities – enriching customer experiences and deepening loyalty. As we undertake this transformation of our business, we must integrate our strategic initiatives into a cohesive business model, and balance competing priorities, or we will not be successful. To facilitate this transformation, we are making substantial investments, recruiting new talent, and optimizing our business model, management system, and organization. Accordingly, maintaining discipline in our capital allocation continues to be important, as a strong core business and a balance sheet that provides the flexibility to invest in these new growth opportunities is critical to the success of our Ford+ plan. If we are unable to optimize our capital allocation among vehicles, services, technology, and other calls on capital, or we are otherwise not successful in executing Ford+ (or are delayed for reasons outside of our control), we may not be able to realize the full benefits of our plan, which could have an adverse effect on our financial condition or results of operations. Furthermore, if we fail to make progress on our plan at the pace that shareholders expect, it may lead to an increase in shareholder activism, which may disrupt the conduct of our business and divert management's attention and resources.

Ford's vehicles could be affected by defects that result in delays in new model launches, recall campaigns, or increased warranty costs. Government safety standards require manufacturers to remedy defects related to vehicle safety through safety recall campaigns, and a manufacturer is obligated to recall vehicles if it determines that the vehicles do not comply with a safety standard. We may also be obligated to remedy defects or potentially recall our vehicles due to defective components provided to us by our suppliers, arising from their quality issues or otherwise. NHTSA's enforcement strategy has resulted in significant civil penalties being levied and the use of consent orders requiring direct oversight by NHTSA of certain manufacturers' safety processes, a trend that could continue. Should we or government safety regulators determine that a safety or other defect or a noncompliance exists with respect to certain of our vehicles prior to the start of production, the launch of such vehicle could be delayed until such defect is remedied. The cost of recall and customer satisfaction actions to remedy defects in vehicles that have been sold could be substantial, particularly if the actions relate to global platforms or involve defects that are identified years after production. For example, NHTSA and the automotive industry are currently engaged in a study of the safety of approximately 56 million Takata desiccated airbag inflators in the United States. Of these, approximately three and a half million of the inflators are in our vehicles. Should NHTSA determine that the inflators contain a safety defect, Ford and other manufacturers could potentially face significant incremental recall costs. Further, to the extent recall and customer satisfaction actions relate to defective components we receive from suppliers, our ability to recover from the suppliers may be limited by the suppliers' financial condition. We accrue the estimated cost of both base warranty coverages and field service actions at the time a vehicle is sold, and we reevaluate the adequacy of our accruals on a regular basis. In addition, from time to time, we issue extended warranties at our expense, the estimated cost of which is accrued at the time of issuance. For additional information regarding warranty and field service action costs, including our process for establishing our reserves, see "Critical Accounting Estimates" in Item 7 and Note 25 of the Notes to the Financial Statements. If warranty costs are greater than anticipated as a result of increased vehicle and component complexity, the adoption of new technologies, or otherwise, such costs could have an adverse effect on our financial condition or results of operations. Furthermore, launch delays, recall actions, and increased warranty costs could adversely affect our reputation or market acceptance of our products as discussed below under "*Ford's new and existing products and digital, software, and physical services are subject to market acceptance and face significant competition from existing and new entrants in the automotive and digital and software services industries, and its reputation may be harmed if it is unable to achieve the initiatives it has announced.*"

Item 1A. Risk Factors (Continued)

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Ford may not realize the anticipated benefits of existing or pending strategic alliances, joint ventures, acquisitions, divestitures, restructurings, or new business strategies. We have invested in, formed strategic alliances with, and announced or formed joint ventures with a number of companies, and we may expand those relationships or enter into similar relationships with additional companies. These initiatives typically involve enormous complexity, may require a significant amount of capital, and may involve a lengthy regulatory approval process. As a result, we may not be able to complete anticipated transactions, the anticipated benefits of these transactions may not be realized, or the benefits may be delayed. For example, we may not successfully integrate an alliance or joint venture with our operations, including the implementation of our controls, systems, procedures, and policies, or unforeseen expenses or liabilities may arise that were not discovered during due diligence prior to an investment or entry into a strategic alliance, or a misalignment of interests may develop between us and the other party. Further, to the extent we share ownership, control, or management with another party in a joint venture, our ability to influence the joint venture may be limited, and we may be unable to prevent misconduct or implement our compliance or internal control systems. In order to secure critical materials for production of electric vehicles, we have entered into and plan to continue to enter into offtake agreements and other long-term purchase contracts with raw materials suppliers and make investments in certain raw material and battery suppliers; however, we may not realize the anticipated benefits of these actions and our efforts to have such suppliers, particularly those in less developed markets, adopt Ford's sustainability and other standards may be unsuccessful, which could have an adverse impact on our reputation. In addition, a restructuring or the implementation of a new or different business strategy may lead to the disruption of our existing business operations, including distracting management from current operations. Results of operations from new activities may be lower than our existing activities, and, if a strategy is unsuccessful, we may not recoup our investments, which may be significant, in that strategy. Moreover, we may continue to have financial exposure following a strategic divestiture or cessation of operations in a market, and restructuring actions may cause us to incur significant costs, record impairments or other charges, subject us to potential claims from employees, suppliers, dealers, or governmental authorities or harm our reputation. Failure to successfully and timely realize the anticipated benefits of the transactions or strategies described herein could have an adverse effect on our financial condition or results of operations.

Operational systems, security systems, vehicles, and services could be affected by cyber incidents, ransomware attacks, and other disruptions and impact Ford and Ford Credit as well as their suppliers and dealers. We rely on information technology networks and systems, including in-vehicle systems and mobile devices, some of which are managed by suppliers, to process, transmit, and store electronic information that is important to the operation of our business, our vehicles, and the services we offer. Despite security measures, we are at risk for interruptions, outages, and compromises of: (i) operational systems (including business, financial, accounting, product development, consumer receivables, data processing, or manufacturing processes); (ii) facility security systems; and/or (iii) in-vehicle systems or mobile devices, whether caused by a ransomware or other cyber attack, security breach, or other reasons, e.g., a natural disaster, fire, acts of terrorism or war, or an overburdened infrastructure system. Such incidents could materially disrupt operational systems; result in loss of trade secrets or other proprietary or competitively sensitive information; compromise the privacy of personal information of consumers, employees, or others; jeopardize the security of our facilities; affect the performance of in-vehicle systems or services we offer; and/or impact the safety of our vehicles. This risk exposure rises as we continue to develop and produce vehicles with increased connectivity. Moreover, we, our suppliers, and our dealers have been the target of cyber attacks in the past, and such attacks will continue and evolve in the future, which may cause cyber incidents to be more difficult to detect for periods of time. Our networks and in-vehicle systems, sharing similar architectures, could also be impacted by, or a data breach may result from, the negligence or misconduct of insiders or third parties who have access to our networks and systems. We continually employ capabilities, processes, and other security measures designed to reduce and mitigate the risk of cyber attacks, and we rely on our suppliers to do the same for their operations; however, we may not be aware of all vulnerabilities and such preventative measures cannot provide absolute security and may not be sufficient in all circumstances or mitigate all potential risks, including potential production disruption. Moreover, a cyber incident could harm our reputation, cause customers to lose trust in our security measures, and/or subject us to regulatory actions or litigation, which may result in fines, penalties, judgments, or injunctions, and a cyber incident involving us or one of our suppliers could impact production, our internal operations, or our ability to deliver products and services to our customers.

Item 1A. Risk Factors (Continued)

Ford's production, as well as Ford's suppliers' production, and/or the ability to deliver products to consumers could be disrupted by labor issues, natural or man-made disasters, adverse effects of climate change, financial distress, production difficulties, capacity limitations, or other factors. A work stoppage or other limitation on production could occur at Ford's facilities, at a facility in its supply chain, or at one of its logistics providers for any number of reasons, including as a result of labor issues, including shortages of available employees, disputes under existing collective bargaining agreements with labor unions or in connection with negotiation of new collective bargaining agreements, absenteeism, public health issues (e.g., COVID-19), stay-at-home orders, or in response to potential restructuring actions (e.g., plant closures); as a result of supplier financial distress or other production constraints, such as limited quantities of components, including but not limited to semiconductors, or raw materials, quality issues, capacity limitations, or other difficulties; as a result of a natural disaster (including climate-related physical risk); cyber incidents; or for other reasons. Further, the limited availability of components, labor shortages, COVID-19, and supplier operating issues has led to an inconsistent production schedule at our facilities. This has exacerbated the disruption to our suppliers' operations, which, in turn, has led to higher costs and production shortfalls.

Given the worldwide scope of our supply chain and operations, we and our suppliers face a risk of disruption or operating inefficiencies that may increase costs due to the adverse physical effects of climate change, which are predicted to increase the frequency and severity of weather and other natural events, e.g., wildfires, extended droughts, and extreme temperatures. In addition, in the event a weather-related event, strike, international conflict, or other occurrence limits the ability of freight carriers to deliver components and other materials from suppliers to us or logistics providers to transport our vehicles for an extended period of time, it may increase our costs and delay or otherwise impact both our production operations and customers' ability to receive our vehicles.

Many components used in our vehicles are available only from a single or limited number of suppliers and, therefore, cannot be re-sourced quickly or inexpensively to another supplier (due to long lead times, new contractual commitments that may be required by another supplier before ramping up to provide the components or materials, etc.). Such suppliers also could threaten to disrupt our production as leverage in negotiations. In addition, when we undertake a model changeover, significant downtime at one or more of our production facilities may be required, and our ability to return to full production may be delayed if we experience production difficulties at one of our facilities or a supplier's facility. Moreover, as vehicles, components, and their integration become more complex, we may face an increased risk of a delay in production of new vehicles. Regardless of the cause, our ability to recoup lost production volume may be limited. Accordingly, a significant disruption to our production schedule could have a substantial adverse effect on our financial condition or results of operations and may impact our strategy to comply with fuel economy standards as discussed below under *"Ford may need to substantially modify its product plans and facilities to comply with safety, emissions, fuel economy, autonomous driving technology, environmental, and other regulations."*

Ford's ability to maintain a competitive cost structure could be affected by labor or other constraints. The vast majority of the hourly employees in our Ford Blue and Ford Model e manufacturing operations in the United States and Canada are represented by unions and covered by collective bargaining agreements. These agreements provide guaranteed wage and benefit levels throughout the contract term and some degree of income security, subject to certain conditions. These agreements may restrict our ability to close plants and divest businesses. A substantial number of our employees in other regions are represented by unions or government councils, and legislation or custom promoting retention of manufacturing or other employment in the state, country, or region may constrain as a practical matter our ability to sell or close manufacturing or other facilities.

Ford's ability to attract and retain talented, diverse, and highly skilled employees is critical to its success and competitiveness. Our success depends on our ability to continue to recruit and retain talented and diverse employees who are highly skilled in engineering, software, technology (including digital capabilities and connectivity), marketing, and finance, among other areas. Competition for such employees is intense, which has led to an increase in compensation throughout a tight labor market, and, accordingly, may increase costs for employers. We have struggled to hire and retain salaried, skilled hourly, and production hourly employees in some of our manufacturing and parts, supplies, and logistics locations. In addition to compensation considerations, current and potential employees are increasingly placing a premium on various intangibles, such as working for companies with a clear purpose and strong brand reputation, flexible work arrangements, and other considerations, such as embracing sustainability and diversity, equity, and inclusion initiatives. If we are not perceived as an employer of choice, we may be unable to recruit highly skilled employees. Further, if we lose existing employees with needed skills, or we are unable to upskill and develop existing employees, particularly with the introduction of new technologies, it could have a substantial adverse effect on our business.

Item 1A. Risk Factors (Continued)

Macroeconomic, Market, and Strategic Risks

Ford's new and existing products and digital, software, and physical services are subject to market acceptance and face significant competition from existing and new entrants in the automotive and digital and software services industries, and its reputation may be harmed if it is unable to achieve the initiatives it has announced. Although we conduct extensive market research before launching new or refreshed vehicles and introducing new services, many factors both within and outside our control affect the success of new or existing products and services in the marketplace, and we may not be able to accurately predict or identify emerging trends or preferences or the success of new products or services in the market. It takes years to design and develop a new vehicle or change an existing vehicle. Because customers' preferences may change quickly, our new and existing products may not generate sales in sufficient quantities and at costs low enough to be profitable and recoup investment costs. Offering vehicles and services that customers want and value can mitigate the risks of increasing price competition and declining demand, but products and services that are perceived to be less desirable (whether in terms of price, quality, styling, safety, overall value, fuel efficiency, or other attributes) can exacerbate these risks. For example, if we are unable to differentiate our products and services from those of our competitors, develop innovative new products and services, or sufficiently tailor our products and services to customers in other markets, there could be insufficient demand for our products and services, which could have an adverse impact on our financial condition or results of operations.

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With increased consumer interconnectedness through the internet, social media, and other media, mere allegations relating to quality, safety, fuel efficiency, sustainability, corporate social responsibility, or other key attributes can negatively impact our reputation or market acceptance of our products or services, even where such allegations prove to be inaccurate or unfounded. Further, our ability to successfully grow through capacity expansion and investments in the areas of electrification, connectivity, digital and physical services, and software services depends on many factors, including advancements in technology, regulatory changes, infrastructure development (e.g., a widespread vehicle charging network), and other factors that are difficult to predict, that may significantly affect the future of electric and autonomous vehicles, digital and physical services, and software services. The automotive, software, and digital service businesses are very competitive and are undergoing rapid changes. Traditional competitors are expanding their offerings, and new types of competitors (particularly in our areas of strength, e.g., pick-up trucks, utilities, and commercial vehicles) that may possess superior technology, may have business models with certain aspects that are more efficient, and are not subject to the same level of fixed costs as us, are entering the market. This level of competition increases the importance of our ability to anticipate, develop, and deliver products and services that customers desire on a timely basis, in quantities in line with demand, and at costs low enough to be profitable.

We have announced our intent to continue making multi-billion dollar investments in electrification and software services. Our plans include offering electrified versions of many of our vehicles, including the F-150 Lightning and E-Transit. If the market for electrified vehicles does not develop at the rate we expect, even if the regulatory framework encourages a rapid adoption of electrified vehicles, there is a negative perception of our vehicles or about electric vehicles in general, or if consumers prefer our competitors' vehicles, there could be an adverse impact on our financial condition or results of operations. Further, as discussed below under "*Ford may need to substantially modify its product plans and facilities to comply with safety, emissions, fuel economy, autonomous driving technology, environmental, and other regulations,*" lower than planned market acceptance of our vehicles may impact our strategy to comply with fuel economy standards.

Ford is addressing its impact on climate change aligned with the United Nations Framework Convention on Climate Change (Paris Agreement) by working to reduce our carbon footprint over time across our vehicles, operations, and supply chain. We have announced interim emissions targets approved by the Science Based Targets initiative (SBTi) and made other statements about similar initiatives, e.g., our expected electric vehicle volumes in future years. Achievement of these initiatives will require significant investments and the implementation of new processes; however, there is no assurance that the desired outcomes will be achieved. To the extent we are unable to achieve these initiatives or our transition to electrification is slower than expected, it may harm our reputation or we may not otherwise receive the expected return on the investment. For example, we are exposed to reputational risk if we do not reduce vehicle CO_2 emissions in line with our targets or in compliance with applicable regulations. Further, our customers and investors evaluate how well we are progressing on our announced climate goals and aspirations, and if we are not on track to achieve those goals and aspirations on a timely basis, or if the expectations of our customers and investors change and we do not adequately address their expectations, our reputation could be impacted, and customers may choose to purchase the products and services of, investors may choose to invest in, and suppliers and vendors may choose to do business with other companies.

Item 1A. Risk Factors (Continued)

Moreover, new offerings, including those related to electric vehicles and autonomous driving technologies, may present technological challenges that could be costly to implement and overcome and may subject us to customer claims if they do not operate as anticipated. In addition, since new technologies are subject to market acceptance, a malfunction involving any manufacturer's autonomous vehicle may negatively impact the perception of autonomous vehicles and erode customer trust.

Ford's results are dependent on sales of larger, more profitable vehicles, particularly in the United States. A shift in consumer preferences away from larger, more profitable vehicles with internal combustion engines (including trucks and utilities) to electric or other vehicles in our portfolio that may be less profitable could result in an adverse effect on our financial condition or results of operations. If demand for electric vehicles grows at a rate greater than our ability to increase our production capacity for those vehicles, lower market share and revenue, as well as facility and other asset-related charges (e.g., accelerated depreciation) associated with the production of internal combustion vehicles, may result. In addition, government regulations aimed at reducing emissions and increasing fuel efficiency (e.g., ZEV mandates and low emission zones) and other factors that accelerate the transition to electric vehicles may increase the cost of vehicles by more than the perceived benefit to consumers and dampen margins.

With a global footprint, Ford's results could be adversely affected by economic or geopolitical developments, including protectionist trade policies such as tariffs, or other events. Because of the interconnectedness of the global economy, the challenges of a pandemic, a financial crisis, economic downturn or recession, natural disaster, war, geopolitical crises, or other significant events in one area of the world can have an immediate and material adverse impact on markets around the world. Changes in international trade policy can also have a substantial adverse effect on our financial condition or results of operations. Steps taken by governments to apply or consider applying tariffs on automobiles, parts, and other products and materials have the potential to disrupt existing supply chains, impose additional costs on our business, and may lead to other countries attempting to retaliate by imposing tariffs, which would make our products more expensive for customers, and, in turn, could make our products less competitive. In particular, China presents unique risks to U.S. automakers due to the strain in U.S.-China relations, China's unique regulatory landscape, and the level of integration with key components in our global supply chain.

Ford has operations in various markets with volatile economic or political environments. This may expose us to heightened risks as a result of economic, geopolitical, or other events, including governmental takeover (i.e., nationalization) of our manufacturing facilities or intellectual property, restrictive exchange or import controls, disruption of operations as a result of systemic political or economic instability, outbreak of war or expansion of hostilities (such as the actions taken by Russia in Ukraine), and acts of terrorism, each of which could impact our supply chain as well as our operations and have a substantial adverse effect on our financial condition or results of operations. Further, the U.S. government, other governments, and international organizations could impose additional sanctions or export controls that could restrict us from doing business directly or indirectly in or with certain countries or parties, which could include affiliates.

Industry sales volume can be volatile and could decline if there is a financial crisis, recession, or significant geopolitical event. Because we, like other manufacturers, have a higher proportion of fixed structural costs, relatively small changes in industry sales volume can have a substantial effect on our cash flow and results of operations. Vehicle sales are affected by overall economic and market conditions and developing trends such as shared vehicle ownership and the transportation as a service model, e.g., ridesharing services. If industry vehicle sales were to decline to levels significantly below our planning assumption, the decline could have a substantial adverse effect on our financial condition, results of operations, and cash flow. For a discussion of economic trends, see Item 7.

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. The global automotive industry is intensely competitive, with installed manufacturing capacity generally exceeding current demand. Historically, industry overcapacity has resulted in many manufacturers offering marketing incentives on vehicles in an attempt to maintain and grow market share; these incentives historically have included a combination of subsidized financing or leasing programs, price rebates, and other incentives. As a result, we are not necessarily able to set our prices to offset higher marketing incentives, commodity or other cost increases, tariffs, or the impact of adverse currency fluctuations. This risk includes cost advantages foreign competitors may have because of their weaker home market currencies, which may, in turn, enable those competitors to offer their products at lower prices. Further, higher inventory levels put downward pressure on pricing, which may have an adverse effect on our financial condition and results of operations. As the automotive industry transitions to electric vehicles, excess capacity, particularly for internal combustion engine trucks and utilities, may continue or increase. This excess capacity may further increase price competition in that segment of the market, which could have a substantial adverse effect on our financial condition or results of operations.

Item 1A. Risk Factors (Continued)

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Inflationary pressure and fluctuations in commodity and energy prices, foreign currency exchange rates, interest rates, and market value of Ford or Ford Credit's investments, including marketable securities, can have a significant effect on results. We and our suppliers are exposed to inflationary pressure and a variety of market risks, including the effects of changes in commodity and energy prices, foreign currency exchange rates, and interest rates. We monitor and manage these exposures as an integral part of our overall risk management program, which recognizes the unpredictability of markets and seeks to reduce potentially adverse effects on our business. Changes in commodity and energy prices (from tariffs and the actions taken by Russia in Ukraine, as discussed above under "*With a global footprint, Ford's results could be adversely affected by economic or geopolitical developments, including protectionist trade policies such as tariffs, or other events*," or otherwise), currency exchange rates, and interest rates cannot always be predicted, hedged, or offset with price increases to eliminate earnings volatility. As a result, significant changes in commodity and energy prices, foreign currency exchange rates, or interest rates as well as increased material, freight, logistics, and similar costs could have a substantial adverse effect on our financial condition or results of operations. See Item 7 and Item 7A for additional discussion of currency, commodity and energy price, and interest rate risks. For example, interest rates have increased significantly as central banks in developed countries attempt to subdue inflation while government deficits and debt remain at high levels in many global markets. Accordingly, the eventual implications of higher government deficits and debt, tighter monetary policy, and potentially higher long-term interest rates may drive a higher cost of capital for the business. At Ford Credit, rising interest rates may impact Ford Credit's ability to source funding and offer financing at competitive rates, which could reduce its financing margin. In addition, our results are impacted by fluctuations in the market value of our investments, with unrealized gains and losses that could be material in any period.

Financial Risks

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 and Ford Credit's ability to obtain unsecured funding at a reasonable cost is dependent on their credit ratings or their perceived creditworthiness. Further, Ford Credit's ability to obtain securitized funding under its committed asset-backed liquidity programs and certain other asset-backed securitization transactions is subject to having a sufficient amount of assets eligible for these programs, as well as Ford Credit's ability to obtain appropriate credit ratings and, for certain committed programs, derivatives to manage the interest rate risk. Over time, and particularly in the event of credit rating downgrades, market volatility, market disruption, or other factors, Ford Credit may reduce the amount of receivables it purchases or originates because of funding constraints. In addition, Ford Credit may reduce the amount of receivables it purchases or originates if there is a significant decline in the demand for the types of securities it offers or Ford Credit is unable to obtain derivatives to manage the interest rate risk associated with its securitization transactions. A significant reduction in the amount of receivables Ford Credit purchases or originates would significantly reduce its ongoing results of operations and could adversely affect its ability to support the sale of Ford vehicles.

Furthermore, in addition to rising interest rates adversely affecting overall economic activity and the financial condition of our customers, increases in interest rates could cause credit market disruptions, which have historically resulted in higher borrower costs and made it more difficult to access the markets, obtain financing on favorable terms, and fund our operations.

The impact of government incentives on Ford's business could be significant, and Ford's receipt of government incentives could be subject to reduction, termination, or clawback. We receive economic benefits from national, state, and local governments in various regions of the world in the form of incentives designed to encourage manufacturers to establish, maintain, or increase investment, workforce, or production. These incentives may take various forms, including grants, loan subsidies, or tax abatements or credits. The impact of these incentives can be significant in a particular market during a reporting period. A decrease in, expiration without renewal of, or other cessation or clawback of government incentives for any of our business units, as a result of administrative decision or otherwise, could have a substantial adverse impact on our financial condition or results of operations. Until 2021, most of our manufacturing facilities in South America were located in Brazil, where the state or federal governments historically offered significant incentives to manufacturers to encourage capital investment, increase manufacturing production, and create jobs. As a result, the performance of our South American operations had been impacted favorably by government incentives to a substantial extent. The federal government in Brazil has levied assessments against us concerning the federal incentives we previously received, and the State of São Paulo has challenged the grant to us of tax incentives by the State of Bahia. See Note 2 of the Notes to the Financial Statements for discussion of our accounting for government incentives, and "Item 3. Legal Proceedings" for a discussion of tax proceedings in Brazil and the potential requirement for us to post collateral.

Item 1A. Risk Factors (Continued)

The U.S. Inflation Reduction Act ("IRA") provides, among other things, financial incentives in the form of tax credits to grow the domestic supply chain and domestic manufacturing base for electric vehicles, plug-in hybrid vehicles (PHEVs), and other "clean" vehicles. The law likewise incentivizes the purchase of clean vehicles and the infrastructure to fuel them. These incentives are phasing in and will remain in effect until approximately 2032, unless modified by Congress. The IRA's incentives are having and are expected to have material impacts on the automotive industry and Ford. The IRA authorizes tax credits to manufacturers for the domestic production of batteries and battery components for EVs and PHEVs and to purchasers of qualified commercial and retail clean vehicles. Ford expects that many customers will be able to monetize the commercial clean vehicle credit in light of Ford's range of electrified product offerings for commercial applications. When paired with the IRA's tax credit for the construction of certain electric vehicle charging infrastructure, Ford expects the commercial clean vehicle credit will significantly influence commercial fleets in their evaluation of a transition from internal combustion engine vehicles to EVs and PHEVs.

To claim the retail tax credit, the IRA establishes numerous and complex prerequisites, including that the vehicle must be assembled in North America; the vehicle must be under specified limitations on manufacturer suggested retail price ("MSRP"); purchaser income limitations; starting in 2024, any vehicle that contains "battery components" that were "manufactured or assembled" by a "foreign entity of concern" will be ineligible; and, starting in 2025, any vehicle that contains battery materials that were "extracted, processed, or recycled" by a "foreign entity of concern" will be ineligible. A "Critical Minerals Credit" is available for those vehicles that have a specified percentage of critical minerals that are "extracted or produced" in the United States, in a country with which the United States has a Free Trade Agreement, or that is "recycled" in North America. A "Battery Components Credit" is available for those vehicles that have a specified percentage of "value" of its battery "components" that are "manufactured or assembled" in North America.

Although we ultimately expect the IRA to benefit Ford and the automotive industry in general, the availability of such benefits will depend on the further development and improvement of the U.S. battery supply, sufficient access to raw materials within the scope of the IRA, and the terms of the regulations and guidance (and the limitations therein) the U.S. government issues to implement the IRA, which will ultimately determine which vehicles qualify for incentives and the amount thereof. For example, in late 2022 interim guidance was released on how to apply the MSRP limitations to the retail clean vehicle credit, and subjected a significant number of SUVs to a lower MSRP limitation than the industry expected, thereby excluding vehicles that may otherwise be eligible for the credit. Automakers that better optimize eligibility for their vehicles, as compared to their competition, will have a competitive advantage.

Ford Credit could experience higher-than-expected credit losses, lower-than-anticipated residual values, or higher-than-expected return volumes for leased vehicles. Credit risk is the possibility of loss from a customer's or dealer's failure to make payments according to contract terms. Credit risk (which is heavily dependent upon economic factors including unemployment, consumer debt service burden, personal income growth, dealer profitability, and used car prices) has a significant impact on Ford Credit's business. The level of credit losses Ford Credit may experience could exceed its expectations and adversely affect its financial condition or results of operations. In addition, Ford Credit projects expected residual values (including residual value support payments from Ford) and return volumes for the vehicles it leases. Actual proceeds realized by Ford Credit upon the sale of returned leased vehicles at lease termination may be lower than the amount projected, which would reduce Ford Credit's return on the lease transaction. Among the factors that can affect the value of returned lease vehicles are the volume and mix of vehicles returned industry-wide, economic conditions, marketing programs, and quality or perceived quality, safety, fuel efficiency, or reliability of the vehicles, or changes in propulsion technology and related legislative changes. Actual return volumes may be influenced by these factors, as well as by contractual lease-end values relative to auction values. In 2022, Ford Credit experienced lower-than-expected return volumes. If auction values decrease significantly in the future, return volumes could exceed Ford Credit's expectations. Each of these factors, alone or in combination, has the potential to adversely affect Ford Credit's results of operations if actual results were to differ significantly from Ford Credit's projections. See "Critical Accounting Estimates" in Item 7 for additional discussion.

Economic and demographic experience for pension and OPEB plans (e.g., discount rates or investment returns) could be worse than Ford has assumed. The measurement of our obligations, costs, and liabilities associated with benefits pursuant to our pension and OPEB plans requires that we estimate the present value of projected future payments to all participants. We use many assumptions in calculating these estimates, including assumptions related to discount rates, investment returns on designated plan assets, and demographic experience (e.g., mortality and retirement rates). We generally remeasure these estimates at each year end and recognize any gains or losses associated with changes to our plan assets and liabilities in the year incurred. To the extent actual results are less favorable than our assumptions, we may recognize a remeasurement loss in our results, which could be substantial. For additional information regarding our assumptions, see "Critical Accounting Estimates" in Item 7 and Note 17 of the Notes to the Financial Statements.

Item 1A. Risk Factors (Continued)

Pension and other postretirement liabilities could adversely affect Ford's liquidity and financial condition. We have defined benefit retirement plans in the United States that cover many of our hourly and salaried employees. We also provide pension benefits to non-U.S. employees and retirees, primarily in Europe. In addition, we sponsor plans to provide OPEB for retired employees (primarily health care and life insurance benefits). See Note 17 of the Notes to the Financial Statements for more information about these plans. These benefit plans impose significant liabilities on us and could require us to make additional cash contributions, which could impair our liquidity. If our cash flows and capital resources are insufficient to meet any pension or OPEB obligations, we could be forced to reduce or delay investments and capital expenditures, suspend dividend payments, seek additional capital, or restructure or refinance our indebtedness.

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Legal and Regulatory Risks

Ford and Ford Credit could experience unusual or significant litigation, governmental investigations, or adverse publicity arising out of alleged defects in products, services, perceived environmental impacts, or otherwise. We spend substantial resources to comply with governmental safety regulations, mobile and stationary source emissions regulations, consumer and automotive financial regulations, and other standards, but we cannot ensure that employees or other individuals affiliated with us will not violate such laws or regulations. In addition, as discussed below under "*Ford may need to substantially modify its product plans and facilities to comply with safety, emissions, fuel economy, autonomous driving technology, environmental, and other regulations*" and "*Ford Credit could be subject to new or increased credit regulations, consumer protection regulations, or other regulations*," regulatory standards and interpretations may change on short notice and impact our compliance status. Government investigations against Ford or Ford Credit could result in fines, penalties, or orders that could have an adverse impact on our financial condition, results of operations, or the operation of our business. Moreover, compliance with governmental standards does not necessarily prevent individual or class action lawsuits, which can entail significant cost and risk. In certain circumstances, courts may permit civil actions even where our vehicles, services, and financial products comply with federal and/or other applicable law. Furthermore, simply responding to actual or threatened litigation or government investigations of our compliance with regulatory standards, whether related to our products, services, or business or commercial relationships, requires significant expenditures of time and other resources. Litigation also is inherently uncertain, and we could experience significant adverse results, including compensatory and punitive damage awards, a disgorgement of profits or revenue, or injunctive relief, any of which could have an adverse effect on our financial condition, results of operations, or our business in general. In addition, adverse publicity surrounding an allegation may cause significant reputational harm that could have a significant adverse effect on our sales.

Ford may need to substantially modify its product plans and facilities to comply with safety, emissions, fuel economy, autonomous driving technology, environmental, and other regulations. The automotive industry is subject to regulations worldwide that govern product characteristics and that differ by global region, country, and sometimes within national boundaries. Further, additional and new regulations continue to be proposed to address concerns regarding the environment (including concerns about global climate change and its impact), vehicle safety, and energy independence, and the regulatory landscape can change on short notice. These regulations vary, but generally require that over time motor vehicles and engines emit less air pollution, including greenhouse gas emissions, oxides of nitrogen, hydrocarbons, carbon monoxide, and particulate matter. Similarly, we are making substantial investments in our facilities and revising our processes to not only comply with applicable regulations but also to make our operations more efficient and sustainable. As our suppliers make similar investments, those higher costs may be passed on to us. In the United States, legal and policy debates on environmental regulations are continuing, with a primary trend toward reducing GHG emissions and increasing vehicle electrification. Recently, different federal administrations have either sought to make standards more strict or to make them less strict, with one administration often replacing the regulations enacted by the last. Various third parties routinely seek judicial review of these federal regulatory and deregulatory efforts. In parallel, California continues to enact increasingly strict emissions standards and requirements for zero emission vehicles, and those actions are also the subject of legal challenges from third parties. Court rulings regarding regulatory actions by federal, California, and other state regulators create uncertainty and the potential for applicable regulatory standards to change quickly. In addition, many governments regulate local product content and/or impose import requirements with the aim of creating jobs, protecting domestic producers, and influencing the balance of payments.

Item 1A. Risk Factors (Continued)

We are continuing to make changes to our product cycle plan to improve the fuel economy of our petroleum-powered vehicles and to offer more propulsion choices, such as electrified vehicles, with lower GHG emissions. Electrification is our core strategy to comply with current and anticipated environmental laws and regulations in major markets. However, there are limits on our ability to reduce emissions and increase fuel economy over a given time frame and many factors are involved that could delay or impede our plans, primarily relating to the cost and effectiveness of available technologies, consumer acceptance of new technologies and changes in vehicle mix (as described in more detail above under "*Ford's new and existing products and digital, software, and physical services are subject to market acceptance and face significant competition from existing and new entrants in the automotive and digital and software services industries, and its reputation may be harmed if it is unable to achieve the initiatives it has announced*"), willingness of consumers to absorb the additional costs of new technologies, the appropriateness (or lack thereof) of certain technologies for use in particular vehicles, the widespread availability (or lack thereof) of supporting infrastructure for new technologies, including charging for electric vehicles, the availability (or lack thereof) of the raw materials and component supply to make batteries and other elements of electric vehicles, and the human, engineering, and financial resources necessary to deploy new technologies across a wide range of products and powertrains in a short time. If fuel prices are relatively low and market conditions do not drive consumers to purchase electric vehicles and other highly fuel-efficient vehicles in large numbers, it may be difficult to meet applicable environmental standards without compromising results. Moreover, a production disruption, stop ship, limited availability of necessary components, e.g., batteries or the raw materials necessary for their production, lower than planned market acceptance of our vehicles, or other intervening events may cause us to modify our product plans, or, in some cases, purchase credits, in order to comply with standards regarding fuel economy and air pollution, which could have an adverse effect on our financial condition or results of operations and/or cause reputational harm.

Increased scrutiny of automaker emission compliance by regulators around the world has led to new regulations, more stringent enforcement programs, additional field actions, demands for reporting on the field performance of emissions components and higher scrutiny of field data, and/or delays in regulatory approvals. The cost to comply with existing government regulations (in addition to the cost of any field service actions that may result from regulatory actions) is substantial and additional regulations, changes in regulatory interpretations, or changes in consumer preferences that affect vehicle mix, as well as a non-compliance with applicable laws and regulations, could have a substantial adverse impact on our financial condition or results of operations. In addition, a number of governments, as well as non-governmental organizations, publicly assess vehicles to their own protocols. The protocols could change, and any negative perception regarding the performance of our vehicles subjected to such tests could reduce future sales. Court decisions arising out of consumer and investor litigation could give rise to *de facto* changes in the interpretation of existing emission laws and regulations, thereby imposing new burdens on manufacturers. For more discussion of the impact of standards on our global business, see the "Governmental Standards" discussion in "Item 1. Business" above.

We and other companies continue to develop autonomous vehicle technologies, and the U.S. and foreign governments are continuing to develop the regulatory framework that will govern autonomous vehicles. The evolution of the regulatory framework for autonomous vehicles, and the pace of the development of such regulatory framework, may subject us to increased costs and uncertainty, and may ultimately impact our ability to deliver autonomous vehicles and related services that customers want.

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. We are subject to laws, rules, guidelines from privacy regulators, and regulations in the United States and other countries (such as the European Union's and the U.K.'s General Data Protection Regulations and the California Consumer Privacy Act) relating to the collection, use, cross-border data transfer, and security of personal information of consumers, employees, or others, including laws that may require us to notify regulators and affected individuals of a data security incident. Existing and newly developed laws and regulations may contain broad definitions of personal information, are subject to change and uncertain interpretations by courts and regulators, and may be inconsistent from state to state or country to country. Accordingly, complying with such laws and regulations may lead to a decline in consumer engagement or cause us to incur substantial costs to modify our operations or business practices. Moreover, regulatory actions seeking to impose significant financial penalties for noncompliance and/or legal actions (including pursuant to laws providing for private rights of action by consumers) could be brought against us in the event of a data compromise, misuse of consumer information, or perceived or actual non-compliance with data protection or privacy requirements. Further, any unauthorized release of personal information could harm our reputation, disrupt our business, cause us to expend significant resources, and lead to a loss of consumer confidence resulting in an adverse impact on our business and/or consumers deciding to withhold or withdraw consent for our collection or use of data.

Item 1A. Risk Factors (Continued)

Ford Credit could be subject to new or increased credit regulations, consumer protection regulations, or other regulations. As a finance company, Ford Credit is highly regulated by governmental authorities in the locations in which it operates, which can impose significant additional costs and/or restrictions on its business. In the United States, for example, Ford Credit's operations are subject to regulation and supervision under various federal, state, and local laws, including the federal Truth-in-Lending Act, Consumer Leasing Act, Equal Credit Opportunity Act, and Fair Credit Reporting Act.

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The Dodd-Frank Act directs federal agencies to adopt rules to regulate the finance industry and the capital markets and gives the Consumer Financial Protection Bureau ("CFPB") broad rule-making and enforcement authority for a wide range of consumer financial protection laws that regulate consumer finance businesses, such as Ford Credit's automotive financing business. Exercise of these powers by the CFPB may increase the costs of, impose additional restrictions on, or otherwise adversely affect companies in the automotive finance business. The CFPB has authority to supervise and examine the largest nonbank automotive finance companies, such as Ford Credit, for compliance with consumer financial protection laws.

Failure to comply with applicable laws and regulations could subject Ford Credit to regulatory enforcement actions, including consent orders or similar orders where Ford Credit may be required to revise practices, remunerate customers, or pay fines. An enforcement action against Ford Credit could harm Ford Credit's reputation or lead to further litigation.

ITEM 1B. ***Unresolved Staff Comments.***

None.

ITEM 2. *Properties.*

Our principal properties include manufacturing and assembly facilities, distribution centers, warehouses, sales or administrative offices, and engineering centers.

We own substantially all of our U.S. manufacturing and assembly facilities. Our facilities are situated in various sections of the country and include assembly plants, engine plants, casting plants, metal stamping plants, transmission plants, and other component plants. Most of our distribution centers are leased (we own approximately 35% of the total square footage, and lease the balance). The majority of the warehouses that we operate are leased, although many of our manufacturing and assembly facilities contain some warehousing space. Substantially all of our sales offices are leased space. Approximately 85% of the total square footage of our testing, prototype, and operations space is owned by us.

In addition, we maintain and operate manufacturing plants, assembly facilities, parts distribution centers, and engineering centers outside of the United States. We own substantially all of our non-U.S. manufacturing plants, assembly facilities, and engineering centers. The majority of our parts distribution centers outside of the United States are either leased or provided by vendors under service contracts.

We and the entities that we consolidated as of December 31, 2022 use 13 engineering and research facilities and 44 manufacturing and assembly plants, which includes plants that are operated by us or our consolidated joint venture that support our Automotive segment.

We have one significant consolidated joint venture in our Automotive segment:

- *Ford Vietnam Limited* — a joint venture between Ford (75% partner) and Diesel Song Cong One Member Limited Liability Company (a subsidiary of the Vietnam Engine and Agricultural Machinery Corporation, which in turn is majority owned (87.43%) by the State of Vietnam represented by the Ministry of Industry and Trade) (25% partner). Ford Vietnam Limited assembles and distributes a variety of Ford passenger and commercial vehicle models. The joint venture operates one plant in Vietnam.

In addition to the plants that we operate directly or that are operated by our consolidated joint venture, additional plants that support our Automotive segment are operated by unconsolidated joint ventures of which we are a partner. The most significant of our Automotive segment unconsolidated joint ventures are as follows:

- *AutoAlliance (Thailand) Co., Ltd. ("AAT")* — a 50/50 joint venture between Ford and Mazda that owns and operates a manufacturing plant in Rayong, Thailand. AAT produces Ford and Mazda products for domestic and export sales.

- *BlueOval SK, LLC* — a 50/50 joint venture among Ford, SK On Co., Ltd., and SK Battery America, Inc. (a wholly owned subsidiary of SK On) that will build and operate electric vehicle battery plants in Tennessee and Kentucky to supply batteries to Ford and Ford affiliates.

- *Changan Ford Automobile Corporation, Ltd. ("CAF")* — a 50/50 joint venture between Ford and Chongqing Changan Automobile Co., Ltd. ("Changan"). CAF operates four assembly plants, an engine plant, and a transmission plant in China where it produces and distributes a variety of Ford passenger vehicle models.

- *Ford Lio Ho Motor Company Ltd. ("FLH")* — a joint venture in Taiwan between Ford (26% partner) and local partners (74% ownership in aggregate) that assembles a variety of Ford vehicles sourced from Ford. In addition to domestic assembly, FLH imports Ford brand built-up vehicles from Asia Pacific, Europe, and the United States. The joint venture operates one plant in Taiwan.

- *Ford Otomotiv Sanayi Anonim Sirketi ("Ford Otosan")* — a joint venture in Türkiye among Ford (41% partner), the Koc Group of Türkiye (41% partner), and public investors (18%) that is the sole supplier to us of the Transit, Transit Custom, and Transit Courier commercial vehicles, and, as of July 2022, the sole supplier of the Puma and EcoSport for Europe and is the sole distributor of Ford vehicles in Türkiye. Ford Otosan also manufactures Ford heavy trucks for markets in Europe, the Middle East, and Africa. The joint venture owns three plants, a parts distribution depot, and a research and development center in Türkiye, and, as of July 2022, a combined vehicle and engine plant in Romania.

Item 2. Properties (Continued)

- *JMC* — a publicly-traded company in China with Ford (32% shareholder) and Nanchang Jiangling Investment Co., Ltd. (41% shareholder) as its controlling shareholders. Nanchang Jiangling Investment Co., Ltd. is a 50/50 joint venture between Changan and Jiangling Motors Company Group. The public investors in JMC own 27% of its total outstanding shares. JMC assembles Ford Transit, a series of Ford SUVs, Ford engines, and non-Ford vehicles and engines for distribution in China and in other export markets. JMC operates two assembly plants and one engine plant in Nanchang.

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The facilities described above are, in the opinion of management, suitable and adequate for the manufacture and assembly of our and our joint ventures' products.

The furniture, equipment, and other physical property owned by our Ford Credit operations are not material in relation to the operations' total assets.

ITEM 3. *Legal Proceedings.*

The litigation process is subject to many uncertainties, and the outcome of individual matters is not predictable with assurance. See Note 25 of the Notes to the Financial Statements for a discussion of loss contingencies. Following is a discussion of our significant pending legal proceedings:

PRODUCT LIABILITY MATTERS

We are a defendant in numerous actions in state and federal courts within and outside of the United States alleging damages from injuries resulting from (or aggravated by) alleged defects in our vehicles. In many actions, no monetary amount of damages is specified or the specific amount alleged is the jurisdictional minimum. Our experience with litigation alleging a specific amount of damages suggests that such amounts, on average, bear little relation to the actual amount of damages, if any, that we will pay in resolving such matters.

In addition to pending actions, we assess the likelihood of incidents that likely have occurred but not yet been reported to us. We also take into consideration specific matters that have been raised as claims but have not yet proceeded to litigation. Individual product liability matters that have more than a remote risk of loss and such loss would likely be significant if the matter is resolved unfavorably to us would be described herein. Currently there are no such matters to report.

Below is a product liability matter currently pending against Ford:

Hill v. Ford. Plaintiffs in this product liability action pending in Georgia state court allege that the roof of a 2002 Ford F-250 involved in a rollover accident was defectively designed. During the first trial in 2018, the judge declared a mistrial, ruled that Ford's attorneys had violated pre-trial rulings while presenting evidence, and sanctioned Ford by prohibiting Ford from introducing any evidence at the second trial to show that the roof design of the F-250 was not defective. During the second trial in August 2022, a jury found that Pep Boys (the party that sold the tires on the vehicle involved in the rollover accident) was responsible for 30% of the damages, and Ford, as a direct result of the sanctions order prohibiting Ford from presenting its defense, was responsible for 70% of the damages, resulting in $16.8 million in damages being apportioned to Ford. The jury subsequently awarded punitive damages against Ford in the amount of $1.7 billion. We have filed post-trial motions and are seeking a new trial. A hearing on our post-trial motions was held on December 19, 2022, and we believe the law supports our position that Ford is entitled to a new trial with the right to present evidence in its defense.

Item 3. Legal Proceedings (Continued)

ASBESTOS MATTERS

Asbestos was used in some brakes, clutches, and other automotive components from the early 1900s. Along with other vehicle manufacturers, we have been the target of asbestos litigation and, as a result, are a defendant in various actions for injuries claimed to have resulted from alleged exposure to Ford parts and other products containing asbestos. Plaintiffs in these personal injury cases allege various health problems as a result of asbestos exposure, either from component parts found in older vehicles, insulation or other asbestos products in our facilities, or asbestos aboard our former maritime fleet. We believe that we are targeted more aggressively in asbestos suits because many previously targeted companies have filed for bankruptcy or emerged from bankruptcy relieved of liability for such claims.

Most of the asbestos litigation we face involves individuals who claim to have worked on the brakes of our vehicles. We are prepared to defend these cases and believe that the scientific evidence confirms our long-standing position that there is no increased risk of asbestos-related disease as a result of exposure to the type of asbestos formerly used in the brakes on our vehicles. The extent of our financial exposure to asbestos litigation remains very difficult to estimate and could include both compensatory and punitive damage awards. The majority of our asbestos cases do not specify a dollar amount for damages; in many of the other cases the dollar amount specified is the jurisdictional minimum, and the vast majority of these cases involve multiple defendants. Some of these cases may also involve multiple plaintiffs, and we may be unable to tell from the pleadings which plaintiffs are making claims against us (as opposed to other defendants). Annual payout and defense costs may become significant in the future. Our accrual for asbestos matters includes probable losses for both asserted and unasserted claims.

CONSUMER MATTERS

We provide warranties on the vehicles we sell. Warranties are offered for specific periods of time and/or mileage and vary depending upon the type of product and the geographic location of its sale. Pursuant to these warranties, we will repair, replace, or adjust parts on a vehicle that are defective in factory-supplied materials or workmanship during the specified warranty period. We are a defendant in numerous actions in state and federal courts alleging breach of warranty and claiming damages based on state and federal consumer protection laws. Remedies under these statutes may include vehicle repurchase, civil penalties, and payment by Ford of the plaintiff's attorneys' fees. In some cases, plaintiffs also include an allegation of fraud. Remedies for a fraud claim may include contract rescission, vehicle repurchase, and punitive damages.

The cost of these litigation matters is included in our warranty costs. We accrue obligations for warranty costs at the time of sale using a patterned estimation model that includes historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. We reevaluate the adequacy of our accruals on a regular basis.

We are currently a defendant in a significant number of litigation matters relating to the performance of vehicles, including those equipped with DPS6 transmissions.

ENVIRONMENTAL MATTERS

We have received notices under various federal and state environmental laws that we (along with others) are or may be a potentially responsible party for the costs associated with remediating numerous hazardous substance storage, recycling, or disposal sites in many states and, in some instances, for natural resource damages. We also may have been a generator of hazardous substances at a number of other sites. The amount of any such costs or damages for which we may be held responsible could be significant. Any legal proceeding arising under any federal, state, or local provisions that have been enacted or adopted regulating the discharge of materials into the environment or primarily for the purpose of protecting the environment, in which (i) a governmental authority is a party, and (ii) we believe there is the possibility of monetary sanctions (exclusive of interest and costs) in excess of $1,000,000 is described herein.

On June 16, 2022, the New Jersey Department of Environmental Protection ("NJDEP") filed a complaint in the Superior Court of New Jersey (Bergen County) seeking natural resource damages and other claims related to the Ringwood Mines/Landfill Site located in Ringwood, New Jersey. We are defending the NJDEP's allegations and have filed a motion to dismiss.

Item 3. Legal Proceedings (Continued)

CLASS ACTIONS

In light of the fact that few of the purported class actions filed against us in the past have been certified by the courts as class actions, in general we list those actions that (i) have been certified as a class action by a court of competent jurisdiction (and any additional purported class actions that raise allegations substantially similar to an existing and certified class), and (ii) have more than a remote risk of loss, and such loss would likely be significant if the action is resolved unfavorably to us. At this time, we have no such class actions filed against us.

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OTHER MATTERS

Brazilian Tax Matters. One Brazilian state (São Paulo) and the Brazilian federal tax authority currently have outstanding substantial tax assessments against Ford Motor Company Brasil Ltda. ("Ford Brazil") related to state and federal tax incentives Ford Brazil received for its operations in the Brazilian state of Bahia. The São Paulo assessment is part of a broader conflict among various states in Brazil. The federal legislature enacted laws designed to encourage the states to end that conflict, and in 2017 the states reached an agreement on a framework for resolution. Ford Brazil continues to pursue a resolution under the framework and expects the amount of any remaining assessments by the states to be resolved under that framework. The federal assessments are outside the scope of the legislation.

All of the outstanding assessments have been appealed to the relevant administrative court of each jurisdiction. To proceed with an appeal within the judicial court system, an appellant may be required to post collateral. To date, we have not been required to post any collateral. If we are required to post collateral, which could be in excess of $1 billion, we expect it to be in the form of fixed assets, surety bonds, and/or letters of credit, but we may be required to post cash collateral. Although the ultimate resolution of these matters may take many years, we consider our overall risk of loss to be remote.

Transit Connect Customs Penalty Notice. U.S. Customs and Border Protection ("CBP") ruled in 2013 that Transit Connects imported as passenger wagons and later converted into cargo vans are subject to the 25% duty applicable to cargo vehicles, rather than the 2.5% duty applicable to passenger vehicles. We filed a challenge in the U.S. Court of International Trade ("CIT"), and CIT ruled in our favor in 2017. CBP subsequently filed a notice of appeal to the U.S. Court of Appeals for the Federal Circuit, which ruled in favor of CBP. Following the U.S. Supreme Court's denial of our petition for a writ of certiorari in 2020, we paid the increased duties for certain prior imports, plus interest, and disclosed that CBP might assert a claim for penalties. Subsequently, CBP issued a penalty notice to us dated July 22, 2021, and on November 18, 2021, CBP assessed against us a monetary penalty of $1.3 billion and additional duties of $181 million, plus interest. We intend to vigorously defend our actions and contest payment of the penalty and the additional duties.

European Commission and U.K. Competition and Markets Authority Matter. On March 15, 2022, the European Commission (the "Commission") and the U.K. Competition and Markets Authority (the "CMA") conducted unannounced inspections at the premises of, and sent formal requests for information to, several companies and associations active in the automotive sector, including Ford. The inspections and requests for information concern possible collusion in relation to the collection, treatment, and recovery of end-of-life cars and vans ("ELVs"). We understand that the scope of the investigations includes determining whether manufacturers and importers of passenger cars and vans agreed to an approach to (i) the compensation of ELV collection, treatment, and recovery companies, and (ii) the use of data relating to the recyclability or recoverability of ELVs in marketing materials, and whether such conduct violates relevant competition laws. If a violation is found, a broad range of remedies is potentially available to the Commission and/or CMA, including imposing a fine and/or the prohibition or restriction of certain business practices. Given that this investigation is in its early stages, it is difficult to predict the outcome or what remedies, if any, may be imposed. We are cooperating with the Commission and the CMA as they complete their investigations.

ITEM 4. *Mine Safety Disclosures.*

Not applicable.

ITEM 4A. *Executive Officers of Ford.*

Our executive officers are as follows, along with each executive officer's position and age at February 1, 2023:

Name	Position	Position Held Since	Age
William Clay Ford, Jr. (a)	Executive Chair and Chair of the Board	September 2006	65
James D. Farley, Jr. (b)	President and Chief Executive Officer	October 2020	60
John Lawler	Chief Financial Officer	October 2020	56
Michael Amend	Chief Enterprise Technology Officer	September 2021	45
Steven P. Croley	Chief Policy Officer and General Counsel	July 2021	57
J. Doug Field	Chief Advanced Product Development and Technology Officer	September 2022	57
Marin Gjaja	Chief Customer Officer, Ford Model e	March 2022	53
Jennifer Waldo	Chief People and Employee Experience Officer	May 2022	46
Theodore Cannis	CEO, Ford Pro	May 2022	56
Anning Chen	President and Chief Executive Officer, Ford of China	December 2018	61
Ashwani ("Kumar") Galhotra	President, Ford Blue	March 2022	57
Cathy O'Callaghan	Controller	June 2018	54

(a) Also a Director, Chair of the Office of the Chair and Chief Executive, Chair of the Finance Committee, and a member of the Sustainability, Innovation and Policy Committee of the Board of Directors. Mr. Ford's daughter, Alexandra Ford English, is a member of the Board of Directors.
(b) Also a Director and member of the Office of the Chair and Chief Executive.

Except as noted below, each of the officers listed above has been employed by Ford or its subsidiaries in one or more capacities during the past five years.

Prior to joining Ford:

- Michael Amend was President, Online, at Lowe's from 2018 to 2021. From 2015 to 2018, Mr. Amend served as Executive Vice President, Omnichannel, at JCPenney.

- Steven Croley was a partner in the Washington, D.C., office of Latham & Watkins from 2017 to 2021. From 2014 to 2017, Mr. Croley served as General Counsel for the U.S. Department of Energy.

- J. Doug Field was Vice President, Special Projects Group, at Apple from 2018 to 2021. From 2013 to 2018, Mr. Field served as Tesla's Senior Vice President of Engineering.

- Marin Gjaja was Senior Partner and Managing Director at Boston Consulting Group ("BCG"). He had been at BCG since 1996.

- Jennifer Waldo was Vice President, People Business Partners at Apple from March 2019 to April 2022. From September 2015 to February 2019, Ms. Waldo was Chief Human Resources Officer at GE Digital.

- Anning Chen held several leadership roles in Chery Automobile LTD, China from 2010 to 2018, including: Chief Executive Officer; Executive Vice President and Chief Operating Officer; and Vice President of Products and Engineering. He also held the positions of Chairman of the Board of Directors, Chery Jaguar Land Rover Automotive, China; and Chairman of the Board, Qoros Automotive, China.

Under our by-laws, executive officers are elected by the Board of Directors at an annual meeting of the Board held for this purpose or by a resolution to fill a vacancy. Each officer is elected to hold office until a successor is chosen or as otherwise provided in the by-laws.

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PART II.

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

Market for Registrant's Stock

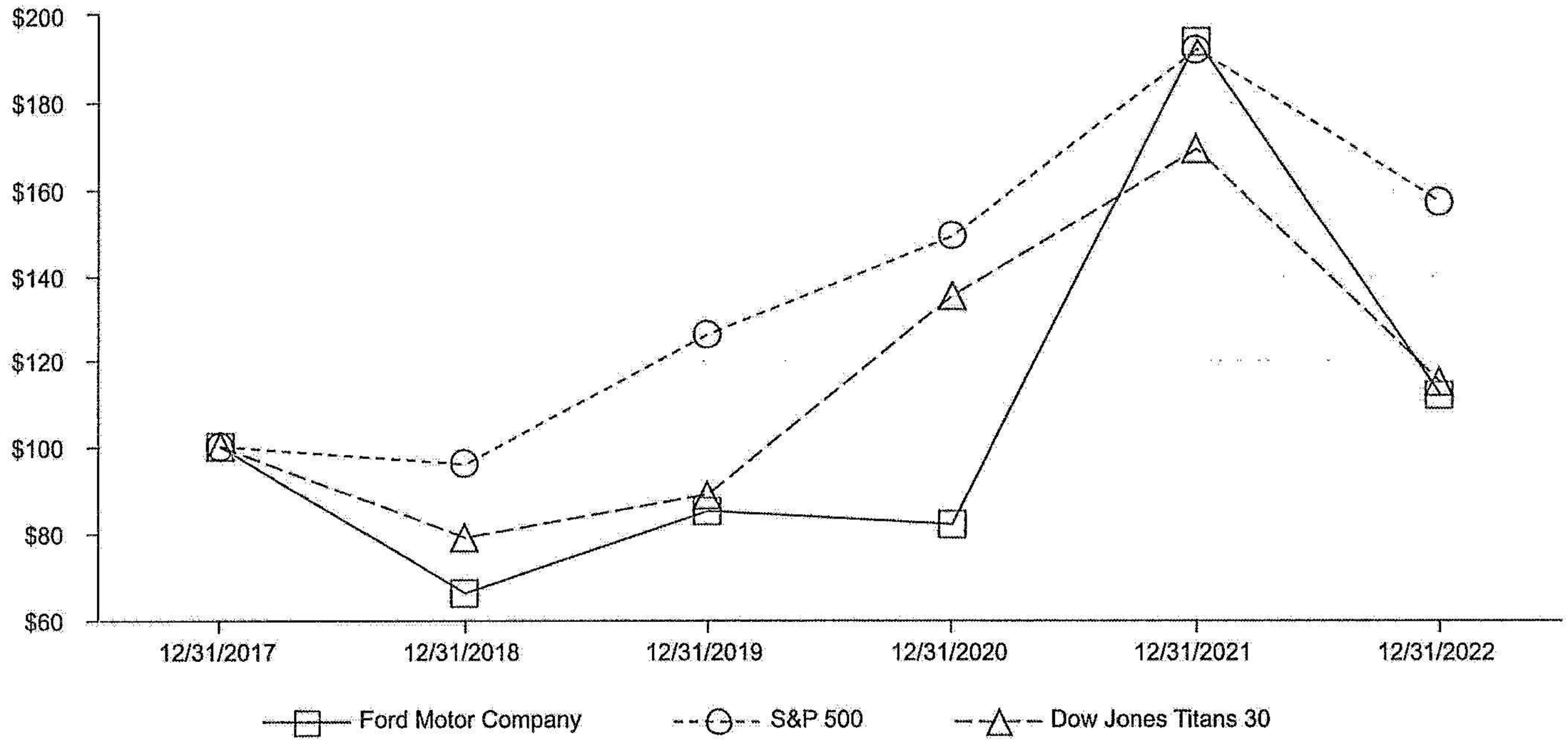
Our Common Stock is listed on the New York Stock Exchange in the United States under the symbol F. As of January 30, 2023, stockholders of record of Ford included approximately 104,339 holders of Common Stock and 3 holders of Class B Stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our Common Stock is held in "street name" by brokers.

Stock Performance Graph

The information contained in this Stock Performance Graph section shall not be deemed to be "soliciting material" or "filed" or incorporated by reference in future filings with the SEC, or subject to the liabilities of Section 18 of the Exchange Act, except to the extent that we specifically incorporate it by reference into a document filed under the Securities Act or the Exchange Act.

The following graph compares the cumulative total shareholder return on our Common Stock with the total return on the S&P 500 Index and the Dow Jones Automobiles & Parts Titans 30 Index for the five year period ended December 31, 2022. It shows the growth of a $100 investment on December 31, 2017, including the reinvestment of all dividends.

COMPARISON OF CUMULATIVE FIVE-YEAR TOTAL RETURN



	Base Period	Years Ending				
Company/Index	2017	2018	2019	2020	2021	2022
Ford Motor Company	100	66	85	82	194	112
S&P 500	100	96	126	149	192	157
Dow Jones Automobiles & Parts Titans 30	100	79	89	135	169	115

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities (Continued)

Issuer Purchases of Securities

In the fourth quarter of 2022, we completed a modest anti-dilutive share repurchase program to offset the dilutive effect of share-based compensation granted during 2022. The plan authorized repurchases of up to 35 million shares of Ford Common Stock.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly-Announced Plans or Programs	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plans or Programs
October 1, 2022 through October 31, 2022	—	$ —	—	—
November 1, 2022 through November 30, 2022	35,000,000	13.81	35,000,000	—
December 1, 2022 through December 31, 2022	—	—	—	—
Total / Average	35,000,000	$ 13.81	—	—

Dividends

The table below shows the dividends we paid per share of Common and Class B Stock for each quarterly period in 2021 and 2022:

	2021				2022			
	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Dividends per share of Ford Common and Class B Stock	$ 0.00	$ 0.00	$ 0.00	$ 0.10	$ 0.10	$ 0.10	$ 0.15	$ 0.15

On February 2, 2023, we declared a regular dividend of $0.15 per share and a supplemental dividend of $0.65 per share.

Subject to legally available funds, we intend to continue to pay a regular quarterly cash dividend on our outstanding Common Stock and Class B Stock. The declaration and payment of future dividends is at the sole discretion of our Board of Directors after taking into account various factors, including our financial condition, operating results, available cash, and current and anticipated cash needs.

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

Key Trends and Economic Factors Affecting Ford and the Automotive Industry

COVID-19 and Supplier Disruptions. 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. Outbreaks in certain regions continue to cause intermittent COVID-19-related disruptions in our supply chain and local manufacturing operations. We also continue to face supplier disruptions due to labor shortages and other production issues, in addition to the continuing semiconductor shortage. Our inconsistent production schedule has been disruptive to our suppliers' operations, which, in turn, has led to higher costs and production shortfalls. Further, actions taken by Russia in Ukraine have impacted and could further impact our suppliers, particularly our lower tier suppliers, as well as our operations in Europe. For additional information on the impact of supplier disruptions, see the Outlook section on page 73.

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Currency Exchange Rate Volatility. After aggressively easing monetary policy in response to the COVID-19 pandemic, the Federal Reserve, and other central banks around the world, in 2022 began to withdraw monetary stimulus by raising interest rates. Periods of monetary policy tightening are often associated with heightened financial market and currency volatility, especially for those markets that are outliers in terms of their economic or monetary policy backdrop. This is notable for many emerging markets, which may also face increased exposure to commodity prices and political instability, contributing to unpredictable movements in the value of their exchange rates. In addition to direct impacts on the financial flows of global automotive companies, currency movements can also impact pricing of vehicles exported to overseas markets. In most markets, exchange rates are market-determined, and all are impacted by many different macroeconomic and policy factors, and thus likely to remain volatile. However, in some markets, exchange rates are heavily influenced or controlled by governments.

Pricing Pressure. Over the last year, prices of both new and used vehicles have increased substantially due to strong demand, supply shortages, and inflationary costs. We have already observed some moderation in the rate of price increases as auto production slowly recovers from the semiconductor shortage, but it is unclear whether prices will decline fully to pre-COVID-19 pandemic levels. Over the long term, intense competition and excess capacity are likely to put downward pressure on inflation-adjusted prices for similarly-contented vehicles and contribute to a challenging pricing environment for the automotive industry in most major markets.

Commodity and Energy Prices. Prices for commodities remain volatile. In some cases, spot prices for various commodities have recently diverged somewhat, as anticipated weakening in global industrial activity mitigates price increases for base metals such as steel and aluminum, while precious metals (e.g., palladium), and raw materials that are used in batteries for electric vehicles (e.g., lithium, cobalt, nickel, graphite, and manganese, among other materials, for batteries) remain high. The net impact on us and our suppliers has been higher material costs overall. To help ensure supply of raw materials for critical components (e.g., batteries), we, like others in the industry, have entered into multi-year sourcing agreements and may enter into additional agreements. Similar dynamics are impacting energy markets, with Europe particularly exposed to the risk of both higher prices and constraints on supply of natural gas due to the ongoing conflict in Ukraine. Such shortages may impact facilities operated by us or our suppliers, which could have an impact on us in Europe and other regions. In the long term, the outcome of de-carbonization and electrification of the vehicle fleet may depress oil demand, but the global energy transition will also contribute to ongoing volatility of oil and other energy prices. For additional information on commodity costs, see the Outlook section on page 73.

Vehicle Profitability. Our financial results depend on the profitability of the vehicles we sell, which may vary significantly by vehicle line. In general, larger vehicles tend to command higher prices and be more profitable than smaller vehicles, both across and within vehicle segments. For example, in North America, our larger, more profitable vehicles had an average contribution margin that was 120% of our total average contribution margin across all vehicles, whereas our smaller vehicles had significantly lower contribution margins. In addition, government regulations aimed at reducing emissions and increasing fuel efficiency (e.g., ZEV mandates and low emission zones), and other factors that accelerate the transition to electrified vehicles, may increase the cost of vehicles by more than the perceived benefit to consumers and dampen margins.

Trade Policy. To the extent governments in various regions implement or intensify barriers to imports, such as erecting tariff or non-tariff barriers or manipulating their currency, and provide advantages to local exporters selling into the global marketplace, there can be a significant negative impact on manufacturers based in other markets. While we believe the long-term trend will support the growth of free trade, we will continue to monitor and address developing issues.

Inflation and Interest Rates. We continue to see near-term impacts on our business due to inflation, including ongoing global price pressures in the wake of Russia's invasion of Ukraine, driving up energy prices, freight premiums, and other operating costs above normal rates. Although headline inflation in the United States and Europe appears to have peaked, as gasoline and natural gas prices recede from the latest spike, core inflation (excluding food and energy prices) remains elevated and is a source of continued cost pressure on businesses and households. Interest rates have increased significantly as central banks in developed countries attempt to subdue inflation while government deficits and debt remain at high levels in many global markets. Accordingly, the eventual implications of higher government deficits and debt, tighter monetary policy, and potentially higher long-term interest rates may drive a higher cost of capital for the business. At Ford Credit, rising interest rates may impact its ability to source funding and offer financing at competitive rates, which could reduce its financing margin.

Revenue

Our Automotive segment revenue is generated primarily by sales of vehicles, parts, and accessories. Revenue is recorded when control is transferred to our customers (generally, our dealers and distributors). For the majority of sales, this occurs when products are shipped from our manufacturing facilities. However, we defer a portion of the consideration received when there is a separate future or stand-ready performance obligation, such as extended service contracts or ongoing vehicle connectivity. Revenue related to extended service contracts is recognized over the term of the agreement in proportion to the costs we expect to incur in satisfying the contract obligations; revenue related to other future or stand-ready performance obligations is generally recognized on a straight-line basis over the period in which services are expected to be performed. Vehicles sold to daily rental car companies with an obligation to repurchase for a guaranteed amount, exercisable at the option of the customer, are accounted for as operating leases, with lease revenue recognized over the term of the lease. Proceeds from the sale of vehicles at auction are recognized in revenue upon transfer of control of the vehicle to the buyer.

Most of the vehicles sold by us to our dealers and distributors are financed at wholesale by Ford Credit. Upon Ford Credit originating the wholesale receivable related to a dealer's purchase of a vehicle, Ford Credit pays cash to the relevant Automotive legal entity in payment of the dealer's obligation for the purchase price of the vehicle. The dealer then pays the wholesale finance receivable to Ford Credit when it sells the vehicle to a retail customer.

Our Ford Credit segment revenue is generated primarily from interest on finance receivables and revenue from operating leases. Revenue from interest on finance receivables is recognized over the term of the receivable using the interest method and includes the amortization of certain deferred origination costs. Revenue from operating leases is recognized on a straight-line basis over the term of the lease.

Transactions between our Automotive and Ford Credit segments occur in the ordinary course of business. For example, we offer special retail financing and lease incentives to dealers' customers who choose to finance or lease our vehicles from Ford Credit. The cost for these incentives is included in our estimate of variable consideration at the date the related vehicle sales to our dealers are recorded. In order to compensate Ford Credit for the lower interest or lease payments offered to the retail customer, we pay the discounted value of the incentive directly to Ford Credit when it originates the retail finance or lease contract with the dealer's customer. Ford Credit recognizes the incentive amount over the life of retail finance contracts as an element of financing revenue and over the life of lease contracts as a reduction to depreciation. See Note 1 of the Notes to the Financial Statements for a more detailed discussion of transactions between our Automotive and Ford Credit segments.

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Costs and Expenses

Our income statement classifies our Company excluding Ford Credit total costs and expenses into two categories: (i) cost of sales, and (ii) selling, administrative, and other expenses. We include within cost of sales those costs related to the development, production, and distribution of our vehicles, parts, accessories, and services. Specifically, we include in cost of sales each of the following: material costs (including commodity costs); freight costs; warranty, including product recall costs; labor and other costs related to the development and production of our vehicles and connectivity, parts, accessories, and services; depreciation and amortization; and other associated costs. We include within selling, administrative, and other expenses labor and other costs not directly related to the development and production of our vehicles, parts, accessories, and services, including such expenses as advertising and sales promotion costs.

Certain of our costs, such as material costs, generally vary directly with changes in volume and mix of production. In our industry, production volume often varies significantly from quarter to quarter and year to year. Quarterly production volumes experience seasonal shifts throughout the year (including peak retail sales seasons and the impact on production of model changeover and new product launches). Annual production volumes are heavily impacted by external economic factors, including the pace of economic growth and factors such as the availability of consumer credit and cost of fuel.

As a result, we analyze the profit impact of certain cost changes holding constant present-year volume and mix and currency exchange, in order to evaluate our cost trends absent the impact of varying production and currency exchange levels. We analyze these cost changes in the following categories:

- *Contribution Costs* – these costs typically vary with production volume. These costs include material (including commodity), warranty, and freight and duty costs.

- *Structural Costs* – these costs typically do not have a directly proportionate relationship to production volume. These costs include manufacturing; vehicle and software engineering; spending-related; advertising and sales promotion; administrative, information technology, and selling; and pension and OPEB costs.

While contribution costs generally vary directly in proportion to production volume, elements within our structural costs category are impacted to differing degrees by changes in production volume. We also have varying degrees of discretion when it comes to controlling the different elements within our structural costs. For example, depreciation and amortization expense largely is associated with prior capital spending decisions. On the other hand, while labor costs do not vary directly with production volume, manufacturing labor costs may be impacted by changes in volume, for example when we increase overtime, add a production shift, or add personnel to support volume increases. Other structural costs, such as advertising or engineering costs, do not necessarily have a directly proportionate relationship to production volume. Our structural costs generally are within our discretion, although to varying degrees, and can be adjusted over time in response to external factors.

We consider certain structural costs to be a direct investment in future growth and revenue. For example, structural costs are necessary to grow our business and improve profitability, invest in new products and technologies, respond to increasing industry sales volume, and grow our market share.

Cost of sales and *Selling, administrative, and other expenses* for full year 2022 were $145.3 billion. Our Automotive segment's material and commodity costs make up the largest portion of these costs and expenses, followed by structural costs. Although material costs are our largest absolute cost, our margins can be affected significantly by changes in any category of costs.

RESULTS OF OPERATIONS - 2022

The net loss attributable to Ford Motor Company was $1,981 million in 2022. Company adjusted EBIT was $10,415 million.

Net income/(loss) includes certain items ("special items") that are excluded from Company adjusted EBIT. These items are discussed in more detail in Note 26 of the Notes to the Financial Statements. We report special items separately to allow investors analyzing our results to identify certain infrequent significant items that they may wish to exclude when considering the trend of ongoing operating results. Our pre-tax and tax special items were as follows (in millions):

	2021	2022
Global Redesign		
Europe	$ (530)	$ (151)
India	(468)	(298)
South America	(803)	53
China (including Taiwan)	150	(380)
North America	(72)	(198)
Other	3	7
Subtotal Global Redesign	$ (1,720)	$ (967)
Other Items		
Gain/(loss) on Rivian investment	$ 9,096	$ (7,377)
Debt extinguishment premium	(1,692)	(135)
AV strategy including Argo impairment (see Note 14)	—	(2,812)
Ford Credit – Brazil restructuring (see Note 21)	14	(155)
Russia suspension of operations/asset write-off	—	(158)
Patent matters related to prior calendar years	—	(124)
Other	82	(35)
Subtotal Other Items	$ 7,500	$ (10,796)
Pension and OPEB Gain/(Loss)		
Pension and OPEB remeasurement	$ 3,873	$ 29
Pension settlements and curtailments	(70)	(438)
Subtotal Pension and OPEB Gain/(Loss)	$ 3,803	$ (409)
Total EBIT Special Items	$ 9,583	$ (12,172)
Cash effect of Global Redesign (incl. separations)	$ (1,935)	$ (377)
Provision for/(Benefit from) tax special items (a)	$ (1,924)	$ (2,573)

(a) Includes related tax effect on special items and tax special items.

We recorded $12.2 billion of pre-tax special item charges in 2022, driven by a $7.4 billion mark-to-market net loss on our Rivian investment and a $2.7 billion impairment on our Argo investment.

In Note 26 of the Notes to the Financial Statements, special items are reflected as a separate reconciling item, as opposed to being allocated among the Automotive, Mobility, and Ford Credit segments. This reflects the fact that management excludes these items from its review of operating segment results for purposes of measuring segment profitability and allocating resources.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

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COMPANY KEY METRICS

The table below shows our full year 2022 key metrics for the Company compared to a year ago.

	2021	2022	H / (L)
GAAP Financial Measures			
Cash Flows from Operating Activities ($B)	$ 15.8	$ 6.9	$ (8.9)
Revenue ($M)	136,341	158,057	16 %
Net Income/(Loss) ($M)	17,937	(1,981)	$ (19,918)
Net Income/(Loss) Margin (%)	13.2 %	(1.3)%	(14.5) ppts
EPS (Diluted)	$ 4.45	$ (0.49)	$ (4.94)
Non-GAAP Financial Measures (a)			
Company Adj. Free Cash Flow ($B)	$ 4.6	$ 9.1	$ 4.5
Company Adj. EBIT ($M)	10,000	10,415	415
Company Adj. EBIT Margin (%)	7.3 %	6.6 %	(0.7) ppts
Adjusted EPS (Diluted)	$ 1.59	$ 1.88	$ 0.29
Adjusted ROIC (Trailing Four Qtrs)	9.8 %	11.2 %	1.4 ppts

(a) See *Non-GAAP Financial Measure Reconciliations* section for reconciliation to GAAP.

In 2022, our diluted earnings per share of Common and Class B Stock was a loss of $0.49 and our diluted adjusted earnings per share was $1.88.

Net income/(loss) margin was negative 1.3% in 2022, down from 13.2% a year ago. Company adjusted EBIT margin was 6.6% in 2022, down from 7.3% a year ago.

The table below shows our full year 2022 net income/(loss) attributable to Ford and Company adjusted EBIT by segment (in millions).

	2021	2022	H / (L)
Automotive	$ 7,397	$ 9,692	$ 2,295
Mobility	(1,030)	(926)	104
Ford Credit	4,717	2,657	(2,060)
Corporate Other	(1,084)	(1,008)	76
Company Adjusted EBIT (a)	10,000	10,415	415
Interest on Debt	(1,803)	(1,259)	(544)
Special Items	9,583	(12,172)	21,755
Taxes / Noncontrolling Interests	157	1,035	(878)
Net Income/(Loss)	$ 17,937	$ (1,981)	$ (19,918)

(a) See *Non-GAAP Financial Measure Reconciliations* section for reconciliation to GAAP.

The year-over-year decrease of $19.9 billion in net income/(loss) in 2022 includes the effect of special items, including the mark-to-market net loss on our Rivian investment and the impairment on our Argo investment, and lower Ford Credit EBT, partially offset by higher Automotive EBIT. The year-over-year increase of $400 million in Company adjusted EBIT primarily reflects higher Automotive EBIT, offset partially by lower Ford Credit EBT.

Automotive Segment

The table below shows our full year 2022 Automotive segment EBIT by business unit (in millions).

	2021	2022	H / (L)
North America	$ 7,377	$ 9,176	$ 1,799
South America	(121)	413	534
Europe	(154)	47	201
China (including Taiwan)	(327)	(572)	(245)
International Markets Group	622	628	6
Automotive Segment	$ 7,397	$ 9,692	$ 2,295

The tables below and on the following pages provide full year 2022 key metrics and the change in full year 2022 EBIT compared with full year 2021 by causal factor for our Automotive segment and its regional business units: North America, South America, Europe, China (including Taiwan), and the International Markets Group. For a description of these causal factors, see *Definitions and Information Regarding Automotive Causal Factors.*

	2021	2022	H / (L)
Key Metrics			
Market Share (%)	5.1 %	5.0 %	(0.1) ppts
Wholesale Units (000)	3,942	4,231	289
Revenue ($M)	$ 126,150	$ 148,980	$ 22,830
EBIT ($M)	7,397	9,692	2,295
EBIT Margin (%)	5.9 %	6.5 %	0.6 ppts

Change in EBIT by Causal Factor (in millions)	
2021 Full Year EBIT	$ 7,397
Volume / Mix	4,337
Net Pricing	10,867
Cost	(11,954)
Exchange	(525)
Other	(430)
2022 Full Year EBIT	**$ 9,692**

In 2022, wholesales in our Automotive segment increased 7% from a year ago, primarily reflecting stronger wholesales in North America. Full year 2022 Automotive revenue increased 18%, driven by higher wholesales and net pricing, offset partially by weaker currencies.

Our full year 2022 Automotive segment EBIT was $9.7 billion, an increase of $2.3 billion from a year ago, with an EBIT margin of 6.5%. The EBIT improvement was driven by higher net pricing and higher wholesales, offset partially by inflationary increases on commodity, material, and freight costs, higher structural costs (including growth-related investments), unfavorable mix, weaker currencies, and higher warranty costs.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

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North America

	2021	2022	H / (L)
Key Metrics			
Market Share (%)	12.0 %	12.5 %	0.5 ppts
Wholesale Units (000)	2,006	2,335	328
Revenue ($M)	$ 87,783	$ 108,727	$ 20,944
EBIT ($M)	7,377	9,176	1,799
EBIT Margin (%)	8.4 %	8.4 %	— ppts

Change in EBIT by Causal Factor (in millions)	
2021 Full Year EBIT	$ 7,377
Volume / Mix	3,968
Net Pricing	6,580
Cost	(8,322)
Exchange	245
Other	(672)
2022 Full Year EBIT	**$ 9,176**

In North America, 2022 wholesales increased 16% from a year ago, primarily reflecting an improvement in production-related supply constraints and a full year of Bronco and Maverick production. Full year 2022 revenue increased 24%, driven by higher wholesales and net pricing.

North America's 2022 EBIT was $9.2 billion, an increase of $1.8 billion from a year ago, with an EBIT margin of 8.4%. The EBIT improvement was driven by higher net pricing and higher wholesales, offset partially by inflationary increases on commodity, material, and freight costs, higher structural costs, unfavorable mix, and higher warranty costs.

South America

	2021	2022	H / (L)
Key Metrics			
Market Share (%)	2.6 %	2.1 %	(0.5) ppts
Wholesale Units (000)	81	83	2
Revenue ($M)	$ 2,399	$ 3,096	$ 697
EBIT ($M)	(121)	413	534
EBIT Margin (%)	(5.1)%	13.4 %	18.5 ppts

Change in EBIT by Causal Factor (in millions)	
2021 Full Year EBIT	$ (121)
Volume / Mix	(69)
Net Pricing	927
Cost	(413)
Exchange	(22)
Other	111
2022 Full Year EBIT	**$ 413**

In South America, 2022 wholesales increased 3% from a year ago. Full year 2022 revenue increased 29%, driven by higher net pricing, offset partially by weaker currencies.

South America's 2022 EBIT was $413 million, an increase of $534 million from a year ago, with an EBIT margin of 13.4%. The EBIT improvement was driven by higher net pricing, offset partially by inflationary increases on material, commodity, and freight costs. The strong results in South America reflect our restructuring efforts and pricing and were further aided by a balance sheet revaluation in Argentina, the effect of which is not expected to be sustained.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Europe

	2021	2022	H / (L)
Key Metrics			
Market Share (%)	6.4 %	6.5 %	0.1 ppts
Wholesale Units (000) (a)	891	1,014	123
Revenue ($M)	$ 24,466	$ 25,578	$ 1,112
EBIT ($M)	(154)	47	201
EBIT Margin (%)	(0.6)%	0.2 %	0.8 ppts

(a) Includes Ford brand vehicles produced and sold by our unconsolidated affiliate in Türkiye (about 61,000 units in 2021 and 76,000 units in 2022). Revenue does not include these sales.

Change in EBIT by Causal Factor (in millions)

2021 Full Year EBIT	$ (154)
Volume / Mix	497
Net Pricing	2,770
Cost	(2,751)
Exchange	(559)
Other	244
2022 Full Year EBIT	**$ 47**

In Europe, 2022 wholesales increased 14% from a year ago, primarily reflecting an improvement in production-related supply constraints. Full year 2022 revenue improved 5%, driven by higher wholesales and net pricing, offset partially by weaker currencies.

Europe's 2022 EBIT was $47 million, an improvement of $201 million from a year ago, with an EBIT margin of 0.2%. The EBIT improvement was driven by higher net pricing and higher wholesales, offset partially by inflationary increases on commodity, material, and freight costs, higher structural costs, and weaker currencies.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

China (Including Taiwan)

	2021	2022	H / (L)
Key Metrics			
Market Share (%)	2.4 %	2.1 %	(0.3) ppts
Wholesale Units (000) (a)	649	495	(154)
Revenue ($M)	$ 2,547	$ 1,769	$ (778)
EBIT ($M)	(327)	(572)	(245)
EBIT Margin (%)	(12.8)%	(32.3)%	(19.5) ppts
China Unconsolidated Affiliates			
Wholesale Units (000) (b)	633	484	(149)
Ford Equity Income/(Loss) ($M)	$ 165	$ 203	$ 38

(a) Includes vehicles produced and sold by our unconsolidated affiliates. Revenue does not include these sales.
(b) Includes Ford and Lincoln brand and JMC brand vehicles produced and sold in China and Ford brand vehicles produced in Taiwan by Lio Ho Group.

Change in EBIT by Causal Factor (in millions)	
2021 Full Year EBIT	$ (327)
Volume / Mix	(281)
Net Pricing	(5)
Cost	35
Exchange	(34)
Other	40
2022 Full Year EBIT	$ (572)

In China, 2022 wholesales decreased 24% from a year ago, driven by COVID-related restrictions and a weaker commercial vehicle industry. Full year 2022 revenue at our consolidated operations decreased 31%, primarily driven by lower component sales to our joint ventures in China and lower wholesales.

China's 2022 EBIT loss was $572 million, a $245 million higher loss than a year ago, with an EBIT margin of negative 32.3%. The EBIT decrease was driven by lower volume and weaker currency, offset partially by lower costs and higher profits at our joint ventures.

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

International Markets Group

	2021	2022	H / (L)
Key Metrics			
Market Share (%)	1.8 %	1.4 %	(0.4) ppts
Wholesale Units (000) (a)	315	304	(11)
Revenue ($M)	$ 8,955	$ 9,810	$ 855
EBIT ($M)	622	628	6
EBIT Margin (%)	6.9 %	6.4 %	(0.5) ppts

(a) Includes Ford brand vehicles produced and sold by our unconsolidated affiliate in Russia (about 22,000 units in 2021 and 3,000 units in 2022). Revenue does not include these sales.

Change in EBIT by Causal Factor (in millions)

2021 Full Year EBIT	$ 622
Volume / Mix	222
Net Pricing	594
Cost	(504)
Exchange	(154)
Other	(152)
2022 Full Year EBIT	**$ 628**

In our International Markets Group, 2022 wholesales decreased 3% from a year ago, primarily reflecting our India restructuring and suspension of our joint venture in Russia, offset partially by the positive impact of the next-generation Ranger and Everest launches. Full year 2022 revenue increased 10%, driven by market mix and higher net pricing, offset partially by weaker currencies.

Our International Market Group's 2022 EBIT was $628 million, an increase of $6 million from a year ago, with an EBIT margin of 6.4%. The EBIT increase was driven by higher net pricing and higher wholesales, offset partially by inflationary increases on commodity, material, and freight costs, weaker currencies, and lower joint venture profits and royalties.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Definitions and Information Regarding Automotive Causal Factors

In general, we measure year-over-year change in Automotive segment EBIT using the causal factors listed below, with net pricing and cost variances calculated at present-year volume and mix and exchange:

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- *Market Factors* (exclude the impact of unconsolidated affiliate wholesale units):
  - *Volume and Mix* -- primarily measures EBIT variance from changes in wholesale unit volumes (at prior-year average contribution margin per unit) driven by changes in industry volume, market share, and dealer stocks, as well as the EBIT variance resulting from changes in product mix, including mix among vehicle lines and mix of trim levels and options within a vehicle line
  - *Net Pricing* – primarily measures EBIT variance driven by changes in wholesale unit prices to dealers and marketing incentive programs such as rebate programs, low-rate financing offers, special lease offers, and stock adjustments on dealer inventory

- *Cost:*
  - *Contribution Costs* – primarily measures EBIT variance driven by per-unit changes in cost categories that typically vary with volume, such as material costs (including commodity and component costs), warranty expense, and freight and duty costs
  - *Structural Costs* – primarily measures EBIT variance driven by absolute change in cost categories that typically do not have a directly proportionate relationship to production volume. Structural costs include the following cost categories:
    - *Manufacturing, Including Volume-Related* - consists primarily of costs for hourly and salaried manufacturing personnel, plant overhead (such as utilities and taxes), and new product launch expense. These costs could be affected by volume for operating pattern actions such as overtime, line-speed, and shift schedules
    - *Engineering and Connectivity* – consists primarily of costs for vehicle and software engineering personnel, prototype materials, testing, and outside engineering and software services
    - *Spending-Related* – consists primarily of depreciation and amortization of our manufacturing and engineering assets, but also includes asset retirements and operating leases
    - *Advertising and Sales Promotions* – includes costs for advertising, marketing programs, brand promotions, customer mailings and promotional events, and auto shows
    - *Administrative, Information Technology, and Selling* – includes primarily costs for salaried personnel and purchased services related to our staff activities, information technology, and selling functions
    - *Pension and OPEB* – consists primarily of past service pension costs and other postretirement employee benefit costs

- *Exchange* – primarily measures EBIT variance driven by one or more of the following: (i) transactions denominated in currencies other than the functional currencies of the relevant entities, (ii) effects of converting functional currency income to U.S. dollars, (iii) effects of remeasuring monetary assets and liabilities of the relevant entities in currencies other than their functional currency, or (iv) results of our foreign currency hedging

- *Other* – includes a variety of items, such as parts and services earnings, royalties, government incentives, and compensation-related changes

In addition, definitions and calculations used in this report include:

- *Wholesales and Revenue* – wholesale unit volumes include all Ford and Lincoln badged units (whether produced by Ford or by an unconsolidated affiliate) that are sold to dealerships or others, units manufactured by Ford that are sold to other manufacturers, units distributed by Ford for other manufacturers, and local brand units produced by our China joint venture, Jiangling Motors Corporation, Ltd. ("JMC"), that are sold to dealerships or others. Vehicles sold to daily rental car companies that are subject to a guaranteed repurchase option (i.e., rental repurchase), as well as other sales of finished vehicles for which the recognition of revenue is deferred (e.g., consignments), also are included in wholesale unit volumes. Revenue from certain vehicles in wholesale unit volumes (specifically, Ford badged vehicles produced and distributed by our unconsolidated affiliates, as well as JMC brand vehicles) are not included in our revenue

- *Industry Volume and Market Share* – based, in part, on estimated vehicle registrations; includes medium and heavy duty trucks

- *SAAR* – seasonally adjusted annual rate

Mobility Segment

The Mobility segment primarily includes development costs for Ford's autonomous vehicles and related businesses, Ford's equity ownership in Argo AI (a developer of autonomous driving systems), and other mobility businesses and investments.

In our Mobility segment, our 2022 EBIT loss improved $104 million from a year ago. The $926 million EBIT loss reflects our strategic investments in our autonomous vehicle capabilities and support of our mobility initiatives.

In the third quarter of 2022, we made the strategic decision to shift our capital spending from L4 technology being developed by Argo AI to advanced L2/L3 systems, which we believe will ultimately be essential to achieve profitable commercialization of L4 autonomy at scale in the future. Additionally, because of the significant additional capital and time required to achieve commercialization of L4, as well as other macroeconomic factors, Argo AI has been unable to attract new investors. After performing external outreach in the third quarter to assess market interest in acquiring either Argo AI or its technology components and conducting internal reviews to evaluate opportunities to leverage Argo AI's technology, Ford determined that Argo AI no longer has value as a going concern. As a result, we reassessed the carrying value of our investment in Argo AI starting from September 30, 2022, and in October, Ford and VW initiated the process of exiting the joint development of L4 technology through Argo AI. Accordingly, in the second half of 2022, we recorded as a special item a $2.7 billion pre-tax impairment on our Argo AI investment, and on October 26, 2022, we announced that Argo AI plans to wind down operations, which is in progress.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Ford Credit Segment

The tables below provide full year 2022 key metrics and the change in full year 2022 EBT compared with full year 2021 by causal factor for the Ford Credit segment. For a description of these causal factors, see *Definitions and Information Regarding Ford Credit Causal Factors*.

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	2021	2022	H / (L)
GAAP Financial Measures			
Total Net Receivables ($B)	$ 118	$ 122	3 %
Loss-to-Receivables (bps) (a)	6	14	8
Auction Values (b)	$ 28,120	$ 30,440	8 %
EBT ($M)	4,717	2,657	$ (2,060)
ROE (%)	32 %	16 %	(16) ppts
Other Balance Sheet Metrics			
Debt ($B)	$ 118	$ 119	1 %
Net Liquidity ($B)	32	21	(34)%
Financial Statement Leverage (to 1)	9.5	10	0.5

(a) U.S. retail financing only.
(b) U.S. 36-month off-lease auction values at full year 2022 mix.

Change in EBT by Causal Factor (in millions)	
2021 Full Year EBT	$ 4,717
Volume / Mix	(218)
Financing Margin	(600)
Credit Loss	(348)
Lease Residual	(907)
Exchange	(25)
Other	38
2022 Full Year EBT	**$ 2,657**

Total net receivables at December 31, 2022 were $5 billion higher than a year ago, primarily reflecting higher non-consumer financing, offset partially by fewer operating leases, lower consumer financing, and currency exchange rates. Ford Credit's loss metrics reflected healthy and stable consumer credit conditions and strong auction values. Ford Credit's U.S. 36-month auction values for off-lease vehicles were up 8% from a year ago, reflecting strong demand for used vehicles, including the impact of lower new vehicle production due to the semiconductor shortage. We are planning for full year 2023 auction values to decrease as supply constraints improve.

Ford Credit's 2022 EBT of $2,657 million was $2,060 million lower than a year ago, reflecting lower credit loss and lease residual reserve releases, lower financing margin, and lower lease return rates.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Definitions and Information Regarding Ford Credit Causal Factors

In general, we measure year-over-year changes in Ford Credit's EBT using the causal factors listed below:

- *Volume and Mix:*
  - Volume primarily measures changes in net financing margin driven by changes in average net receivables excluding the allowance for credit losses 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 Ford Credit purchases retail financing and operating lease contracts, the extent to which Ford Credit provides wholesale financing, the sales price of the vehicles financed, the level of dealer inventories, Ford-sponsored special financing programs available exclusively through Ford Credit, 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 Ford Credit's average net receivables excluding the allowance for credit losses by product within each region

- *Financing Margin:*
  - Financing margin variance is the period-to-period change in financing margin yield multiplied by the present period average net receivables excluding the allowance for credit losses 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 net receivables excluding the allowance for credit losses 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 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 Ford Credit's 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 - Allowance for Credit Losses" section of Item 7 of Part II of our 2022 Form 10-K Report

- *Lease Residual:*
  - 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 Ford Credit 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 Ford Credit's estimate of the expected auction value at the end of the lease term, and changes in Ford Credit's estimate of the number of vehicles that will be returned to it and sold. Depreciation on vehicles subject to operating leases includes early termination losses on operating leases due to customer default events. For additional information, refer to the "Critical Accounting Estimates - Accumulated Depreciation on Vehicles Subject to Operating Leases" section of Item 7 of Part II of our 2022 Form 10-K Report

- *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/(loss) 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/(loss) changes are primarily driven by changes in earnings related to market valuation adjustments to derivatives (primarily related to movements in interest rates) and other miscellaneous items

In addition, the following definitions and calculations apply to Ford Credit when used in this Report:

- *Cash* (as shown in the Funding Structure and Liquidity tables) – Cash, cash equivalents, and marketable securities, 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 Ford Credit's income before income taxes

- *Loss-to-Receivables ("LTR") Ratio* – LTR ratio is calculated using net charge-offs divided by average finance receivables, excluding unearned interest supplements and the allowance for credit losses

- *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 table) – 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

Corporate Other

Corporate Other primarily includes corporate governance expenses, interest income (excluding interest earned on our extended service contract portfolio that is included in our Automotive segment) and gains and losses from our cash, cash equivalents, and marketable securities (excluding gains and losses on investments in equity securities), and foreign exchange derivatives gains and losses associated with intercompany lending. Corporate governance expenses are primarily administrative, delivering benefit on behalf of the global enterprise, that are not allocated to operating segments. These include expenses related to setting and directing global policy, providing oversight and stewardship, and promoting the Company's interests. For full year 2022, Corporate Other had a $1,008 million loss, compared with a $1,084 million loss in 2021. The improvement was driven by higher Automotive interest income due to higher interest rates (primarily Fed Funds).

Interest on Debt

Interest on Debt consists of interest expense on Company debt excluding Ford Credit. Our full year 2022 interest expense on Company debt excluding Ford Credit was $1,259 million, $544 million lower than in 2021, primarily explained by U.S. debt restructuring actions taken in the fourth quarter of 2021 and during 2022.

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Taxes

Our *Provision for/(Benefit from) income taxes* for full year 2022 was a $864 million benefit, resulting in an effective tax rate of 28.6%. This includes benefits arising from the reversal of U.S. valuation allowances, primarily as a result of planning actions.

Our full year 2022 adjusted effective tax rate, which excludes special items, was 18.7%.

We regularly review our organizational structure and income tax elections for affiliates in non-U.S. and U.S. tax jurisdictions, which may result in changes in affiliates that are included in or excluded from our U.S. tax return. Any future changes to our structure, as well as any changes in income tax laws in the countries that we operate, could cause increases or decreases to our deferred tax balances and related valuation allowances.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

RESULTS OF OPERATIONS - 2021

The net income attributable to Ford Motor Company was $17,937 million in 2021. Company adjusted EBIT was $10,000 million.

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Net income/(loss) includes certain items ("special items") that are excluded from Company adjusted EBIT. These items are discussed in more detail in Note 26 of the Notes to the Financial Statements. We report special items separately to allow investors analyzing our results to identify certain infrequent significant items that they may wish to exclude when considering the trend of ongoing operating results. Our pre-tax and tax special items were as follows (in millions):

	2020	2021
Global Redesign		
Europe	$ (727)	$ (530)
India	(23)	(468)
South America	(2,486)	(803)
Russia	18	5
China (including Taiwan)	(56)	150
Separations and Other (not included above)	(94)	(74)
Subtotal Global Redesign	$ (3,368)	$ (1,720)
Other Items		
Gain on transaction with Argo AI	$ 3,454	$ —
Gain on Rivian IPO and mark-to-market	143	9,096
Gains and losses on investments in equity securities (excl. Rivian)	100	92
Debt extinguishment premium	—	(1,692)
Takata field service action	(610)	—
Ford Credit - Brazil and Argentina	—	14
Other	(226)	(10)
Subtotal Other Items	$ 2,861	$ 7,500
Pension and OPEB Gain/(Loss)		
Pension and OPEB remeasurement	$ (1,435)	$ 3,873
Pension settlements and curtailments	(61)	(70)
Subtotal Pension and OPEB Gain/(Loss)	$ (1,496)	$ 3,803
Total EBIT Special Items	$ (2,003)	$ 9,583
Cash effect of Global Redesign (incl. separations)	$ (503)	$ (1,935)
Provision for/(Benefit from) tax special items (a)	$ 721	$ (1,924)

(a) Includes related tax effect on special items and tax special items.

For full year 2021, we recorded $9.6 billion of pre-tax special items, primarily reflecting gains on our equity investment in Rivian in connection with Rivian's initial public offering and mark-to-market valuation adjustments during the year, as well as a remeasurement gain associated with our global pension and OPEB plans. The gains were partially offset by costs associated with our Global Redesign actions and a debt extinguishment premium associated with the repurchase and redemption of $7.6 billion of our higher-coupon debt.

In Note 26 of the Notes to the Financial Statements, special items are reflected as a separate reconciling item, as opposed to being allocated among the Automotive, Mobility, and Ford Credit segments. This reflects the fact that management excludes these items from its review of operating segment results for purposes of measuring segment profitability and allocating resources.

COMPANY KEY METRICS

The table below shows our full year 2021 key metrics for the Company compared with full year 2020.

	2020	2021	H / (L)
GAAP Financial Measures			
Cash Flows from Operating Activities ($B)	$ 24.3	$ 15.8	$ (8.5)
Revenue ($M)	127,144	136,341	7 %
Net Income/(Loss) ($M)	(1,279)	17,937	$ 19,216
Net Income/(Loss) Margin (%)	(1.0)%	13.2 %	14.2 ppts
EPS (Diluted)	$ (0.32)	$ 4.45	$ 4.77
Non-GAAP Financial Measures (a)			
Company Adj. Free Cash Flow ($B)	$ 1.3	$ 4.6	$ 3.3
Company Adj. EBIT ($M)	2,536	10,000	7,464
Company Adj. EBIT Margin (%)	2.0 %	7.3 %	5.3 ppts
Adjusted EPS (Diluted)	$ 0.36	$ 1.59	$ 1.23
Adjusted ROIC (Trailing Four Qtrs)	0.7 %	9.8 %	9.1 ppts

(a) See *Non-GAAP Financial Measure Reconciliations* section for reconciliation to GAAP.

In 2021, our diluted earnings per share of Common and Class B Stock was $4.45 and our diluted adjusted earnings per share was $1.59.

Net income/(loss) margin was 13.2% in 2021, up from negative 1.0% in 2020. Company adjusted EBIT margin was 7.3% in 2021, up from 2.0% in 2020.

The table below shows our full year 2021 net income/(loss) attributable to Ford and Company adjusted EBIT by segment (in millions).

	2020	2021	H / (L)
Automotive	$ 1,706	$ 7,397	$ 5,691
Mobility	(1,052)	(1,030)	22
Ford Credit	2,608	4,717	2,109
Corporate Other	(726)	(1,084)	(358)
Company Adjusted EBIT (a)	2,536	10,000	7,464
Interest on Debt	(1,649)	(1,803)	154
Special Items	(2,003)	9,583	(11,586)
Taxes / Noncontrolling Interests	(163)	157	(320)
Net Income/(Loss)	$ (1,279)	$ 17,937	$ 19,216

(a) See *Non-GAAP Financial Measure Reconciliations* section for reconciliation to GAAP.

The year-over-year increase of $19.2 billion in net income/(loss) in 2021 includes the effect of special items, including the Rivian IPO and mark-to-market gain, as well as higher Automotive EBIT and Ford Credit EBT. The year-over-year increase of $7.5 billion in Company adjusted EBIT was driven by higher Automotive EBIT and Ford Credit EBT.

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Automotive Segment

The table below shows our full year 2021 Automotive segment EBIT by business unit (in millions).

	2020	2021	H / (L)
North America	$ 3,710	$ 7,377	$ 3,667
South America	(490)	(121)	369
Europe	(851)	(154)	697
China (including Taiwan)	(499)	(327)	172
International Markets Group	(164)	622	786
Automotive Segment	$ 1,706	$ 7,397	$ 5,691

The tables below and on the following pages provide full year 2021 key metrics and the change in full year 2021 EBIT compared with full year 2020 by causal factor for our Automotive segment and its regional business units: North America, South America, Europe, China (including Taiwan), and the International Markets Group. For a description of these causal factors, see *Definitions and Information Regarding Automotive Causal Factors.*

	2020	2021	H / (L)
Key Metrics			
Market Share (%)	5.8 %	5.1 %	(0.6) ppts
Wholesale Units (000)	4,187	3,942	(245)
Revenue ($M)	$ 115,894	$ 126,150	$ 10,256
EBIT ($M)	1,706	7,397	5,691
EBIT Margin (%)	1.5 %	5.9 %	4.4 ppts

Change in EBIT by Causal Factor (in millions)	
2020 Full Year EBIT	$ 1,706
Volume / Mix	(2,853)
Net Pricing	9,700
Cost	(2,173)
Exchange	524
Other	493
2021 Full Year EBIT	**$ 7,397**

In 2021, wholesales in our Automotive segment declined 6% from 2020, reflecting semiconductor-related production constraints and the shift to a new business model in South America. Full year 2021 Automotive revenue increased 9% from 2020, driven by higher net pricing, favorable mix, and stronger currencies, partially offset by lower wholesales.

Our full year 2021 Automotive segment EBIT increased $5.7 billion from 2020 with an EBIT margin of 5.9 percent. The EBIT improvement was driven by higher net pricing (reflecting the strength of our product portfolio and lower incentives in response to reduced dealer stock levels), lower warranty expense, favorable mix, higher profits from our Ford Customer Service Division business, and stronger currencies, partially offset by lower wholesales and increased commodity costs.

North America

	2020	2021	H / (L)
Key Metrics			
Market Share (%)	13.2 %	12.0 %	(1.2) ppts
Wholesale Units (000)	2,081	2,006	(75)
Revenue ($M)	$ 80,044	$ 87,783	$ 7,739
EBIT ($M)	3,710	7,377	3,667
EBIT Margin (%)	4.6 %	8.4 %	3.8 ppts

Change in EBIT by Causal Factor (in millions)	
2020 Full Year EBIT	$ 3,710
Volume / Mix	(1,661)
Net Pricing	7,858
Cost	(2,672)
Exchange	220
Other	(78)
2021 Full Year EBIT	**$ 7,377**

In North America, 2021 wholesales declined 4% from 2020, primarily reflecting the impact of semiconductor-related production constraints. Full year 2021 revenue increased 10% from 2020, driven by higher net pricing, favorable mix, and stronger currencies, partially offset by lower wholesales.

North America's 2021 EBIT increased $3.7 billion from 2020 with an EBIT margin of 8.4%. The EBIT improvement was driven by higher net pricing, lower warranty expense, and favorable mix, partially offset by increased commodity prices, lower volume, and higher structural costs.

South America

	2020	2021	H / (L)
Key Metrics			
Market Share (%)	6.2 %	2.6 %	(3.7) ppts
Wholesale Units (000)	185	81	(104)
Revenue ($M)	$ 2,463	$ 2,399	$ (64)
EBIT ($M)	(490)	(121)	369
EBIT Margin (%)	(19.9)%	(5.1)%	14.8 ppts

Change in EBIT by Causal Factor (in millions)	
2020 Full Year EBIT	$ (490)
Volume / Mix	(210)
Net Pricing	602
Cost	(12)
Exchange	2
Other	(13)
2021 Full Year EBIT	**$ (121)**

In South America, 2021 wholesales declined 56% from 2020, primarily reflecting the shift to the region's new business model and the impact of semiconductor-related production constraints. Full year 2021 revenue declined 3% from 2020, driven by lower volume and weaker currencies, partially offset by higher net pricing and favorable mix.

South America's 2021 EBIT loss improved $369 million from 2020 with an EBIT margin of negative 5.1%. The EBIT improvement was driven by higher net pricing, partially offset by lower volume.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

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Europe

	2020	2021	H / (L)
Key Metrics			
Market Share (%)	7.2 %	6.4 %	(0.8) ppts
Wholesale Units (000) (a)	1,020	891	(128)
Revenue ($M)	$ 22,644	$ 24,466	$ 1,822
EBIT ($M)	(851)	(154)	697
EBIT Margin (%)	(3.8)%	(0.6)%	3.2 ppts

(a) Includes Ford brand vehicles produced and sold by our unconsolidated affiliate in Türkiye (about 72,000 units in 2020 and 61,000 units in 2021); revenue does not include these sales.

Change in EBIT by Causal Factor (in millions)	
2020 Full Year EBIT	$ (851)
Volume / Mix	(941)
Net Pricing	949
Cost	472
Exchange	(112)
Other	329
2021 Full Year EBIT	**$ (154)**

In Europe, 2021 wholesales declined 13% from 2020, primarily reflecting the impact of semiconductor-related production constraints. Full year 2021 revenue improved 8% from 2020, driven by favorable mix, stronger currencies, and higher net pricing, partially offset by lower volume.

Europe's 2021 EBIT loss improved $697 million from 2020 with an EBIT margin of negative 0.6%. The EBIT improvement was driven by higher net pricing, lower material and warranty expenses, and lower structural costs, partially offset by lower volume and increased commodity prices.

China (Including Taiwan)

	2020	2021	H / (L)
Key Metrics			
Market Share (%)	2.4 %	2.4 %	— ppts
Wholesale Units (000) (a)	617	649	31
Revenue ($M)	$ 3,202	$ 2,547	$ (655)
EBIT ($M)	(499)	(327)	172
EBIT Margin (%)	(15.6)%	(12.8)%	2.8 ppts
China Unconsolidated Affiliates			
Wholesale Units (000) (b)	564	633	69
Ford Equity Income/(Loss) ($M)	$ 49	$ 165	$ 116

(a) Includes vehicles produced and sold by our unconsolidated affiliates. Revenue does not include these sales.
(b) Includes Ford and Lincoln brand and JMC brand vehicles produced and sold in China and, from second quarter 2021, Ford brand vehicles produced in Taiwan by Lio Ho Group.

Change in EBIT by Causal Factor (in millions)	
2020 Full Year EBIT	$ (499)
Volume / Mix	(190)
Net Pricing	73
Cost	16
Exchange	69
Other	204
2021 Full Year EBIT	**$ (327)**

In China, 2021 wholesales increased 5% from 2020, driven by higher joint venture volumes. Full year 2021 consolidated revenue declined 20% from 2020, driven by product localization and the de-consolidation of our operations in Taiwan, partially offset by favorable import mix, higher component sales to our joint ventures in China, and stronger currencies.

China's 2021 EBIT loss improved $172 million from 2020 with an EBIT margin of negative 12.8%. The EBIT improvement was driven by favorable mix of imported vehicles, higher joint venture profits and royalties, and higher net pricing, partially offset by lower volume at our consolidated operations.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

International Markets Group

	2020	2021	H / (L)
Key Metrics			
Market Share (%)	1.7 %	1.8 %	— ppts
Wholesale Units (000) (a)	284	315	31
Revenue ($M)	$ 7,541	$ 8,955	$ 1,414
EBIT ($M)	(164)	622	786
EBIT Margin (%)	(2.2)%	6.9 %	9.1 ppts

(a) Includes Ford brand vehicles produced and sold by our unconsolidated affiliate in Russia (about 14,000 units in 2020 and 22,000 units in 2021). Revenue does not include these sales.

Change in EBIT by Causal Factor (in millions)

2020 Full Year EBIT	$ (164)
Volume / Mix	150
Net Pricing	218
Cost	24
Exchange	344
Other	50
2021 Full Year EBIT	**$ 622**

In our International Markets Group, 2021 wholesales increased 11% from 2020, reflecting the non-recurrence of the COVID-related production suspension and higher industry volumes, partially offset by the impact of semiconductor-related supply constraints. Full year 2021 revenue increased 19% from 2020, driven by higher volume and mix, higher net pricing, and stronger currencies.

Our International Markets Group's 2021 EBIT improved $786 million from 2020 with an EBIT margin of 6.9%. The EBIT improvement was driven by stronger currencies, higher net pricing and volume, and lower warranty expense.

Mobility Segment

In our Mobility segment, our 2021 EBIT loss improved $22 million from 2020. The $1 billion EBIT loss reflected our strategic investments in 2021 as we continued to expand our capabilities in autonomous vehicles and mobility businesses.

Ford Credit Segment

The tables below provide full year 2021 key metrics and the change in full year 2021 EBT compared with full year 2020 by causal factor for the Ford Credit segment.

	2020	2021	H / (L)
GAAP Financial Measures			
Total Net Receivables ($B)	$ 132	$ 118	(11)%
Loss-to-Receivables (bps) (a)	36	6	(30)
Auction Values (b)	$ 22,380	$ 28,120	26 %
EBT ($M)	2,608	4,717	$ 2,109
ROE (%) (c)	15 %	32 %	17 ppts
Other Balance Sheet Metrics			
Debt ($B)	$ 138	$ 118	(15)%
Net Liquidity ($B)	35	32	(10)%
Financial Statement Leverage (to 1) (c)	8.8	9.5	0.7

(a) U.S. retail financing only.
(b) U.S. 36-month off-lease auction values at full year 2022 mix.
(c) 2020 amounts have been updated as a result of the adoption of ASU 2019-12, *Simplifying the Accounting for Income Taxes*.

Change in EBT by Causal Factor (in millions)	
2020 Full Year EBT	$ 2,608
Volume / Mix	(243)
Financing Margin	(206)
Credit Loss	1,136
Lease Residual	1,494
Exchange	27
Other	(99)
2021 Full Year EBT	**$ 4,717**

Total net receivables at December 31, 2021 were $14 billion lower than at December 31, 2020, primarily reflecting lower wholesale receivables as a result of lower dealer inventories due to the semiconductor shortage. Ford Credit's loss metrics reflected healthy and stable consumer credit conditions and strong auction values. Ford Credit's U.S. 36-month auction values for off-lease vehicles were up 26% from 2020, reflecting strong demand for used vehicles, including the impact of lower new vehicle production due to the semiconductor shortage.

Ford Credit's 2021 EBT increased $2,109 million from 2020, explained primarily by favorable operating lease residual performance, the non-recurrence of the 2020 increase to the credit loss reserve due to deterioration in macroeconomic conditions related to COVID-19, and reductions in the credit loss reserve in 2021, partially offset by lower volume driven by the impact of the global semiconductor shortage and lower financing margin.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Corporate Other

For full year 2021, Corporate Other had a $1,084 million loss, compared with a $726 million loss in 2020. The higher loss was driven by lower interest income and higher administrative and IT-related expenses.

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Interest on Debt

Our full year 2021 interest expense on Company debt excluding Ford Credit was $1,803 million, $154 million higher than in 2020, primarily explained by higher U.S. unsecured debt interest expense.

Taxes

Our *Provision for/(Benefit from) income taxes* for full year 2021 was a $130 million benefit, resulting in an effective tax rate of negative 0.7%. This includes a benefit of $2.9 billion to recognize deferred tax assets resulting from changes in our global tax structure and a $918 million benefit from the reversal of U.S. valuation allowances.

Our full year 2021 adjusted effective tax rate, which excludes special items, was 21.9%.

LIQUIDITY AND CAPITAL RESOURCES

At December 31, 2022, total balance sheet cash, cash equivalents, marketable securities, and restricted cash, including Ford Credit and entities held for sale, was $44.3 billion.

We consider our key balance sheet metrics to be: (i) Company cash, which includes cash equivalents, marketable securities, and restricted cash, including cash held for sale, excluding Ford Credit's cash, cash equivalents, marketable securities, and restricted cash; and (ii) Company liquidity, which includes Company cash, less restricted cash, and total available committed credit lines, excluding Ford Credit's total available committed credit lines.

Company excluding Ford Credit

	December 31, 2021	December 31, 2022
Balance Sheets ($B)		
Company Cash	$ 36.5	$ 32.3
Liquidity	52.4	48.0
Debt	(20.4)	(19.9)
Cash Net of Debt	16.1	12.3
Pension Funded Status ($B)		
Funded Plans	$ 5.8	$ 4.1
Unfunded Plans	(6.1)	(4.3)
Total Global Pension	$ (0.3)	$ (0.2)
Total Funded Status OPEB	$ (6.0)	$ (4.5)

Liquidity. One of our key priorities is to maintain a strong balance sheet, while at the same time having resources available to invest in and grow our business. At December 31, 2022, we had Company cash of $32.3 billion and liquidity of $48.0 billion, including approximately $194 million of Rivian marketable securities. In 2022, we sold approximately 91 million of our Rivian shares resulting in proceeds of about $3 billion. As marketable securities increase or decrease in value, Company cash and liquidity will likewise increase or decrease. At December 31, 2022, about 89% of Company cash was held by consolidated entities domiciled in the United States.

To be prepared for an economic downturn, we target an ongoing Company cash balance at or above $20 billion plus significant additional liquidity above our Company cash target. We expect to have periods when we will be above or below this amount due to: (i) future cash flow expectations, such as for investments in future opportunities, capital investments, debt maturities, pension contributions, or restructuring requirements, (ii) short-term timing differences, and (iii) changes in the global economic environment.

Our Company cash investments (excluding the Rivian marketable securities) primarily include U.S. Department of Treasury obligations, federal agency securities, bank time deposits with investment-grade institutions, investment-grade corporate securities, investment-grade commercial paper, and debt obligations of a select group of non-U.S. governments, non-U.S. governmental agencies, and supranational institutions. The average maturity of these investments is approximately one year and adjusted based on market conditions and liquidity needs. We monitor our Company cash levels and average maturity on a daily basis.

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Material Cash Requirements. Our material cash requirements include:

- Capital expenditures (for additional information, see the "Changes in Company Cash" section below) and other payments for engineering, software, product development, and implementation of our plans for electric vehicles
- Purchase of raw materials and components to support the manufacturing and sale of vehicles (including electric vehicles), parts, and accessories (for additional information, see the Aggregate Contractual Obligations table and the accompanying description of our "Purchase obligations" below)
- Marketing incentive payments to dealers
- Payments for warranty and field service actions (for additional information, see Note 25 of the Notes to the Financial Statements)
- Debt repayments (for additional information, see the Aggregate Contractual Obligations table below and Note 19 of the Notes the Financial Statements)
- Discretionary and mandatory payments to our global pension plans (for additional information, see the Aggregate Contractual Obligations table below, the "Changes in Company Cash" section below, and Note 17 of the Notes to the Financial Statements)
- Employee wages, benefits, and incentives
- Operating lease payments (for additional information, see the Aggregate Contractual Obligations table below and Note 18 of the Notes to the Financial Statements)
- Cash effects related to the global redesign of our business (for additional information, see the "Changes in Company Cash" section below)
- Strategic acquisitions and investments to grow our business, including electrification

Subject to approval by our Board of Directors, shareholder distributions in the form of dividend payments and/or a share repurchase program (including share repurchases to offset the anti-dilutive effect of increased shared-based compensation) may require the expenditure of a material amount of cash. Moreover, we may be subject to additional material cash requirements that are contingent upon the occurrence of certain events, e.g., legal contingencies, uncertain tax positions, and other matters.

We are party to many contractual obligations involving commitments to make payments to third parties, and, as noted above, such commitments require a material amount of cash. Most of these are debt obligations incurred by our Ford Credit segment. In addition, as part of our normal business practices, we enter into contracts with suppliers for purchases of certain raw materials, components, and services to facilitate adequate supply of these materials and services. These arrangements, including multi-year offtake commitments, may contain fixed or minimum quantity purchase requirements. "Purchase obligations" in the Aggregate Contractual Obligations table below are defined as off-balance sheet agreements to purchase goods or services that are enforceable and legally binding on the Company and that specify all significant terms; however, as we purchase raw materials and components beyond the minimum amounts required by the "Purchase obligations," our material cash requirements for these items are higher than what is reflected in the Aggregate Contractual Obligations table. For additional information on the timing of these payments and the impact on our working capital, see the "Changes in Company Cash" section below.

The table below summarizes our aggregate contractual obligations as of December 31, 2022 (in millions):

	Payments Due by Period				
	2023	2024 - 2025	2026 - 2027	Thereafter	Total
Company excluding Ford Credit					
On-balance sheet					
Long-term debt (a)	$ 286	$ 964	$ 4,899	$ 13,220	$ 19,369
Interest payments relating to long-term debt (b)	951	1,873	1,655	10,255	14,734
Finance leases (c)	107	159	99	348	713
Operating leases (d)	439	580	294	307	1,620
Pension funding (e)	162	345	357	—	864
Off-balance sheet					
Purchase obligations (f)	2,089	1,746	727	119	4,681
Total Company excluding Ford Credit	4,034	5,667	8,031	24,249	41,981
Ford Credit					
On-balance sheet					
Long-term debt (a)	29,819	48,942	15,990	6,528	101,279
Interest payments relating to long-term debt (b)	3,394	3,660	1,325	530	8,909
Operating leases	13	23	16	2	54
Off-balance sheet					
Purchase obligations	37	22	2	—	61
Total Ford Credit	33,263	52,647	17,333	7,060	110,303
Total Company	$ 37,297	$ 58,314	$ 25,364	$ 31,309	$ 152,284

(a) Excludes unamortized debt discounts/premiums, unamortized debt issuance costs, and fair value adjustments.
(b) 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.
(c) Includes interest payments of $139 million.
(d) Excludes approximately $300 million in future lease payments for various operating leases commencing in a future period.
(e) Amounts represent our estimate of contractually obligated contributions to the Ford-Werke plan. See Note 17 of the Notes to the Financial Statements for further information regarding our expected 2022 pension contributions and funded status.
(f) Purchase obligations under existing offtake agreements for scarce raw materials are not included in the table above. As of December 31, 2022, our forecasted expenditures for the maximum quantity that may be purchased under these offtake agreements, which are subject to satisfaction of the conditions in the agreements, total about $2.4 billion through 2029 based on our present pricing forecast; however, our forecasted prices could fluctuate significantly from period to period, which would result in volatility in the estimate of our overall obligation. In addition, we plan to continue to enter into offtake agreements with raw material suppliers, the costs under which we expect to be significant.

We plan to utilize our liquidity (as described above) and our cash flows from business operations to fund our material cash requirements.

Changes in Company Cash. In managing our business, we classify changes in Company cash into operating and non-operating items. Operating items include: Company adjusted EBIT excluding Ford Credit EBT, capital spending, depreciation and tooling amortization, changes in working capital, Ford Credit distributions, interest on debt, cash taxes, and all other and timing differences (including timing differences between accrual-based EBIT and associated cash flows). Non-operating items include: global redesign (including separation payments), changes in Company debt excluding Ford Credit, contributions to funded pension plans, shareholder distributions, and other items (including gains and losses on investments in equity securities, acquisitions and divestitures, equity investments, and other transactions with Ford Credit).

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

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With respect to "Changes in working capital," in general we carry relatively low Automotive segment trade receivables compared with our trade payables because the majority of our Automotive wholesales are financed (primarily by Ford Credit) immediately upon the sale of vehicles to dealers, which generally occurs shortly after being produced. In contrast, our Automotive trade payables are based primarily on industry-standard production supplier payment terms of about 45 days. As a result, our cash flow deteriorates if wholesale volumes (and the corresponding revenue) decrease while trade payables continue to become due. Conversely, our cash flow improves if wholesale volumes (and the corresponding revenue) increase while new trade payables are generally not due for about 45 days. For example, the suspension of production at most of our assembly plants and lower industry volumes due to COVID-19 in early 2020 resulted in an initial deterioration of our cash flow, while the subsequent resumption of manufacturing operations and return to pre-COVID-19 production levels at most of our assembly plants resulted in a subsequent improvement of our cash flow. Even in normal economic conditions, however, these working capital balances generally are subject to seasonal changes that can impact cash flow. For example, we typically experience cash flow timing differences associated with inventories and payables due to our annual summer and December shutdown periods when production, and therefore inventories and wholesale volumes, are usually at their lowest levels, while payables continue to come due and be paid. The net impact of this typically results in cash outflows from changes in our working capital balances during these shutdown periods.

Our finished product inventory at December 31, 2022 was higher year over year due to production and release scheduling, which resulted in higher sales inventory, in-transit inventory, and units awaiting upfit.

In response to, or in anticipation of, supplier disruptions, we may stockpile certain components or raw materials to help prevent disruption in our production of vehicles. Such actions could have a short-term adverse impact on our cash and increase our inventory. Moreover, in order to secure critical materials for production of electric vehicles, we have entered into and plan to continue to enter into offtake agreements with raw material suppliers and make investments in certain raw material and battery suppliers, including contributing up to $6.6 billion in capital to BlueOval SK, LLC over a five-year period ending in 2026. Such investments, which are part of our plan to invest over $50 billion in electric vehicles through 2026, could have an additional adverse impact on our cash in the near-term.

The terms of the offtake agreements we have entered into, and those we may enter into in the future, vary by transaction, though they generally obligate us to purchase a certain percentage or minimum amount of output produced by the counterparty over an agreed upon period of time. The purchase price mechanism included in the offtake agreement is typically based on the market price of the material at the time of delivery. The terms also may include conditions to our obligation to purchase the materials, such as quality or minimum output. Subject to satisfaction of those conditions, we will be obligated to purchase the materials at the cost determined by the purchase price mechanism. Based on the offtake agreements we have entered into thus far, the earliest date by which we could be obligated to purchase any output, subject to satisfaction of the applicable conditions, will be in 2024.

Financial institutions participate in a supply chain finance ("SCF") program that enables our suppliers, at their sole discretion, to sell their Ford receivables (i.e., our payment obligations to the suppliers) to the financial institutions on a non-recourse basis in order to be paid earlier than our payment terms provide. Our suppliers' voluntary inclusion of invoices in the SCF program has no bearing on our payment terms, the amounts we pay, or our liquidity. We have no economic interest in a supplier's decision to participate in the SCF program, and we have no direct financial relationship with the SCF financial institutions. Moreover, we do not provide any guarantees in connection with the SCF program. As of December 31, 2022, the outstanding amount of Ford receivables that suppliers elected to sell to the SCF financial institutions was $253 million. The amount settled through the SCF program during 2022 was $1.4 billion.

Changes in Company cash excluding Ford Credit are summarized below (in billions):

	December 31, 2020	December 31, 2021	December 31, 2022
Company Excluding Ford Credit			
Company Adjusted EBIT excluding Ford Credit (a)	$ (0.1)	$ 5.3	$ 7.8
Capital spending	$ (5.7)	$ (6.2)	$ (6.5)
Depreciation and tooling amortization	5.3	5.1	5.2
Net spending	$ (0.4)	$ (1.1)	$ (1.3)
Receivables	$ 0.4	$ (0.2)	$ (1.0)
Inventory	0.3	(1.8)	(2.5)
Trade Payables	1.3	0.3	3.7
Changes in working capital	$ 2.0	$ (1.7)	$ 0.2
Ford Credit distributions	$ 3.3	$ 7.5	$ 2.1
Interest on debt and cash taxes	(1.8)	(2.3)	(1.7)
All other and timing differences	(1.7)	(3.1)	1.9
Company adjusted free cash flow (a)	$ 1.3	$ 4.6	$ 9.1
Global Redesign (including separations)	$ (0.5)	$ (1.9)	$ (0.4)
Changes in debt	8.4	(3.7)	(0.4)
Funded pension contributions	(0.6)	(0.8)	(0.6)
Shareholder distributions	(0.6)	(0.4)	(2.5)
All other (b)	0.5	7.9	(9.5)
Change in cash	$ 8.5	$ 5.7	$ (4.3)

(a) See *Non-GAAP Financial Measure Reconciliations* section for reconciliation to GAAP.
(b) 2021 includes our investment in Rivian of $10.6 billion and cash premium paid of $(1.6) billion associated with repurchasing and redeeming $7.6 billion of higher-coupon debt. 2022 includes a $7.4 billion loss on our Rivian investment.
Note: Numbers may not sum due to rounding.

Our full year 2022 *Net cash provided by/(used in) operating activities* was positive $6.9 billion, a decrease of $8.9 billion from a year ago (see page 79 for additional information). The year-over-year decrease was driven by a decrease in Ford Credit operating cash flow partially offset by favorable timing differences. Company adjusted free cash flow was $9.1 billion, $4.5 billion higher than a year ago, driven by higher Company adjusted EBIT excluding Ford Credit, timing benefits, improvement in working capital, and lower interest expense, offset partially by lower Ford Credit distributions.

Capital spending was $6.5 billion in 2022, $0.3 billion higher than a year ago, and is expected to be in the range of $8 billion to $9 billion in 2023.

The full year 2022 working capital impact was $0.2 billion positive, driven by higher payables. All other and timing differences were positive $1.9 billion. Timing differences include differences between accrual-based EBIT and the associated cash flows (e.g., pension and OPEB income or expense; compensation payments; marketing incentive and warranty payments to dealers).

Shareholder distributions (including dividends and anti-dilutive share repurchases) were $2.5 billion in 2022. On February 2, 2023, we declared a regular dividend of $0.15 per share and a supplemental dividend of $0.65 per share.

We previously announced our plan for the global redesign of our business, pursuant to which we are working to turn around automotive operations, compete like a challenger, and capitalize on our strengths by allocating more capital, more resources, and more talent to our strongest businesses and vehicle franchises. The cash effect related to our global redesign activities was $3.9 billion through December 31, 2022.

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Available Credit Lines. Total Company committed credit lines, excluding Ford Credit, at December 31, 2022 were $19.3 billion, consisting of $13.5 billion of our corporate credit facility, $2.0 billion of our supplemental revolving credit facility, $1.75 billion of our 364-day revolving credit facility, and $2.1 billion of local credit facilities. At December 31, 2022, the utilized portion of the corporate credit facility was $19 million, representing amounts utilized for letters of credit, and the full $1.75 billion of our 364-day revolving credit facility was utilized by Ford Credit, in its capacity as a subsidiary borrower under that facility. In addition, $1.7 billion of committed Company credit lines, excluding Ford Credit, was utilized under local credit facilities for our affiliates as of December 31, 2022. As of January 25, 2023, Ford Credit had repaid the full $1.75 billion outstanding under the 364-day revolving credit facility.

Lenders under our corporate credit facility have $3.4 billion of commitments maturing on June 23, 2025 and $10.1 billion of commitments maturing on June 23, 2027. Lenders under our supplemental revolving credit facility have $0.1 billion of commitments maturing on September 29, 2024 and $1.9 billion of commitments maturing on June 23, 2025. Lenders under our 364-day revolving credit facility have $1.75 billion of commitments maturing on June 22, 2023.

The corporate, supplemental, and 364-day credit agreements include certain sustainability-linked targets, pursuant to which the applicable margin and facility fees may be adjusted if Ford achieves, or fails to achieve, the specified targets related to global manufacturing facility greenhouse gas emissions, renewable electricity consumption, and Ford Europe CO_2 tailpipe emissions. Ford outperformed the 2021 targets for all three of the sustainability-linked metrics, which impacted pricing beginning in the fourth quarter of 2022.

The corporate credit facility is unsecured and free of material adverse change conditions to borrowing, restrictive financial covenants (for example, interest or fixed-charge coverage ratio, debt-to-equity ratio, and minimum net worth requirements), and credit rating triggers that could limit our ability to obtain funding or trigger early repayment. The corporate credit facility contains a liquidity covenant that requires us to maintain a minimum of $4 billion in aggregate of domestic cash, cash equivalents, and loaned and marketable securities and/or availability under the corporate credit facility, supplemental revolving credit facility, and 364-day revolving credit facility. The terms and conditions of the supplemental and 364-day revolving credit facilities are consistent with our corporate credit facility. Ford Credit has been designated as a subsidiary borrower under the corporate credit facility and the 364-day revolving credit facility.

Each of the corporate credit facility, supplemental revolving credit facility, and 364-day revolving credit facility include a covenant that requires us to provide guarantees from certain of our subsidiaries in the event that our senior, unsecured, long-term debt does not maintain at least two investment grade ratings from Fitch, Moody's, and S&P. The following subsidiaries have provided unsecured guarantees to the lenders under the credit facilities: Ford Component Sales, LLC; Ford European Holdings Inc.; Ford Global Technologies, LLC; Ford Holdings LLC (the parent company of Ford Credit); Ford International Capital LLC; Ford Mexico Holdings LLC; Ford Motor Service Company; Ford Next LLC; and Ford Trading Company, LLC.

Debt. As shown in Note 19 of the Notes to the Financial Statements, at December 31, 2022, Company debt excluding Ford Credit was $19.9 billion. This balance is $400 million lower than at December 31, 2021, primarily reflecting the repayment in full of our $1.5 billion delayed draw term loan facility, repayment of the remaining $953 million under our Loan Arrangement and Reimbursement Agreement with the U.S. Department of Energy, a $1.1 billion redemption of higher coupon debt, and scheduled maturities, partially offset by the £750 million ($903 million as of December 31, 2022) draw on our U.K. Export Finance term loan credit facility and the issuance of our $1.8 billion green bond and $600 million retail bond.

Leverage. We manage Company debt (excluding Ford Credit) levels with a leverage framework that targets investment grade credit ratings through a normal business cycle. The leverage framework includes a ratio of total Company debt (excluding Ford Credit), underfunded pension liabilities, operating leases, and other adjustments, divided by Company adjusted EBIT (excluding Ford Credit EBT), and further adjusted to exclude depreciation and tooling amortization (excluding Ford Credit).

Ford Credit's leverage is calculated as a separate business as described in the "Liquidity - Ford Credit Segment" section of Item 7. Ford Credit is self-funding and its debt, which is used to fund its operations, is separate from our Company debt excluding Ford Credit.

Ford Credit Segment

Ford Credit ended 2022 with $21 billion of liquidity. During the year, Ford Credit completed $16 billion of public term funding.

Key elements of Ford Credit's funding strategy include:

- Maintain strong liquidity and funding diversity
- Prudently access public markets
- Continue growth of retail deposits in Europe
- Flexibility to increase ABS mix as needed; preserving assets and committed capacity
- Target financial statement leverage of 9:1 to 10:1
- Maintain self-liquidating balance sheet

Ford Credit's liquidity profile continues to be diverse, robust, and focused on maintaining liquidity levels that meet its business and funding requirements. Ford Credit regularly stress tests its balance sheet and liquidity to ensure that it can continue to meet its financial obligations through economic cycles.

Funding Sources. Ford Credit's funding sources include primarily unsecured debt and securitization transactions (including other structured financings). Ford Credit issues 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. Ford Credit sponsors 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.

Ford Credit obtains unsecured funding from the sale of demand notes under its Ford Interest Advantage program and through the retail deposit programs at FCE Bank plc ("FCE") and Ford Bank GmbH ("Ford Bank"). At December 31, 2022, 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, and FCE and Ford Bank deposits was $14.3 billion. Ford Credit maintains multiple sources of readily available liquidity to fund the payment of its unsecured short-term debt obligations.

The following table shows funding for Ford Credit's net receivables (in billions):

	December 31, 2020	December 31, 2021	December 31, 2022
Funding Structure			
Term unsecured debt	$ 73.3	$ 59.4	$ 48.3
Term asset-backed securities	54.6	45.4	56.4
Ford Interest Advantage / Retail Deposits	9.8	12.9	14.3
Other	(3.1)	(0.2)	2.6
Equity	15.6	12.4	11.9
Adjustments for cash	(18.5)	(12.4)	(11.2)
Total Net Receivables	**$ 131.7**	**$ 117.5**	**$ 122.3**
Securitized Funding as Percent of Total Debt	39.6 %	38.5 %	47.4 %

Net receivables of $122.3 billion at December 31, 2022 were funded primarily with term debt and term asset-backed securities. Securitized funding as a percent of total debt was 47.4%.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Public Term Funding Plan. The following table shows Ford Credit's issuances for full year 2020, 2021, and 2022, and planned issuances for full year 2023, excluding short-term funding programs (in billions):

	2020 Actual	2021 Actual	2022 Actual	2023 Forecast
Unsecured	$ 14	$ 5	$ 6	$ 10 - 13
Securitizations	13	9	10	10 - 13
Total public	$ 27	$ 14	$ 16	$ 20 - 26

In 2022, Ford Credit completed $16 billion of public term funding. For 2023, Ford Credit projects full year public term funding in the range of $20 billion to $26 billion. Through February 1, 2023, Ford Credit has completed $5 billion of public term issuances.

Liquidity. The following table shows Ford Credit's liquidity sources and utilization (in billions):

	December 31, 2020	December 31, 2021	December 31, 2022
Liquidity Sources (a)			
Cash	$ 18.5	$ 12.4	$ 11.2
Committed asset-backed facilities	38.1	37.1	37.4
Other unsecured credit facilities	2.5	2.7	2.3
Total liquidity sources	$ 59.1	$ 52.2	$ 50.9
Utilization of Liquidity (a)			
Securitization cash and restricted cash	$ (3.9)	$ (3.9)	$ (2.9)
Committed asset-backed facilities	(16.7)	(12.5)	(26.6)
Other unsecured credit facilities	(0.5)	(1.0)	(0.8)
Total utilization of liquidity	$ (21.1)	$ (17.4)	$ (30.3)
Gross liquidity	$ 38.0	$ 34.8	$ 20.6
Asset-backed capacity in excess of eligible receivables and other adjustments	(2.6)	(2.8)	0.4
Net liquidity available for use	$ 35.4	$ 32.0	$ 21.0

(a) See *Definitions and Information Regarding Ford Credit Causal Factors* section.

Ford Credit's net liquidity available for use will fluctuate quarterly based on factors including near-term debt maturities, receivable growth and decline, and timing of funding transactions. At December 31, 2022, Ford Credit's net liquidity available for use was $21 billion, $11 billion lower than year-end 2021. Ford Credit's net liquidity remains robust and aligns with lower near-term refinancing obligations. Ford Credit's sources of liquidity include cash, committed asset-backed facilities, and unsecured credit facilities. At December 31, 2022, Ford Credit's liquidity sources totaled $50.9 billion, down $1.3 billion from year-end 2021. Ford Credit continues to be well capitalized with a strong balance sheet.

Material Cash Requirements. Ford Credit's material cash requirements include: (1) the purchase of retail financing and operating lease contracts from dealers and providing wholesale financing for dealers to finance new and used vehicles; and (2) debt repayments (for additional information on debt, see the "Balance Sheet Liquidity Profile" section below, the "Material Cash Requirements" section in "Liquidity and Capital Resources - Company excluding Ford Credit" above, and Note 19 of the Notes to the Financial Statements). In addition, subject to approval by Ford Credit's Board of Directors, shareholder distributions may require the expenditure of a material amount of cash. Moreover, Ford Credit may be subject to additional material cash requirements that are contingent upon the occurrence of certain events, e.g., legal contingencies, uncertain tax positions, and other matters.

Ford Credit plans to utilize its liquidity (as described above) and its cash flows from business operations to fund its material cash requirements.

Balance Sheet Liquidity Profile. Ford Credit defines its balance sheet liquidity profile as the cumulative maturities, including the impact of expected prepayments and allowance for credit losses, of its finance receivables, investment in operating leases, and cash, less the cumulative debt maturities over upcoming annual periods. Ford Credit's balance sheet is inherently liquid because of the short-term nature of its finance receivables, investment in operating leases, and cash. Ford Credit ensures its cumulative debt maturities have a longer tenor than its cumulative asset maturities. This positive maturity profile is intended to provide Ford Credit with additional liquidity after all of its assets have been funded and is in addition to liquidity available to protect for stress scenarios.

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

	2023	2024	2025	2026 and Beyond
Balance Sheet Liquidity Profile				
Assets (a)	$ 71	$ 97	$ 117	$ 137
Total debt (b)	58	83	100	121
Memo: Unsecured long-term debt maturities	8	12	11	17

(a) Includes gross finance receivables less the allowance for credit losses (including certain finance receivables that are reclassified in consolidation to *Trade and other receivables*), investment in operating leases net of accumulated depreciation, cash and cash equivalents, and marketable securities (excluding amounts related to insurance activities). 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 Ford Credit's 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 2023. 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, 2022, Ford Credit had $137 billion of assets, $60 billion of which were unencumbered.

Funding and Liquidity Risks. Ford Credit's funding plan is subject to risks and uncertainties, many of which are beyond its control, including disruption in the capital markets that could impact both unsecured debt and asset-backed securities and the effects of regulatory changes on the financial markets.

Despite Ford Credit's diverse sources of funding and liquidity, its 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 market volatility;
- Credit ratings assigned to Ford and Ford Credit;
- Market capacity for Ford- and Ford Credit-sponsored investments;
- General demand for the type of securities Ford Credit offers;
- Ford Credit's ability to continue funding through asset-backed financing structures;
- Performance of the underlying assets within Ford Credit's asset-backed financing structures;
- Inability to obtain hedging instruments;
- Accounting and regulatory changes; and
- Ford Credit's ability to maintain credit facilities and committed asset-backed facilities.

Stress Tests. Ford Credit regularly conducts stress testing on its funding and liquidity sources to ensure it can continue to meet 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. Ford Credit's stress test does not assume any additional funding, liquidity, or capital support from Ford. Ford Credit routinely develops contingency funding plans as part of its liquidity stress testing.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Leverage. Ford Credit uses 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 its capital structure.

The table below shows the calculation of Ford Credit's financial statement leverage (in billions):

	December 31, 2020	December 31, 2021	December 31, 2022
Leverage Calculation			
Debt	$ 137.7	$ 117.7	$ 119.0
Equity (a)	15.6	12.4	11.9
Financial statement leverage (to 1)	8.8	9.5	10.0

(a) Total shareholder's interest reported on Ford Credit's balance sheets.

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Ford Credit plans its leverage by considering market conditions and the risk characteristics of its business. At December 31, 2022, Ford Credit's financial statement leverage was 10:1. Ford Credit targets financial statement leverage in the range of 9:1 to 10:1.

Total Company

Pension Plan Contributions and Strategy. Our strategy is to reduce the risk of our funded defined benefit pension plans, including minimizing the volatility of the value of our pension assets relative to pension liabilities and the need for unplanned use of capital resources to fund the plans. The strategy reduces balance sheet, cash flow, and income exposures and, in turn, reduces our risk profile. Going forward, we expect to:

- Limit our pension contributions to offset ongoing service cost or meet regulatory requirements, if any;
- Minimize the volatility of the value of our pension assets relative to pension obligations and ensure assets are sufficient to pay plan benefits; and
- Evaluate strategic actions to reduce pension liabilities, such as plan design changes, curtailments, or settlements

	2021	2022	2022 H / (L) 2021
Pension Funded Status ($B)			
U.S. Plans	$ 1.0	$ 0.1	$ (0.9)
Non-U.S. Plans	(1.3)	(0.3)	1.0
Total Global Pension	$ (0.3)	$ (0.2)	$ 0.1
Year-End Discount Rate (Weighted Average)			
U.S. Plans	2.91 %	5.51 %	2.60 ppts
Non-U.S. Plans	1.75 %	4.42 %	2.67 ppts
Actual Asset Returns			
U.S. Plans	2.82 %	(21.20)%	(24.02) ppts
Non-U.S. Plans	2.69 %	(25.40)%	(28.09) ppts
Pension - Funded Plans Only ($B)			
Funded Status	$ 5.8	$ 4.1	$ (1.7)
Contributions for Funded Plans	0.8	0.6	(0.2)

Worldwide, our defined benefit pension plans were underfunded by $0.2 billion at December 31, 2022, an improvement of $0.1 billion from December 31, 2021, primarily reflecting the impact of higher discount rates mostly offset by negative asset performance. Of the $0.2 billion underfunded status at year-end 2022, our funded plans were $4.1 billion overfunded and our unfunded plans were $4.3 billion underfunded. These unfunded plans are "pay as you go" with benefits paid from Company cash and primarily include certain plans in Germany and U.S. defined benefit plans for senior management.

The fixed income mix was 79% in both our U.S. plans and non-U.S. plans at year-end 2022.

In 2022, we contributed $567 million to our global funded pension plans, a decrease of $206 million compared with 2021. During 2023, we expect to contribute between $500 million and $600 million of cash to our global funded pension plans. We also expect to make about $400 million of benefit payments to participants in unfunded plans. Based on current assumptions and regulations, we do not expect to have a legal requirement to fund our major U.S. plans in 2023. Our global funded plans remain fully funded in aggregate, demonstrating the effectiveness of our de-risking strategy and our commitment to a strong balance sheet.

For a detailed discussion of our pension plans, refer to the "Critical Accounting Estimates - Pensions and Other Postretirement Employee Benefits" section of Item 7 of Part II of our 2022 Form 10-K Report and Note 17 of the Notes to the Financial Statements.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Return on Invested Capital ("ROIC"). We analyze total Company performance using an adjusted ROIC financial metric based on an after-tax rolling four quarter average. The following table contains the calculation of our ROIC for the years shown (in billions):

	December 31, 2020	December 31, 2021	December 31, 2022
Adjusted Net Operating Profit/(Loss) After Cash Tax			
Net income/(loss) attributable to Ford	$ (1.3)	$ 17.9	$ (2.0)
Add: Noncontrolling interest	—	—	(0.2)
Less: Income tax	(0.2)	0.1	0.9
Add: Cash tax	(0.4)	(0.6)	(0.8)
Less: Interest on debt	(1.6)	(1.8)	(1.3)
Less: Total pension / OPEB income / (cost)	(1.0)	4.9	0.4
Add: Pension / OPEB service costs	(1.1)	(1.1)	(1.0)
Net operating profit/(loss) after cash tax	$ 0.1	$ 13.0	$ (3.9)
Less: Special items (excl. pension / OPEB) pre-tax	(0.4)	5.9	(11.7)
Adjusted net operating profit/(loss) after cash tax	$ 0.5	$ 7.1	$ 7.8
Invested Capital			
Equity	$ 30.8	$ 48.6	$ 43.2
Debt (excl. Ford Credit)	24.0	20.4	19.9
Net pension and OPEB liability	13.3	6.4	4.7
Invested capital (end of period)	$ 68.1	$ 75.4	$ 67.8
Average invested capital	$ 70.7	$ 72.1	$ 70.0
ROIC (a)	0.1 %	18.0 %	(5.6)%
Adjusted ROIC (Non-GAAP) (b)	0.7 %	9.8 %	11.2 %

(a) Calculated as the sum of net operating profit after cash tax from the last four quarters, divided by the average invested capital over the last four quarters.
(b) Calculated as the sum of adjusted net operating profit after cash tax from the last four quarters, divided by the average invested capital over the last four quarters.
Note: Numbers may not sum due to rounding.

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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 U.S. 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 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, 2022.

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

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

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

OUTLOOK

We provided 2023 Company guidance in our earnings release furnished on Form 8-K dated February 2, 2023. The guidance is based on our expectations as of February 2, 2023. Our actual results could differ materially from our guidance due to risks, uncertainties, and other factors, including those set forth in "Risk Factors" in Item 1A of Part I.

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	2023 Guidance
Total Company	
Adjusted EBIT (a)	$9 - $11 billion
Adjusted Free Cash Flow (a)	About $6 billion
Capital spending	$8 - $9 billion
Ford Credit	
EBT	About $1.3 billion

(a) When we provide guidance for Adjusted EBIT and Adjusted Free Cash Flow, we do not provide guidance for the most comparable GAAP measures because, as described in more detail below in "Non-GAAP Measures That Supplement GAAP Measures," they include items that are difficult to predict with reasonable certainty.

For full-year 2023, we expect adjusted EBIT of $9 billion to $11 billion, which assumes a seasonally adjusted annual rate ("SAAR") of about 15 million in the United States and about 13 million in Europe. We also expect adjusted free cash flow of about $6 billion, which assumes no distributions from Ford Credit.

Our outlook for 2023 assumes the headwinds and tailwinds below.

Headwinds:

- An expected mild U.S. recession and a moderate recession in Europe
- Higher incentives across the industry as supply and demand come back into balance
- Ford Credit EBT of about $1.3 billion, down about $1.4 billion, reflecting unfavorable lease residuals and credit losses and the non-recurrence of derivative gains
- Continuation of the strong dollar
- About $2 billion lower past service pension income
- Continued investments in growth, including in customer experience, connected services, and capital expenditures

Tailwinds:

- Improvement in the supply chain and industry volume
- Launch of our all-new Super Duty
- Lower cost of goods sold, including efficiencies in materials, commodities, logistics, and other parts of our industrial platform

Additionally, we will be negotiating a new contract with the UAW in the United States.

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 specifications, and a shortage of or inability to acquire key components, such as semiconductors, or raw materials, such as lithium, cobalt, nickel, graphite, and manganese, can disrupt Ford's production of vehicles;
- To facilitate access to the raw materials necessary for the production of electric vehicles, Ford has entered into, and expects to continue to enter into, multi-year commitments to raw material suppliers that subject Ford to risks associated with lower future demand for such materials as well as costs that fluctuate and are difficult to accurately forecast;
- Ford's long-term competitiveness depends on the successful execution of Ford+;
- 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, restructurings, or new business strategies;
- Operational systems, security systems, vehicles, and services could be affected by cyber incidents, ransomware attacks, and other disruptions and impact Ford and Ford Credit as well as their suppliers and dealers;
- Ford's production, as well as Ford's suppliers' production, and/or the ability to deliver products to consumers could be disrupted by labor issues, natural or man-made disasters, adverse effects of climate change, financial distress, production difficulties, capacity limitations, 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 digital, software, and physical services are subject to market acceptance and face significant competition from existing and new entrants in the automotive and digital and software services industries and its reputation may be harmed if it is unable to achieve the initiatives it has announced;
- 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 or geopolitical developments, including protectionist trade policies such as tariffs, or other events;
- Industry sales volume 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;
- Inflationary pressure and fluctuations in commodity and energy prices, foreign currency exchange rates, interest rates, and market value of Ford or Ford Credit's investments, including marketable securities, 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;
- The impact of government incentives on Ford's business could be significant, and 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 OPEB 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 and Ford Credit could experience unusual or significant litigation, governmental investigations, or adverse publicity arising out of alleged defects in products, services, perceived environmental impacts, or otherwise;
- Ford may need to substantially modify its product plans and facilities to comply with safety, emissions, fuel economy, autonomous driving technology, environmental, 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.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

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.

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NON-GAAP FINANCIAL MEASURES THAT SUPPLEMENT GAAP MEASURES

We use both generally accepted accounting principles ("GAAP") and non-GAAP financial measures for operational and financial decision making, and to assess Company and segment business performance. The non-GAAP measures listed below are intended to be considered by users as supplemental information to their equivalent GAAP measures, to aid investors in better understanding our financial results. We believe that these non-GAAP measures provide useful perspective on underlying operating results and trends, and a means to compare our period-over-period results. These non-GAAP measures should not be considered as a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP. These non-GAAP measures may not be the same as similarly titled measures used by other companies due to possible differences in method and in items or events being adjusted.

- *Company Adjusted EBIT (Most Comparable GAAP Measure: Net Income/(Loss) Attributable to Ford)* – Earnings before interest and taxes (EBIT) excludes interest on debt (excl. Ford Credit Debt), taxes, and pre-tax special items. This non-GAAP measure is useful to management and investors because it focuses on underlying operating results and trends, and improves comparability of our period-over-period results. Our management ordinarily excludes special items from its review of the results of the operating segments for purposes of measuring segment profitability and allocating resources. Our categories of pre-tax special items and the applicable significance guideline for each item (which may consist of a group of items related to a single event or action) are as follows:

Pre-Tax Special Item	Significance Guideline
◦ Pension and OPEB remeasurement gains and losses	◦ No minimum
◦ Gains and losses on investments in equity securities	◦ No minimum
◦ Personnel expenses, dealer-related costs, and facility-related charges stemming from our efforts to match production capacity and cost structure to market demand and changing model mix	◦ Generally $100 million or more
◦ Other items that we do not necessarily consider to be indicative of earnings from ongoing operating activities	◦ $500 million or more for individual field service actions; generally $100 million or more for other items

When we provide guidance for adjusted EBIT, we do not provide guidance on a net income basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty, including gains and losses on pension and OPEB remeasurements and on investments in equity securities.

- *Company Adjusted EBIT Margin (Most Comparable GAAP Measure: Company Net Income/(Loss) Margin)* – Company Adjusted EBIT margin is Company adjusted EBIT divided by Company revenue. This non-GAAP measure is useful to management and investors because it allows users to evaluate our operating results aligned with industry reporting.

- *Adjusted Earnings/(Loss) Per Share (Most Comparable GAAP Measure: Earnings/(Loss) Per Share)* – Measure of Company's diluted net earnings/(loss) per share adjusted for impact of pre-tax special items (described above), tax special items, and restructuring impacts in noncontrolling interests. The measure provides investors with useful information to evaluate performance of our business excluding items not indicative of earnings from ongoing operating activities. When we provide guidance for adjusted earnings/(loss) per share, we do not provide guidance on an earnings/(loss) per share basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses.

- *Adjusted Effective Tax Rate (Most Comparable GAAP Measure: Effective Tax Rate)* – Measure of Company's tax rate excluding pre-tax special items (described above) and tax special items. The measure provides an ongoing effective rate which investors find useful for historical comparisons and for forecasting. When we provide guidance for adjusted effective tax rate, we do not provide guidance on an effective tax rate basis because the GAAP measure will include potentially significant special items that have not yet occurred and are difficult to predict with reasonable certainty prior to year-end, including pension and OPEB remeasurement gains and losses.

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- *Company Adjusted Free Cash Flow (Most Comparable GAAP Measure: Net Cash Provided By/(Used In) Operating Activities)* – Measure of Company's operating cash flow excluding Ford Credit's operating cash flows. The measure contains elements management considers operating activities, including Company excluding Ford Credit capital spending, Ford Credit distributions to its parent, and settlement of derivatives. The measure excludes cash outflows for funded pension contributions, global redesign (including separations), and other items that are considered operating cash flows under U.S. GAAP. This measure is useful to management and investors because it is consistent with management's assessment of the Company's operating cash flow performance. When we provide guidance for Company adjusted free cash flow, we do not provide guidance for net cash provided by/(used in) operating activities because the GAAP measure will include items that are difficult to quantify or predict with reasonable certainty, including cash flows related to the Company's exposures to foreign currency exchange rates and certain commodity prices (separate from any related hedges), Ford Credit's operating cash flows, and cash flows related to special items, including separation payments, each of which individually or in the aggregate could have a significant impact to our net cash provided by/(used in) our operating activities.

- *Adjusted ROIC* – Calculated as the sum of adjusted net operating profit/(loss) after cash tax from the last four quarters, divided by the average invested capital over the last four quarters. Adjusted Return on Invested Capital ("Adjusted ROIC") provides management and investors with useful information to evaluate the Company's after-cash tax operating return on its invested capital for the period presented. Adjusted net operating profit/(loss) after cash tax measures operating results less special items, interest on debt (excl. Ford Credit Debt), and certain pension/OPEB costs. Average invested capital is the sum of average balance sheet equity, debt (excl. Ford Credit Debt), and net pension/OPEB liability.

NON-GAAP FINANCIAL MEASURE RECONCILIATIONS

The following tables show our Non-GAAP financial measure reconciliations.

Net Income/(Loss) Reconciliation to Adjusted EBIT ($M)

	2020	2021	2022
Net income/(loss) attributable to Ford (GAAP)	$ (1,279)	$ 17,937	$ (1,981)
Income/(Loss) attributable to noncontrolling interests	3	(27)	(171)
Net income/(loss)	$ (1,276)	$ 17,910	$ (2,152)
Less: (Provision for)/Benefit from income taxes (a)	(160)	130	864
Income/(Loss) before income taxes	$ (1,116)	$ 17,780	$ (3,016)
Less: Special items pre-tax	(2,003)	9,583	(12,172)
Income/(Loss) before special items pre-tax	$ 887	$ 8,197	$ 9,156
Less: Interest on debt	(1,649)	(1,803)	(1,259)
Adjusted EBIT (Non-GAAP)	$ 2,536	$ 10,000	$ 10,415
Memo:			
Revenue ($B)	$ 127.1	$ 136.3	$ 158.1
Net income/(loss) margin (%)	(1.0)%	13.2 %	(1.3)%
Adjusted EBIT margin (%)	2.0 %	7.3 %	6.6 %

(a) 2020 includes an expense to establish valuation allowances primarily against U.S. tax credits; 2021 reflects a benefit from recognizing deferred tax assets and favorable changes in our valuation allowances offset by the tax consequences of unrealized gains on marketable securities; 2022 reflects the tax consequences of unrealized losses on marketable securities and favorable changes in our valuation allowances.

Earnings/(Loss) per Share Reconciliation to Adjusted Earnings/(Loss) per Share

	2020	2021	2022
Diluted After-Tax Results ($M)			
Diluted after-tax results (GAAP)	$ (1,279)	$ 17,937	$ (1,981)
Less: Impact of pre-tax and tax special items	(2,724)	11,507	(9,599)
Adjusted net income/(loss) - Diluted (Non-GAAP)	$ 1,445	$ 6,430	$ 7,618
Basic and Diluted Shares (M)			
Basic shares (average shares outstanding)	3,973	3,991	4,014
Net dilutive options, unvested restricted stock units, unvested restricted stock shares, and convertible debt	29	43	42
Diluted shares	4,002	4,034	4,056
Earnings/(Loss) per share - diluted (GAAP) (a)	$ (0.32)	$ 4.45	$ (0.49)
Less: Net impact of adjustments	(0.68)	2.86	(2.37)
Adjusted earnings per share - diluted (Non-GAAP)	$ 0.36	$ 1.59	$ 1.88

(a) In 2020 and 2022, there were 29 million and 42 million shares, respectively, excluded from the calculation of diluted earnings/(loss) per share, due to their anti-dilutive effect.

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Effective Tax Rate Reconciliation to Adjusted Effective Tax Rate

	2020	2021	2022
Pre-Tax Results ($M)			
Income/(Loss) before income taxes (GAAP)	$ (1,116)	$ 17,780	$ (3,016)
Less: Impact of special items	(2,003)	9,583	(12,172)
Adjusted earnings before taxes (Non-GAAP)	$ 887	$ 8,197	$ 9,156
Taxes ($M)			
(Provision for)/Benefit from income taxes (GAAP)	$ (160)	$ 130	$ 864
Less: Impact of special items (a)	(721)	1,924	2,573
Adjusted (provision for)/benefit from income taxes (Non-GAAP)	$ 561	$ (1,794)	$ (1,709)
Tax Rate (%)			
Effective tax rate (GAAP)	(14.3)%	(0.7)%	28.6 %
Adjusted effective tax rate (Non-GAAP)	(63.2)%	21.9 %	18.7 %

(a) 2020 includes an expense to establish valuation allowances primarily against U.S. tax credits; 2021 reflects a benefit from recognizing deferred tax assets and favorable changes in our valuation allowances offset by the tax consequences of unrealized gains on marketable securities; 2022 reflects the tax consequences of unrealized losses on marketable securities and favorable changes in our valuation allowances.

Net Cash Provided by/(Used in) Operating Activities Reconciliation to Company Adjusted Free Cash Flow ($M)

	2020	2021	2022
Net cash provided by/(used in) operating activities (GAAP)	$ 24,269	$ 15,787	$ 6,853
Less: Items not included in Company Adjusted Free Cash Flows			
Ford Credit operating cash flows (a)	$ 21,592	$ 15,293	$ (5,416)
Funded pension contributions	(570)	(773)	(567)
Global Redesign (including separations) (b)	(503)	(1,855)	(835)
Ford Credit tax payments/(refunds) under tax sharing agreement (a)	477	15	147
Other, net	(583)	(421)	(58)
Add: Items included in Company Adjusted Free Cash Flows			
Company excluding Ford Credit capital spending	$ (5,702)	$ (6,183)	$ (6,511)
Ford Credit distributions (a)	3,290	7,500	2,100
Settlement of derivatives	(171)	(255)	(90)
Company adjusted free cash flow (Non-GAAP) (a)	$ 1,273	$ 4,590	$ 9,081

(a) 2020 amounts have been updated as a result of the adoption of ASU 2019-12, *Simplifying the Accounting for Income Taxes.*
(b) 2021 and 2022 Global Redesign excludes cash flows reported in investing activities.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

2022 SUPPLEMENTAL INFORMATION

The tables below provide supplemental consolidating financial information and other financial information. Company excluding Ford Credit includes our Automotive and Mobility reportable segments, Corporate Other, Interest on Debt, and Special Items. Eliminations, where presented, primarily represent eliminations of intersegment transactions and deferred tax netting.

Selected Cash Flow Information. The following tables provide supplemental cash flow information (in millions):

	For the Year Ended December 31, 2022			
	Company excluding Ford Credit	Ford Credit	Eliminations	Consolidated
Cash flows from operating activities				
Net income/(loss)	$ (4,361)	$ 2,209	$ —	$ (2,152)
Depreciation and tooling amortization	5,361	2,281	—	7,642
Other amortization	62	(1,211)	—	(1,149)
Held for sale impairment charges	32	—	—	32
Brazil manufacturing exit non-cash charges (excluding accelerated depreciation of $17)	(82)	—	—	(82)
(Gains)/Losses on extinguishment of debt	135	(14)	—	121
Provision for/(Benefit from) credit and insurance losses	11	35	—	46
Pension and OPEB expense/(income)	(378)	—	—	(378)
Equity method investment dividends received in excess of (earnings)/losses and impairments	3,321	3	—	3,324
Foreign currency adjustments	(273)	246	—	(27)
Net realized and unrealized (gains)/losses on cash equivalents, marketable securities, and other investments	7,440	78	—	7,518
Net (gain)/loss on changes in investments in affiliates	146	1	—	147
Stock compensation	325	11	—	336
Provision for deferred income taxes	(2,234)	324	—	(1,910)
Decrease/(Increase) in finance receivables (wholesale and other)	—	(10,560)	—	(10,560)
Decrease/(Increase) in intersegment receivables/payables	274	(274)	—	—
Decrease/(Increase) in accounts receivable and other assets	(984)	(199)	—	(1,183)
Decrease/(Increase) in inventory	(2,576)	—	—	(2,576)
Increase/(Decrease) in accounts payable and accrued and other liabilities	7,098	170	—	7,268
Other	788	(352)	—	436
Interest supplements and residual value support to Ford Credit	(1,836)	1,836	—	—
Net cash provided by/(used in) operating activities	$ 12,269	$ (5,416)	$ —	$ 6,853
Cash flows from investing activities				
Capital spending	$ (6,808)	$ (58)	$ —	$ (6,866)
Acquisitions of finance receivables and operating leases	—	(45,533)	—	(45,533)
Collections of finance receivables and operating leases	—	46,276	—	46,276
Proceeds from sale of business	449	—	—	449
Purchases of marketable securities and other investments	(13,880)	(3,578)	—	(17,458)
Sales and maturities of marketable securities and other investments	14,956	4,161	—	19,117
Settlements of derivatives	(90)	184	—	94
Capital contributions to equity method investments	(733)	(5)	—	(738)
Other	310	2	—	312
Investing activity (to)/from other segments	2,130	(30)	(2,100)	—
Net cash provided by/(used in) investing activities	$ (3,666)	$ 1,419	$ (2,100)	$ (4,347)
Cash flows from financing activities				
Cash payments for dividends and dividend equivalents	$ (2,009)	$ —	$ —	$ (2,009)
Purchases of common stock	(484)	—	—	(484)
Net changes in short-term debt	85	5,375	—	5,460
Proceeds from issuance of long-term debt	3,295	42,175	—	45,470
Payments on long-term debt	(3,897)	(41,758)	—	(45,655)
Other	(192)	(79)	—	(271)
Financing activity to/(from) other segments	—	(2,100)	2,100	—
Net cash provided by/(used in) financing activities	$ (3,202)	$ 3,613	$ 2,100	$ 2,511
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	$ (227)	$ (187)	$ —	$ (414)

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Selected Income Statement Information. The following table provides supplemental income statement information (in millions):

	For the Year Ended December 31, 2022		
	Company excluding Ford Credit	Ford Credit	Consolidated
Revenues	$ 149,079	$ 8,978	$ 158,057
Total costs and expenses (a)	145,295	6,486	151,781
Operating income/(loss)	3,784	2,492	6,276
Interest expense on Company debt excluding Ford Credit	1,259	—	1,259
Other income/(loss), net	(5,288)	138	(5,150)
Equity in net income/(loss) of affiliated companies	(2,910)	27	(2,883)
Income/(Loss) before income taxes	(5,673)	2,657	(3,016)
Provision for/(Benefit from) income taxes	(1,312)	448	(864)
Net income/(loss)	(4,361)	2,209	(2,152)
Less: Income/(loss) attributable to noncontrolling interests	(171)	—	(171)
Net income/(loss) attributable to Ford Motor Company	$ (4,190)	$ 2,209	$ (1,981)

(a) Ford Credit excludes a specials charge of $10 million.

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Selected Balance Sheet Information. The following tables provide supplemental balance sheet information (in millions):

	December 31, 2022			
Assets	**Company excluding Ford Credit**	**Ford Credit**	**Eliminations**	**Consolidated**
Cash and cash equivalents	$ 14,741	$ 10,393	$ —	$ 25,134
Marketable securities	17,443	1,493	—	18,936
Ford Credit finance receivables, net	—	38,720	—	38,720
Trade and other receivables, net	4,575	11,154	—	15,729
Inventories	14,080	—	—	14,080
Assets held for sale	97	—	—	97
Other assets	2,527	1,253	—	3,780
Receivable from other segments	49	1,462	(1,511)	—
Total current assets	53,512	64,475	(1,511)	116,476
Ford Credit finance receivables, net	—	49,903	—	49,903
Net investment in operating leases	951	21,821	—	22,772
Net property	37,032	233	—	37,265
Equity in net assets of affiliated companies	2,678	120	—	2,798
Deferred income taxes	15,394	158	—	15,552
Other assets	9,890	1,228	—	11,118
Receivable from other segments	—	16	(16)	—
Total assets	$ 119,457	$ 137,954	$ (1,527)	$ 255,884
Liabilities				
Payables	$ 24,507	$ 1,098	$ —	$ 25,605
Other liabilities and deferred revenue	18,611	2,486	—	21,097
Company excluding Ford Credit debt payable within one year	730	—	—	730
Ford Credit debt payable within one year	—	49,434	—	49,434
Payable to other segments	1,511	—	(1,511)	—
Total current liabilities	45,359	53,018	(1,511)	96,866
Other liabilities and deferred revenue	22,964	2,533	—	25,497
Company excluding Ford Credit long-term debt	19,200	—	—	19,200
Ford Credit long-term debt	—	69,605	—	69,605
Deferred income taxes	628	921	—	1,549
Payable to other segments	16	—	(16)	—
Total liabilities	$ 88,167	$ 126,077	$ (1,527)	$ 212,717

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Selected Other Information.

Equity. At December 31, 2021, total equity attributable to Ford was $48.5 billion, an increase of $17.8 billion compared with December 31, 2020. At December 31, 2022, total equity attributable to Ford was $43.2 billion, a decrease of $5.3 billion compared with December 31, 2021. The detail for the changes is shown below (in billions):

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	2021 vs 2020 Increase/ (Decrease)	2022 vs 2021 Increase/ (Decrease)
Net income/(loss)	$ 17.9	$ (2.0)
Shareholder distributions	(0.4)	(2.5)
Other comprehensive income/(loss)	—	(1.0)
Adoption of accounting standards	—	—
Common stock issued (including share-based compensation impacts)	0.3	0.2
Total	$ 17.8	$ (5.3)

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.

Management has discussed the development and selection of these critical accounting estimates with the Audit Committee of our Board of Directors. In addition, there are other items within our financial statements that require estimation, but are not deemed critical as defined above. Changes in estimates used in these and other items could have a material impact on our financial statements.

Warranties and Field Service Actions

Nature of Estimates Required. We provide base warranties on the products we sell for specific periods of time and/or mileage, which vary depending upon the type of product and the geographic location of its sale. Separately, we also periodically perform field service actions related to safety recalls, emission recalls, and other product campaigns. Pursuant to these warranties and field service actions, we will repair, replace, or adjust parts on a vehicle that are defective in factory-supplied materials or workmanship. We accrue the estimated cost of both base warranty coverages and field service actions at the time of sale. In addition, from time to time, we issue extended warranties at our expense, the estimated cost of which is accrued at the time of issuance.

Assumptions and Approach Used. We establish our estimate of base warranty obligations using a patterned estimation model. We use historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. We reevaluate our estimate of base warranty obligations on a regular basis. Experience has shown that initial data for any given model year may be volatile; therefore, our process relies on long-term historical averages until sufficient data are available. With actual experience, we use the data to update the historical averages. We then compare the resulting accruals with present spending rates to assess whether the balances are adequate to meet expected future obligations. Based on this data, we update our estimates as necessary.

Field service actions may occur in periods beyond the base warranty coverage period. We establish our estimates of field service action obligations using a patterned estimation model. We use historical information regarding the nature, frequency, severity, and average cost of claims for each model year. We assess our obligation for field service actions on a regular basis using actual claims experience and update our estimates as necessary.

Due to the uncertainty and potential volatility of the factors used in establishing our estimates, changes in our assumptions could materially affect our financial condition and results of operations. See Note 25 of the Notes to the Financial Statements for information regarding warranty and field service action costs.

Pensions and Other Postretirement Employee Benefits

Nature of Estimates Required. The estimation of our defined benefit pension and OPEB plan obligations and expenses requires that we make use of estimates of the present value of the projected future payments to all participants, taking into consideration the likelihood of potential future events, such as demographic experience and health care cost increases. Plan obligations and expenses are based on existing retirement plan provisions. No assumption is made regarding any potential future changes to benefit provisions beyond those to which we are presently committed (e.g., in existing labor contracts).

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Assumptions and Approach Used. The assumptions used in developing the required estimates include the following key factors:

- *Discount rates.* Our discount rate assumptions are based primarily on the results of cash flow matching analyses, which match the future cash outflows for each major plan to a yield curve based on high-quality bonds specific to the country of the plan. Benefit payments are discounted at the rates on the curve to determine the year-end obligations.

- *Expected long-term rate of return on plan assets.* Our expected long-term rate of return considers inputs from a range of advisors for capital market returns, inflation, bond yields, and other variables, adjusted for specific aspects of our investment strategy by plan. Historical returns also are considered when appropriate. The assumption is based on consideration of all inputs, with a focus on long-term trends to avoid short-term market influences.

- *Salary growth.* Our salary growth assumption reflects our actual experience, long-term outlook, and assumed inflation.

- *Inflation.* Our inflation assumption is based on an evaluation of external market indicators, including real gross domestic product growth and central bank inflation targets.

- *Expected contributions.* Our expected amount and timing of contributions are based on an assessment of minimum requirements, cash availability, and other considerations (e.g., funded status, avoidance of regulatory premiums and levies, and tax efficiency).

- *Retirement rates.* Retirement rates are developed to reflect actual and projected plan experience.

- *Mortality rates.* Mortality rates are developed to reflect actual and projected plan experience.

- *Health care cost trends.* Our health care cost trend assumptions are developed based on historical cost data, the near-term outlook, and an assessment of likely long-term trends.

Assumptions are set at each year-end and are generally not changed during the year unless there is a major plan event, such as a curtailment or settlement that would trigger a plan remeasurement.

See Note 17 of the Notes to the Financial Statements for more information regarding pension and OPEB costs and assumptions.

Pension Plans

Effect of Actual Results. The year-end 2022 weighted average discount rate was 5.51% for U.S. plans and 4.42% for non-U.S. plans, reflecting increases of 260 and 267 basis points, respectively, compared with year-end 2021. In 2022, the U.S. actual return on assets was negative 21.20%, which was lower than the expected long-term rate of return of 5.75%. Non-U.S. actual return on assets was negative 25.40%, which was lower than the expected long-term rate of return of 3.29%. The lower returns are explained by losses on fixed income and growth assets, both of which were consistent with broader market performance. In total, higher rates and pension asset losses, in addition to demographic and other updates, resulted in a net remeasurement loss of $1.3 billion, which has been recognized within net periodic benefit cost and reported as a special item.

For 2023, the expected long-term rate of return on assets is 6.25% for U.S. plans, up 50 basis points from 2022, and 4.13% for non-U.S. plans, up 84 basis points compared with a year ago, reflecting higher nominal risk-free rates and a higher consensus on capital market return expectations from advisors.

De-risking Strategy. We employ a broad de-risking strategy for our global funded plans that increases the matching characteristics of our assets relative to our obligation as funded status improves. Changes in interest rates, which directly influence changes in discount rates, in addition to other factors have a significant impact on the value of our pension obligation and fixed income asset portfolio. Our de-risking strategy has increased the allocation to fixed income investments and reduced our funded status sensitivity to changes in interest rates. Changes in interest rates should result in offsetting effects in the value of our pension obligation and the value of the fixed income asset portfolio.

Sensitivity Analysis. The December 31, 2022 pension funded status and 2023 expense are affected by year-end 2022 assumptions. Sensitivities to these assumptions may be asymmetric and are specific to the time periods noted. The effects of changes in the factors that generally have the largest impact on year-end funded status and pension expense are discussed below.

Discount rates and interest rates have the largest impact on our obligations and fixed income assets. The table below estimates the effect on our funded status of an increase/decrease in discount rates and interest rates (in millions):

Factor	Basis Point Change	Increase/(Decrease) in December 31, 2022 Funded Status	
		U.S. Plans	Non-U.S. Plans
Discount rate - obligation	+/- 100 bps	$2,700/$(3,200)	$2,500/$(3,100)
Interest rate - fixed income assets	+/- 100	(2,600)/3,100	(1,700)/2,000
Net impact on funded status		$100/$(100)	$800/$(1,100)

The fixed income asset sensitivity shown excludes other fixed income return components (e.g., changes in credit spreads, bond coupon and active management excess returns), and growth asset returns. Other factors that affect net funded status (e.g., contributions) are not reflected.

Interest rates and the expected long-term rate of return on assets have the largest effect on pension expense. These assumptions are generally set at each year-end for expense recorded throughout the following year. The table below estimates the effect on pension expense of a higher/lower assumption for these factors (in millions):

Factor	Basis Point Change	Increase/(Decrease) in 2023 Pension Expense	
		U.S. Plans	Non-U.S. Plans
Interest rate - service cost and interest cost	+/- 25 bps	$25/$(25)	$10/$(10)
Expected long-term rate of return on assets	+/- 25	(80)/80	(50)/50

The effect of changing multiple factors simultaneously cannot be calculated by combining the individual sensitivities. The sensitivity of pension expense to a change in discount rate assumptions may not be linear.

Other Postretirement Employee Benefits

Effect of Actual Results. The weighted average discount rate used to determine the benefit obligation for worldwide OPEB plans at December 31, 2022 was 5.48%, compared with 2.97% at December 31, 2021, resulting in a worldwide net remeasurement gain of $1.3 billion, which has been recognized within net periodic benefit cost and reported as a special item.

Sensitivity Analysis. Discount rates and interest rates have the largest effect on our OPEB obligation and expense. The table below estimates the effect on 2023 OPEB expense of higher/lower assumptions for these factors (in millions):

Factor	Basis Point Change	Worldwide OPEB	
		(Increase)/Decrease 2022 YE Obligation	Increase/(Decrease) 2023 Expense
Discount rate - obligation	+/- 100 bps	$415/$(495)	N/A
Interest rate - service cost and interest cost	+/- 25	N/A	$5/$(5)

Income Taxes

Nature of Estimates Required. We must make estimates and apply judgment in determining the provision for income taxes for financial reporting purposes. We make these estimates and judgments primarily in the following areas: (i) the calculation of tax credits, (ii) the calculation of differences in the timing of recognition of revenue and expense for tax reporting and financial statement purposes, as well as (iii) the calculation of interest and penalties related to uncertain tax positions. Changes in these estimates and judgments may result in a material increase or decrease to our tax provision, which would be recorded in the period in which the change occurs.

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Assumptions and Approach Used. We are subject to the income tax laws and regulations of the many jurisdictions in which we operate. These tax laws and regulations are complex and involve uncertainties in the application to our facts and circumstances that may be open to interpretation. We recognize benefits for these uncertain tax positions based upon a process that requires judgment regarding the technical application of the laws, regulations, and various related judicial opinions. If, in our judgment, it is more likely than not (defined as a likelihood of more than 50%) that the uncertain tax position will be settled favorably for us, we estimate an amount that ultimately will be realized. This process is inherently subjective since it requires our assessment of the probability of future outcomes. We evaluate these uncertain tax positions on a quarterly basis, including consideration of changes in facts and circumstances, such as new regulations or recent judicial opinions, as well as the status of audit activities by taxing authorities. Changes to our estimate of the amount to be realized are recorded in our provision for income taxes during the period in which the change occurred.

We must also assess the likelihood that we will be able to recover our deferred tax assets against future sources of taxable income and reduce the carrying amount of deferred tax assets by recording a valuation allowance if, based on all available evidence, it is more likely than not that all or a portion of such assets will not be realized.

This assessment, which is completed on a taxing jurisdiction basis, takes into account various types of evidence, including the following:

- *Nature, frequency, and severity of current and cumulative financial reporting losses.* A pattern of objectively measured recent financial reporting losses is heavily weighted as a source of negative evidence. We generally consider cumulative pre-tax losses in the three-year period ending with the current quarter to be significant negative evidence regarding future profitability. We also consider the strength and trend of earnings, as well as other relevant factors. In certain circumstances, historical information may not be as relevant due to changes in our business operations;

- *Sources of future taxable income.* Future reversals of existing temporary differences are heavily weighted sources of objectively verifiable positive evidence. Projections of future taxable income exclusive of reversing temporary differences are a source of positive evidence only when the projections are combined with a history of recent profits and can be reasonably estimated. Otherwise, these projections are considered inherently subjective and generally will not be sufficient to overcome negative evidence that includes relevant cumulative losses in recent years, particularly if the projected future taxable income is dependent on an anticipated turnaround to profitability that has not yet been achieved. In such cases, we generally give these projections of future taxable income no weight for the purposes of our valuation allowance assessment; and

- *Tax planning strategies.* If necessary and available, tax planning strategies could be implemented to accelerate taxable amounts to utilize expiring carryforwards. These strategies would be a source of additional positive evidence and, depending on their nature, could be heavily weighted.

In assessing the realizability of deferred tax assets, we consider the trade-offs between cash preservation and cash outlays to preserve tax credits. During 2022, we reversed $405 million of U.S. valuation allowances primarily as a result of planning actions. We presently believe that global valuation allowances of $822 million are required and that we ultimately will recover the remaining $14 billion of deferred tax assets. However, the ultimate realization of our deferred tax assets is subject to a number of variables, including our future profitability within relevant tax jurisdictions, and future tax planning and the related effects on our cash and liquidity position. Accordingly, our valuation allowances may increase or decrease in future periods.

For additional information regarding income taxes, see Note 7 of the Notes to the Financial Statements.

Impairment of Long-Lived Assets

Asset groups are tested at the level of the smallest identifiable group of assets that generate cash inflows that are largely independent of the cash inflows from other assets or groups of assets. Our asset groups presently are the regional Automotive business units (i.e., North America, South America, Europe, China (including Taiwan), and the International Markets Group), Ford Credit, and the separate legal entities within the Mobility segment. Asset groupings for impairment analysis are reevaluated when events occur, such as changes in organizational structure and management reporting. As a result of the new organizational and segment structure that will be implemented in 2023, our asset groups are expected to be Ford Blue North America, Ford Blue Europe, Ford Blue Rest of World, Ford Model e, Ford Pro, Ford Credit, and Ford Next (formerly Mobility).

Nature of Estimates Required - Held-and-Used Long-Lived Assets. We test our long-lived asset groups when changes in circumstances indicate their carrying value may not be recoverable. Events that trigger a test for recoverability include material adverse changes in projected revenues or expenses, present cash flow losses combined with a history of cash flow losses and a forecast that demonstrates significant continuing losses, significant negative industry or economic trends (including a substantial shift in consumer preference), a current expectation that a long-lived asset group will be disposed of significantly before the end of its useful life, a significant adverse change in the manner in which an asset group is used or in its physical condition, or when there is a change in the asset grouping. In addition, investing in new, emerging products (e.g., EVs) or services (e.g., connectivity) may require substantial upfront investment, which may result in initial forecasted negative cash flows in the near term. In these instances, near term negative cash flows on their own may not be indicative of a triggering event for evaluation of impairment. In such circumstances we also conduct a qualitative evaluation of the business growth trajectory, which includes updating our assessment of when positive cash flows are expected to be generated, confirming whether established milestones are being achieved, and assessing our ability and intent to continue to access required funding to execute the plan. If this evaluation indicates a triggering event has occurred, a test for recoverability is performed.

When a triggering event occurs, a test for recoverability is performed, comparing projected undiscounted future cash flows to the carrying value of the asset group. If the undiscounted forecasted cash flows are less than the carrying value of the assets, the asset group's fair value is measured relying primarily on a discounted cash flow method. To the extent available, we will also consider third-party valuations of our long-lived assets that were prepared for other business purposes. An impairment charge is recognized for the amount by which the carrying value of the asset group exceeds its estimated fair value. When an impairment loss is recognized for assets to be held and used, the adjusted carrying amounts of those assets are depreciated over their remaining useful life.

Nature of Estimates Required - Held-for-Sale Operations. We perform an impairment test on a disposal group to be discontinued, held for sale, or otherwise disposed of when we have committed to an action and the action is expected to be completed within one year. We estimate fair value to approximate the expected proceeds to be received less cost to sell and compare it to the carrying value of the disposal group. An impairment charge is recognized when the carrying value exceeds the estimated fair value.

Assumptions and Approach Used - Held-and-Used Long-Lived Assets. Fair value of an asset group is determined from the perspective of a market-participant considering, among other things, appropriate discount rates, valuation techniques, the most advantageous market, and assumptions about the highest and best use of the asset group.

We measure the fair value of an asset group based on market prices (i.e., the amount for which the asset could be sold to a third party) when available. When market prices are not available, we generally estimate the fair value of the asset group using the income approach and/or the market approach. The income approach uses cash flow projections. Inherent in our development of cash flow projections are assumptions and estimates derived from a review of our operating results, business plan forecasts, expected growth rates, and cost of capital, similar to those a market participant would use to assess fair value. We also make certain assumptions about future economic conditions and other data. Many of the factors used in assessing fair value are outside the control of management, and these assumptions and estimates may change in future periods.

Changes in assumptions or estimates can materially affect the fair value measurement of an asset group and, therefore, can affect the test results. The following are key assumptions we use in making cash flow projections:

- *Business projections.* We make assumptions about the demand for our products in the marketplace. These assumptions drive our planning assumptions for volume, mix, and pricing. We also make assumptions about our cost levels (e.g., capacity utilization, cost performance). These projections are derived using our internal business plan forecasts that are updated at least annually and reviewed by our Board of Directors.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

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- *Long-term growth rate.* A growth rate is used to calculate the terminal value of the business and is added to the present value of the debt-free interim cash flows. The growth rate is the expected rate at which an asset group's business unit's earnings stream is projected to grow beyond the planning period.

- *Discount rate.* When measuring possible impairment, future cash flows are discounted at a rate that is consistent with a weighted-average cost of capital that we anticipate a potential market participant would use. Weighted-average cost of capital is an estimate of the overall risk-adjusted pre-tax rate of return expected by equity and debt holders of a business enterprise.

- *Economic projections.* Assumptions regarding general economic conditions are included in and affect our assumptions regarding industry sales and pricing estimates for our vehicles. These macroeconomic assumptions include, but are not limited to, industry sales volumes, inflation, interest rates, prices of raw materials (e.g., commodities), and foreign currency exchange rates.

The market approach is another method for measuring the fair value of a reporting unit or asset group. This approach relies on the market value (i.e., market capitalization) of companies that are engaged in the same or similar line of business as the reporting unit or asset group being evaluated. In addition, to the extent available we also consider third-party valuations that were prepared for other business purposes.

During 2022, we continued to progress our global redesign. Against this backdrop, we determined that there were triggering events related to our South America and International Markets Group ("IMG") business units. We also assessed our expected new 2023 asset groups, which consist of Ford Blue North America, Ford Blue Europe, Ford Blue Rest of World, Ford Model e, Ford Pro, Ford Credit and Ford Next and assessed these groups for triggering events and potential impairment. We determined that the carrying values of the long-lived assets were recoverable at December 31, 2022 under our existing assets groups as well as under our anticipated 2023 asset groups. If in future quarters our economic or business projections were to change as a result of our plans or changes in the economic or business environment, there was a significant adverse change in the extent or manner in which a long-lived asset is being used, or there was a current expectation that a long-lived asset group will be disposed of significantly before the end of its useful life, we would undertake additional testing, as appropriate, which could result in an impairment of long-lived assets.

Assumptions and Approach Used - Held-for-Sale Operations. In the third quarter of 2022, we entered into an agreement to sell our Sanand, India vehicle assembly and powertrain plants to Tata Passenger Electric Mobility Limited ("Tata"). The sale transaction included the land, buildings, and other fixed assets (excluding the powertrain machinery and equipment) for the plants. Accordingly, we have reported $88 million of fixed assets for this operation as held for sale for the period ended December 31, 2022. We recognized pre-tax impairment charges in *Cost of sales* of $32 million in the third quarter of 2022 to adjust the carrying value of the held-for-sale assets to fair value less costs to sell. We determined fair value using the market approach, estimated based on the negotiated value of the assets. On January 10, 2023, we completed the sale of the plants to Tata. See Note 22 of the Notes to the Financial Statements for more information regarding held-for-sale operations.

Allowance for Credit Losses

The allowance for credit losses represents Ford Credit's estimate of the expected lifetime credit losses inherent in finance receivables as of the balance sheet date. The adequacy of Ford Credit's 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 assumptions affect *Ford Credit interest, operating, and other expenses* on our consolidated income statements and the allowance for credit losses contained within *Ford Credit finance receivables, net* on our consolidated balance sheets. See Note 10 of the Notes to the Financial Statements for more information regarding allowance for credit losses.

Nature of Estimates Required. Ford Credit estimates 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 Ford Credit 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. Ford Credit's allowance for credit losses is based on its assumptions regarding:

- *Probability of default.* The expected probability of payment and time to default, which include assumptions about macroeconomic factors and recent performance; and
- *Loss given default.* The percentage of the expected balance due at default that is not recoverable. The loss given default takes into account expected collateral value and future recoveries.

Macroeconomic factors used in Ford Credit's models are country specific and include variables such as unemployment rates, personal bankruptcy filings, 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 Ford Credit's U.S. Ford and Lincoln retail financing is as follows (in millions):

Assumption	Basis Point Change	Increase/(Decrease)
Probability of default (lifetime)	+/- 100 bps	$210/$(210)
Loss given default	+/- 100	10/(10)

Accumulated Depreciation on Vehicles Subject to Operating Leases

Accumulated depreciation on vehicles subject to operating leases reduces the value of the leased vehicles in Ford Credit's operating lease portfolio from their original acquisition value to their expected residual value at the end of the lease term.

Ford Credit monitors residual values each month, and it reviews the adequacy of accumulated depreciation on a quarterly basis. If Ford Credit believes that the expected residual values for its vehicles have changed, it revises depreciation to ensure that net investment in operating leases (equal to the acquisition value of the vehicles less accumulated depreciation) will be adjusted to reflect Ford Credit's revised estimate of the expected residual value at the end of the lease term. Adjustments to depreciation expense result in a change in the depreciation rates of the vehicles subject to operating leases and are recorded prospectively on a straight-line basis.

Generally, lease customers have the option to buy the leased vehicle at the end of the lease or to return the vehicle to the dealer.

Nature of Estimates Required. Each operating lease in Ford Credit's portfolio represents a vehicle it owns that has been leased to a customer. At the time Ford Credit purchases a lease, it establishes an expected residual value for the vehicle. Ford Credit estimates the expected residual value by evaluating recent auction values, return volumes for its leased vehicles, industrywide used vehicle prices, marketing incentive plans, and vehicle quality data.

Assumptions Used. Ford Credit's accumulated depreciation on vehicles subject to operating leases is based on assumptions regarding:

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

See Note 12 of the Notes to the Financial Statements for more information regarding accumulated depreciation on vehicles subject to operating leases.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (Continued)

Sensitivity Analysis. For returned vehicles, Ford Credit faces a risk that the amount it obtains from the vehicle sold at auction will be less than its 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; however, the impact may be tempered or exacerbated based on future auction values in relation to the purchase price specified in the lease contract. A change in the assumption for an auction value will impact Ford Credit's estimate of accumulated supplemental depreciation if the future auction value is lower than the purchase price specified in the lease contract. The effect of the indicated increase/decrease in the assumptions for Ford Credit's U.S. Ford and Lincoln operating lease portfolio is as follows (in millions):

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Assumption	Basis Point Change	Increase/(Decrease)
Future auction values	+/- 100 bps	$(10)/$10
Return volumes	+/- 100	5/(5)

Adjustments to the amount of accumulated supplemental depreciation on operating leases are reflected on our balance sheets as *Net investment in operating leases* and on our income statements in *Ford Credit interest, operating, and other expenses.*

ACCOUNTING STANDARDS ISSUED BUT NOT YET ADOPTED

For a discussion of recent accounting standards, see Note 3 of the Notes to the Financial Statements.

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ITEM 7A. *Quantitative and Qualitative Disclosures About Market Risk*

OVERVIEW

We are exposed to a variety of market and other risks, including the effects of changes in foreign currency exchange rates, commodity prices, and interest rates, as well as risks to availability of funding sources, hazard events, and specific asset risks.

These risks affect our Automotive and Ford Credit segments differently. We monitor and manage these exposures as an integral part of our overall risk management program, which includes regular reports to a central management committee, the Global Risk Management Committee ("GRMC"). The GRMC is chaired by our Chief Financial Officer, and the committee includes our Controller and Treasurer.

Our Automotive and Ford Credit segments are exposed to liquidity risk, including the possibility of having to curtail business or being unable to meet financial obligations as they come due because funding sources may be reduced or become unavailable. Our plan is to maintain funding sources to ensure liquidity through a variety of economic or business cycles. As discussed in greater detail in Item 7, our funding sources include sales of receivables in securitizations and other structured financings, unsecured debt issuances, equity and equity-linked issuances, and bank borrowings.

We are exposed to a variety of risks, such as loss or damage to property, liability claims, and employee injury. We protect against these risks through the purchase of commercial insurance that is designed to protect us above our self-insured retentions against events that could generate significant losses.

Direct responsibility for the execution of our market risk management strategies resides with our Treasurer's Office and is governed by written policies and procedures. Separation of duties is maintained between the development and authorization of derivative trades, the transaction of derivatives, and the settlement of cash flows. Regular audits are conducted to ensure that appropriate controls are in place and that they remain effective. In addition, our market risk exposures and our use of derivatives to manage these exposures are approved by the GRMC, and reviewed by the Audit Committee of our Board of Directors.

In accordance with our corporate risk management policies, we use derivative instruments, when available, such as forward contracts, swaps, and options that economically hedge certain exposures (foreign currency, commodity, and interest rates). We do not use derivative contracts for trading, market-making, or speculative purposes. In certain instances, we forgo hedge accounting, and in certain other instances, our derivatives do not qualify for hedge accounting. Either situation results in unrealized gains and losses that are recognized in income. For additional information on our derivatives, see Note 20 of the Notes to the Financial Statements.

The market and counterparty risks of our Automotive and Ford Credit segments are discussed and quantified below.

AUTOMOTIVE MARKET RISK

Our Automotive segment frequently has expenditures and receipts denominated in foreign currencies, including the following: purchases and sales of finished vehicles and production parts, debt and other payables, subsidiary dividends, and investments in foreign operations. These expenditures and receipts create exposures to changes in exchange rates. We also are exposed to changes in prices of commodities used in the production of our vehicles and changes in interest rates.

Foreign currency risk, commodity risk, and interest rate risk are measured and quantified using a model to evaluate the sensitivity of market value to instantaneous, parallel shifts in rates and/or prices.

Foreign Currency Risk. Foreign currency risk is the possibility that our financial results could be worse than planned because of changes in currency exchange rates. Accordingly, our practice is to use derivative instruments to hedge our economic exposure with respect to forecasted revenues and costs, assets, liabilities, and firm commitments denominated in certain foreign currencies consistent with our overall risk management strategy. In our hedging actions, we use derivative instruments commonly used by corporations to reduce foreign exchange risk (e.g., forward contracts).

Item 7A. Quantitative and Qualitative Disclosures About Market Risk (Continued)

The net fair value of foreign exchange forward contracts (including adjustments for credit risk) as of December 31, 2022, was an asset of $236 million, compared with a liability of $253 million as of December 31, 2021. The potential change in the fair value from a 10% change in the underlying exchange rates, in U.S. dollar terms, would have been $1.9 billion at December 31, 2022, compared with $2.2 billion at December 31, 2021. The sensitivity analysis presented is hypothetical and assumes foreign exchange rate changes are instantaneous and adverse across all currencies. In reality, some of our exposures offset and foreign exchange rates move in different magnitudes and at different times, and any changes in fair value would generally be offset by changes in the underlying exposure. See Note 20 of the Notes to the Financial Statements for more information regarding our foreign currency exchange contracts.

Commodity Price Risk. Commodity price risk is the possibility that our financial results could be worse than planned because of changes in the prices of commodities used in the production of motor vehicles, such as base metals (e.g., steel, copper, and aluminum), precious metals (e.g., palladium), energy (e.g., natural gas and electricity), and plastics/resins (e.g., polypropylene). As we transition to a greater mix of electric vehicles, we expect to increase our reliance on lithium, cobalt, nickel, graphite, and manganese, among other materials, for batteries. Accordingly, our practice is to use derivative instruments to hedge the price risk with respect to forecasted purchases of certain commodities that we can economically hedge and consistent with our overall risk management strategy. In our hedging actions, we use derivative instruments commonly used by corporations to reduce commodity price risk (e.g., financially settled forward contracts). The extent to which we hedge is also impacted by our ability to achieve designated hedge accounting.

The net fair value of commodity forward contracts (including adjustments for credit risk) as of December 31, 2022, was a liability of $49 million, compared with an asset of $220 million as of December 31, 2021. The potential change in the fair value from a 10% change in the underlying commodity prices would have been $178 million at December 31, 2022, compared with $215 million at December 31, 2021. The sensitivity analysis presented is hypothetical and assumes commodity price changes are instantaneous and adverse across all commodities. In reality, commodity prices move in different magnitudes and at different times, and any changes in fair value would generally be offset by changes in the underlying exposure.

In addition, our purchasing organization (with guidance from the GRMC, as appropriate) negotiates contracts for the continuous supply of raw materials. In some cases, these contracts stipulate minimum purchase amounts and specific prices, and, therefore, play a role in managing commodity price risk.

Interest Rate Risk. Interest rate risk relates to the loss we could incur in our Company cash investment portfolios due to a change in interest rates. Our interest rate sensitivity analysis on the investment portfolios includes cash and cash equivalents and net marketable securities. At December 31, 2022, Company cash consisted of $0.2 billion of Rivian marketable securities and $32.1 billion of cash in our investment portfolios, compared to $10.6 billion of Rivian marketable securities and $26.0 billion of cash in our investment portfolios at December 31, 2021. We invest the portfolios in securities of various types and maturities, the value of which are subject to fluctuations in interest rates. The investment strategy is based on clearly defined risk and liquidity guidelines to maintain liquidity, minimize risk, and earn a reasonable return on the short-term investments. In investing the cash in our investment portfolios, safety of principal is the primary objective and risk-adjusted return is the secondary objective.

At any time, a rise in interest rates could have a material adverse impact on the fair value of our portfolios. Assuming a hypothetical increase in interest rates of one percentage point, the value of our portfolios would be reduced by $256 million, as calculated as of December 31, 2022. This compares to $250 million, as calculated as of December 31, 2021. While these are our best estimates of the impact of the specified interest rate scenario, actual results could differ from those projected. The sensitivity analysis presented assumes interest rate changes are instantaneous, parallel shifts in the yield curve. In reality, interest rate changes of this magnitude are rarely instantaneous or parallel.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk (Continued)

FORD CREDIT MARKET RISK

Market risk for Ford Credit is the possibility that changes in interest and currency exchange rates will adversely affect cash flow and economic value.

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Interest Rate Risk. Generally, Ford Credit's assets and the related debt have different re-pricing periods, and consequently, respond differently to changes in interest rates.

Ford Credit's assets consist primarily of fixed-rate retail financing and operating lease contracts and floating-rate wholesale receivables. Fixed-rate retail financing and operating lease contracts generally require customers to make equal monthly payments over the life of the contract. Wholesale receivables are originated to finance new and used vehicles held in dealers' inventory and generally require dealers to pay a floating rate.

Debt consists primarily of short- and long-term unsecured and securitized debt. Ford Credit's term debt instruments are principally fixed-rate and require fixed and equal interest payments over the life of the instrument and a single principal payment at maturity.

Ford Credit's interest rate risk management objective is to reduce volatility in its cash flows and volatility in its economic value from changes in interest rates based on an established risk tolerance that may vary by market. Ford Credit uses economic value sensitivity analysis and re-pricing gap analysis to evaluate potential long-term effects of changes in interest rates. It then enters into interest rate swaps to convert portions of its floating-rate debt to fixed or its fixed-rate debt to floating to ensure that Ford Credit's exposure falls within the established tolerances. Ford Credit also uses pre-tax cash flow sensitivity analysis to monitor the level of near-term cash flow exposure. The pre-tax cash flow sensitivity analysis measures the changes in expected cash flows associated with Ford Credit's interest-rate-sensitive assets, liabilities, and derivative financial instruments from hypothetical changes in interest rates over a twelve-month horizon. Interest rate swaps are placed to maintain exposure within approved thresholds and the Asset-Liability Committee reviews the re-pricing mismatch monthly.

To provide a quantitative measure of the sensitivity of its pre-tax cash flow to changes in interest rates, Ford Credit uses interest rate scenarios that assume a hypothetical, instantaneous increase or decrease of one percentage point in all interest rates across all maturities (a "parallel shift"), as well as a base case that assumes that all interest rates remain constant at existing levels. In reality, interest rate changes are rarely instantaneous or parallel and rates could move more or less than the one percentage point assumed in Ford Credit's analysis. As a result, the actual impact to pre-tax cash flow could be higher or lower than the results detailed in the table below. These interest rate scenarios are purely hypothetical and do not represent Ford Credit's view of future interest rate movements.

Under these interest rate scenarios, Ford Credit expects more assets than debt and liabilities to re-price in the next twelve months. Other things being equal, this means that during a period of rising interest rates, the interest received on Ford Credit's assets will increase more than the interest paid on Ford Credit's debt, thereby initially increasing Ford Credit's pre-tax cash flow. During a period of falling interest rates, Ford Credit would expect its pre-tax cash flow to initially decrease. Ford Credit's pre-tax cash flow sensitivity to interest rate movement at December 31 was as follows (in millions):

Pre-Tax Cash Flow Sensitivity	2021	2022
One percentage point instantaneous *increase* in interest rates	$ (76)	$ 127
One percentage point instantaneous *decrease* in interest rates (a)	76	(127)

(a) Pre-tax cash flow sensitivity given a one percentage point decrease in interest rates requires an assumption of negative interest rates in markets where existing interest rates are below one percent.

While the sensitivity analysis presented is Ford Credit's best estimate of the impacts of the specified assumed interest rate scenarios, its actual results could differ from those projected. The model Ford Credit uses to conduct this analysis is heavily dependent on assumptions. Embedded in the model are assumptions regarding the reinvestment of maturing asset principal, refinancing of maturing debt, replacement of maturing derivatives, exercise of options embedded in debt and derivatives, and predicted repayment of retail financing and operating lease contracts ahead of contractual maturity. Ford Credit's repayment projections ahead of contractual maturity are based on historical experience. If interest rates or other factors change, Ford Credit's actual prepayment experience could be different than projected.

Foreign Currency Risk. Ford Credit's policy is to minimize exposure to changes in currency exchange rates. To meet funding objectives, Ford Credit borrows in a variety of currencies, principally U.S. dollars, Canadian dollars, euros, sterling, and renminbi. Ford Credit faces exposure to currency exchange rates if a mismatch exists between the currency of receivables and the currency of the debt funding those receivables. When possible, receivables are funded with debt in the same currency, minimizing exposure to exchange rate movements. When a different currency is used, Ford Credit may use foreign currency swaps and foreign currency forwards to convert substantially all of its foreign currency debt obligations to the local country currency of the receivables. As a result of this policy, Ford Credit believes its market risk exposure, relating to changes in currency exchange rates at December 31, 2022, is insignificant.

Derivative Fair Values. The net fair value of Ford Credit's derivative financial instruments at December 31, 2022 was a liability of $2.0 billion, compared to an asset of $553 million at December 31, 2021. The decline in net fair value was driven by higher U.S. interest rates and a stronger U.S. dollar.

COUNTERPARTY RISK

Counterparty risk relates to the loss we could incur if an obligor or counterparty defaulted on an investment or a derivative contract. We enter into master agreements with counterparties that allow netting of certain exposures in order to manage this risk. Exposures primarily relate to investments in fixed income instruments and derivative contracts used for managing interest rate, foreign currency exchange rate, and commodity price risk. We, together with Ford Credit, establish exposure limits for each counterparty to minimize risk and provide counterparty diversification.

Our approach to managing counterparty risk is forward-looking and proactive, allowing us to take risk mitigation actions before risks become losses. Exposure limits are established based on our overall risk tolerance, which is calculated from counterparty credit ratings and market-based credit default swap ("CDS") spreads. The exposure limits are lower for smaller and lower-rated counterparties, counterparties that have relatively higher CDS spreads, and for longer dated exposures. Our exposures are monitored on a regular basis and included in periodic reports to our Treasurer.

Substantially all of our counterparty exposures are with counterparties that have an investment grade rating. Investment grade is our guideline for minimum counterparty long-term ratings.

ITEM 8. *Financial Statements and Supplementary Data.*

The Report of Independent Registered Public Accounting Firm, our Financial Statements, the accompanying Notes to the Financial Statements, and the Financial Statement Schedule that are filed as part of this Report are listed under "Item 15. Exhibits and Financial Statement Schedules" and are set forth beginning on page 106 immediately following the signature pages of this Report.

ITEM 9. *Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.*

None.

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ITEM 9A. *Controls and Procedures.*

Evaluation of Disclosure Controls and Procedures. James D. Farley, Jr., our Chief Executive Officer ("CEO"), and John T. Lawler, our Chief Financial Officer ("CFO"), have performed an evaluation of the Company's disclosure controls and procedures, as that term is defined in Rule 13a-15(e) or 15d-15(e) of the Securities Exchange Act of 1934, as amended ("Exchange Act"), as of December 31, 2022, and each has concluded that such disclosure controls and procedures are effective to ensure that information required to be disclosed in our periodic reports filed under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified by SEC rules and forms, and that such information is accumulated and communicated to the CEO and CFO to allow timely decisions regarding required disclosures.

Management's Report on Internal Control Over Financial Reporting. Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f) or 15d-15(f). The Company's internal control over financial reporting is a process designed 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.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or because the degree of compliance with policies or procedures may deteriorate.

Under the supervision and with the participation of our management, including our CEO and CFO, we conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2022. The assessment was based on criteria established in the framework *Internal Control - Integrated Framework (2013)*, issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management concluded that our internal control over financial reporting was effective as of December 31, 2022.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2022 has been audited by PricewaterhouseCoopers LLP (PCAOB ID 238), an independent registered public accounting firm, as stated in its report included herein.

Changes in Internal Control Over Financial Reporting. There were no changes in internal control over financial reporting during the quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. *Other Information.*

None.

ITEM 9C. *Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.*

Not applicable.

PART III.

ITEM 10. ***Directors, Executive Officers of Ford, and Corporate Governance.***

The information required by Item 10 regarding our directors is incorporated by reference from the information under the captions "Proposal 1. Election of Directors," "Corporate Governance – Beneficial Stock Ownership," and "Corporate Governance – Delinquent Section 16(a) Reports" in our Proxy Statement. The information required by Item 10 regarding our executive officers appears as Item 4A under Part I of this Report. The information required by Item 10 regarding an audit committee financial expert is incorporated by reference from the information under the caption "Corporate Governance – Audit Committee Financial Expert and Auditor Rotation" in our Proxy Statement. The information required by Item 10 regarding the members of our Audit Committee of the Board of Directors is incorporated by reference from the information under the captions "Proxy Summary," "Corporate Governance – Board Committee Functions," "Corporate Governance – Audit Committee Financial Expert and Auditor Rotation," and "Proposal 1. Election of Directors" in our Proxy Statement. The information required by Item 10 regarding the Audit Committee's review and discussion of the audited financial statements is incorporated by reference from information under the caption "Audit Committee Report" in our Proxy Statement. The information required by Item 10 regarding our codes of ethics is incorporated by reference from the information under the caption "Corporate Governance – Codes of Ethics" in our Proxy Statement. In addition, we have included in Item 1 instructions for how to access our codes of ethics on our website and our Internet address. Amendments to, and waivers granted under, our Code of Ethics for Senior Financial Personnel, if any, will be posted to our website as well.

ITEM 11. ***Executive Compensation.***

The information required by Item 11 is incorporated by reference from the information under the following captions in our Proxy Statement: "Director Compensation in 2022," "Compensation Discussion and Analysis," "Compensation Committee Report," "Compensation Committee Interlocks and Insider Participation," "Compensation of Named Executives," "Summary Compensation Table," "Grants of Plan-Based Awards in 2022," "Outstanding Equity Awards at 2022 Fiscal Year-End," "Option Exercises and Stock Vested in 2022," "Pension Benefits in 2022," "Nonqualified Deferred Compensation in 2022," "Potential Payments Upon Termination or Change-in-Control," and "Pay Ratio."

ITEM 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.***

The information required by Item 12 is incorporated by reference from the information under the captions "Equity Compensation Plan Information" and "Corporate Governance – Beneficial Stock Ownership" in our Proxy Statement.

ITEM 13. ***Certain Relationships and Related Transactions, and Director Independence.***

The information required by Item 13 is incorporated by reference from the information under the captions "Corporate Governance – Certain Relationships and Related Party Transactions" and "Corporate Governance – Independence of Directors and Relevant Facts and Circumstances" in our Proxy Statement.

ITEM 14. ***Principal Accounting Fees and Services.***

The information required by Item 14 is incorporated by reference from the information under the caption "Proposal 2. Ratification of Independent Registered Public Accounting Firm" in our Proxy Statement.

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PART IV.

ITEM 15. *Exhibits and Financial Statement Schedules.*

(a) 1. Financial Statements – Ford Motor Company and Subsidiaries

The following are contained in this 2022 Form 10-K Report:

- Report of Independent Registered Public Accounting Firm.
- Consolidated Statements of Cash Flows for the years ended December 31, 2020, 2021, and 2022.
- Consolidated Income Statements for the years ended December 31, 2020, 2021, and 2022.
- Consolidated Statements of Comprehensive Income for the years ended December 31, 2020, 2021, and 2022.
- Consolidated Balance Sheets at December 31, 2021 and 2022.
- Consolidated Statements of Equity for the years ended December 31, 2020, 2021, and 2022.
- Notes to the Financial Statements.

The Report of Independent Registered Public Accounting Firm, the Consolidated Financial Statements, and the Notes to the Financial Statements listed above are filed as part of this Report and are set forth beginning on page 106 immediately following the signature pages of this Report.

(a) 2. Financial Statement Schedules

Designation	Description
Schedule II	Valuation and Qualifying Accounts for the years ended 2019, 2020, and 2021

Schedule II is filed as part of this Report and is set forth on page 179 immediately following the Notes to the Financial Statements referred to above. The other schedules are omitted because they are not applicable, the information required to be contained in them is disclosed elsewhere on our Consolidated Financial Statements, or the amounts involved are not sufficient to require submission.

(a) 3. Exhibits

Designation	Description	Method of Filing
Exhibit 3-A	Restated Certificate of Incorporation, dated August 2, 2000.	Filed as Exhibit 3-A to our Annual Report on Form 10-K for the year ended December 31, 2000. (a)
Exhibit 3-A-1	Certificate of Designations of Series A Junior Participating Preferred Stock filed on September 11, 2009.	Filed as Exhibit 3.1 to our Current Report on Form 8-K filed September 11, 2009. (a)
Exhibit 3-B	By-laws.	Filed as Exhibit 3.1 to our Form 8-K filed on December 9, 2022. (a)
Exhibit 4-A	Tax Benefit Preservation Plan ("TBPP") dated September 11, 2009 between Ford Motor Company and Computershare Trust Company, N.A.	Filed as Exhibit 4.1 to our Current Report on Form 8-K filed September 11, 2009. (a)
Exhibit 4-A-1	Amendment No. 1 to TBPP dated September 11, 2012.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 12, 2012. (a)
Exhibit 4-A-2	Amendment No. 2 to TBPP dated September 9, 2015.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 11, 2015. (a)
Exhibit 4-A-3	Amendment No. 3 to TBPP dated September 13, 2018.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 14, 2018. (a)
Exhibit 4-A-4	Amendment No. 4 to TBPP dated September 9, 2021.	Filed as Exhibit 4 to our Current Report on Form 8-K filed September 10, 2021. (a)
Exhibit 4-B	Description of Securities.	Filed with this Report.
Exhibit 10-A	Executive Separation Allowance Plan, as amended and restated effective as of January 1, 2018. (b)	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed February 7, 2018. (a)
Exhibit 10-B	Deferred Compensation Plan for Non-Employee Directors, as amended and restated as of January 1, 2012. (b)	Filed as Exhibit 10-B to our Annual Report on Form 10-K for the year ended December 31, 2011. (a)
Exhibit 10-C	2014 Stock Plan for Non-Employee Directors (b)	Filed as Exhibit 10-C to our Annual Report on Form 10-K for the year ended December 31, 2013. (a)

Designation	Description	Method of Filing
Exhibit 10-D	Benefit Equalization Plan, as amended and restated effective as of January 1, 2022. (b)	Filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022. (a)
Exhibit 10-E	Description of financial counseling services provided to certain executives. (b)	Filed as Exhibit 10-E to our Annual Report on Form 10-K for the year ended December 31, 2019. (a)
Exhibit 10-F	Defined Benefit Supplemental Executive Retirement Plan, as amended and restated effective as of January 1, 2022. (b)	Filed as Exhibit 10.4 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022. (a)
Exhibit 10-F-1	Defined Contribution Supplemental Executive Retirement Plan, as amended and restated effective as of January 1, 2022. (b)	Filed as Exhibit 10.5 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022. (a)
Exhibit 10-G	Description of Director Compensation as of July 13, 2006. (b)	Filed as Exhibit 10-G-3 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2006. (a)
Exhibit 10-G-1	Amendment to Description of Director Compensation as of February 8, 2012. (b)	Filed as Exhibit 10-F-3 to our Annual Report on Form 10-K for the year ended December 31, 2011. (a)
Exhibit 10-G-2	Amendment to Description of Director Compensation as of July 1, 2013. (b)	Filed as Exhibit 10-G-2 to our Annual Report on Form 10-K for the year ended December 31, 2013. (a)
Exhibit 10-G-3	Amendment to Description of Director Compensation as of January 1, 2017. (b)	Filed as Exhibit 10-G-3 to our Annual Report on Form 10-K for the year ended December 31, 2016. (a)
Exhibit 10-H	2008 Long-Term Incentive Plan. (b)	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended June 30, 2008. (a)
Exhibit 10-I	Description of Vehicle Evaluation Program for Non-Executive Directors. (b)	Filed as Exhibit 10-I to our Annual Report on Form 10-K for the year ended December 31, 2021. (a)
Exhibit 10-J	Non-Employee Directors Life Insurance and Optional Retirement Plan as amended and restated as of December 31, 2010. (b)	Filed as Exhibit 10-I to our Annual Report on Form 10-K for the year ended December 31, 2010. (a)
Exhibit 10-K	Description of Non-Employee Directors Accidental Death, Dismemberment and Permanent Total Disablement Indemnity. (b)	Filed as Exhibit 10-S to our Annual Report on Form 10-K for the year ended December 31, 1992. (a)
Exhibit 10-K-1	Description of Amendment to Basic Life Insurance and Accidental Death & Dismemberment Insurance. (b)	Filed as Exhibit 10-K-1 to our Annual Report on Form 10-K for the year ended December 31, 2013. (a)
Exhibit 10-L	Agreement between Ford Motor Company and Jon M. Huntsman, Jr. dated April 12, 2021. (b)	Filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2021. (a)
Exhibit 10-M	Offer Letter to Michael Amend dated August 16, 2021. (b)	Filed as Exhibit 10-M to our Annual Report on Form 10-K for the year ended December 31, 2021. (a)
Exhibit 10-N	Offer Letter to Doug Field dated August 26, 2021. (b)	Filed as Exhibit 10-N to our Annual Report on Form 10-K for the year ended December 31, 2021. (a)
Exhibit 10-O	Agreement between Ford Motor Company and James D. Farley, Jr. dated August 3, 2020. (b)	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020. (a)
Exhibit 10-P	Select Retirement Plan, as amended and restated effective as of January 1, 2018. (b)	Filed as Exhibit 10.4 to our Current Report on Form 8-K filed February 7, 2018. (a)
Exhibit 10-Q	Deferred Compensation Plan, as amended and restated as of December 31, 2010. (b)	Filed as Exhibit 10-M to our Annual Report on Form 10-K for the year ended December 31, 2010. (a)
Exhibit 10-Q-1	Suspension of Open Enrollment in Deferred Compensation Plan. (b)	Filed as Exhibit 10-M-1 to our Annual Report on Form 10-K for the year ended December 31, 2009. (a)
Exhibit 10-R	Annual Incentive Compensation Plan, as amended and restated effective as of January 1, 2023. (b)	Filed with this Report.
Exhibit 10-R-1	Annual Incentive Compensation Plan Metrics for 2021. (b)	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2021. (a)
Exhibit 10-R-2	Annual Incentive Compensation Plan Metrics for 2022. (b)	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022. (a)
Exhibit 10-R-3	Performance-Based Restricted Stock Unit Metrics for 2019. (b)	Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2019. (a)
Exhibit 10-R-4	Performance-Based Restricted Stock Unit Metrics for 2020. (b)	Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020. (a)
Exhibit 10-R-5	Performance-Based Restricted Stock Unit Metrics for 2021. (b)	Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2021. (a)
Exhibit 10-R-6	Performance-Based Restricted Stock Unit Metrics for 2022. (b)	Filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022. (a)
Exhibit 10-R-7	Executive Compensation Recoupment Policy. (b)	Filed as Exhibit 10-N-8 to our Annual Report on Form 10-K for the year ended December 31, 2010. (a)
Exhibit 10-S	2018 Long-Term Incentive Plan. (b)	Filed as Exhibit 4.1 to Registration Statement No. 333-226348. (a)
Exhibit 10-S-1	Form of Stock Option Terms and Conditions for Long-Term Incentive Plan. (b)	Filed as Exhibit 10.4 to our Quarterly Report on Form 10-Q for the quarter ended September 30, 2020. (a)
Exhibit 10-S-2	Form of Stock Option Agreement for Long-Term Incentive Plan. (b)	Filed as Exhibit 10-P-3 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-3	Form of Stock Option Agreement (ISO) for Long-Term Incentive Plan. (b)	Filed as Exhibit 10-P-4 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-4	Form of Stock Option Agreement (U.K. NQO) for Long-Term Incentive Plan. (b)	Filed as Exhibit 10-P-5 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)

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Designation	Description	Method of Filing
Exhibit 10-S-5	Form of Stock Option (U.K.) Terms and Conditions for Long-Term Incentive Plan. (b)	Filed as Exhibit 10-R-5 to our Annual Report on Form 10-K for the year ended December 31, 2020. (a)
Exhibit 10-S-6	Form of Restricted Stock Grant Letter. (b)	Filed as Exhibit 10-P-7 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-7	Form of Final Award Notification Letter for Performance-Based Restricted Stock Units. (b)	Filed as Exhibit 10-P-8 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-8	Form of Annual Equity Grant Letter V.1. (b)	Filed as Exhibit 10-P-9 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-9	Form of Annual Equity Grant Letter V.2. (b)	Filed as Exhibit 10-P-10 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-10	Form of Long-Term Incentive Plan Restricted Stock Unit Agreement. (b)	Filed as Exhibit 10-P-11 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-11	Form of Long-Term Incentive Plan Retention Restricted Stock Unit Agreement (b)	Filed as Exhibit 10-S-11 to our Annual Report on Form 10-K for the year ended December 31, 2021. (a)
Exhibit 10-S-12	Long-Term Incentive Plan Restricted Stock Unit Terms and Conditions. (b)	Filed as Exhibit 10-P-12 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-13	Form of Final Award Agreement for Performance-Based Restricted Stock Units under Long-Term Incentive Plan. (b)	Filed as Exhibit 10-P-13 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-14	Form of Final Award Terms and Conditions for Performance-Based Restricted Stock Units under Long-Term Incentive Plan. (b)	Filed as Exhibit 10-P-14 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-S-15	Form of Notification Letter for Time-Based Restricted Stock Units. (b)	Filed as Exhibit 10-P-15 to our Annual Report on Form 10-K for the year ended December 31, 2017. (a)
Exhibit 10-T	Description of Company Practices regarding Club Memberships for Executives. (b)	Filed as Exhibit 10-V to our Annual Report on Form 10-K for the year ended December 31, 2021. (a)
Exhibit 10-U	Amended and Restated Credit Agreement dated as of November 24, 2009.	Filed as Exhibit 99.2 to our Current Report on Form 8-K filed November 25, 2009. (a)
Exhibit 10-U-1	Seventh Amendment dated as of March 15, 2012 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 99.2 to our Current Report on Form 8-K filed March 15, 2012. (a)
Exhibit 10-U-2	Ninth Amendment dated as of April 30, 2013 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 10 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2013. (a)
Exhibit 10-U-3	Tenth Amendment dated as of April 30, 2014 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, and as further amended.	Filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014. (a)
Exhibit 10-U-4	Eleventh Amendment dated as of April 30, 2015 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended, including the Third Amended and Restated Credit Agreement.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed May 1, 2015. (a)
Exhibit 10-U-5	Twelfth Amendment dated as of April 29, 2016 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 29, 2016. (a)
Exhibit 10-U-6	Thirteenth Amendment dated as of April 28, 2017 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 28, 2017. (a)
Exhibit 10-U-7	Fourteenth Amendment dated as of April 26, 2018 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10 to our Current Report on Form 8-K filed April 26, 2018. (a)
Exhibit 10-U-8	Fifteenth Amendment dated as of April 23, 2019 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed April 26, 2019. (a)
Exhibit 10-U-9	Sixteenth Amendment dated as of July 27, 2020 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed July 30, 2020. (a)

Designation	Description	Method of Filing
Exhibit 10-U-10	Seventeenth Amendment dated as of March 16, 2021 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, and as further amended and restated as of April 30, 2015.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed March 17, 2021. (a)
Exhibit 10-U-11	Eighteenth Amendment dated as of September 29, 2021 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, as amended and restated as of April 30, 2015, and as further amended, including the Fourth Amended and Restated Credit Agreement.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed September 29, 2021. (a)
Exhibit 10-U-12	Nineteenth Amendment dated as of June 23, 2022 to our Credit Agreement dated as of December 15, 2006, as amended and restated as of November 24, 2009, as amended and restated as of April 30, 2014, as amended and restated as of April 30, 2015, and as further amended, including the Fourth Amended and Restated Credit Agreement.	Filed as Exhibit 10.1 to our Current Report on Form 8-K filed June 23, 2022. (a)
Exhibit 10-V	Revolving Credit Agreement dated as of April 23, 2019.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed April 26, 2019. (a)
Exhibit 10-V-1	First Amendment dated July 27, 2020 to the Revolving Credit Agreement dated April 23, 2019.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed July 30, 2020. (a)
Exhibit 10-V-2	Second Amendment dated March 16, 2021 to the Revolving Credit Agreement dated April 23, 2019.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed March 17, 2021. (a)
Exhibit 10-V-3	Third Amendment dated September 29, 2021 to the Revolving Credit Agreement dated April 23, 2019, and as further amended, including the First Amended and Restated Revolving Credit Agreement.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed September 29, 2021. (a)
Exhibit 10-V-4	Fourth Amendment dated June 23, 2022 to the Revolving Credit Agreement dated April 23, 2019, and as further amended, including the First Amended and Restated Revolving Credit Agreement.	Filed as Exhibit 10.2 to our Current Report on Form 8-K filed June 23, 2022. (a)
Exhibit 10-W	364-Day Revolving Credit Agreement dated as of June 23, 2022.	Filed as Exhibit 10.3 to our Current Report on Form 8-K filed June 23, 2022. (a)
Exhibit 10-W-1	First Amendment dated October 26, 2022 to the 364-Day Revolving Credit Agreement dated as of June 23, 2022.	Filed as Exhibit 10 to our Current Report on Form 8-K filed October 28, 2022. (a)
Exhibit 21	List of Subsidiaries of Ford as of January 31, 2023.	Filed with this Report.
Exhibit 23	Consent of Independent Registered Public Accounting Firm.	Filed with this Report.
Exhibit 24	Powers of Attorney.	Filed with this Report.
Exhibit 31.1	Rule 15d-14(a) Certification of CEO.	Filed with this Report.
Exhibit 31.2	Rule 15d-14(a) Certification of CFO.	Filed with this Report.
Exhibit 32.1	Section 1350 Certification of CEO.	Furnished with this Report.
Exhibit 32.2	Section 1350 Certification of CFO.	Furnished with this Report.
Exhibit 101.INS	Interactive Data Files pursuant to Rule 405 of Regulation S-T formatted in Inline Extensible Business Reporting Language ("Inline XBRL").	(c)
Exhibit 101.SCH	XBRL Taxonomy Extension Schema Document.	(c)
Exhibit 101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.	(c)
Exhibit 101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	(c)
Exhibit 101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	(c)
Exhibit 101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	(c)
Exhibit 104	Cover Page Interactive Data File (formatted in Inline XBRL contained in Exhibit 101).	(c)

(a) Incorporated by reference as an exhibit to this Report (file number reference 1-3950, unless otherwise indicated).
(b) Management contract or compensatory plan or arrangement.
(c) Submitted electronically with this Report in accordance with the provisions of Regulation S-T.

Instruments defining the rights of holders of certain issues of long-term debt of Ford and of certain consolidated subsidiaries and of any unconsolidated subsidiary, for which financial statements are required to be filed with this Report, have not been filed as exhibits to this Report because the authorized principal amount of any one of such issues does not exceed 10% of the total assets of Ford and our subsidiaries on a consolidated basis. Ford agrees to furnish a copy of each of such instrument to the Securities and Exchange Commission upon request.

ITEM 16. ***Form 10-K Summary.***

None.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, Ford has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

FORD MOTOR COMPANY

By: /s/ Cathy O'Callaghan
Cathy O'Callaghan, Controller
(principal accounting officer)

Date: February 2, 2023

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of Ford and in the capacities on the date indicated:

Signature	Title	Date
/s/ WILLIAM CLAY FORD, JR. William Clay Ford, Jr.	Director, Chair of the Board, Executive Chair, Chair of the Office of the Chair and Chief Executive, and Chair of the Finance Committee	February 2, 2023
/s/ JAMES D. FARLEY, JR. James D. Farley, Jr.	Director, President and Chief Executive Officer (principal executive officer)	February 2, 2023
KIMBERLY A. CASIANO* Kimberly A. Casiano	Director	February 2, 2023
ALEXANDRA FORD ENGLISH* Alexandra Ford English	Director	February 2, 2023
HENRY FORD III* Henry Ford III	Director	February 2, 2023
WILLIAM W. HELMAN IV* William W. Helman IV	Director and Chair of the Sustainability, Innovation and Policy Committee	February 2, 2023
JON M. HUNTSMAN, JR.* Jon M. Huntsman, Jr.	Director	February 2, 2023
WILLIAM E. KENNARD* William E. Kennard	Director and Chair of the Nominating and Governance Committee	February 2, 2023
JOHN C. MAY II* John C. May II	Director	February 2, 2023
BETH E. MOONEY* Beth E. Mooney	Director	February 2, 2023
LYNN VOJVODICH RADAKOVICH* Lynn Vojvodich Radakovich	Director and Chair of the Compensation, Talent and Culture Committee	February 2, 2023
JOHN L. THORNTON* John L. Thornton	Director	February 2, 2023

Signature	Title	Date
JOHN B. VEIHMEYER* John B. Veihmeyer	Director and Chair of the Audit Committee	February 2, 2023
JOHN S. WEINBERG* John S. Weinberg	Director	February 2, 2023
/s/ JOHN T. LAWLER John T. Lawler	Chief Financial Officer (principal financial officer)	February 2, 2023
/s/ CATHY O'CALLAGHAN Cathy O'Callaghan	Controller (principal accounting officer)	February 2, 2023
*By: /s/ JONATHAN E. OSGOOD Jonathan E. Osgood Attorney-in-Fact		February 2, 2023

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Ford Motor Company

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Ford Motor Company and its subsidiaries (the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of income, of comprehensive income, of equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes and financial statement schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 10 to the consolidated financial statements, the Company changed the manner in which it accounts for credit losses in 2020.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Ford Credit Consumer Finance Receivables Allowance for Credit Losses

As described in Note 10 to the consolidated financial statements, the Company had consumer finance receivables of $71,414 million, for which a consumer allowance for credit losses of $838 million was recorded as of December 31, 2022. The consumer allowance for credit losses represents management's estimate of the lifetime expected credit losses inherent in the consumer finance receivables as of the balance sheet date. For consumer receivables that share similar risk characteristics, management estimates the lifetime expected credit losses based on a collective assessment using measurement models and management judgment. The lifetime expected credit losses for the receivables is determined by applying probability of default and loss given default assumptions to monthly expected exposures, then discounting these cash flows to present value using the receivable's original effective interest rate or the current effective interest rate for a variable rate receivable. 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.

The principal considerations for our determination that performing procedures relating to the Ford Credit consumer finance receivables allowance for credit losses is a critical audit matter are (i) the significant judgment by management in determining the consumer finance receivables allowance for credit losses; (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating audit evidence relating to the probability of default and loss given default assumptions and management's judgment regarding qualitative factors; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the Company's determination of the consumer finance receivables allowance for credit losses. These procedures also included, among others (i) testing management's process for determining the consumer finance receivables allowance for credit losses; (ii) evaluating the appropriateness of the models used to determine the allowance; (iii) evaluating the reasonableness of the probability of default and loss given default assumptions; (iv) testing the data used in the models; and (v) evaluating the reasonableness of management's judgment regarding qualitative factors related to economic uncertainty, observable changes in portfolio performance, and other relevant factors. Professionals with specialized skill and knowledge were used to assist in performing the procedures described in (i) through (v).

Warranty and Field Service Actions Accrual (United States)

As described in Note 25 to the consolidated financial statements, the Company had an accrual for estimated future warranty and field service action costs, net of estimated supplier recoveries ("warranty accrual"), of $9,193 million as of December 31, 2022, of which the United States comprises a significant portion. Management accrues the estimated cost of both base warranty coverages and field service actions at the time of sale. Management establishes their estimate of base warranty obligations using a patterned estimation model, using historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. Management establishes their estimates of field service action obligations using a patterned estimation model, using historical information regarding the nature, frequency, severity, and average cost of claims for each model year. Management reevaluates the adequacy of their accruals on a regular basis.

The principal considerations for our determination that performing procedures relating to the warranty accrual for the United States is a critical audit matter are (i) the significant judgment by management in the estimation of the accrual and development of the patterned estimation model; (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating the estimation model and significant assumptions related to the frequency and average cost of claims; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls related to the estimate of the warranty accrual for the United States. These procedures also included, among others, evaluating the reasonableness of significant assumptions used by management to develop the warranty accrual for the United States, related to the frequency and average cost of claims, in part by considering the historical experience of the Company. Professionals with specialized skill and knowledge were used to assist in evaluating the appropriateness of the model as well as the reasonableness of significant assumptions related to the frequency and average cost of claims.

/s/ PricewaterhouseCoopers LLP

Detroit, Michigan
February 2, 2023

We have served as the Company's auditor since 1946.

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FORD MOTOR COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	For the years ended December 31,		
	2020	2021	2022
Cash flows from operating activities			
Net income/(loss)	$ (1,276)	$ 17,910	$ (2,152)
Depreciation and tooling amortization (Note 12 and Note 13)	8,751	7,318	7,642
Other amortization	(1,294)	(1,358)	(1,149)
Held-for-sale impairment charges (Note 22)	23	—	32
Brazil manufacturing exit non-cash charges (excluding accelerated depreciation of $145, $322, and $17) (Note 21)	1,159	48	(82)
(Gains)/Losses on extinguishment of debt (Note 5 and Note 19)	1	1,702	121
Provision for/(Benefit from) credit and insurance losses	929	(298)	46
Pension and other postretirement employee benefits ("OPEB") expense/(income) (Note 17)	1,027	(4,865)	(378)
Equity method investment dividends received in excess of (earnings)/losses and impairments	130	116	3,324
Foreign currency adjustments	(420)	532	(27)
Net realized and unrealized (gains)/losses on cash equivalents, marketable securities, and other investments (Note 5)	(315)	(9,159)	7,518
Net (gain)/loss on changes in investments in affiliates (Note 5)	(3,446)	(368)	147
Stock compensation (Note 6)	199	305	336
Provision for deferred income taxes	(269)	(563)	(1,910)
Decrease/(Increase) in finance receivables (wholesale and other)	12,104	7,656	(10,560)
Decrease/(Increase) in accounts receivable and other assets	(63)	(1,141)	(1,183)
Decrease/(Increase) in inventory	148	(1,778)	(2,576)
Increase/(Decrease) in accounts payable and accrued and other liabilities	6,809	(36)	7,268
Other	72	(234)	436
Net cash provided by/(used in) operating activities	24,269	15,787	6,853
Cash flows from investing activities			
Capital spending	(5,742)	(6,227)	(6,866)
Acquisitions of finance receivables and operating leases	(55,901)	(48,379)	(45,533)
Collections of finance receivables and operating leases	48,746	52,094	46,276
Proceeds from sale of business (Note 22)	1,340	145	449
Purchases of marketable securities and other investments	(39,624)	(27,491)	(17,458)
Sales and maturities of marketable securities and other investments	32,395	33,229	19,117
Settlements of derivatives	(323)	(272)	94
Capital contributions to equity method investments (Note 24)	(4)	(57)	(738)
Other	498	(297)	312
Net cash provided by/(used in) investing activities	(18,615)	2,745	(4,347)
Cash flows from financing activities			
Cash payments for dividends and dividend equivalents	(596)	(403)	(2,009)
Purchases of common stock	—	—	(484)
Net changes in short-term debt	(2,291)	3,273	5,460
Proceeds from issuance of long-term debt	65,900	27,901	45,470
Payments of long-term debt	(60,514)	(54,164)	(45,655)
Other	(184)	(105)	(271)
Net cash provided by/(used in) financing activities	2,315	(23,498)	2,511
Effect of exchange rate changes on cash, cash equivalents, and restricted cash	225	(232)	(414)
Net increase/(decrease) in cash, cash equivalents, and restricted cash	$ 8,194	$ (5,198)	$ 4,603
Cash, cash equivalents, and restricted cash at beginning of period (Note 9)	$ 17,741	$ 25,935	$ 20,737
Net increase/(decrease) in cash, cash equivalents, and restricted cash	8,194	(5,198)	4,603
Cash, cash equivalents, and restricted cash at end of period (Note 9)	$ 25,935	$ 20,737	$ 25,340

The accompanying notes are part of the consolidated financial statements.

FORD MOTOR COMPANY AND SUBSIDIARIES
CONSOLIDATED INCOME STATEMENTS
(in millions, except per share amounts)

	For the years ended December 31,		
	2020	2021	2022
Revenues			
Automotive	$ 115,894	$ 126,150	$ 148,980
Ford Credit	11,203	10,073	8,978
Mobility	47	118	99
Total revenues (Note 4)	127,144	136,341	158,057
Costs and expenses			
Cost of sales	112,752	114,651	134,397
Selling, administrative, and other expenses	10,193	11,915	10,888
Ford Credit interest, operating, and other expenses	8,607	5,252	6,496
Total costs and expenses	131,552	131,818	151,781
Operating income/(loss)	(4,408)	4,523	6,276
Interest expense on Company debt excluding Ford Credit	1,649	1,803	1,259
Other income/(loss), net (Note 5)	4,899	14,733	(5,150)
Equity in net income/(loss) of affiliated companies (Note 14)	42	327	(2,883)
Income/(Loss) before income taxes	(1,116)	17,780	(3,016)
Provision for/(Benefit from) income taxes (Note 7)	160	(130)	(864)
Net income/(loss)	(1,276)	17,910	(2,152)
Less: Income/(Loss) attributable to noncontrolling interests	3	(27)	(171)
Net income/(loss) attributable to Ford Motor Company	$ (1,279)	$ 17,937	$ (1,981)
EARNINGS/(LOSS) PER SHARE ATTRIBUTABLE TO FORD MOTOR COMPANY COMMON AND CLASS B STOCK (Note 8)			
Basic income/(loss)	$ (0.32)	$ 4.49	$ (0.49)
Diluted income/(loss)	(0.32)	4.45	(0.49)
Weighted-average shares used in computation of earnings/(loss) per share			
Basic shares	3,973	3,991	4,014
Diluted shares	3,973	4,034	4,014

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in millions)

	For the years ended December 31,		
	2020	2021	2022
Net income/(loss)	$ (1,276)	$ 17,910	$ (2,152)
Other comprehensive income/(loss), net of tax (Note 23)			
Foreign currency translation	(901)	43	(933)
Marketable securities	85	(175)	(423)
Derivative instruments	222	73	322
Pension and other postretirement benefits	27	18	30
Total other comprehensive income/(loss), net of tax	(567)	(41)	(1,004)
Comprehensive income/(loss)	(1,843)	17,869	(3,156)
Less: Comprehensive income/(loss) attributable to noncontrolling interests	2	(23)	(175)
Comprehensive income/(loss) attributable to Ford Motor Company	$ (1,845)	$ 17,892	$ (2,981)

The accompanying notes are part of the consolidated financial statements.

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FORD MOTOR COMPANY AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(in millions)

	December 31, 2021	December 31, 2022
ASSETS		
Cash and cash equivalents (Note 9)	$ 20,540	$ **25,134**
Marketable securities (Note 9)	29,053	**18,936**
Ford Credit finance receivables, net of allowance for credit losses of $282 and $255 (Note 10)	32,543	**38,720**
Trade and other receivables, less allowances of $48 and $105	11,370	**15,729**
Inventories (Note 11)	12,065	**14,080**
Assets held for sale (Note 22)	9	**97**
Other assets	3,416	**3,780**
Total current assets	108,996	**116,476**
Ford Credit finance receivables, net of allowance for credit losses of $643 and $590 (Note 10)	51,256	**49,903**
Net investment in operating leases (Note 12)	26,361	**22,772**
Net property (Note 13)	37,139	**37,265**
Equity in net assets of affiliated companies (Note 14)	4,545	**2,798**
Deferred income taxes (Note 7)	13,796	**15,552**
Other assets	14,942	**11,118**
Total assets	$ 257,035	$ **255,884**
LIABILITIES		
Payables	$ 22,349	$ **25,605**
Other liabilities and deferred revenue (Note 16 and Note 25)	18,686	**21,097**
Debt payable within one year (Note 19)		
Company excluding Ford Credit	3,175	**730**
Ford Credit	46,517	**49,434**
Total current liabilities	90,727	**96,866**
Other liabilities and deferred revenue (Note 16 and Note 25)	27,705	**25,497**
Long-term debt (Note 19)		
Company excluding Ford Credit	17,200	**19,200**
Ford Credit	71,200	**69,605**
Deferred income taxes (Note 7)	1,581	**1,549**
Total liabilities	208,413	**212,717**
EQUITY		
Common Stock, par value $0.01 per share (4,068 million shares issued of 6 billion authorized)	40	**41**
Class B Stock, par value $0.01 per share (71 million shares issued of 530 million authorized)	1	**1**
Capital in excess of par value of stock	22,611	**22,832**
Retained earnings	35,769	**31,754**
Accumulated other comprehensive income/(loss) (Note 23)	(8,339)	**(9,339)**
Treasury stock	(1,563)	**(2,047)**
Total equity attributable to Ford Motor Company	48,519	**43,242**
Equity attributable to noncontrolling interests	103	**(75)**
Total equity	48,622	**43,167**
Total liabilities and equity	$ 257,035	$ **255,884**

The following table includes assets to be used to settle liabilities of the consolidated variable interest entities ("VIEs"). These assets and liabilities are included in the consolidated balance sheets above. See Note 24 for additional information on our VIEs.

	December 31, 2021	December 31, 2022
ASSETS		
Cash and cash equivalents	$ 3,407	$ **2,274**
Ford Credit finance receivables, net	43,001	**49,142**
Net investment in operating leases	7,540	**12,545**
Other assets	39	**264**
LIABILITIES		
Other liabilities and deferred revenue	$ 6	$ **2**
Debt	38,274	**45,451**

The accompanying notes are part of the consolidated financial statements.

FORD MOTOR COMPANY AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY
(in millions)

	Equity Attributable to Ford Motor Company							
	Capital Stock	Cap. in Excess of Par Value of Stock	Retained Earnings/(Accumulated Deficit)	Accumulated Other Comprehensive Income/(Loss) (Note 23)	Treasury Stock	Total	Equity Attributable to Non-controlling Interests	Total Equity
Balance at December 31, 2019	$ 41	$ 22,165	$ 20,320	$ (7,728)	$ (1,613)	$ 33,185	$ 45	$ 33,230
Adoption of accounting standards	—	—	(202)	—	—	(202)	—	(202)
Net income/(loss)	—	—	(1,279)	—	—	(1,279)	3	(1,276)
Other comprehensive income/(loss), net of tax	—	—	—	(566)	—	(566)	(1)	(567)
Common stock issued (a)	—	125	—	—	—	125	—	125
Treasury stock/other	—	—	—	—	23	23	86	109
Dividend and dividend equivalents declared (b)	—	—	(596)	—	—	(596)	(12)	(608)
Balance at December 31, 2020	$ 41	$ 22,290	$ 18,243	$ (8,294)	$ (1,590)	$ 30,690	$ 121	$ 30,811
Balance at December 31, 2020	$ 41	$ 22,290	$ 18,243	$ (8,294)	$ (1,590)	$ 30,690	$ 121	$ 30,811
Net income/(loss)	—	—	17,937	—	—	17,937	(27)	17,910
Other comprehensive income/(loss), net of tax	—	—	—	(45)	—	(45)	4	(41)
Common stock issued (a)	—	321	—	—	—	321	—	321
Treasury stock/other	—	—	—	—	27	27	5	32
Dividend and dividend equivalents declared (b)	—	—	(411)	—	—	(411)	—	(411)
Balance at December 31, 2021	$ 41	$ 22,611	$ 35,769	$ (8,339)	$ (1,563)	$ 48,519	$ 103	$ 48,622
Balance at December 31, 2021	**$ 41**	**$ 22,611**	**$ 35,769**	**$ (8,339)**	**$ (1,563)**	**$ 48,519**	**$ 103**	**$ 48,622**
Net income/(loss)	—	—	**(1,981)**	—	—	**(1,981)**	**(171)**	**(2,152)**
Other comprehensive income/(loss), net of tax	—	—	—	**(1,000)**	—	**(1,000)**	**(4)**	**(1,004)**
Common stock issued (a)	**1**	**221**	—	—	—	**222**	—	**222**
Treasury stock/other	—	—	—	—	**(484)**	**(484)**	**7**	**(477)**
Dividend and dividend equivalents declared (b)	—	—	**(2,034)**	—	—	**(2,034)**	**(10)**	**(2,044)**
Balance at December 31, 2022	**$ 42**	**$ 22,832**	**$ 31,754**	**$ (9,339)**	**$ (2,047)**	**$ 43,242**	**$ (75)**	**$ 43,167**

(a) Includes impacts of share-based compensation.

(b) We declared dividends per share of Common and Class B Stock of $0.15 and $0.10 in 2020 and 2021, respectively, and in 2022, $0.10 per share in the first and second quarter and $0.15 per share in the third and fourth quarter. On February 2, 2023, we declared a regular dividend of $0.15 per share and a supplemental dividend of $0.65 per share.

The accompanying notes are part of the consolidated financial statements.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 1. PRESENTATION

For purposes of this report, "Ford," the "Company," "we," "our," "us," or similar references mean Ford Motor Company, our consolidated subsidiaries, and our consolidated VIEs of which we are the primary beneficiary, unless the context requires otherwise. We also make reference to Ford Motor Credit Company LLC, herein referenced to as Ford Credit. Our consolidated financial statements are presented in accordance with U.S. generally accepted accounting principles ("GAAP"). We reclassified certain prior year amounts in our consolidated financial statements to conform to the current year presentation.

Certain Transactions Between Automotive, Mobility, and Ford Credit

Intersegment transactions occur in the ordinary course of business. Additional detail regarding certain transactions and the effect on each segment at December 31 was as follows (in billions):

	2021			2022		
	Automotive	Mobility	Ford Credit	Automotive	Mobility	Ford Credit
Trade and other receivables (a)			$ 7.4			$ 10.6
Unearned interest supplements and residual support (b)			(4.6)			(3.4)
Finance receivables and other (c)			1.2			1.3
Intersegment receivables/(payables)	$ (1.4)	$ —	1.4	$ (1.5)	$ —	1.5

(a) Automotive receivables (generated primarily from vehicle and parts sales to third parties) sold to Ford Credit.
(b) Automotive pays amounts to Ford Credit at the point of retail financing or lease origination, which represent interest supplements and residual support.
(c) Primarily receivables with entities that are consolidated subsidiaries of Ford, including a sale-leaseback agreement between Automotive and Ford Credit relating primarily to vehicles that we lease to our employees.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

For each accounting topic that is addressed in its own note, the description of the accounting policy may be found in the related note. Other significant accounting policies are described below.

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Use of Estimates

The preparation of financial statements requires us to make estimates and assumptions that affect our results. Estimates are used to account for certain items such as marketing accruals, warranty costs, employee benefit programs, allowance for credit losses, and other items requiring judgment. Estimates are based on assumptions that we believe are reasonable under the circumstances. Due to the inherent uncertainty involved with estimates, actual results may differ.

Foreign Currency

When an entity has monetary assets and liabilities denominated in a currency that is different from its functional currency, we remeasure those assets and liabilities from the transactional currency to the entity's functional currency. The effect of this remeasurement process and the results of our related foreign currency hedging activities are reported in *Cost of sales* and *Other income/(loss), net* and were $(46) million, $(74) million, and $180 million, for the years ended 2020, 2021, and 2022, respectively.

Generally, our foreign subsidiaries use the local currency as their functional currency. We translate the assets and liabilities of our foreign subsidiaries from their respective functional currencies to U.S. dollars using end-of-period exchange rates. Changes in the carrying value of these assets and liabilities attributable to fluctuations in exchange rates are recognized in *Foreign currency translation*, a component of *Other comprehensive income/(loss), net of tax*. Upon sale or upon complete or substantially complete liquidation of an investment in a foreign subsidiary, the amount of accumulated foreign currency translation related to the entity is reclassified to income and recognized as part of the gain or loss on the investment.

Cash Equivalents

Cash and cash equivalents are highly liquid investments that are readily convertible to known amounts of cash and are subject to an insignificant risk of change in value due to interest rate, quoted price, or penalty on withdrawal. A debt security is classified as a cash equivalent if it meets these criteria and if it has a remaining time to maturity of three months or less from the date of purchase. Amounts on deposit and available upon demand, or negotiated to provide for daily liquidity without penalty, are classified as *Cash and cash equivalents*. Time deposits, certificates of deposit, and money market accounts that meet the above criteria are reported at par value on our consolidated balance sheets.

Restricted Cash

Cash and cash equivalents that are restricted as to withdrawal or use under the terms of certain contractual agreements are recorded in *Other assets* in the non-current assets section of our consolidated balance sheets. Our Company excluding Ford Credit restricted cash balances primarily include various escrow agreements related to legal, insurance, customs, and environmental matters and cash held under the terms of certain contractual agreements. Our Ford Credit segment restricted cash balances primarily include cash held to meet certain local governmental and regulatory reserve requirements and cash held under the terms of certain contractual agreements. Restricted cash does not include required minimum balances or cash securing debt issued through securitization transactions.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(Continued)*

Marketable Securities

Investments in debt securities with a maturity date greater than three months at the date of purchase and other debt securities for which there is more than an insignificant risk of change in value due to interest rate, quoted price, or penalty on withdrawal are classified and accounted for as either trading or available-for-sale marketable securities. Equity securities with a readily determinable fair value are classified and accounted for as trading marketable securities.

Realized gains and losses, interest income, and dividend income on all of our marketable securities and unrealized gains and losses on securities not classified as available for sale are recorded in *Other income/(loss), net*. Unrealized gains and losses on available-for-sale securities are recognized in *Unrealized gains and losses on securities*, a component of *Other comprehensive income/(loss), net of tax*. Realized gains and losses and reclassifications of accumulated other comprehensive income into net income are measured using the specific identification method.

On a quarterly basis, we review our available-for-sale debt securities for credit losses. We compare the present value of cash flows expected to be collected from the security with the amortized cost basis of the security. If the present value of cash flows expected to be collected is less than the amortized cost basis of the security, we determine if a credit loss allowance is necessary. If a credit loss allowance is necessary, we will record an allowance, limited by the amount that fair value is less than the amortized cost basis, and recognize the corresponding charge in *Other income/(loss), net*. Factors we consider include the severity of the impairment, the reason for the decline in value, interest rate changes, and counterparty long-term ratings.

Trade, Notes, and Other Receivables

Trade, notes, and other receivables consist primarily of receivables from contracts with customers for the sale of vehicles, parts, and accessories. The current portion of trade and notes receivables is reported in *Trade and other receivables, net*. The non-current portion of notes receivables is reported in *Other assets*. Trade and notes receivables are initially recorded at transaction cost. Trade receivables are typically outstanding for 30 days or less. Each reporting period, we evaluate the collectibility of the trade and notes receivables and record an allowance for credit losses representing our estimate of the expected losses that result from all possible default events over the expected life of the receivables. Additions to the allowance for credit losses are made by recording charges to bad debt expense reported in *Selling, administrative, and other expenses* and *Cost of sales*. Trade and notes receivables are written off against the allowance for credit losses when the account is deemed to be uncollectible.

Net Intangible Assets and Goodwill

Indefinite-lived intangible assets and goodwill are not amortized but are tested for impairment annually or more frequently if events or circumstances indicate the assets may be impaired. Goodwill impairment testing is also performed following an allocation of goodwill to a business to be disposed or a change in reporting units. We test for impairment by assessing qualitative factors to determine whether it is more likely than not that the fair value of the indefinite-lived intangible asset or the reporting unit allocated the goodwill is less than its carrying amount. If the qualitative assessment indicates a possible impairment, the carrying value of the asset or reporting unit is compared with its fair value. Fair value is measured relying primarily on the income approach by applying a discounted cash flow method, the market approach using market values or multiples, and/or third-party valuations. We capitalize and amortize our finite-lived intangible assets over their estimated useful lives.

The carrying amount of intangible assets and goodwill is reported in *Other assets* in the non-current assets section of our consolidated balance sheets. Intangible assets are comprised primarily of advertising agreements, land rights, and technology licenses. The net carrying amount of our intangible assets was $111 million and $86 million at December 31, 2021 and 2022, respectively. For the periods presented, we have not recorded any material impairments for indefinite-lived intangibles. The net carrying amount of goodwill was $619 million and $603 million at December 31, 2021 and 2022, respectively. In 2021, we fully impaired goodwill for two investments in our Mobility segment. In 2022, we have not recorded any impairments for goodwill.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(Continued)*

Held-and-Used Long-Lived Asset Impairment

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We test long-lived asset groups when changes in circumstances indicate the carrying value may not be recoverable. Events that trigger a test for recoverability include material adverse changes in projected revenues or expenses, present cash flow losses combined with a history of cash flow losses and a forecast that demonstrates significant continuing losses, significant negative industry or economic trends, a current expectation that a long-lived asset group will be disposed of significantly before the end of its useful life, a significant adverse change in the manner in which an asset group is used or in its physical condition, or when there is a change in the asset grouping. In addition, investing in new, emerging products (e.g., EVs) or services (e.g., connectivity) may require substantial upfront investment, which may result in initial forecasted negative cash flows in the near term. In these instances, near term negative cash flows on their own may not be indicative of a triggering event for evaluation of impairment. In such circumstances, we also conduct a qualitative evaluation of the business growth trajectory, which includes updating our assessment of when positive cash flows are expected to be generated, confirming whether established milestones are being achieved, and assessing our ability and intent to continue to access required funding to execute the plan. If this evaluation indicates a triggering event has occurred, a test for recoverability is performed.

When a triggering event occurs, a test for recoverability is performed, comparing projected undiscounted future cash flows to the carrying value of the asset group. If the undiscounted forecasted cash flows are less than the carrying value of the assets, the asset group's fair value is measured relying primarily on a discounted cash flow method. To the extent available, we will also consider third-party valuations of our long-lived assets that were prepared for other business purposes. An impairment charge is recognized for the amount by which the carrying value of the asset group exceeds its estimated fair value. When an impairment loss is recognized for assets to be held and used, the adjusted carrying amounts of those assets are depreciated over their remaining useful life. For the periods presented, we have not recorded any material impairments.

Held-for-Sale Asset Impairment

We perform an impairment test on a disposal group to be discontinued, held for sale ("HFS"), or otherwise disposed when we have committed to an action and the action is expected to be completed within one year. We estimate fair value to approximate the expected proceeds to be received, less cost to sell, and compare it to the carrying value of the disposal group. An impairment charge is recognized when the carrying value exceeds the estimated fair value (see Note 22). We also assess fair value if circumstances arise that were considered unlikely and, as a result, we decide not to sell a disposal group previously classified as HFS upon reclassification as held and used. When there is a change to a plan of sale, and the assets are reclassified from HFS to held and used, the long-lived assets would be reported at the lower of (i) the carrying amount before HFS designation, adjusted for depreciation that would have been recognized if the assets had not been classified as HFS, or (ii) the fair value at the date the assets no longer satisfy the criteria for classification as HFS.

Fair Value Measurements

We measure fair value of our financial instruments, including those held within our pension plans, using various valuation methods and prioritize the use of observable inputs. The use of observable and unobservable inputs and their significance in measuring fair value are reflected in our fair value hierarchy:

- Level 1 - inputs include quoted prices for identical instruments and are the most observable
- Level 2 - inputs include quoted prices for similar instruments and observable inputs such as interest rates, currency exchange rates, and yield curves
- Level 3 - inputs include data not observable in the market and reflect management judgment about the assumptions market participants would use in pricing the instruments

Fixed income securities, equities, commingled funds, derivative financial instruments, and alternative assets are remeasured and presented within our consolidated financial statements at fair value on a recurring basis. Finance receivables and debt are measured at fair value for the purpose of disclosure. Other assets and liabilities are measured at fair value on a nonrecurring basis.

Transfers into and transfers out of the hierarchy levels are recognized as if they had taken place at the end of the reporting period.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(Continued)*

Valuation Method

Fixed Income Securities. Fixed income securities primarily include government securities, government agency securities, corporate bonds, and asset-backed securities. We generally measure fair value using prices obtained from pricing services or quotes from dealers that make markets in such securities. Pricing methods and inputs to valuation models used by the pricing services depend on the security type (i.e., asset class). Where possible, fair values are generated using market inputs, including quoted prices (the closing price in an exchange market), bid prices (the price at which a buyer stands ready to purchase), and other market information. For fixed income securities that are not actively traded, the pricing services use alternative methods to determine fair value for the securities, including quotes for similar fixed income securities, matrix pricing, discounted cash flow using benchmark curves, or other factors. In certain cases, when market data are not available, we may use broker quotes or pricing services that use proprietary pricing models to determine fair value. The proprietary models incorporate unobservable inputs primarily consisting of prepayment curves, discount rates, default assumptions, recovery rates, yield assumptions, and credit spread assumptions.

An annual review is performed on the security prices received from our pricing services, which includes discussion and analysis of the inputs used by the pricing services to value our securities. We also compare the price of certain securities sold close to the quarter end to the price of the same security at the balance sheet date to ensure the reported fair value is reasonable.

Equities. Equity securities are primarily exchange-traded and are valued based on the closing bid, official close, or last trade pricing on an active exchange. If closing prices are not available, securities are valued at the last quoted bid price or may be valued using the last available price. Securities that are thinly traded or delisted are valued using unobservable pricing data.

Commingled Funds. Fixed income and public equity securities may each be combined into commingled fund investments. Most commingled funds are valued to reflect our interest in the fund based on the reported year-end net asset value ("NAV").

Derivative Financial Instruments. Exchange-traded derivatives for which market quotations are readily available are valued at the last reported sale price or official closing price as reported by an independent pricing service on the primary market or exchange on which they are traded. Over-the-counter derivatives are not exchange traded and are valued using independent pricing services or industry-standard valuation models such as a discounted cash flow. When discounted cash flow models are used, projected future cash flows are discounted to a present value using market-based expectations for interest rates, foreign exchange rates, commodity prices, and the contractual terms of the derivative instruments. The discount rate used is the relevant benchmark interest rate (e.g., LIBOR, SOFR, SONIA) plus an adjustment for non-performance risk. The adjustment reflects the full credit default swap ("CDS") spread applied to a net exposure, by counterparty, considering the master netting agreements and any posted collateral. We use our counterparty's CDS spread when we are in a net asset position and our own CDS spread when we are in a net liability position. In cases when market data are not available, we use broker quotes and models (e.g., Black-Scholes) to determine fair value. This includes situations where there is a lack of liquidity for a particular currency or commodity, or when the instrument is longer dated. When broker quotes or models are used to determine fair value, the derivative is categorized within Level 3 of the hierarchy. All other derivatives are categorized within Level 2.

Alternative Assets. Hedge funds generally hold liquid and readily-priced securities, such as public equities, exchange-traded derivatives, and corporate bonds. Private equity and real estate investments are less liquid. External investment managers typically report valuations reflecting initial cost or updated appraisals, which are adjusted for cash flows, and realized and unrealized gains/losses. All alternative assets are valued at the NAV provided by the investment sponsor or third party administrator, as they do not have readily-available market quotations. Valuations may be lagged up to six months. The NAV will be adjusted for cash flows (additional investments or contributions, and distributions) through year end. We may make further adjustments for any known substantive valuation changes not reflected in the NAV.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(Continued)*

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We may hold annuity contracts within some of our non-U.S. pension plans (see Note 17). Generally, the contract valuation method is applied for markets where we have purchased non-participating annuity contracts from an insurer as a plan asset. The Ford-Werke GmbH ("Ford-Werke") defined benefit plan is primarily funded through a participating group insurance contract. For the Ford-Werke plan, we measure the fair value of the insurance asset by projecting expected future cash flows from the contract and discounting them to present value based on current market rates as well as an assessment for non-performance risk of the insurance company. The assumptions used to project expected future cash flows are based on actuarial estimates and are unobservable. We include all annuity contracts within Level 3 of the hierarchy.

Finance Receivables. We measure finance receivables at fair value using internal valuation models (see Note 10). These models project future cash flows of financing contracts based on scheduled contract payments (including principal and interest) and assumptions regarding expected credit losses and pre-payment speed. The projected cash flows are discounted to present value at current rates that incorporate present yield curve and credit spread assumptions. The fair value of finance receivables is categorized within Level 3 of the hierarchy.

On a nonrecurring basis, we also measure at fair value retail contracts greater than 120 days past due or deemed to be uncollectible, and individual dealer loans probable of foreclosure. We use the fair value of collateral, adjusted for estimated costs to sell, to determine the fair value of these receivables. The collateral for a retail financing or wholesale receivable is the vehicle financed, and for dealer loans is real estate or other property.

The fair value of collateral for retail receivables is calculated as the outstanding receivable balances multiplied by the average recovery value percentage. The fair value of collateral for wholesale receivables is based on the wholesale market value or liquidation value for new and used vehicles. The fair value of collateral for dealer loans is determined by reviewing various appraisals, which include total adjusted appraised value of land and improvements, alternate use appraised value, broker's opinion of value, and purchase offers.

Debt. We measure debt at fair value using quoted prices for our own debt with approximately the same remaining maturities (see Note 19). Where quoted prices are not available, we estimate fair value using discounted cash flows and market-based expectations for interest rates, credit risk, and the contractual terms of the debt instruments. For certain short-term debt with an original maturity date of one year or less, we assume that book value is a reasonable approximation of the debt's fair value. The fair value of debt is categorized within Level 2 of the hierarchy.

Finance and Lease Incentives

We routinely sponsor special retail financing and lease incentives to dealers' customers who choose to finance or lease our vehicles from Ford Credit. The cost for these incentives is included in our estimate of variable consideration when the vehicle is sold to the dealer. Ford Credit records a reduction to the finance receivable or reduces the cost of the vehicle operating lease when it records the underlying finance contract, and we transfer to Ford Credit the amount of the incentive on behalf of the dealer's customer. See Note 1 for additional information regarding transactions between Automotive and Ford Credit. The Ford Credit segment recognized interest revenue of $2.4 billion, $2.4 billion, and $2.1 billion in 2020, 2021, and 2022, respectively, and lower depreciation of $2.3 billion, $1.9 billion, and $1.2 billion in 2020, 2021, and 2022, respectively, associated with these incentives.

Supplier Price Adjustments

We frequently negotiate price adjustments with our suppliers throughout a production cycle, even after receiving production material. These price adjustments relate to changes in design specification or other commercial terms such as economics, productivity, and competitive pricing. We recognize price adjustments when we reach final agreement with our suppliers. In general, we avoid direct price changes in consideration of future business; however, when these occur, our policy is to defer the recognition of any such price change given explicitly in consideration of future business.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES *(Continued)*

Government Incentives

We receive incentives from U.S. and non-U.S. governmental entities in the form of tax rebates or credits, grants, and loans. Government incentives are recorded in our consolidated financial statements in accordance with their purpose as a reduction of expense or other income. The benefit is generally recorded when all conditions attached to the incentive have been met and there is reasonable assurance of receipt. Government incentives related to capital investment are recognized in *Net Property* as a reduction to the net book value of the related asset. The incentives are recognized over the life of the asset as a reduction to depreciation and amortization expense.

During 2022, we were awarded incentives by the State of Tennessee related to land, capital, and property tax abatements in connection with Ford's capital investment in our new electric vehicle assembly plant and job commitments. These incentives are available until December 2051. The fair value of the land benefit in 2022 was $144 million and was recorded in *Net Property* fully offset by the value of the incentive. A capital grant of $285 million is expected to be received in 2023 and will reduce the depreciation and amortization expense over the life of the related assets.

In 2022, we were also awarded incentives by the Canadian government and Province of Ontario in connection with the development of electric vehicles at our Oakville Assembly Plant. Equipment, tooling, and labor incentives of C$590 million are expected to be received over the terms of the agreements beginning in 2024 through 2033 and will be recognized as a reduction of the related expenses.

Ford may also indirectly benefit from incentives and grants awarded to companies with which we are affiliated but are not included in our consolidated financial statements.

Ford's receipt of government incentives could be subject to reduction, termination, or claw back. Claw back provisions are monitored for ongoing compliance and are accrued for when losses are deemed probable and estimable (see Note 25).

Selected Other Costs

Engineering, research, and development expenses are reported in *Cost of sales* and primarily consist of salaries, materials, and associated costs. Engineering, research, and development costs are expensed as incurred when performed internally or when performed by a supplier if we guarantee reimbursement. Advertising costs are reported in *Selling, administrative, and other expenses* and are expensed as incurred. Engineering, research, development, and advertising expenses for the years ended December 31 were as follows (in billions):

	2020	2021	2022
Engineering, research, and development	$ 7.1	$ 7.6	$ 7.8
Advertising	2.8	3.1	2.2

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 3. NEW ACCOUNTING STANDARDS

Adoption of New Accounting Standards

Accounting Standards Update ("ASU") 2021-10, Government Assistance: Disclosures by Business Entities about Government Assistance. Effective January 1, 2022, we adopted the new standard, which requires entities to provide certain disclosures in annual period financial statements for those transactions with governments that are accounted for by applying a grant or contribution accounting model via analogy to other applicable accounting standards. Adoption of the new standard did not have a material impact to our consolidated financial statement disclosures.

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We also adopted the following ASUs during 2022, none of which had a material impact to our consolidated financial statements or financial statement disclosures:

ASU		Effective Date
2021-04	Issuer's Accounting for Certain Modifications or Exchanges of Warrants	January 1, 2022
2021-05	Lessors - Certain Leases with Variable Lease Payments	January 1, 2022
2021-08	Business Combinations: Accounting for Contract Assets and Contract Liabilities from Contracts with Customers	January 1, 2022
2022-06	Reference Rate Reform: Deferral of the Sunset Date of Topic 848	December 21, 2022

Accounting Standards Issued But Not Yet Adopted

ASU 2022-02, Financial Instruments – Credit Losses, Troubled Debt Restructurings and Vintage Disclosures. In March 2022, the FASB issued a new accounting standard that eliminates the troubled debt recognition and measurement guidance. The new standard requires that an entity apply the loan refinancing and restructuring guidance in ASC 310 to all loan modifications and/or receivable modifications. It also enhances disclosure requirements for certain refinancings and restructurings by creditors when a borrower is experiencing financial difficulty and requires disclosure of current-period gross charge-offs by year of origination in the vintage disclosure. The new standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2022. The adoption of the new standard is not expected to have a material impact on our consolidated financial statements or financial statement disclosures.

All other ASUs issued but not yet adopted were assessed and determined to be either not applicable or are not expected to have a material impact on our consolidated financial statements or financial statement disclosures.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 4. REVENUE

The following tables disaggregate our revenue by major source for the years ended December 31 (in millions):

	2020		
	Company Excluding Ford Credit	Ford Credit	Consolidated
Vehicles, parts, and accessories	$ 110,180	$ —	$ 110,180
Used vehicles	2,935	—	2,935
Services and other revenue (a)	2,514	161	2,675
Revenues from sales and services	115,629	161	115,790
Leasing income	312	5,653	5,965
Financing income	—	5,261	5,261
Insurance income	—	128	128
Total revenues	$ 115,941	$ 11,203	$ 127,144

	2021		
	Company Excluding Ford Credit	Ford Credit	Consolidated
Vehicles, parts, and accessories	$ 120,973	$ —	$ 120,973
Used vehicles	2,358	—	2,358
Services and other revenue (a)	2,651	161	2,812
Revenues from sales and services	125,982	161	126,143
Leasing income	286	5,291	5,577
Financing income	—	4,560	4,560
Insurance income	—	61	61
Total revenues	$ 126,268	$ 10,073	$ 136,341

	2022		
	Company Excluding Ford Credit	Ford Credit	Consolidated
Vehicles, parts, and accessories	$ 144,471	$ —	$ 144,471
Used vehicles	1,719	—	1,719
Services and other revenue (a)	2,688	100	2,788
Revenues from sales and services	148,878	100	148,978
Leasing income	201	4,569	4,770
Financing income	—	4,254	4,254
Insurance income	—	55	55
Total revenues	$ 149,079	$ 8,978	$ 158,057

(a) Includes extended service contract revenue.

Revenue is recognized when obligations under the terms of a contract with our customer are satisfied; generally this occurs when we transfer control of our vehicles, parts, or accessories, or provide services. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods or providing services. For the majority of sales, this occurs when products are shipped from our manufacturing facilities. However, we defer a portion of the consideration received when there is a separate future or stand-ready performance obligation, such as extended service contracts or ongoing vehicle connectivity. Sales, value-added, and other taxes we collect concurrent with revenue-producing activities are excluded from revenue. Incidental items that are immaterial in the context of the contract are recognized as expense. The expected costs associated with our base warranties and field service actions are recognized as expense when the products are sold (see Note 25). We do not have any material significant payment terms as payment is received at or shortly after the point of sale.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 4. REVENUE *(Continued)*

Company Excluding Ford Credit

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Vehicles, Parts, and Accessories. For the majority of vehicles, parts, and accessories, we transfer control and recognize a sale when we ship the product from our manufacturing facility to our customer (dealers and distributors). We receive cash equal to the invoice price for most vehicle sales at the time of wholesale. When the vehicle sale is financed by our wholly-owned subsidiary Ford Credit, the dealer is obligated to pay Ford Credit when it sells the vehicle to the retail customer (see Note 10). Payment terms on part sales to dealers, distributors, and retailers range from 30 to 120 days. The amount of consideration we receive and revenue we recognize varies with changes in return rights and marketing incentives we offer to our customers and their customers. When we give our dealers the right to return eligible parts and accessories, we estimate the expected returns based on an analysis of historical experience. Estimates of marketing incentives are based on expected retail and fleet sales volumes, mix of products to be sold, and incentive programs to be offered. Customer acceptance of products and programs, as well as other market conditions, will impact these estimates. We adjust our estimate of revenue at the earlier of when the value of consideration we expect to receive changes or when the consideration becomes fixed. As a result of changes in our estimate of marketing incentives, we recorded a decrease in revenue of $973 million during 2020 and an increase in revenue of $252 million and $209 million during 2021 and 2022, respectively, related to revenue recognized in prior annual periods.

We have elected to recognize the cost for freight and shipping when control over vehicles, parts, or accessories have transferred to the customer as an expense in *Cost of sales*.

We sell vehicles to daily rental companies and may guarantee that we will pay them the difference between an agreed amount and the value they are able to realize upon resale. At the time of transfer of vehicles to the daily rental companies, we record the probable amount we will pay under the guarantee to *Other liabilities and deferred revenue* (see Note 25).

Used Vehicles. We sell used vehicles both at auction and through our consolidated dealerships. Proceeds from the sale of these vehicles are recognized in *Company excluding Ford Credit revenues* upon transfer of control of the vehicle to the customer, and the related vehicle carrying value is recognized in *Cost of sales*.

Services and other revenue. For separate or stand-ready performance obligations that are included as part of the vehicle consideration received (e.g., free extended service contracts, vehicle connectivity, over-the-air updates), we use an observable price to determine the stand-alone selling price or, when one is not available, we use a cost-plus margin approach. We also sell separately priced service contracts that extend mechanical and maintenance coverages beyond our base warranty agreements to vehicle owners. We receive payment at contract inception and the contracts generally range from 12 to 120 months. We recognize revenue for vehicle service contracts that extend mechanical and maintenance coverages beyond our base warranties over the term of the agreement in proportion to the costs we expect to incur in satisfying the contract obligations. Revenue related to other future or stand-ready performance obligations is generally recognized on a straight-line basis over the period in which services are expected to be performed.

We had a balance of $4.2 billion and $4.3 billion of unearned revenue associated primarily with outstanding extended service contracts reported in *Other liabilities and deferred revenue* at December 31, 2020 and 2021, respectively. We recognized $1.3 billion and $1.4 billion of the unearned amounts as revenue during the years ended December 31, 2021 and 2022, respectively. At December 31, 2022, the unearned amount was $4.4 billion. We expect to recognize approximately $1.3 billion of the unearned amount in 2023, $1.1 billion in 2024, and $2 billion thereafter.

We record a premium deficiency reserve to the extent we estimate the future costs associated with extended service contracts exceed the unrecognized revenue. Amounts paid to dealers to obtain these contracts are deferred and recorded as *Other assets*. These costs are amortized to expense consistent with how the related revenue is recognized. We had a balance of $309 million and $315 million in deferred costs as of December 31, 2021 and 2022, respectively. We recognized $79 million, $81 million, and $88 million of amortization during the years ended December 31, 2020, 2021, and 2022, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 4. REVENUE *(Continued)*

We also receive other revenue related to vehicle-related design and testing services we perform for others, various Mobility operations, and net commissions for serving as the agent in facilitating the sale of a third party's products or services to our customers. We have applied the practical expedient to recognize *Automotive revenues* for vehicle-related design and testing services over the two to three year term of these agreements in proportion to the amount we have the right to invoice.

Leasing Income. We sell vehicles to daily rental companies with an obligation to repurchase the vehicles for a guaranteed amount, exercisable at the option of the customer. The transactions are accounted for as operating leases. Upon the transfer of vehicles to the daily rental companies, we record proceeds received in *Other liabilities and deferred revenue*. The difference between the proceeds received and the guaranteed repurchase amount is recorded in *Company excluding Ford Credit revenues* over the term of the lease using a straight-line method. The cost of the vehicle is recorded in *Net investment in operating leases* on our consolidated balance sheets and the difference between the cost of the vehicle and the estimated auction value is depreciated in *Cost of sales* over the term of the lease.

Ford Credit Segment

Leasing Income. Ford Credit offers leasing plans to retail consumers through Ford and Lincoln brand dealers that originate the leases. Ford Credit records an operating lease upon purchase of a vehicle subject to a lease from the dealer. The retail consumer makes lease payments representing the difference between Ford Credit's purchase price of the vehicle and the contractual residual value of the vehicle plus lease fees, which we recognize on a straight-line basis over the term of the lease agreement. Depreciation and the gain or loss upon disposition of the vehicle is recorded in *Ford Credit interest, operating, and other expenses.*

Financing Income. Ford Credit originates and purchases finance installment contracts. Financing income represents interest earned on the finance receivables (including sales-type and direct financing leases). Interest is recognized using the interest method and includes the amortization of certain direct origination costs.

Insurance Income. Income from insurance contracts is recognized evenly over the term of the agreement. Insurance commission revenue is recognized on a net basis at the time of sale of the third party's product or service to our customer.

NOTE 5. OTHER INCOME/(LOSS)

The amounts included in *Other income/(loss), net* for the years ended December 31 were as follows (in millions):

	2020	2021	2022
Net periodic pension and OPEB income/(cost), excluding service cost (Note 17)	$ 69	$ 5,997	$ 1,336
Investment-related interest income	452	254	639
Interest income/(expense) on income taxes	(2)	7	(23)
Realized and unrealized gains/(losses) on cash equivalents, marketable securities, and other investments (a)	325	9,159	(7,518)
Gains/(Losses) on changes in investments in affiliates (Note 21 and Note 22)	3,446	368	(147)
Gains/(Losses) on extinguishment of debt (Note 19)	(1)	(1,702)	(121)
Royalty income	493	619	483
Other	117	31	201
Total	$ 4,899	$ 14,733	$ (5,150)

(a) Includes a $9.1 billion gain and $7.4 billion loss on our Rivian investment during the year ended December 31, 2021 and December 31, 2022, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 6. SHARE-BASED COMPENSATION

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Under our Long-Term Incentive Plans, we may issue restricted stock units ("RSUs"), restricted stock shares ("RSSs"), and stock options. RSUs and RSSs consist of time-based and performance-based awards. The number of shares that may be granted in any year is limited to 2% of our issued and outstanding Common Stock as of December 31 of the prior calendar year. The limit may be increased up to 3% in any year, with a corresponding reduction in shares available for grants in future years. Granted RSUs generally cliff vest or ratably vest over a three-year service period. Performance-based RSUs have two components: one based on internal financial performance metrics and the other based on total shareholder return relative to an industrial and automotive peer group. At the time of vest, RSU awards are net settled (i.e., shares are withheld to cover the employee tax obligation). Stock options ratably vest over a three-year service period and expire ten years from the grant date.

The fair value of both the time-based and the internal performance metrics portion of the performance-based RSUs and RSSs is determined using the closing price of our Common Stock at grant date. For awards that include a market condition, we measure the fair value using a Monte Carlo simulation. The weighted average per unit grant date fair value for the years ended December 31, 2020, 2021, and 2022 was $7.11, $13.02, and $15.63, respectively.

Time-based RSUs generally have a graded vesting feature whereby one-third of each grant vests after the first anniversary of the grant date, one-third after the second anniversary, and one-third after the third anniversary. The graded vesting method recognizes expense over the service period for each separately-vesting tranche, which results in accelerated recognition of expense. The fair value of time-based RSUs, RSSs, and stock options is expensed over the shorter of each separate vesting period, using the graded vesting method, or the time period an employee becomes eligible to retain the award at retirement. The fair value of performance-based RSUs and RSSs is expensed when it is probable and estimable as measured against the performance metrics over the shorter of the performance or required service periods. We measure the fair value of our stock options on the date of grant using either the Black-Scholes option-pricing model (for options without a market condition) or a Monte Carlo simulation (for options with a market condition). We have elected to recognize forfeitures as an adjustment to compensation expense for all RSUs, RSSs, and stock options in the same period as the forfeitures occur. Expense is recorded in *Selling, administrative, and other expenses*.

Restricted Stock Units and Restricted Stock Shares

The fair value of vested RSUs and RSSs as well as the compensation cost for the years ended December 31 were as follows (in millions):

	2020	2021	2022
Fair value of vested shares	$ 264	$ 217	$ 252
Compensation cost (a)	156	229	223

(a) Net of tax benefit of $31 million, $74 million, and $113 million in 2020, 2021, and 2022, respectively.

As of December 31, 2022, there was approximately $265 million in unrecognized compensation cost related to non-vested RSUs. This expense will be recognized over a weighted average period of 1.9 years.

The performance-based RSUs granted in March 2020, 2021, and 2022 include a relative Total Shareholder Return ("TSR") metric. Inputs and assumptions used to calculate the fair value at grant date through a Monte Carlo simulation were as follows:

	2020	2021	2022
Fair value per stock award	$ 7.21	$ 13.45	$ 18.10
Grant date stock price	7.08	11.93	16.85
Assumptions:			
Ford's stock price expected volatility (a)	25.4 %	39.9 %	44.8 %
Expected average volatility of peer companies (a)	26.4	39.6	39.6
Risk-free interest rate	0.68	0.32	1.62

(a) Expected volatility based on three years of daily closing share price changes ending on the grant date.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 6. SHARE-BASED COMPENSATION *(Continued)*

During 2022, activity for RSUs and RSSs was as follows (in millions, except for weighted-average fair value):

	Shares	Weighted-Average Fair Value
Outstanding, beginning of year	62.5	$ 10.31
Granted (a)	35.9	15.63
Vested (a)	(25.6)	9.84
Forfeited	(8.9)	12.94
Outstanding, end of year (b)	63.9	12.90

(a) Includes shares awarded to non-employee directors.
(b) Excludes 1,047,856 non-employee director shares that were vested but unissued at December 31, 2022.

Stock Options

Activity related to stock options for 2022 was as follows:

	Shares (millions)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (millions)
Outstanding, beginning of period	11.9	$ 11.15		
Granted	—	—		
Exercised (a)	(1.8)	12.35		
Forfeited (including expirations)	—	—		
Outstanding, end of period	10.1	10.84		
Exercisable, end of period	7.9	12.10	3.1	$ 13.4
Options expected to vest	2.2	6.40	7.6	11.7

(a) Exercised at option prices ranging from $6.96 to $15.37 during 2022.

We received approximately $22 million in proceeds with an equivalent of about $36 million in new issues used to settle the exercised options. For options exercised during the year ended December 31, 2022, the difference between the fair value of the Common Stock issued and the respective exercise price was $13 million. Compensation cost for stock options for the year ended December 31, 2022 was $0. As of December 31, 2022, there was no unrecognized compensation cost related to non-vested stock options. During 2022, no new stock options were granted.

NOTE 7. INCOME TAXES

We recognize income tax-related penalties in *Provision for/(Benefit from) income taxes* on our consolidated income statements. We recognize income tax-related interest income and interest expense in *Other income/(loss), net* on our consolidated income statements.

We account for U.S. tax on global intangible low-taxed income in the period incurred.

Valuation of Deferred Tax Assets and Liabilities

Deferred tax assets and liabilities are recognized based on the future tax consequences attributable to temporary differences that exist between the financial statement carrying value of assets and liabilities and their respective tax bases, and operating loss and tax credit carryforwards on a taxing jurisdiction basis. We measure deferred tax assets and liabilities using enacted tax rates that will apply in the years in which we expect the temporary differences to be recovered or paid.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 7. INCOME TAXES *(Continued)*

Our accounting for deferred tax consequences represents our best estimate of the likely future tax consequences of events that have been recognized on our consolidated financial statements or tax returns and their future probability. In assessing the need for a valuation allowance, we consider both positive and negative evidence related to the likelihood of realization of the deferred tax assets. If, based on the weight of available evidence, it is more likely than not that the deferred tax assets will not be realized, we record a valuation allowance.

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Components of Income Taxes

Components of income taxes excluding cumulative effects of changes in accounting principles, other comprehensive income/(loss), and equity in net results of affiliated companies accounted for after-tax for the years ended December 31 were as follows:

	2020	2021	2022
Income/(Loss) before income taxes (in millions)			
U.S.	$ (231)	$ 10,043	$ (6,548)
Non-U.S.	(885)	7,737	3,532
Total	$ (1,116)	$ 17,780	$ (3,016)
Provision for/(Benefit from) income taxes (in millions)			
Current			
Federal	$ (23)	$ 102	$ 68
Non-U.S.	554	598	781
State and local	(45)	26	123
Total current	486	726	972
Deferred			
Federal	(523)	2,290	(2,292)
Non-U.S.	168	(3,254)	688
State and local	29	108	(232)
Total deferred	(326)	(856)	(1,836)
Total	$ 160	$ (130)	$ (864)
Reconciliation of effective tax rate			
U.S. statutory tax rate	21.0 %	21.0 %	21.0 %
Non-U.S. tax rate differential	(2.6)	1.3	(8.7)
State and local income taxes	8.9	0.5	2.3
General business credits	35.1	(2.3)	13.0
Nontaxable foreign currency gains and losses	(1.1)	—	(4.2)
Dispositions and restructurings (a)	(0.4)	(18.8)	(7.0)
U.S. tax on non-U.S. earnings	28.1	2.4	2.8
Prior year settlements and claims	8.3	(0.3)	1.5
Tax incentives	(6.0)	(0.6)	2.0
Enacted change in tax laws	1.5	1.1	(2.0)
Valuation allowances	(108.8)	(4.7)	6.2
Other	1.7	(0.3)	1.7
Effective tax rate	(14.3)%	(0.7)%	28.6 %

(a) Includes a benefit of $2.9 billion to recognize deferred tax assets resulting from changes in our global tax structure in 2021.

During 2020, based on all available evidence, we established U.S. valuation allowances of $1.3 billion, primarily against tax credits as it was deemed more likely than not that these deferred tax assets would not be realized. In assessing the realizability of deferred tax assets, we consider the trade-offs between cash preservation and cash outlays to preserve tax credits. In 2021, we reversed $918 million of the previously established U.S. valuation allowances. The reversal primarily reflected a change in our intent to pursue planning actions involving cash outlays to preserve tax credits. During 2022, we reversed an additional $405 million of U.S. valuation allowances, primarily as a result of planning actions.

At December 31, 2022, $14.8 billion of non-U.S. earnings are considered indefinitely reinvested in operations outside the United States, for which deferred taxes have not been provided. Quantification of the deferred tax liability, if any, associated with indefinitely reinvested basis differences is not practicable.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 7. INCOME TAXES *(Continued)*

Components of Deferred Tax Assets and Liabilities

The components of deferred tax assets and liabilities at December 31 were as follows (in millions):

	2021	2022
Deferred tax assets		
Employee benefit plans	$ 2,320	$ 1,960
Net operating loss carryforwards	4,163	3,978
Tax credit carryforwards	10,437	9,354
Research expenditures	1,117	3,240
Dealer and dealers' customer allowances and claims	1,944	2,192
Other foreign deferred tax assets	2,005	1,854
All other	2,353	2,201
Total gross deferred tax assets	24,339	24,779
Less: Valuation allowances	(1,067)	(822)
Total net deferred tax assets	23,272	23,957
Deferred tax liabilities		
Leasing transactions	2,103	2,992
Depreciation and amortization (excluding leasing transactions)	2,881	3,116
Finance receivables	756	792
Carrying value of investments	2,149	487
Other foreign deferred tax liabilities	893	1,196
All other	2,275	1,371
Total deferred tax liabilities	11,057	9,954
Net deferred tax assets/(liabilities)	$ 12,215	$ 14,003

Deferred tax assets for net operating losses and other temporary differences related to certain non-U.S. operations have not been recorded as a result of elections to tax these operations simultaneously in U.S. tax returns. During 2021, we restructured a significant portion of these operations resulting in recognition of $2.9 billion of net deferred tax assets. Reversal of the remaining elections would result in the recognition of $4.3 billion and $4.2 billion of deferred tax assets, subject to valuation allowance testing, as of December 31, 2021 and 2022, respectively.

Operating loss carryforwards for tax purposes were $11.4 billion at December 31, 2022, resulting in a deferred tax asset of $4.0 billion. There is no expiration date for $3.1 billion of these losses. A substantial portion of the remaining losses will expire beyond 2025. Tax credits available to offset future tax liabilities are $9.4 billion. The majority of these credits have a remaining carryforward period of six years or more. Tax benefits of operating loss and tax credit carryforwards are evaluated on an ongoing basis, including a review of historical and projected future operating results, the eligible carryforward period, and available tax planning strategies. In our evaluation, we anticipate making tax elections that change the order of tax credit carryforward utilization on U.S. tax returns.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 7. INCOME TAXES *(Continued)*

Other

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A reconciliation of the beginning and ending amount of unrecognized tax benefits for the years ended December 31 were as follows (in millions):

	2021	2022
Beginning balance	$ 1,913	$ 2,910
Increase – tax positions in prior periods	1,054	338
Increase – tax positions in current period	25	17
Decrease – tax positions in prior periods	(54)	(236)
Settlements	1	(2)
Lapse of statute of limitations	(7)	(1)
Foreign currency translation adjustment	(22)	(87)
Ending balance	$ 2,910	$ 2,939

The amount of unrecognized tax benefits that would affect the effective tax rate if recognized was $2.9 billion as of December 31, 2021 and 2022.

Examinations by tax authorities have been completed through 2008 in Germany, 2014 in the United States, 2015 in Mexico, 2017 in Canada and China, 2018 in Spain and India, and 2019 in the United Kingdom.

Net interest on income taxes was $2 million of expense, $7 million of income, and $23 million of expense for the years ended December 31, 2020, 2021, and 2022, respectively. These were reported in *Other income/(loss), net* on our consolidated income statements. Net payables for tax related interest were $32 million and $17 million as of December 31, 2021 and 2022, respectively.

Cash paid for income taxes was $421 million, $568 million, and $801 million in 2020, 2021, and 2022, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 8. CAPITAL STOCK AND EARNINGS/(LOSS) PER SHARE

All general voting power is vested in the holders of Common Stock and Class B Stock. Holders of our Common Stock have 60% of the general voting power, and holders of our Class B Stock are entitled to such number of votes per share as will give them the remaining 40%. Shares of Common Stock and Class B Stock share equally in dividends when and as paid, with stock dividends payable in shares of stock of the class held.

If liquidated, each share of Common Stock is entitled to the first $0.50 available for distribution to holders of Common Stock and Class B Stock, each share of Class B Stock is entitled to the next $1.00 so available, each share of Common Stock is entitled to the next $0.50 so available, and each share of Common and Class B Stock is entitled to an equal amount thereafter.

We present both basic and diluted earnings/(loss) per share ("EPS") amounts in our financial reporting. Basic EPS excludes dilution and is computed by dividing *Net income/(loss) attributable to Ford Motor Company* by the weighted-average number of shares of Common and Class B Stock outstanding for the period. Diluted EPS reflects the maximum potential dilution that could occur from our share-based compensation ("in-the-money" stock options, unvested RSUs, and unvested RSSs) and convertible debt. Potentially dilutive shares are excluded from the calculation if they have an anti-dilutive effect in the period.

Earnings/(Loss) Per Share Attributable to Ford Motor Company Common and Class B Stock

Basic and diluted income/(loss) per share were calculated using the following (in millions):

	2020	2021	2022
Net income/(loss) attributable to Ford Motor Company	$ (1,279)	$ 17,937	$ (1,981)
Basic and Diluted Shares			
Basic shares (average shares outstanding)	3,973	3,991	4,014
Net dilutive options, unvested restricted stock units, unvested restricted stock shares, and convertible debt (a)	—	43	—
Diluted shares	3,973	4,034	4,014

(a) In 2020 and 2022, there were 29 million and 42 million shares, respectively, excluded from the calculation of diluted earnings/(loss) per share, due to their anti-dilutive effect.

NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES

The fair values of cash, cash equivalents, and marketable securities measured at fair value on a recurring basis were as follows (in millions):

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		December 31, 2021		
	Fair Value Level	Company excluding Ford Credit	Ford Credit	Consolidated
Cash and cash equivalents				
U.S. government	1	$ 2,877	$ 711	$ 3,588
U.S. government agencies	2	355	240	595
Non-U.S. government and agencies	2	55	152	207
Corporate debt	2	105	940	1,045
Total marketable securities classified as cash equivalents		3,392	2,043	5,435
Cash, time deposits, and money market funds		6,185	8,920	15,105
Total cash and cash equivalents		$ 9,577	$ 10,963	$ 20,540
Marketable securities				
U.S. government	1	$ 4,018	$ 864	$ 4,882
U.S. government agencies	2	2,270	75	2,345
Non-U.S. government and agencies	2	3,373	697	4,070
Corporate debt	2	6,299	304	6,603
Equities (a)	1	10,673	—	10,673
Other marketable securities	2	247	233	480
Total marketable securities		$ 26,880	$ 2,173	$ 29,053
Restricted cash		$ 69	$ 128	$ 197

		December 31, 2022		
	Fair Value Level	Company excluding Ford Credit	Ford Credit	Consolidated
Cash and cash equivalents				
U.S. government	1	$ 3,295	$ 1,045	$ 4,340
U.S. government agencies	2	2,245	150	2,395
Non-U.S. government and agencies	2	1,048	199	1,247
Other cash equivalents	2	10	—	10
Corporate debt	2	593	792	1,385
Total marketable securities classified as cash equivalents		7,191	2,186	9,377
Cash, time deposits, and money market funds		7,550	8,207	15,757
Total cash and cash equivalents		$ 14,741	$ 10,393	$ 25,134
Marketable securities				
U.S. government	1	$ 4,947	$ 187	$ 5,134
U.S. government agencies	2	2,641	221	2,862
Non-U.S. government and agencies	2	2,625	658	3,283
Corporate debt	2	6,755	266	7,021
Equities (a)	1	223	—	223
Other marketable securities	2	252	161	413
Total marketable securities		$ 17,443	$ 1,493	$ 18,936
Restricted cash		$ 79	$ 127	$ 206

(a) Includes $10.6 billion and $194 million of Rivian common shares valued at $103.69 and $18.43 per share as of December 31, 2021 and 2022, respectively. In 2022, we sold 91 million of our Rivian common shares for about $3 billion in total proceeds. Net unrealized gains/losses recognized during 2021 and 2022 on all equity securities held at December 31, 2021 and 2022 were an $8.3 billion gain and a $968 million loss, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES *(Continued)*

The cash equivalents and marketable securities accounted for as available-for-sale ("AFS") securities were as follows (in millions):

	December 31, 2021						
					Fair Value of Securities with Contractual Maturities		
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Within 1 Year	After 1 Year through 5 Years	After 5 Years
Company excluding Ford Credit							
U.S. government	$ 3,821	$ 12	$ (14)	$ 3,819	$ 1,360	$ 2,435	$ 24
U.S. government agencies	2,249	2	(21)	2,230	316	1,802	112
Non-U.S. government and agencies	2,599	6	(21)	2,584	854	1,708	22
Corporate debt	6,373	21	(23)	6,371	2,645	3,726	—
Other marketable securities	228	1	(1)	228	—	150	78
Total	$ 15,270	$ 42	$ (80)	$ 15,232	$ 5,175	$ 9,821	$ 236

	December 31, 2022						
					Fair Value of Securities with Contractual Maturities		
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Within 1 Year	After 1 Year through 5 Years	After 5 Years
Company excluding Ford Credit							
U.S. government	$ 4,797	$ 1	$ (145)	$ 4,653	$ 1,008	$ 3,645	$ —
U.S. government agencies	2,508	—	(119)	2,389	1,244	1,109	36
Non-U.S. government and agencies	2,248	—	(132)	2,116	294	1,810	12
Corporate debt	7,511	6	(197)	7,320	3,117	4,195	8
Other marketable securities	246	—	(9)	237	—	181	56
Total	$ 17,310	$ 7	$ (602)	$ 16,715	$ 5,663	$ 10,940	$ 112

Sales proceeds and gross realized gains/losses from the sale of AFS securities for the years ended December 31 were as follows (in millions):

	2020	2021	2022
Company excluding Ford Credit			
Sales proceeds	$ 8,574	$ 5,943	$ 6,207
Gross realized gains	56	26	7
Gross realized losses	11	3	26

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 9. CASH, CASH EQUIVALENTS, AND MARKETABLE SECURITIES *(Continued)*

The present fair values and gross unrealized losses for cash equivalents and marketable securities accounted for as AFS securities that were in an unrealized loss position, aggregated by investment category and the length of time that individual securities have been in a continuous loss position, were as follows (in millions):

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	December 31, 2021					
	Less than 1 Year		1 Year or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Company excluding Ford Credit						
U.S. government	$ 2,598	$ (14)	$ —	$ —	$ 2,598	$ (14)
U.S. government agencies	1,809	(19)	73	(2)	1,882	(21)
Non-U.S. government and agencies	1,614	(20)	38	(1)	1,652	(21)
Corporate debt	3,637	(21)	71	(2)	3,708	(23)
Other marketable securities	178	(1)	15	—	193	(1)
Total	$ 9,836	$ (75)	$ 197	$ (5)	$ 10,033	$ (80)

	December 31, 2022					
	Less than 1 Year		1 Year or Greater		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Company excluding Ford Credit						
U.S. government	$ 2,860	$ (52)	$ 1,570	$ (93)	$ 4,430	$ (145)
U.S. government agencies	707	(14)	1,658	(105)	2,365	(119)
Non-U.S. government and agencies	751	(23)	1,271	(109)	2,022	(132)
Corporate debt	4,571	(79)	1,737	(118)	6,308	(197)
Other marketable securities	123	(4)	108	(5)	231	(9)
Total	$ 9,012	$ (172)	$ 6,344	$ (430)	$ 15,356	$ (602)

We determine credit losses on AFS debt securities using the specific identification method. During the years ended December 31, 2020, 2021, and 2022, we did not recognize any credit loss. The unrealized losses on securities are due to changes in interest rates and market liquidity.

Cash, Cash Equivalents, and Restricted Cash

Cash, cash equivalents, and restricted cash as reported in the consolidated statements of cash flows were as follows (in millions):

	December 31, 2021	December 31, 2022
Cash and cash equivalents	$ 20,540	$ 25,134
Restricted cash (a)	197	206
Total cash, cash equivalents, and restricted cash	$ 20,737	$ 25,340

(a) Included in *Other assets* in the non-current assets section of our consolidated balance sheets.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES AND ALLOWANCE FOR CREDIT LOSSES

Ford Credit manages finance receivables as "consumer" and "non-consumer" portfolios. The receivables are generally secured by the vehicles, inventory, or other property being financed.

Consumer Portfolio. Receivables in this portfolio include products offered to individuals and businesses that finance the acquisition of Ford and Lincoln vehicles from dealers for personal or commercial use. Retail financing includes retail installment contracts for new and used vehicles and finance leases with retail customers, government entities, daily rental companies, and fleet customers.

Non-Consumer Portfolio. Receivables in this portfolio include products offered to automotive dealers. Dealer financing includes wholesale loans to dealers to finance the purchase of vehicle inventory, also known as floorplan financing, as well as loans to dealers to finance working capital and improvements to dealership facilities, finance the purchase of dealership real estate, and finance other dealer programs. Wholesale financing is approximately 94% of dealer financing.

Finance receivables are recorded at the time of origination or purchase at fair value and are subsequently reported at amortized cost, net of any allowance for credit losses.

For all finance receivables, Ford Credit defines "past due" as any payment, including principal and interest, that is at least 31 days past the contractual due date.

Finance Receivables Classification

Finance receivables are accounted for as held for investment ("HFI") if Ford Credit has the intent and ability to hold the receivables for the foreseeable future or until maturity or payoff. The determination of intent and ability to hold for the foreseeable future is highly judgmental and requires Ford Credit to make good faith estimates based on all information available at the time of origination or purchase. If Ford Credit does not have the intent and ability to hold the receivables, then the receivables are classified as HFS.

Each quarter, Ford Credit makes a determination of whether it is probable that finance receivables originated or purchased during the quarter will be held for the foreseeable future based on historical receivables sale experience, internal forecasts and budgets, as well as other relevant, reliable information available through the date of evaluation. For purposes of this determination, probable means at least 70% likely and, consistent with the budgeting and forecasting period, the foreseeable future means twelve months. Ford Credit classifies receivables as HFI or HFS on a receivable-by-receivable basis. Specific receivables included in off-balance sheet sale transactions are generally not identified until the month in which the sale occurs.

Held-for-Investment. Finance receivables classified as HFI are recorded at the time of origination or purchase at fair value and are subsequently reported at amortized cost, net of any allowance for credit losses. Cash flows from finance receivables, excluding wholesale and other receivables, that were originally classified as HFI are recorded as an investing activity since GAAP requires the statement of cash flows presentation to be based on the original classification of the receivables. Cash flows from wholesale and other receivables are recorded as an operating activity.

Held-for-Sale. Finance receivables classified as HFS are carried at the lower of cost or fair value. Cash flows resulting from the origination or purchase and sale of HFS receivables are recorded as an operating activity in *Decrease/(Increase) in finance receivables (wholesale and other).* Once a decision has been made to sell receivables that were originally classified as HFI, the receivables are reclassified as HFS and carried at the lower of cost or fair value. The valuation adjustment, if applicable, is recorded in *Other income/(loss), net* to recognize the receivables at the lower of cost or fair value.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES AND ALLOWANCE FOR CREDIT LOSSES *(Continued)*

Ford Credit finance receivables, net at December 31 were as follows (in millions):

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	2021	2022
Consumer		
Retail installment contracts, gross	$ 69,148	$ 66,954
Finance leases, gross	7,318	6,765
Retail financing, gross	76,466	73,719
Unearned interest supplements	(3,020)	(2,305)
Consumer finance receivables	73,446	71,414
Non-Consumer		
Dealer financing	11,278	18,054
Non-Consumer finance receivables	11,278	18,054
Total recorded investment	$ 84,724	$ 89,468
Recorded investment in finance receivables	$ 84,724	$ 89,468
Allowance for credit losses	(925)	(845)
Total finance receivables, net	$ 83,799	$ 88,623
Current portion	$ 32,543	$ 38,720
Non-current portion	51,256	49,903
Total finance receivables, net	$ 83,799	$ 88,623
Net finance receivables subject to fair value (a)	$ 76,796	$ 82,200
Fair value (b)	77,648	79,521

(a) Net finance receivables subject to fair value exclude finance leases.
(b) The fair value of finance receivables is categorized within Level 3 of the fair value hierarchy.

Ford Credit's finance leases are comprised of sales-type and direct financing leases. These financings include primarily lease plans for terms of 24 to 60 months. Financing revenue from finance leases for the years ended December 31, 2020, 2021, and 2022, was $357 million, $345 million, and $303 million, respectively, and is included in *Ford Credit revenues* on our consolidated income statements.

The amounts contractually due on Ford Credit's finance leases at December 31 were as follows (in millions):

	2022
2023	$ 1,448
2024	1,317
2025	1,136
2026	563
2027	66
Thereafter	1
Total future cash payments	4,531
Less: Present value discount	234
Finance lease receivables	$ 4,297

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES AND ALLOWANCE FOR CREDIT LOSSES *(Continued)*

The reconciliation from finance lease receivables to finance leases, gross and finance leases, net at December 31 is as follows (in millions):

	2021	2022
Finance lease receivables	$ 4,631	$ 4,297
Unguaranteed residual assets	2,605	2,389
Initial direct costs	82	79
Finance leases, gross	7,318	6,765
Unearned interest supplements from Ford and affiliated companies	(274)	(307)
Allowance for credit losses	(41)	(35)
Finance leases, net	$ 7,003	$ 6,423

At December 31, 2021 and 2022, accrued interest was $125 million and $187 million, respectively, which we report in *Other assets* in the current assets section of our consolidated balance sheets.

Included in the recorded investment in finance receivables at December 31, 2021 and 2022 were consumer receivables of $39 billion and $43.9 billion, respectively, and non-consumer receivables of $12 billion and $18.2 billion, respectively, (including Automotive receivables sold to Ford Credit, which we report in *Trade and other receivables*) that have been sold for legal purposes in securitization transactions but continue to be reported in our consolidated financial statements. The 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 (see Note 24).

Credit Quality

Consumer Portfolio

When originating consumer receivables, Ford Credit uses 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, Ford Credit decides whether to originate 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. The evaluation emphasizes the applicant's ability to pay and creditworthiness focusing on payment, affordability, applicant credit history, and stability as key considerations.

After origination, Ford Credit reviews the credit quality of retail financing based on customer payment activity. As each customer develops a payment history, an internally developed behavioral scoring model is used to assist in determining the best collection strategies, which allows Ford Credit to focus collection activity on higher-risk accounts. These models are used to refine Ford Credit's risk-based staffing model to ensure collection resources are aligned with portfolio risk. Based on data from this scoring model, contracts are categorized by collection risk. Ford Credit's collection models evaluate several factors, including origination characteristics, updated credit bureau data, and payment patterns.

Credit quality ratings for consumer receivables are based on aging. Consumer receivables credit quality ratings are as follows:

- *Pass* – current to 60 days past due;
- *Special Mention* – 61 to 120 days past due and in intensified collection status; and
- *Substandard* – greater than 120 days past due and for which the uncollectible portion of the receivables has already been charged off, as measured using the fair value of collateral less costs to sell.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES AND ALLOWANCE FOR CREDIT LOSSES *(Continued)*

The credit quality analysis of consumer receivables at December 31, 2021 was as follows (in millions):

	Amortized Cost Basis by Origination Year							
	Prior to 2017	2017	2018	2019	2020	2021	Total	Percent
Consumer								
31 - 60 days past due	$ 39	$ 52	$ 98	$ 120	$ 186	$ 91	$ 586	0.8 %
61 - 120 days past due	7	10	20	29	40	21	127	0.2
Greater than 120 days past due	10	6	6	9	11	1	43	—
Total past due	56	68	124	158	237	113	756	1.0
Current	812	2,607	6,559	12,689	22,701	27,322	72,690	99.0
Total	$ 868	$ 2,675	$ 6,683	$ 12,847	$ 22,938	$ 27,435	$ 73,446	100.0 %

The credit quality analysis of consumer receivables at December 31, 2022 was as follows (in millions):

	Amortized Cost Basis by Origination Year							
	Prior to 2018	2018	2019	2020	2021	2022	Total	Percent
Consumer								
31 - 60 days past due	$ 41	$ 60	$ 91	$ 181	$ 150	$ 126	$ 649	0.9 %
61 - 120 days past due	9	12	20	39	40	29	149	0.2
Greater than 120 days past due	9	4	5	7	7	6	38	0.1
Total past due	59	76	116	227	197	161	836	1.2
Current	883	2,563	6,137	13,844	18,357	28,794	70,578	98.8
Total	$ 942	$ 2,639	$ 6,253	$ 14,071	$ 18,554	$ 28,955	$ 71,414	100.0 %

Non-Consumer Portfolio

Ford Credit extends credit to dealers primarily in the form of lines of credit to purchase new Ford and Lincoln vehicles as well as used vehicles. Payment is required when the dealer has sold the vehicle. Each non-consumer lending request is evaluated by considering the borrower's financial condition and the underlying collateral securing the loan. Ford Credit uses a proprietary model to assign each dealer a risk rating. This model uses historical dealer performance data to identify key factors about a dealer that are considered most significant in predicting a dealer's ability to meet its financial obligations. Ford Credit also considers numerous other financial and qualitative factors of the dealer's operations, including capitalization and leverage, liquidity and cash flow, profitability, and credit history with Ford Credit and other creditors.

Dealers are assigned to one of four groups according to risk ratings as follows:

- *Group I* – strong to superior financial metrics;
- *Group II* – fair to favorable financial metrics;
- *Group III* – marginal to weak financial metrics; and
- *Group IV* – poor financial metrics, including dealers classified as uncollectible.

Ford Credit generally suspends credit lines and extends no further funding to dealers classified in Group IV.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES AND ALLOWANCE FOR CREDIT LOSSES *(Continued)*

Ford Credit regularly reviews the model to confirm the continued business significance and statistical predictability of the model and may make updates to improve the performance of the model. In addition, Ford Credit regularly audits dealer inventory and dealer sales records to verify that the dealer is in possession of the financed vehicles and is promptly paying each receivable following the sale of the financed vehicle. The frequency of on-site vehicle inventory audits depends primarily on the dealer's risk rating. Under Ford Credit's policies, on-site vehicle inventory audits of low-risk dealers are conducted only as circumstances warrant. On-site vehicle inventory audits of higher-risk dealers are conducted with increased frequency based primarily on the dealer's risk rating, but also considering the results of electronic monitoring of the dealer's performance, including daily payment verifications and monthly analyses of the dealer's financial statements, payoffs, aged inventory, over credit line, and delinquency reports. Ford Credit typically performs a credit review of each dealer annually and more frequently reviews certain dealers based on the dealer's risk rating and total exposure. Ford Credit adjusts the dealer's risk rating, if necessary. The credit quality of dealer financing receivables is evaluated based on Ford Credit's internal dealer risk rating analysis. A dealer has the same risk rating for its entire dealer financing regardless of the type of financing.

The credit quality analysis of dealer financing receivables at December 31, 2021 was as follows (in millions):

	Amortized Cost Basis by Origination Year									
	Dealer Loans									
	Prior to 2017	2017	2018	2019	2020	2021	Total	Wholesale Loans	Total	Percent
Group I	$ 391	$ 68	$ 151	$ 45	$ 109	$ 345	$ 1,109	$ 6,751	$ 7,860	69.7 %
Group II	11	7	26	2	4	54	104	2,689	2,793	24.8
Group III	8	—	1	—	1	20	30	529	559	4.9
Group IV	—	—	4	—	—	6	10	56	66	0.6
Total (a)	$ 410	$ 75	$ 182	$ 47	$ 114	$ 425	$ 1,253	$ 10,025	$ 11,278	100.0 %

(a) Total past due dealer financing receivables at December 31, 2021 were $62 million.

The credit quality analysis of dealer financing receivables at December 31, 2022 was as follows (in millions):

	Amortized Cost Basis by Origination Year									
	Dealer Loans									
	Prior to 2018	2018	2019	2020	2021	2022	Total	Wholesale Loans	Total	Percent
Group I	$ 402	$ 148	$ 35	$ 67	$ 185	$ 224	$ 1,061	$ 13,888	$ 14,949	82.8 %
Group II	2	21	—	5	2	42	72	2,751	2,823	15.6
Group III	—	—	—	—	—	10	10	233	243	1.4
Group IV	—	—	1	—	—	3	4	35	39	0.2
Total (a)	$ 404	$ 169	$ 36	$ 72	$ 187	$ 279	$ 1,147	$ 16,907	$ 18,054	100.0 %

(a) Total past due dealer financing receivables at December 31, 2022 were $9 million.

Non-Accrual of Revenue. The accrual of financing revenue is discontinued at the time a receivable is determined to be uncollectible or when it is 90 days past due. Accounts may be restored to accrual status only when a customer settles all past-due deficiency balances and future payments are reasonably assured. For receivables in non-accrual status, subsequent financing revenue is recognized only to the extent a payment is received. Payments are generally applied first to outstanding interest and fees and then to the unpaid principal balance.

Troubled Debt Restructuring ("TDR"). A restructuring of debt constitutes a TDR if a concession is granted to a debtor for economic or legal reasons related to the debtor's financial difficulties that Ford Credit otherwise would not consider. Consumer and non-consumer receivables that have a modified interest rate below market rate or that were modified in reorganization proceedings pursuant to the U.S. Bankruptcy Code, except non-consumer receivables that are current with minimal risk of loss, are considered to be TDRs. Ford Credit does not grant concessions on the principal balance of the receivables. If a receivable is modified in a reorganization proceeding, all payment requirements of the reorganization plan need to be met before remaining balances are forgiven.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES AND ALLOWANCE FOR CREDIT LOSSES *(Continued)*

Allowance for Credit Losses

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The allowance for credit losses represents an estimate of the lifetime expected credit losses inherent in finance receivables as of the balance sheet date. The adequacy of the allowance for credit losses is assessed quarterly.

Adjustments to the allowance for credit losses are made by recording charges to *Ford Credit interest, operating, and other expenses* on our consolidated income statements. The uncollectible portion of a finance receivable is charged to the allowance for credit losses at the earlier of when an account is deemed to be uncollectible or when an account is 120 days delinquent, taking into consideration the financial condition of the customer or borrower, the value of the collateral, recourse to guarantors, and other factors.

Charge-offs on finance receivables include uncollected amounts related to principal, interest, late fees, and other allowable charges. Recoveries on finance receivables previously charged off as uncollectible are credited to the allowance for credit losses. In the event Ford Credit repossesses the collateral, the receivable is charged off and the collateral is recorded at its estimated fair value less costs to sell and reported in *Other assets* on our consolidated balance sheets.

Consumer Portfolio

For consumer receivables that share similar risk characteristics such as product type, initial credit risk, term, vintage, geography, and other relevant factors, Ford Credit estimates the lifetime expected credit loss allowance based on a collective assessment using measurement models and management judgment. The lifetime expected credit losses for the receivables is determined by applying probability of default and loss given default assumption to monthly expected exposures, then discounting these cash flows to present value using the receivable's original effective interest rate or the current effective interest rate for a variable rate receivable. Probability of default models are developed from internal risk scoring models taking into account the expected probability of payment and time to default, adjusted for macroeconomic outlook and recent performance. The models consider factors such as risk evaluation at the time of origination, historical trends in credit losses (which include the impact of TDRs), and the composition and recent performance of the present portfolio (including vehicle brand, term, risk evaluation, and new/used vehicles). The loss given default is the percentage of the expected balance due at default that is not recoverable, taking into account the expected collateral value and trends in recoveries (including key metrics such as delinquencies, repossessions, and bankruptcies). Monthly exposures are equal to the receivables' expected outstanding principal and interest balance.

The allowance for credit losses incorporates forward-looking macroeconomic conditions for baseline, upturn, and downturn scenarios. Three separate credit loss allowances are calculated from these scenarios. They are then probability-weighted to determine the quantitative estimate of the credit loss allowance recognized in the financial statements. Ford Credit uses forecasts from a third party that revert to a long-term historical average after a reasonable and supportable forecasting period, which is specific to the particular macroeconomic variable and which varies by market. Ford Credit updates the forward-looking macroeconomic forecasts quarterly.

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.

On an ongoing basis, Ford Credit reviews its models, including macroeconomic factors, the selection of macroeconomic scenarios, and their weighting, to ensure they reflect the risk of the portfolio.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES AND ALLOWANCE FOR CREDIT LOSSES *(Continued)*

Non-Consumer Portfolio

Dealer financing is evaluated on an individual dealer basis by segmenting dealers by risk characteristics (such as the amount of the loans, the nature of the collateral, the financial status of the dealer, and any TDR modifications) to determine if an individual dealer requires a specific allowance for credit loss. If required, the allowance is based on the present value of the expected future cash flows of the dealer's receivables discounted at the loans' original effective interest rate or the fair value of the collateral adjusted for estimated costs to sell.

For the remaining dealer financing, Ford Credit estimates an allowance for credit losses on a collective basis.

Wholesale Loans. Ford Credit estimates the allowance for credit losses for wholesale loans based on historical loss-to-receivable ("LTR") ratios, expected future cash flows, and the fair value of collateral. For wholesale loans with similar risk characteristics, the allowance for credit losses is estimated on a collective basis using the LTR model and management judgment. The LTR model is based on the most recent years of history. An LTR ratio is calculated by dividing credit losses (i.e., charge-offs net of recoveries) by average net finance receivables, excluding unearned interest supplements and allowance for credit losses. The average LTR ratio is multiplied by the end-of-period balances, representing the lifetime expected credit loss reserve.

Dealer Loans. Ford Credit uses a weighted-average remaining maturity method to estimate the lifetime expected credit loss reserve for dealer loans. The loss model is based on the industry-wide commercial real estate credit losses, adjusted to factor in the historical credit losses for the dealer loans portfolio. The expected credit loss is calculated under different macroeconomic scenarios that are weighted to provide the total lifetime expected credit loss.

After establishing the collective and specific allowance for credit losses, if management believes the allowance does not reflect all losses inherent in the portfolio due to changes in recent economic trends and conditions, or other relevant forward-looking economic factors, an adjustment is made based on management judgment.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 10. FORD CREDIT FINANCE RECEIVABLES AND ALLOWANCE FOR CREDIT LOSSES *(Continued)*

An analysis of the allowance for credit losses related to finance receivables for the years ended December 31 was as follows (in millions):

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	2021		
	Consumer	Non-Consumer	Total
Allowance for credit losses			
Beginning balance	$ 1,245	$ 60	$ 1,305
Charge-offs	(272)	(3)	(275)
Recoveries	202	8	210
Provision for/(Benefit from) credit losses	(270)	(40)	(310)
Other (a)	(2)	(3)	(5)
Ending balance	$ 903	$ 22	$ 925

	2022		
	Consumer	Non-Consumer	Total
Allowance for credit losses			
Beginning balance	$ 903	$ 22	$ 925
Charge-offs	(278)	(1)	(279)
Recoveries	165	5	170
Provision for/(Benefit from) credit losses	56	(17)	39
Other (a)	(8)	(2)	(10)
Ending balance	$ 838	$ 7	$ 845

(a) Primarily represents amounts related to translation adjustments.
Note: On January 1, 2020, we adopted ASU 2016-13, Credit Losses - Measurement of Credit Losses on Financial Instruments, which had an impact on the 2020 opening balance of *Retained earnings* of $202 million.

For the year ended December 31, 2022, the allowance for credit losses decreased $80 million primarily due to Ford Credit's current expectation that COVID-related losses have been largely avoided, offset partially by deterioration in the macroeconomic outlook that was reflected in the reserve balance in the fourth quarter of 2022. Although net charge-offs for the year ended December 31, 2022 remained low due, in part, to high vehicle auction values, the impact of higher inflation and higher interest rates on future credit losses remains uncertain. Ford Credit will continue to monitor economic trends and conditions and portfolio performance and will adjust the reserve accordingly.

NOTE 11. INVENTORIES

All inventories are stated at the lower of cost or net realizable value. Cost of our inventories is determined by costing methods that approximate a first-in, first-out ("FIFO") basis. Inventories at December 31 were as follows (in millions):

	2021	2022
Raw materials, work-in-process, and supplies	$ 5,785	$ 5,997
Finished products	6,280	8,083
Total inventories	$ 12,065	$ 14,080

Our finished product inventory at December 31, 2022 was higher year over year due to production and release scheduling, which resulted in higher sales inventory, in-transit inventory, and units awaiting upfit.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 12. NET INVESTMENT IN OPERATING LEASES

Net investment in operating leases consists primarily of lease contracts for vehicles with individuals, daily rental companies, government entities, and fleet customers. Assets subject to operating leases are depreciated using the straight-line method over the term of the lease to reduce the asset to its estimated residual value. Estimated residual values are based on assumptions for used vehicle prices at lease termination and the number of vehicles that are expected to be returned. Adjustments to depreciation expense reflecting revised estimates of expected residual values at the end of the lease terms are recorded prospectively on a straight-line basis.

The net investment in operating leases at December 31 was as follows (in millions):

	2021	2022
Company excluding Ford Credit		
Vehicles, net of depreciation	$ 1,194	$ 951
Ford Credit Segment		
Vehicles, at cost (a)	29,982	26,055
Accumulated depreciation	(4,815)	(4,234)
Total Ford Credit Segment	25,167	21,821
Total	$ 26,361	$ 22,772

(a) Includes Ford Credit's operating lease assets of $7.5 billion and $12.5 billion at December 31, 2021 and 2022, respectively, that have been included in securitization transactions. These net investments in operating leases are available only for payment of the debt or other obligations issued or arising in the securitization transactions; they are not available to pay other obligations or the claims of other creditors.

Ford Credit Segment

Included in *Ford Credit interest, operating, and other expense* is operating lease depreciation expense, which includes gains and losses on disposal of assets along with fees assessed to a customer at lease termination such as excess wear and use and excess mileage that are considered variable lease payments. Operating lease depreciation expense for the years ended December 31 was as follows (in millions):

	2020	2021	2022
Operating lease depreciation expense	$ 3,235	$ 1,626	$ 2,240

The amounts contractually due on operating leases at December 31, 2022 were as follows (in millions):

	2023	2024	2025	2026	Thereafter	Total
Operating lease payments	$ 3,324	$ 1,944	$ 803	$ 164	$ 11	$ 6,246

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 13. NET PROPERTY

Net property is reported at cost, net of accumulated depreciation, which includes impairments. We capitalize new assets when we expect to use the asset for more than one year. Routine maintenance and repair costs are expensed when incurred.

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Property and equipment are depreciated primarily using the straight-line method over the estimated useful life of the asset. Useful lives range from 3 years to 40 years. The estimated useful lives generally are 14.5 years for machinery and equipment, 8 years for software, 30 years for land improvements, and 40 years for buildings. Tooling generally is amortized over the expected life of a product program using a straight-line method.

Net property at December 31 was as follows (in millions):

	2021	2022
Land	$ 450	$ 371
Buildings and land improvements	12,438	11,946
Machinery, equipment, and other	39,636	38,964
Software	4,598	5,042
Construction in progress	2,152	3,203
Total land, plant and equipment, and other	59,274	59,526
Accumulated depreciation	(32,342)	(31,781)
Net land, plant and equipment, and other	26,932	27,745
Tooling, net of amortization	10,207	9,520
Total	$ 37,139	$ 37,265

Property-related expenses, excluding net investment in operating leases, for the years ended December 31 were as follows (in millions):

	2020	2021	2022
Depreciation and other amortization	$ 2,792	$ 2,986	$ 2,878
Tooling amortization	2,747	2,706	2,556
Total (a)	$ 5,539	$ 5,692	$ 5,434
Maintenance and rearrangement	$ 1,670	$ 1,940	$ 2,083

(a) Includes impairment of held-for-sale long-lived assets. See Note 22 for additional information.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 14. EQUITY IN NET ASSETS OF AFFILIATED COMPANIES

We use the equity method of accounting for our investments in entities over which we do not have control, but over whose operating and financial policies we are able to exercise significant influence.

Our carrying value and ownership percentages of our equity method investments at December 31 were as follows (in millions, except percentages):

	Investment Balance		Ownership Percentage
	2021	2022	2022
BlueOval SK, LLC	$ —	$ 690	50 %
Ford Otomotiv Sanayi Anonim Sirketi	278	479	41
Jiangling Motors Corporation, Limited (a)	468	471	32
Changan Ford Automobile Corporation, Limited (b)	860	409	50
AutoAlliance (Thailand) Co., Ltd.	391	346	50
FFS Finance South Africa (Pty) Limited	70	70	50
Ionity Holding GmbH & Co. KG	41	67	15
Argo AI, LLC (c)	2,042	—	44
Ford Sollers Netherlands B.V. (d)	108	—	—
Other	287	266	Various
Total	$ 4,545	$ 2,798	

(a) In 2021 and 2022, Jiangling Motors Corporation, Limited recorded restructuring charges, our share of which was $10 million and $13 million, respectively. These charges are included in *Equity in net income/(loss) of affiliated companies*.
(b) In 2022, Changan Ford Automobile Corporation, Limited recorded long-lived asset and other asset impairment charges as well as restructuring charges, our share of which was $368 million. These charges are included in *Equity in net income/(loss) of affiliated companies*.
(c) See below for information on our investment in Argo AI, LLC.
(d) In 2022, we fully impaired our $93 million investment in Ford Sollers Netherlands B.V., and also sold our interest to the joint venture (with an option to repurchase within five years) for a nominal value resulting in the release of the $25 million carrying amount of our associated foreign currency translation adjustment. These charges are included in *Equity in net income/(loss) of affiliated companies* and *Other income/(loss)*, respectively.

We recorded $180 million, $452 million, and $452 million of dividends from these affiliated companies for the years ended December 31, 2020, 2021, and 2022, respectively.

An aggregate summary of the balance sheets and income statements of our equity method investees, on a stand alone basis, as reported by those investees at December 31 is below (in millions). Our investment in each equity method investee is reported in *Equity in net assets of affiliated companies*, and our proportionate share of each of the entities' income/(loss) is reported in *Equity in net income/(loss) of affiliated companies*.

Summarized Balance Sheet	2021	2022
Current assets	$ 9,342	$ 10,361
Non-current assets	12,009	11,142
Total assets	$ 21,351	$ 21,503
Current liabilities	$ 9,461	$ 10,371
Non-current liabilities	4,069	4,498
Total liabilities	$ 13,530	$ 14,869
Equity attributable to noncontrolling interests	$ —	$ —

	For the years ended December 31,		
Summarized Income Statement	2020	2021	2022
Total revenue	$ 24,033	$ 27,760	$ 27,153
Income/(Loss) before income taxes (a)	282	1,002	(1,806)
Net income/(loss) (a)	305	1,029	(1,769)

(a) The 2022 results reflects Argo AI's impairment, partially offset by the net income/(loss) of our other equity method investees.

FORD MOTOR COMPANY AND SUBSIDIARIES
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NOTE 14. EQUITY IN NET ASSETS OF AFFILIATED COMPANIES *(Continued)*

In the ordinary course of business, we buy/sell various products and services including vehicles, parts, and components to/from our equity method investees. In addition, we receive royalty income.

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Transactions with equity method investees reported for the years ended or at December 31 were as follows (in millions):

	For the years ended December 31,		
Income Statement	**2020**	**2021**	**2022**
Sales	$ 4,126	$ 4,777	$ 4,369
Purchases	8,439	9,245	9,670
Royalty income	381	458	483

Balance Sheet	**2021**	**2022**
Receivables	$ 724	$ 1,007
Payables	1,035	1,676

Argo AI

In 2017, we began investing in Argo AI, an artificial intelligence company that became a consolidated subsidiary, with a commitment to fund $1 billion over five years to develop autonomous vehicle technology. In 2020, we completed a transaction with Volkswagen AG ("VW") that resulted in Ford and VW holding equal interests in Argo AI, which together comprised a majority ownership of the entity. As a result of this transaction, which included $500 million of proceeds from the sale to VW of a portion of our interest in Argo AI, we deconsolidated Argo AI, remeasured our retained investment in the entity at fair value, and, net of our carrying value in Argo AI's net assets, recognized a $3.5 billion pre-tax gain in *Other income/(loss), net*. Immediately following this transaction, our retained investment consisted of a $2.4 billion equity method investment and a $400 million preferred equity security investment, which were reflected on our consolidated balance sheets in *Equity in net assets of affiliated companies* and *Other assets*, respectively.

Although Argo AI made progress on developing highly automated driving technology (L4), to achieve commercially viable scale, Argo AI's technology requires significant additional capital investment and time. In the near term, we see more potential for partial or conditional automated driving technology (L2/L3) to be transformative for customers and our business. Therefore, in the third quarter of 2022, we made the strategic decision to shift our capital spending from L4 technology being developed by Argo AI to advanced L2/L3 systems, which we believe will ultimately be essential to achieve profitable commercialization of L4 autonomy at scale in the future. Additionally, because of the significant additional capital and time required to achieve commercialization of L4, as well as other macroeconomic factors, Argo AI has been unable to attract new investors. After performing external outreach in the third quarter of 2022 to assess market interest in acquiring either Argo AI or its technology components and conducting internal reviews to evaluate opportunities to leverage Argo AI's technology, Ford determined that Argo AI no longer has value as a going concern. As a result, we reassessed the carrying value of our investment in Argo AI starting from September 30, 2022, and in October 2022, Ford and VW initiated the process of exiting the joint development of L4 technology through Argo AI. On October 26, 2022, we announced that Argo AI plans to wind down operations, which is in progress.

Our valuation assumed an orderly conclusion of operations at Argo AI, in which the cash required to satisfy the remaining obligations would consume all of Argo AI's remaining capital. In addition, we assessed whether Argo AI's technology components have value in isolation, and we concluded that the cost to integrate into currently anticipated technology ecosystems would be prohibitive.

Accordingly, we recorded a $2.7 billion pre-tax impairment in the second half of 2022. The non-cash charge was reported in *Equity in net income/(loss) of affiliated companies*. The carrying value of our investment in Argo AI is $0 as of December 31, 2022; in addition, we have $65 million in *Other liabilities and deferred revenue* related to our funding commitment in 2023 for our share of Argo AI's expenses incurred in 2022. The carrying value immediately prior to the impairment was higher than our net cash investment of approximately $500 million (i.e., our $1 billion investment less proceeds we received from VW) due to the non-cash gain recognized when we deconsolidated Argo AI in 2020 as described above.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 15. OTHER INVESTMENTS

We have investments in entities not accounted for under the equity method for which fair values are not readily available. We record these investments at cost (less impairment, if any), adjusted for observable price changes in orderly transactions for the identical or a similar investment of the same issuer. We report the carrying value of these investments in *Other assets* in the non-current assets section of our consolidated balance sheets. These investments were $0.9 billion and $0.4 billion at December 31, 2021 and 2022, respectively. See Note 14 for additional information about the decrease from December 31, 2021. The cumulative net unrealized gain from adjustments related to Other Investments held at December 31, 2022 is $136 million.

NOTE 16. OTHER LIABILITIES AND DEFERRED REVENUE

Other liabilities and deferred revenue at December 31 were as follows (in millions):

	2021	2022
Current		
Dealer and dealers' customer allowances and claims	$ 8,300	$ 9,219
Deferred revenue	2,349	2,404
Employee benefit plans	1,687	2,020
Accrued interest	888	935
Operating lease liabilities	345	404
OPEB	332	329
Pension	202	196
Other (a)	4,583	5,590
Total current other liabilities and deferred revenue	$ 18,686	$ 21,097
Non-current		
Dealer and dealers' customer allowances and claims	$ 4,909	$ 6,095
Pension	8,658	5,673
OPEB	5,708	4,130
Deferred revenue	4,683	4,883
Operating lease liabilities	1,048	1,101
Employee benefit plans	1,007	834
Other (a)	1,692	2,781
Total non-current other liabilities and deferred revenue	$ 27,705	$ 25,497

(a) Includes current derivative liabilities of $97 million and $1.3 billion at December 31, 2021 and 2022, respectively. Includes non-current derivative liabilities of $535 million and $1.7 billion at December 31, 2021 and 2022, respectively (see Note 20).

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 17. RETIREMENT BENEFITS

Defined benefit pension and OPEB plan obligations are remeasured at least annually as of December 31 based on the present value of projected future benefit payments for all participants for services rendered to date. The measurement of projected future benefits is dependent on the provisions of each specific plan, demographics of the group covered by the plan, and other key measurement assumptions. For plans that provide benefits dependent on salary assumptions, we include a projection of salary growth in our measurements. No assumption is made regarding any potential future changes to benefit provisions beyond those to which we are presently committed (e.g., in existing labor contracts).

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Net periodic benefit costs, including service cost, interest cost, and expected return on assets, are determined using assumptions regarding the benefit obligation and the fair value of plan assets (where applicable) as of the beginning of each year. We have elected to use a fair value of plan assets to calculate the expected return on assets in net periodic benefit cost. The funded status of the benefit plans, which represents the difference between the benefit obligation and fair value of plan assets, is calculated on a plan-by-plan basis. The benefit obligation and related funded status are determined using assumptions as of the end of each year. Actuarial gains and losses resulting from plan remeasurement are recognized in net periodic benefit cost in the period of the remeasurement. The impact of a retroactive plan amendment is recorded in *Accumulated other comprehensive income/(loss)*, and is amortized as a component of net periodic cost, generally over the remaining service period of the active employees. The service cost component is included in *Cost of sales* and *Selling, administrative and other expenses*. Other components of net periodic benefit cost/(income) are included in *Other income/(loss), net* on our consolidated income statements.

A curtailment results from an event that significantly reduces the expected years of future service or eliminates the accrual of defined benefits for the future services of a significant number of employees. A curtailment gain is recorded when the employees who are entitled to a benefit terminate their employment, or when a plan suspension or amendment that results in a curtailment gain is adopted. A curtailment loss is recorded when it becomes probable a curtailment loss will occur. We recognize settlement expense when the costs associated with all settlements during the year exceed the interest component of net periodic cost for the affected plan. Expense from curtailments and settlements is recorded in *Other income/(loss), net*.

Defined Benefit Pension Plans. We have defined benefit pension plans covering hourly and salaried employees in the United States, Canada, United Kingdom, Germany, and other locations. The largest portion of our worldwide obligation is associated with our U.S. plans. Virtually all of our worldwide defined benefit plans are closed to new participants.

In general, our defined benefit pension plans are funded (i.e., have restricted assets from which benefits are paid). Our unfunded defined benefit pension plans are treated on a "pay as you go" basis with benefit payments from general Company cash. These unfunded plans primarily include certain plans in Germany and the U.S. defined benefit plans for senior management.

OPEB. We have defined benefit OPEB plans, primarily certain health care and life insurance benefits, covering hourly and salaried employees in the United States, Canada, and other locations. The largest portion of our worldwide obligation is associated with our U.S. plans. Our OPEB plans are unfunded and the benefits are paid from general Company cash.

Defined Contribution and Savings Plans. We also have defined contribution and savings plans for hourly and salaried employees in the United States and other locations. Company contributions to these plans, if any, are made from general Company cash and are expensed as incurred. The expense for our worldwide defined contribution and savings plans was $398 million, $432 million, and $478 million for the years ended December 31, 2020, 2021, and 2022, respectively. This includes the expense for Company-matching contributions to our primary employee savings plan in the United States of $146 million, $152 million, and $152 million for the years ended December 31, 2020, 2021, and 2022, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 17. RETIREMENT BENEFITS *(Continued)*

Defined Benefit Plans – Expense and Status

The assumptions used to determine benefit obligation and net periodic benefit cost/(income) were as follows:

	Pension Benefits					
	U.S. Plans		Non-U.S. Plans		Worldwide OPEB	
	2021	2022	2021	2022	2021	2022
Weighted Average Assumptions at December 31						
Discount rate	2.91 %	5.51 %	1.75 %	4.42 %	2.97 %	5.48 %
Average rate of increase in compensation	3.50	3.70	3.19	3.42	3.46	3.65
Weighted Average Assumptions Used to Determine Net Benefit Cost for the Year Ended December 31						
Discount rate - Service cost	3.02 %	3.12 %	1.44 %	1.78 %	3.14 %	3.27 %
Effective interest rate on benefit obligation	2.00	2.40	1.06	1.54	1.96	2.49
Expected long-term rate of return on assets	6.00	5.75	3.42	3.29	—	—
Average rate of increase in compensation	3.50	3.50	3.34	3.19	3.44	3.46

The pre-tax net periodic benefit cost/(income) for our defined benefit pension and OPEB plans for the years ended December 31 was as follows (in millions):

	Pension Benefits								
	U.S. Plans			Non-U.S. Plans			Worldwide OPEB		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
Service cost	$ 520	$ 526	$ 500	$ 529	$ 557	$ 416	$ 47	$ 49	$ 42
Interest cost	1,291	928	1,054	514	420	504	169	127	146
Expected return on assets	(2,795)	(2,728)	(2,569)	(1,067)	(1,130)	(1,006)	—	—	—
Amortization of prior service costs/(credits)	4	2	2	32	24	22	(16)	(12)	(3)
Net remeasurement (gain)/loss	377	(254)	1,720	499	(3,241)	(436)	556	(376)	(1,314)
Separation programs/other	35	19	46	226	156	63	—	—	—
Settlements and curtailments	5	70	438	103	(2)	(2)	(2)	—	(1)
Net periodic benefit cost/(income)	$ (563)	$ (1,437)	$ 1,191	$ 836	$ (3,216)	$ (439)	$ 754	$ (212)	$ (1,130)

In 2020, we recognized an expense of $367 million related to separation programs, settlements, and curtailments, which included a $61 million settlement loss related to a non-U.S. pension plan and $268 million related to ongoing redesign programs.

In 2021, we recognized an expense of $244 million related to separation programs, settlements, and curtailments, which included $70 million of settlement losses related to a U.S. pension plan and separation expenses of $156 million for non-U.S. pension plans related to ongoing redesign programs.

In 2022, we recognized an expense of $544 million related to separation programs, settlements, and curtailments, which included $438 million of settlement losses related to a U.S. pension plan and separation and curtailment expenses of $57 million for non-U.S. pension plans related to ongoing redesign programs. Until our Global Redesign programs are completed, we anticipate further adjustments to our plans in subsequent periods.

NOTE 17. RETIREMENT BENEFITS *(Continued)*

The year-end status of these plans was as follows (in millions):

	Pension Benefits					
	U.S. Plans		Non-U.S. Plans		Worldwide OPEB	
	2021	2022	2021	2022	2021	2022
Change in Benefit Obligation						
Benefit obligation at January 1	$ 49,020	$ 44,888	$ 39,835	$ 34,432	$ 6,575	$ 6,040
Service cost	526	500	557	416	49	42
Interest cost	928	1,054	420	504	127	146
Amendments	—	—	4	—	—	—
Separation programs/other	(25)	4	185	56	—	—
Curtailments	—	—	(4)	(2)	—	—
Settlements (a)	(1,297)	(1,172)	—	(674)	—	—
Plan participant contributions	20	18	13	12	21	1
Benefits paid	(2,522)	(2,466)	(1,565)	(1,302)	(356)	(363)
Foreign exchange translation	—	—	(1,432)	(2,877)	—	(92)
Actuarial (gain)/loss	(1,762)	(9,959)	(3,581)	(8,960)	(376)	(1,315)
Benefit obligation at December 31	44,888	32,867	34,432	21,605	6,040	4,459
Change in Plan Assets						
Fair value of plan assets at January 1	48,355	45,909	33,820	33,085	—	—
Actual return on plan assets	1,150	(9,548)	788	(7,516)	—	—
Company contributions	247	223	912	722	—	—
Plan participant contributions	20	18	13	12	—	—
Benefits paid	(2,522)	(2,466)	(1,565)	(1,302)	—	—
Settlements (a)	(1,297)	(1,172)	—	(674)	—	—
Foreign exchange translation	—	—	(855)	(2,973)	—	—
Other	(44)	(42)	(28)	(10)	—	—
Fair value of plan assets at December 31	45,909	32,922	33,085	21,344	—	—
Funded status at December 31	$ 1,021	$ 55	$ (1,347)	$ (261)	$ (6,040)	$ (4,459)
Amounts Recognized on the Balance Sheets						
Prepaid assets	$ 3,130	$ 2,064	$ 5,404	$ 3,599	$ —	$ —
Other liabilities	(2,109)	(2,009)	(6,751)	(3,860)	(6,040)	(4,459)
Total	$ 1,021	$ 55	$ (1,347)	$ (261)	$ (6,040)	$ (4,459)
Amounts Recognized in Accumulated Other Comprehensive Loss (pre-tax)						
Unamortized prior service costs/(credits)	$ 2	$ —	$ 170	$ 130	$ 22	$ 25
Pension Plans in which Accumulated Benefit Obligation Exceeds Plan Assets at December 31						
Accumulated benefit obligation	$ 2,192	$ 15,055	$ 12,586	$ 8,346		
Fair value of plan assets	140	13,576	6,835	5,068		
Accumulated Benefit Obligation at December 31	$ 43,879	$ 32,336	$ 31,850	$ 20,304		
Pension Plans in which Projected Benefit Obligation Exceeds Plan Assets at December 31						
Projected benefit obligation	$ 2,249	$ 15,585	$ 13,651	$ 8,932		
Fair value of plan assets	140	13,576	6,900	5,068		
Projected Benefit Obligation at December 31	$ 44,888	$ 32,867	$ 34,432	$ 21,605		

(a) In the fourth quarter of 2022, we transferred a non-U.S. pension obligation and related plan assets to an insurance company. There were no gains or losses recognized upon settlement.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 17. RETIREMENT BENEFITS *(Continued)*

The actuarial (gain)/loss for our pension benefit obligations in 2021 and 2022 was primarily related to changes in discount rates.

Pension Plan Contributions

Our policy for funded pension plans is to contribute annually, at a minimum, amounts required by applicable laws and regulations. We may make contributions beyond those legally required.

In 2022, we contributed $567 million to our global funded pension plans and made $379 million of benefit payments to participants in unfunded plans. During 2023, we expect to contribute between $500 million and $600 million of cash to our global funded pension plans. We also expect to make about $400 million of benefit payments to participants in unfunded plans. Based on current assumptions and regulations, we do not expect to have a legal requirement to fund our major U.S. pension plans in 2023.

Expected Future Benefit Payments

The expected future benefit payments at December 31, 2022 were as follows (in millions):

	Benefit Payments		
	Pension		
	U.S. Plans	Non-U.S. Plans	Worldwide OPEB
2023	$ 3,805	$ 1,300	$ 335
2024	2,595	1,225	335
2025	2,605	1,245	335
2026	2,570	1,255	330
2027	2,530	1,275	330
2028-2032	12,445	6,485	1,595

Pension Plan Asset Information

Investment Objectives and Strategies. Our investment objectives for the U.S. plans are to minimize the volatility of the value of our U.S. pension assets relative to U.S. pension obligations and to ensure assets are sufficient to pay plan benefits. Our largest non-U.S. plans (e.g., United Kingdom and Canada) have similar investment objectives to the U.S. plans.

Investment strategies and policies for the U.S. plans and the largest non-U.S. plans reflect a balance of risk-reducing and return-seeking considerations. The objective of minimizing the volatility of assets relative to obligations is addressed primarily through asset-liability matching, asset diversification, and hedging. The fixed income asset allocation matches the bond-like and long-dated nature of the pension obligations. Assets are broadly diversified within asset classes to achieve risk-adjusted returns that, in total, lower asset volatility relative to the obligations. Strategies to address the goal of ensuring sufficient assets to pay benefits include target allocations to a broad array of asset classes, and strategies within asset classes that provide adequate returns, diversification, and liquidity.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 17. RETIREMENT BENEFITS *(Continued)*

Derivatives are permitted for fixed income investment and public equity managers to use as efficient substitutes for traditional securities and to manage exposure to interest rate and foreign exchange risks. Interest rate and foreign currency derivative instruments are used for the purpose of hedging changes in the fair value of assets that result from interest rate changes and currency fluctuations. Interest rate derivatives are also used to adjust portfolio duration. Derivatives may not be used to leverage or to alter the economic exposure to an asset class outside the scope of the mandate an investment manager has been given. Alternative investment managers are permitted to employ leverage (including through the use of derivatives or other tools) that may alter economic exposure.

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Alternative investments execute diverse strategies that provide exposure to a broad range of hedge fund strategies, equity investments in private companies, and investments in private property funds.

Significant Concentrations of Risk. Significant concentrations of risk in our plan assets relate to interest rates, growth assets, and operating risks. In order to minimize asset volatility relative to the obligations, the majority of plan assets are allocated to fixed income investments which are exposed to interest rate risk. Rate increases generally will result in a decline in the value of fixed income assets, while reducing the present value of the obligations. Conversely, rate decreases generally will increase the value of fixed income assets, offsetting the related increase in the obligations.

In order to ensure assets are sufficient to pay benefits, a portion of plan assets is allocated to growth assets (primarily hedge funds, real estate, private equity, and public equity) that are expected over time to earn higher returns with more volatility than fixed income investments, which more closely match pension obligations. Within growth assets, risk is mitigated by constructing a portfolio that is broadly diversified by asset class, investment strategy, manager, style, and process.

Operating risks include the risks of inadequate diversification and weak controls. To mitigate these risks, investments are diversified across and within asset classes in support of investment objectives. Policies and practices to address operating risks include ongoing manager oversight (e.g., style adherence, team strength, firm health, and internal risk controls), plan and asset class investment guidelines and instructions that are communicated to managers, and periodic compliance reviews to ensure adherence.

At year-end 2022, Ford securities comprised less than 1% of our plan assets.

Expected Long-Term Rate of Return on Assets. The long-term return assumption at year-end 2022, which will be used to determine the 2023 expected return on assets, is 6.25% for the U.S. plans, 3.75% for the U.K. plans, and 5.03% for the Canadian plans, and averages 4.13% for all non-U.S. plans. A generally consistent approach is used worldwide to develop this assumption. This approach considers primarily inputs from a range of advisors for long-term capital market returns, inflation, bond yields, and other variables, adjusted for specific aspects of our investment strategy by plan. Historical returns also are considered where appropriate. The assumption is based on consideration of all inputs, with a focus on long-term trends to avoid short-term market influences.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 17. RETIREMENT BENEFITS *(Continued)*

The fair value of our defined benefit pension plan assets (including dividends and interest receivables of $310 million and $96 million for U.S. and non-U.S. plans, respectively) by asset category at December 31 was as follows (in millions):

	2021									
	U.S. Plans					Non-U.S. Plans				
	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total
Asset Category										
Equity										
U.S. companies	$ 1,396	$ 20	$ —	$ —	$ 1,416	$ 1,862	$ 48	$ —	$ —	$ 1,910
International companies	740	8	8	—	756	1,254	59	—	—	1,313
Total equity	2,136	28	8	—	2,172	3,116	107	—	—	3,223
Fixed Income										
U.S. government and agencies	9,660	1,687	—	—	11,347	47	13	—	—	60
Non-U.S. government	—	1,230	12	—	1,242	—	20,338	123	—	20,461
Corporate bonds	—	25,842	—	—	25,842	—	2,901	70	—	2,971
Mortgage/other asset-backed	—	464	—	—	464	—	338	15	—	353
Commingled funds	—	164	—	—	164	—	185	—	—	185
Derivative financial instruments, net	1	(19)	—	—	(18)	(1)	23	28	—	50
Total fixed income	9,661	29,368	12	—	39,041	46	23,798	236	—	24,080
Alternatives										
Hedge funds	—	—	—	3,390	3,390	—	—	—	1,221	1,221
Private equity	1	—	—	1,976	1,977	—	—	—	756	756
Real estate	—	—	—	1,323	1,323	—	—	—	386	386
Total alternatives	1	—	—	6,689	6,690	—	—	—	2,363	2,363
Cash, cash equivalents, and repurchase agreements (b)	(1,220)	—	—	—	(1,220)	(1,899)	—	—	—	(1,899)
Other (c)	(774)	—	—	—	(774)	(466)	—	5,784	—	5,318
Total assets at fair value	$ 9,804	$ 29,396	$ 20	$ 6,689	$ 45,909	$ 797	$ 23,905	$ 6,020	$ 2,363	$ 33,085

(a) Certain assets that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy.
(b) Primarily short-term investment funds to provide liquidity to plan investment managers, cash held to pay benefits, and repurchase agreements valued at $2.9 billion in U.S. plans and $2.6 billion in non-U.S. plans.
(c) For U.S. plans, amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales). For non-U.S plans, $4.7 billion of insurance contracts, primarily Ford-Werke, and amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales).

NOTE 17. RETIREMENT BENEFITS *(Continued)*

The fair value of our defined benefit pension plan assets (including dividends and interest receivables of $268 million and $74 million for U.S. and non-U.S. plans, respectively) by asset category at December 31 was as follows (in millions):

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	2022									
	U.S. Plans					Non-U.S. Plans				
Asset Category	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total
Equity										
U.S. companies	$ 412	$ 2	$ —	$ —	$ 414	$ 1,426	$ 33	$ —	$ —	$ 1,459
International companies	269	6	8	—	283	989	13	—	—	1,002
Total equity	681	8	8	—	697	2,415	46	—	—	2,461
Fixed Income										
U.S. government and agencies	7,380	1,509	—	—	8,889	36	35	—	—	71
Non-U.S. government	—	640	—	—	640	—	12,256	231	—	12,487
Corporate bonds	—	17,774	1	—	17,775	—	2,059	124	—	2,183
Mortgage/other asset-backed	—	422	—	—	422	—	265	10	—	275
Commingled funds	—	104	—	—	104	—	170	—	—	170
Derivative financial instruments, net	(2)	19	—	—	17	2	(74)	77	—	5
Total fixed income	7,378	20,468	1	—	27,847	38	14,711	442	—	15,191
Alternatives										
Hedge funds	—	—	—	3,342	3,342	—	—	—	1,009	1,009
Private equity	—	—	—	1,411	1,411	—	—	—	584	584
Real estate	—	—	—	1,553	1,553	—	—	—	405	405
Total alternatives	—	—	—	6,306	6,306	—	—	—	1,998	1,998
Cash, cash equivalents, and repurchase agreements (b)	(1,135)	—	—	—	(1,135)	(1,363)	—	—	—	(1,363)
Other (c)	(793)	—	—	—	(793)	(310)	—	3,367	—	3,057
Total assets at fair value	$ 6,131	$ 20,476	$ 9	$ 6,306	$ 32,922	$ 780	$ 14,757	$ 3,809	$ 1,998	$ 21,344

(a) Certain assets that are measured at fair value using the NAV per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy.

(b) Primarily short-term investment funds to provide liquidity to plan investment managers, cash held to pay benefits, and repurchase agreements valued at $2.6 billion in U.S. plans and $2.1 billion in non-U.S. plans.

(c) For U.S. plans, amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales). For non-U.S plans, $2.5 billion of insurance contracts, primarily Ford-Werke, and amounts related to net pending security (purchases)/sales and net pending foreign currency purchases/(sales).

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 17. RETIREMENT BENEFITS *(Continued)*

The following table summarizes the changes in Level 3 defined benefit pension plan assets measured at fair value on a recurring basis for the years ended December 31 (in millions):

	2021					
		Return on plan assets				
	Fair Value at January 1	Attributable to Assets Held at December 31	Attributable to Assets Sold	Net Purchases/ (Settlements)	Transfers Into/ (Out of) Level 3	Fair Value at December 31
U.S. Plans	$ 16	$ (2)	$ —	$ 5	$ 1	$ 20
Non-U.S. Plans (a)	6,006	(943)	153	687	117	6,020

	2022					
		Return on plan assets				
	Fair Value at January 1	Attributable to Assets Held at December 31	Attributable to Assets Sold	Net Purchases/ (Settlements)	Transfers Into/ (Out of) Level 3	Fair Value at December 31
U.S. Plans	$ 20	$ —	$ (4)	$ (8)	$ 1	$ 9
Non-U.S. Plans (a)	6,020	(1,732)	26	(722)	217	3,809

(a) Includes insurance contracts, primarily the Ford-Werke plan, valued at $4.7 billion and $2.5 billion at year-end 2021 and 2022, respectively. In the fourth quarter of 2022, we transferred a non-U.S. pension obligation and related plan assets to an insurance company. There were no gains or losses recognized upon settlement.

NOTE 18. LEASE COMMITMENTS

We lease land, dealership facilities, offices, distribution centers, warehouses, and equipment under agreements with contractual periods ranging from less than one year to 40 years. Many of our leases contain one or more options to extend. In certain dealership lease agreements, we are the tenant and we sublease the site to a dealer. In the event the sublease is terminated, we have the option to terminate the head lease. We include options that we are reasonably certain to exercise in our evaluation of the lease term after considering all relevant economic and financial factors.

Leases that are economically similar to the purchase of an asset are classified as finance leases. The leased ("right-of-use") assets in finance lease arrangements are reported in *Net property* on our consolidated balance sheets. Otherwise, the leases are classified as operating leases and reported in *Other assets* in the non-current assets section of our consolidated balance sheets. We have also entered into manufacturing contracts commencing in a future period where Ford's portion of the output is expected to be significant. As a result, there may be embedded leases, and related liabilities, that will be reported as part of our financial statements, typically upon commencement of production.

For the majority of our leases, we do not separate the non-lease components (e.g., maintenance and operating services) from the lease components to which they relate. Instead, non-lease components are included in the measurement of the lease liabilities. However, we do separate lease and non-lease components for contracts containing a significant service component (e.g., energy performance contracts). We calculate the initial lease liability as the present value of fixed payments not yet paid and variable payments that are based on a market rate or an index (e.g., CPI), measured at commencement. The majority of our leases are discounted using our incremental borrowing rate because the rate implicit in the lease is not readily determinable. All other variable payments are expensed as incurred.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. LEASE COMMITMENTS *(Continued)*

Lease right-of-use assets and liabilities at December 31 were as follows (in millions):

	2021	2022
Operating leases		
Other assets, non-current	$ 1,337	$ 1,447
Other liabilities and deferred revenue, current	$ 345	$ 404
Other liabilities and deferred revenue, non-current	1,048	1,101
Total operating lease liabilities	$ 1,393	$ 1,505
Finance leases		
Property and equipment, gross	$ 715	$ 791
Accumulated depreciation	(68)	(109)
Property and equipment, net	$ 647	$ 682
Company excluding Ford Credit debt payable within one year	$ 76	$ 86
Company excluding Ford Credit long-term debt	489	488
Total finance lease liabilities	$ 565	$ 574

The amounts contractually due on our lease liabilities as of December 31, 2022 were as follows (in millions):

	Operating Leases (a)	Finance Leases
2023	$ 452	$ 107
2024	350	91
2025	253	68
2026	176	62
2027	134	37
Thereafter	309	348
Total	1,674	713
Less: Present value discount	169	139
Total lease liabilities	$ 1,505	$ 574

(a) Excludes approximately $300 million in future lease payments for various leases commencing in a future period.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 18. LEASE COMMITMENTS *(Continued)*

Supplemental cash flow information related to leases for the years ended December 31 was as follows (in millions):

	2020	2021	2022
Cash paid for amounts included in the measurement of lease liabilities			
Operating cash flows from operating leases	$ 434	$ 424	$ 459
Operating cash flows from finance leases	15	14	22
Financing cash flows from finance leases	105	52	83
Right-of-use assets obtained in exchange for lease liabilities			
Operating leases	$ 304	$ 441	$ 528
Finance leases	306	192	95

The components of lease expense for the years ended December 31 were as follows (in millions):

	2020	2021	2022
Operating lease expense	$ 463	$ 444	$ 463
Variable lease expense	57	49	62
Sublease income	(14)	(16)	(15)
Finance lease expense			
Amortization of right-of-use assets	27	34	60
Interest on lease liabilities	15	14	22
Total lease expense	$ 548	$ 525	$ 592

The weighted-average remaining lease term and weighted-average discount rate at December 31 were as follows:

	2020	2021	2022
Weighted-average remaining lease term (in years)			
Operating leases	6.3	6.0	5.5
Finance leases	14.8	12.1	12.2
Weighted-average discount rate			
Operating leases	3.8 %	3.3 %	3.7 %
Finance leases	3.5	3.3	3.9

NOTE 19. DEBT AND COMMITMENTS

Our debt consists of short-term and long-term secured and unsecured debt securities, and secured and unsecured borrowings from banks and other lenders. Debt issuances are placed directly by us or through securities dealers or underwriters and are held by institutional and retail investors. In addition, Ford Credit sponsors securitization programs that provide short-term and long-term asset-backed financing through institutional investors in the U.S. and international capital markets.

Debt is reported on our consolidated balance sheets at par value adjusted for unamortized discount or premium, unamortized issuance costs, and adjustments related to designated fair value hedging (see Note 20). Discounts, premiums, and costs directly related to the issuance of debt are capitalized and amortized over the life of the debt or to the put date and are recorded in interest expense using the effective interest method. Gains and losses on the extinguishment of debt are recorded in *Other income/(loss), net*.

NOTE 19. DEBT AND COMMITMENTS *(Continued)*

The carrying value of Company debt excluding Ford Credit and Ford Credit debt at December 31 was as follows (in millions):

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			Interest Rates			
			Average Contractual		Average Effective (a)	
Company excluding Ford Credit	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**
Debt payable within one year						
Short-term	$ 286	$ 359	0.4 %	2.8 %	0.4 %	2.8 %
Long-term payable within one year						
Public unsecured debt securities	86	—				
U.S. Department of Energy Advanced Technology Vehicles Manufacturing ("DOE ATVM") Incentive Program	953	—				
Delayed draw term loan	1,500	—				
Other debt	348	372				
Unamortized (discount)/premium	2	(1)				
Total debt payable within one year	3,175	730				
Long-term debt payable after one year						
Public unsecured debt securities	13,643	14,935				
Convertible notes	2,300	2,300				
U.K. Export Finance Program	843	1,654				
Other debt	768	682				
Unamortized (discount)/premium	(188)	(180)				
Unamortized issuance costs	(166)	(191)				
Total long-term debt payable after one year	17,200	19,200	4.4 % (b)	4.9 % (b)	4.6 % (b)	5.1 % (b)
Total Company excluding Ford Credit	$ 20,375	$ 19,930				
Fair value of Company debt excluding Ford Credit (c)	$ 24,044	$ 18,557				
Ford Credit						
Debt payable within one year						
Short-term	$ 14,810	$ 19,624	1.2 %	3.8 %	1.3 %	3.8 %
Long-term payable within one year						
Unsecured debt	13,660	7,980				
Asset-backed debt	18,049	21,839				
Unamortized (discount)/premium	1	—				
Unamortized issuance costs	(13)	(13)				
Fair value adjustments (d)	10	4				
Total debt payable within one year	46,517	49,434				
Long-term debt payable after one year						
Unsecured debt	44,337	39,620				
Asset-backed debt	26,654	31,840				
Unamortized (discount)/premium	28	23				
Unamortized issuance costs	(199)	(184)				
Fair value adjustments (d)	380	(1,694)				
Total long-term debt payable after one year	71,200	69,605	2.6 % (b)	3.6 % (b)	2.6 % (b)	3.6 % (b)
Total Ford Credit	$ 117,717	$ 119,039				
Fair value of Ford Credit debt (c)	$ 120,204	$ 117,214				

(a) Average effective rates reflect the average contractual interest rate plus amortization of discounts, premiums, and issuance costs.
(b) Includes interest on long-term debt payable within one year and after one year.
(c) At December 31, 2021 and 2022, the fair value of debt includes $209 million and $359 million of Company excluding Ford Credit short-term debt and $14.1 billion and $16.9 billion of Ford Credit short-term debt, respectively, carried at cost, which approximates fair value. All other debt is categorized within Level 2 of the fair value hierarchy.
(d) These adjustments are related to hedging activity and include discontinued hedging relationship adjustments of $257 million and $31 million at December 31, 2021 and 2022, respectively. The carrying value of hedged debt was $37.5 billion and $33.3 billion at December 31, 2021 and 2022, respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 19. DEBT AND COMMITMENTS *(Continued)*

Cash paid for interest was $1.4 billion, $1.9 billion, and $1.2 billion in 2020, 2021, and 2022, respectively, on Company excluding Ford Credit debt. Cash paid for interest was $3.4 billion, $2.8 billion, and $3.2 billion in 2020, 2021, and 2022, respectively, on Ford Credit debt.

Maturities

Debt maturities at December 31, 2022 were as follows (in millions):

	2023	2024	2025	2026	2027	Thereafter	Adjustments	Total Debt Maturities
Company excluding Ford Credit								
Public unsecured debt securities	$ —	$ —	$ 176	$ 3,972	$ —	$ 13,087	$ (258)	$ 16,977
Short-term and other debt	731	95	820	65	939	417	(114)	2,953
Total	$ 731	$ 95	$ 996	$ 4,037	$ 939	$ 13,504	$ (372)	$ 19,930
Ford Credit								
Unsecured debt	$ 24,798	$ 11,533	$ 10,888	$ 5,184	$ 6,187	$ 5,828	$ (1,816)	$ 62,602
Asset-backed debt	24,645	15,625	10,896	3,509	1,110	700	(48)	56,437
Total	$ 49,443	$ 27,158	$ 21,784	$ 8,693	$ 7,297	$ 6,528	$ (1,864)	$ 119,039

NOTE 19. DEBT AND COMMITMENTS *(Continued)*

Company excluding Ford Credit Segment

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Public Unsecured Debt Securities

Our public unsecured debt securities outstanding at December 31 were as follows (in millions):

Title of Security	Aggregate Principal Amount Outstanding 2021	2022
8 7/8% Debentures due January 15, 2022	$ 86	$ —
9.000% Notes due April 22, 2025	1,058	—
7 1/8% Debentures due November 15, 2025	176	176
0.00% Notes due March 15, 2026	2,300	2,300
7 1/2% Debentures due August 1, 2026	172	172
4.346% Notes due December 8, 2026	1,500	1,500
6 5/8% Debentures due February 15, 2028	104	104
6 5/8% Debentures due October 1, 2028 (a)	446	446
6 3/8% Debentures due February 1, 2029 (a)	202	202
9.30% Notes due March 1, 2030	294	294
9.625% Notes due April 22, 2030	432	432
7.45% GLOBLS due July 16, 2031 (a)	1,070	1,070
8.900% Debentures due January 15, 2032	108	108
3.25% Notes due February 12, 2032	2,500	2,500
9.95% Debentures due February 15, 2032	4	4
6.10% Notes due August 19, 2032	—	1,750
4.75% Notes due January 15, 2043	2,000	2,000
7.75% Debentures due June 15, 2043	73	73
7.40% Debentures due November 1, 2046	398	398
5.291% Notes due December 8, 2046	1,300	1,300
9.980% Debentures due February 15, 2047	114	114
6.20% Notes due June 1, 2059	750	750
6.00% Notes due December 1, 2059	800	800
6.50% Notes due August 15, 2062	—	600
7.70% Debentures due May 15, 2097	142	142
Total public unsecured debt securities	$ 16,029	$ 17,235

(a) Listed on the Luxembourg Exchange and on the Singapore Exchange.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 19. DEBT AND COMMITMENTS *(Continued)*

Debt Extinguishment

Pursuant to our November 2021 cash tender offer and December 2021 redemption, we repurchased or redeemed $7.6 billion principal amount of our public unsecured debt securities for an aggregate cost of $9.3 billion (including transaction costs and accrued and unpaid interest payments for such tendered securities). As a result of these transactions, we recorded a pre-tax loss of $1.7 billion (net of unamortized discounts, premiums, and fees) in *Other income/(loss), net* in 2021.

In September 2022, we redeemed approximately $1.1 billion principal amount of our public unsecured debt securities for an aggregate cost of approximately $1.2 billion (including redemption costs and accrued and unpaid interest payments for such redeemed securities). As a result of this transaction, we recorded a pre-tax loss of $135 million (net of unamortized discounts, premiums, and fees) in *Other income/(loss), net* in 2022.

Environmental, Social, Governance ("ESG") Bonds

In November 2021 and August 2022, we issued $2.5 billion and approximately $1.8 billion aggregate principal amount of green bonds, respectively, under our sustainable financing framework. The interest rates of these green bonds are 3.250% and 6.1%, respectively. We are allocating the net proceeds from this issuance to the design, development, and manufacturing of our electric vehicle portfolio.

Convertible Debt

In March 2021, we issued $2.3 billion aggregate principal amount of unsecured 0% Convertible Senior Notes due 2026, including $300 million aggregate principal amount of such notes pursuant to the exercise in full of the overallotment option granted to the initial purchasers. The notes will not bear regular interest and the principal amount of the notes will not accrete. The total net proceeds from the offering, after deducting debt issuance costs, were approximately $2.267 billion.

Each $1,000 principal amount of the notes will be convertible into 59.3505 shares of our Common Stock, which is equivalent to a conversion price of approximately $16.85 per share, subject to adjustment upon the occurrence of specified events. The notes are convertible, at the option of the noteholders, on or after December 15, 2025. Prior to December 15, 2025, the notes are convertible only under the following circumstances:

- During any fiscal quarter commencing after the fiscal quarter ending on September 30, 2021 (and only during such fiscal quarter), if the last reported sale price of our Common Stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price of the notes on each applicable trading day;
- During the five business day period after any five consecutive trading day period in which the trading price per $1,000 principal amount of the notes for each day of that five consecutive trading day period was less than 98% of the product of the last reported sale price of our Common Stock and the conversion rate of the notes on such trading day;
- If we call any or all of the notes for redemption; or
- Upon the occurrence of specific corporate events such as a change in control or certain beneficial distributions to common stockholders (as set forth in the indenture governing the notes).

Upon conversion, we will pay cash up to the aggregate principal amount of the notes to be converted and cash, shares of our Common Stock, or a combination of cash and shares of our Common Stock, at our election for the remainder of our obligation in excess, if any, of the aggregate principal amount of the notes being converted.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 19. DEBT AND COMMITMENTS *(Continued)*

We may not redeem the notes prior to March 20, 2024. On or after March 20, 2024, we may redeem all or any portion of the notes for cash equal to 100% of the principal amount of the notes being redeemed if the last reported sale price of our Common Stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period.

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If we undergo a fundamental change (e.g., change of control), subject to certain conditions, holders of the notes may require us to repurchase for cash all or any portion of their notes at a repurchase price equal to 100% of the principal amount of the notes. In addition, if specific corporate events occur prior to the maturity date or if we issue a notice of redemption, we will increase the conversion rate by pre-defined amounts for holders who elect to convert their notes in connection with such a corporate event. The conditions allowing holders of the notes to convert were not met in 2021 or 2022.

The notes were issued at par and fees associated with the issuance of these notes are amortized to *Interest expense on Company debt excluding Ford Credit* over the contractual term of the notes. Amortization of issuance costs was $5 million and $7 million in 2021 and 2022, respectively. The effective interest rate of the notes is 0.3%.

The total estimated fair value of the notes as of December 31, 2021 and December 31, 2022 was approximately $3.2 billion and $2.2 billion, respectively. The fair value was determined using commonly employed valuation methodologies applying observable market inputs and is classified within Level 2 of the fair value hierarchy.

The notes did not have an impact on our full year 2021 or 2022 diluted EPS.

DOE ATVM Incentive Program

In September 2009, we entered into a Loan Arrangement and Reimbursement Agreement with the DOE, under which we borrowed through multiple draws $5.9 billion to finance certain costs for fuel-efficient, advanced-technology vehicles. We made our final repayment to the DOE in June 2022.

U.K. Export Finance Program

In 2020 and 2022, Ford Motor Company Limited ("Ford of Britain"), our operating subsidiary in the United Kingdom, entered into, and drew in full, £625 million and £750 million term loan credit facilities, respectively, with a syndicate of banks to support Ford of Britain's general export activities. Accordingly, U.K. Export Finance ("UKEF") provided £500 million and £600 million guarantees of the credit facilities, respectively, under its Export Development Guarantee scheme, which supports high value commercial lending to U.K. exporters. We have also guaranteed Ford of Britain's obligations under the credit facilities to the lenders. As of December 31, 2022, the full £1,375 million under the two credit facilities remained outstanding. These five-year, non-amortizing loans mature on June 30, 2025 and June 30, 2027.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 19. DEBT AND COMMITMENTS *(Continued)*

Company Excluding Ford Credit Facilities

Total Company committed credit lines, excluding Ford Credit, at December 31, 2022 were $19.3 billion, consisting of $13.5 billion of our corporate credit facility, $2 billion of our supplemental revolving credit facility, $1.75 billion of our 364-day revolving credit facility, and $2.1 billion of local credit facilities. At December 31, 2022, the utilized portion of the corporate credit facility was $19 million, representing amounts utilized for letters of credit, and the full $1.75 billion of our 364-day revolving credit facility was utilized by Ford Credit, in its capacity as a subsidiary borrower under that facility. In addition, $1.7 billion of committed Company credit lines, excluding Ford Credit, was utilized under local credit facilities for our affiliates as of December 31, 2022. As of January 25, 2023, Ford Credit had repaid the full $1.75 billion outstanding under the 364-day revolving credit facility.

Lenders under our corporate credit facility have $3.4 billion of commitments maturing on June 23, 2025 and $10.1 billion of commitments maturing on June 23, 2027. Lenders under our supplemental revolving credit facility have $0.1 billion of commitments maturing on September 29, 2024 and $1.9 billion of commitments maturing on June 23, 2025. Lenders under our 364-day revolving credit facility have $1.75 billion of commitments maturing on June 22, 2023.

The corporate, supplemental, and 364-day credit agreements include certain sustainability-linked targets, pursuant to which the applicable margin and facility fees may be adjusted if Ford achieves, or fails to achieve, the specified targets related to global manufacturing facility greenhouse gas emissions, renewable electricity consumption, and Ford Europe CO_2 tailpipe emissions.

The corporate credit facility is unsecured and free of material adverse change conditions to borrowing, restrictive financial covenants (for example, interest or fixed-charge coverage ratio, debt-to-equity ratio, and minimum net worth requirements), and credit rating triggers that could limit our ability to obtain funding or trigger early repayment. The corporate credit facility contains a liquidity covenant that requires us to maintain a minimum of $4 billion in aggregate of domestic cash, cash equivalents, and loaned and marketable securities and/or availability under the corporate credit facility, supplemental revolving credit facility, and 364-day revolving credit facility. The terms and conditions of the supplemental and 364-day revolving credit facilities are consistent with our corporate credit facility. Ford Credit has been designated as a subsidiary borrower under the corporate credit facility and the 364-day revolving credit facility.

Each of the corporate credit facility, supplemental revolving credit facility, and 364-day revolving credit facility include a covenant that requires us to provide guarantees from certain of our subsidiaries in the event that our senior, unsecured, long-term debt does not maintain at least two investment grade ratings from Fitch, Moody's, and S&P. The following subsidiaries have provided unsecured guarantees to the lenders under the credit facilities: Ford Component Sales, LLC; Ford European Holdings Inc.; Ford Global Technologies, LLC; Ford Holdings LLC (the parent company of Ford Credit); Ford International Capital LLC; Ford Mexico Holdings LLC; Ford Motor Service Company; Ford Next LLC; and Ford Trading Company, LLC.

Ford Credit Segment

Debt Extinguishment

Pursuant to Ford Credit's June 2022 cash tender offer, Ford Credit repurchased approximately $3 billion principal amount of its public unsecured debt securities for an aggregate cost of approximately $3 billion (including transaction costs and accrued and unpaid interest payments for such tendered securities). As a result of these transactions, Ford Credit recorded a pre-tax gain of $17 million (net of unamortized discounts, premiums, fees, and fair value adjustments) in *Other income/(loss), net* in 2022.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 19. DEBT AND COMMITMENTS *(Continued)*

Asset-Backed Debt

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At December 31, 2022, the carrying value of our asset-backed debt was $56.4 billion. This secured debt is issued by Ford Credit and includes asset-backed securities used to fund operations and maintain liquidity. Assets securing the related debt issued as part of all our securitization transactions are included in our consolidated results and are based upon the legal transfer of the underlying assets in order to reflect legal ownership and the beneficial ownership of the debt holder. The third-party investors in the securitization transactions have legal recourse only to the assets securing the debt and do not have such recourse to us, except for the customary representation and warranty provisions or when we are counterparty to certain derivative transactions of the special purpose entities ("SPEs"). In addition, the cash flows generated by the assets are restricted only to pay such liabilities; Ford Credit retains the right to residual cash flows. See Note 24 for additional information.

Although not contractually required, we regularly support our wholesale securitization programs by repurchasing receivables of a dealer from a SPE when the dealer's performance is at risk, which transfers the corresponding risk of loss from the SPE to us. In order to continue to fund the wholesale receivables, we also may contribute additional cash or wholesale receivables if the collateral falls below required levels. The balance of cash related to these contributions was $1,150 million and $0 at December 31, 2021 and December 31, 2022, respectively, and ranged from $25 million to $3,700 million during 2021 and from $0 to $2,850 million during 2022.

SPEs that are exposed to interest rate or currency risk may reduce their risks by entering into derivative transactions. In certain instances, we have entered into derivative transactions with the counterparty to protect the counterparty from risks absorbed through derivative transactions with the SPEs. Derivative income/(expense) related to the derivative transactions that support Ford Credit's securitization programs were $(234) million, $41 million, and $466 million for the years ended December 31, 2020, 2021, and 2022, respectively. See Note 20 for additional information regarding the accounting for derivatives.

Interest expense on securitization debt was $1.2 billion, $0.9 billion, and $1.3 billion in 2020, 2021, and 2022, respectively.

The assets and liabilities related to our asset-backed debt arrangements included in our consolidated financial statements at December 31 were as follows (in billions):

	2021	2022
Assets		
Cash and cash equivalents	$ 3.8	$ 2.8
Finance receivables, net	50.6	61.6
Net investment in operating leases	7.5	12.5
Liabilities		
Debt (a)	$ 45.4	$ 56.4

(a) Debt is net of unamortized discount and issuance costs.

Committed Credit Facilities

At December 31, 2022, Ford Credit's committed capacity totaled $39.7 billion, compared with $39.8 billion at December 31, 2021. Ford Credit's committed capacity is primarily comprised of committed asset-backed security facilities from bank-sponsored commercial paper conduits and other financial institutions and unsecured credit facilities with financial institutions.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 20. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES

In the normal course of business, our operations are exposed to global market risks, including the effect of changes in foreign currency exchange rates, certain commodity prices, and interest rates. To manage these risks, we enter into highly effective derivative contracts:

- Foreign currency exchange contracts, including forwards, that are used to manage foreign exchange exposure;
- Commodity contracts, including forwards, that are used to manage commodity price risk;
- Interest rate contracts, including swaps, that are used to manage the effects of interest rate fluctuations; and
- Cross-currency interest rate swap contracts that are used to manage foreign currency and interest rate exposures on foreign-denominated debt.

Our derivatives are over-the-counter customized derivative transactions and are not exchange-traded. We review our hedging program, derivative positions, and overall risk management strategy on a regular basis.

Derivative Financial Instruments and Hedge Accounting. Derivative assets are reported in *Other assets* and derivative liabilities are reported in *Payables* and *Other liabilities and deferred revenue.*

We have elected to apply hedge accounting to certain derivatives. Derivatives that are designated in hedging relationships are evaluated for effectiveness using regression analysis at the time they are designated and throughout the hedge period. Some derivatives do not qualify for hedge accounting; for others, we elect not to apply hedge accounting.

Cash Flow Hedges. We have designated certain forward contracts as cash flow hedges of forecasted transactions with exposure to foreign currency exchange and commodity price risks.

Changes in the fair value of cash flow hedges are deferred in *Accumulated other comprehensive income/(loss)* and are recognized in *Cost of sales* when the hedged item affects earnings. Our policy is to de-designate foreign currency exchange cash flow hedges prior to the time forecasted transactions are recognized as assets or liabilities on our consolidated balance sheets and report subsequent changes in fair value through *Cost of sales*. If it becomes probable that the originally forecasted transaction will not occur, the related amount included in *Accumulated other comprehensive income/(loss)* is reclassified and recognized in earnings. The cash flows associated with hedges designated until maturity are reported in *Net cash provided by/(used in) operating activities* on our consolidated statement of cash flows. Our cash flow hedges mature within three years.

Fair Value Hedges. Our Ford Credit segment uses derivatives to reduce the risk of changes in the fair value of debt. We have designated certain receive-fixed, pay-float interest rate and cross-currency interest rate swaps as fair value hedges of fixed-rate debt. The risk being hedged is the risk of changes in the fair value of the hedged debt attributable to changes in the benchmark interest rate and foreign exchange. We report the change in fair value of the hedged debt related to the change in benchmark interest rate in *Ford Credit debt* and *Ford Credit interest, operating, and other expenses.* We report the change in fair value of the hedged debt and hedging instrument related to foreign currency in *Other income/(loss), net.* Net interest settlements and accruals and fair value changes on hedging instruments due to the benchmark interest rate change are reported in *Ford Credit interest, operating, and other expenses.* The cash flows associated with fair value hedges are reported in *Net cash provided by/(used in) operating activities* on our consolidated statements of cash flows.

When a fair value hedge is de-designated, or when the derivative is terminated before maturity, the fair value adjustment to the hedged debt continues to be reported as part of the carrying value of the debt and is recognized in *Ford Credit interest, operating, and other expenses* over its remaining life.

Derivatives Not Designated as Hedging Instruments. For total Company excluding Ford Credit, we report changes in the fair value of derivatives not designated as hedging instruments through *Cost of sales.* Cash flows associated with non-designated or de-designated derivatives are reported in *Net cash provided by/(used in) investing activities* on our consolidated statements of cash flows.

Our Ford Credit segment reports the gains/(losses) on derivatives not designated as hedging instruments in *Other income/(loss), net.* Cash flows associated with non-designated or de-designated derivatives are reported in *Net cash provided by/(used in) investing activities* on our consolidated statements of cash flows.

NOTE 20. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES *(Continued)*

Normal Purchases and Normal Sales Classification. We have elected to apply the normal purchases and normal sales classification for physical supply contracts that are entered into for the purpose of procuring commodities to be used in production over a reasonable period in the normal course of our business.

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Income Effect of Derivative Financial Instruments

The gains/(losses), by hedge designation, reported in income for the years ended December 31 were as follows (in millions):

	2020	2021	2022
Cash flow hedges			
Reclassified from AOCI to Cost of sales			
Foreign currency exchange contracts (a)	$ (11)	$ (412)	$ (213)
Commodity contracts (b)	(55)	132	133
Fair value hedges			
Interest rate contracts			
Net interest settlements and accruals on hedging instruments	290	393	(45)
Fair value changes on hedging instruments	986	(1,001)	(1,875)
Fair value changes on hedged debt	(985)	957	1,893
Cross-currency interest rate swap contracts			
Net interest settlements and accruals on hedging instruments	(2)	(8)	(27)
Fair value changes on hedging instruments	38	(93)	(111)
Fair value changes on hedged debt	(37)	82	113
Derivatives not designated as hedging instruments			
Foreign currency exchange contracts (c)	(310)	375	(3)
Cross-currency interest rate swap contracts	486	(507)	(780)
Interest rate contracts	(100)	(3)	390
Commodity contracts	47	170	(51)
Total	$ 347	$ 85	$ (576)

(a) For 2020, 2021, and 2022, a $198 million gain, a $453 million loss, and a $448 million gain, respectively, were reported in *Other comprehensive income/(loss), net of tax.*

(b) For 2020, 2021, and 2022, a $9 million gain, a $284 million gain, and a $102 million loss, respectively, were reported in *Other comprehensive income/(loss), net of tax.*

(c) For 2020, 2021, and 2022, a $228 million loss, a $230 million gain, and a $53 million loss, respectively, were reported in *Cost of sales* and a $82 million loss, an $145 million gain, and a $50 million gain were reported in *Other income/(loss), net,* respectively.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 20. DERIVATIVE FINANCIAL INSTRUMENTS AND HEDGING ACTIVITIES *(Continued)*

Balance Sheet Effect of Derivative Financial Instruments

Derivative assets and liabilities are reported on our consolidated balance sheets at fair value and are presented on a gross basis. The notional amounts of the derivative instruments do not necessarily represent amounts exchanged by the parties and are not a direct measure of our financial exposure. We also enter into master agreements with counterparties that may allow for netting of exposures in the event of default or breach of the counterparty agreement. Collateral represents cash received or paid under reciprocal arrangements that we have entered into with our derivative counterparties, which we do not use to offset our derivative assets and liabilities.

The fair value of our derivative instruments and the associated notional amounts at December 31 were as follows (in millions):

	2021			2022		
	Notional	Fair Value of Assets	Fair Value of Liabilities	Notional	Fair Value of Assets	Fair Value of Liabilities
Cash flow hedges						
Foreign currency exchange contracts	$ 11,534	$ 74	$ 346	$ 11,536	$ 376	$ 52
Commodity contracts	931	182	5	990	16	56
Fair value hedges						
Interest rate contracts	23,893	544	274	16,883	—	1,653
Cross-currency interest rate swap contracts	885	—	49	885	—	161
Derivatives not designated as hedging instruments						
Foreign currency exchange contracts	28,463	281	198	20,851	162	285
Cross-currency interest rate swap contracts	6,533	117	61	6,635	15	653
Interest rate contracts	50,060	338	126	63,210	931	483
Commodity contracts	997	54	11	841	26	35
Total derivative financial instruments, gross (a) (b)	$ 123,296	$ 1,590	$ 1,070	$ 121,831	$ 1,526	$ 3,378
Current portion		$ 924	$ 535		$ 1,101	$ 1,656
Non-current portion		666	535		425	1,722
Total derivative financial instruments, gross		$ 1,590	$ 1,070		$ 1,526	$ 3,378

(a) At December 31, 2021 and 2022, we held collateral of $26 million and $210 million, respectively, and we posted collateral of $71 million and $201 million, respectively.

(b) At December 31, 2021 and 2022, the fair value of assets and liabilities available for counterparty netting was $719 million and $451 million, respectively. All derivatives are categorized within Level 2 of the fair value hierarchy.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 21. EMPLOYEE SEPARATION ACTIONS AND EXIT AND DISPOSAL ACTIVITIES

We record costs associated with voluntary separations at the time of employee acceptance, unless the acceptance requires explicit approval by the Company. We record costs associated with involuntary separation programs when management has approved the plan for separation, the affected employees are identified, and it is unlikely that actions required to complete the separation plan will change significantly. Costs associated with benefits that are contingent on the employee continuing to provide service are accrued over the required service period.

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Company Excluding Ford Credit

Employee separation actions and exit and disposal activities include employee separation costs, facility and other asset-related charges (e.g., impairment, accelerated depreciation), dealer and supplier payments, other statutory and contractual obligations, and other expenses, which are recorded in *Cost of sales* and *Selling, administrative, and other expenses*. Below are actions we have initiated, primarily related to the global redesign of our business:

- Ford Motor Company Brasil Ltda exited manufacturing operations in Brazil, which resulted in the sale of the São Bernardo do Campo plant facilities and machinery and equipment during 2020 as well as closure of facilities in Camaçari, Taubaté, and Troller in 2021
- Ford Motor Company Limited ceased production at the Bridgend plant in the United Kingdom and the facility was closed in September 2020
- Ford India Private Limited ("Ford India") ceased vehicle manufacturing in Sanand in fourth quarter 2021 and ceased manufacturing in Chennai in third quarter 2022. In the third quarter of 2022, Ford India entered into an agreement to sell the Sanand vehicle assembly and powertrain plants. See Note 22
- Ford Espana S.L. ceased production of the Mondeo at the Valencia plant in Spain in March 2022

In addition, we are continuing to reduce our global workforce and take other restructuring actions, including the separation of salaried workers in North America and India in third quarter 2022.

The following table summarizes the activities for the years ended December 31, which are recorded in *Other liabilities and deferred revenue* (in millions):

	2021	2022
Beginning balance	$ 1,732	$ 950
Changes in accruals (a)	1,150	557
Payments	(1,883)	(883)
Foreign currency translation	(49)	(36)
Ending balance	$ 950	$ 588

(a) Excludes pension costs of $156 million and $57 million in 2021 and 2022, respectively.

In 2020, we recorded $1.4 billion of non-cash charges related to the write-off of certain tax and other assets in South America, accelerated depreciation, and other items. In addition, we recognized a pre-tax net gain on sale of assets of $39 million. In 2021, we recorded $739 million for accelerated depreciation and other non-cash items. In 2022, we recorded $32 million for accelerated depreciation, impairment of our India held-for-sale assets, and other non-cash items, partially offset by tax credits and other benefits. In addition, we recognized a $38 million pre-tax net gain on sale of assets in 2022.

We recorded $2 billion and $608 million in 2021 and 2022, respectively, related to the actions above. Total charges in 2023 related to such actions, primarily attributable to employee separations and dealer and supplier settlements, are not expected to be significant. We continue to review our global businesses and may take additional restructuring actions where a path to sustained profitability is not feasible when considering the capital allocation required for those businesses.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 21. EMPLOYEE SEPARATION ACTIONS AND EXIT AND DISPOSAL ACTIVITIES *(Continued)*

United Automobile, Aerospace, and Agricultural Implement Workers of America ("UAW") Voluntary Separation Packages

As agreed in the collective bargaining agreement ratified in November 2019, during the first quarter of 2020, we offered voluntary separation packages to our UAW hourly workforce who were eligible for normal or early retirement and recorded associated costs of $201 million in *Cost of sales*. All separations occurred during 2020. In addition, we also offered voluntary separation packages in 2022 to certain of our UAW hourly workforce who were eligible for normal or early retirement and recorded associated costs of $19 million in *Cost of sales*.

Ford Credit

Accumulated foreign currency translation losses included in *Accumulated other comprehensive income/(loss)* at December 31, 2022 of $223 million are associated with Ford Credit's investments in Brazil and Argentina that have ceased operations. We expect to reclassify these losses to income upon substantially complete liquidation of Ford Credit's investments, which may occur over multiple reporting periods. In 2022, we reclassified losses of $155 million to *Other income/(loss), net* upon the liquidation of three investments in Brazil. Although the timing for the completion of the remaining actions is uncertain, we expect the majority of losses to be recognized in 2024 or later.

NOTE 22. ACQUISITIONS AND DIVESTITURES

Company Excluding Ford Credit

Ford Romania S.R.L. ("Ford Romania"). On July 1, 2022, we completed the sale of Ford Romania, our wholly-owned Romanian manufacturing subsidiary, to Ford Otosan, a joint venture in which Ford has a 41% ownership share. The transaction resulted in deconsolidation of our Ford Romania subsidiary in the third quarter of 2022. The fair value of consideration received, consisting of cash and a note receivable, approximated the carrying value of Ford Romania at the time of sale. The Ford Romania plant in Craiova, Romania will continue to manufacture Ford-branded vehicles for Ford and Ford Otosan. Ford's portion of the output is expected to be significant; as a result, at the time of sale there were about $100 million of assets, such as embedded leases, and related liabilities that continue to be reported as part of our financial statements.

Sanand, India ("Sanand") Plants. In the third quarter of 2022, we entered into an agreement to sell our Sanand vehicle assembly and powertrain plants to Tata Passenger Electric Mobility Limited ("Tata"), a subsidiary of Tata Motors Limited. The sale transaction includes the land, buildings, and other fixed assets (excluding the powertrain machinery and equipment) for the plants. Accordingly, we have reported $88 million of fixed assets for this operation as held for sale for the period ended December 31, 2022. We recognized, in *Cost of sales*, pre-tax impairment charges of $32 million in the third quarter of 2022 to adjust the carrying value of the held-for-sale assets to fair value less costs to sell. We determined fair value using the market approach, estimated based on the negotiated value of the assets. After the sale to Tata, Ford will continue to operate the powertrain facility by leasing back the associated land and building.

On January 10, 2023, we completed the sale of the plants to Tata, which will result in derecognition of the fixed assets and recognition of the powertrain facility operating lease right-of-use asset and related lease liability in the first quarter of 2023. The fair value of the cash consideration received approximated the carrying value of the fixed assets at the time of sale.

Skinny Labs Inc., dba Spin ("Spin"). On April 1, 2022, we completed the sale of Spin, our wholly-owned micro-mobility provider, to TIER Mobility SE, a German-based micro-mobility provider, which resulted in the deconsolidation of our Spin subsidiary in the second quarter of 2022. In exchange for our shares of Spin, we received preferred equity in TIER Mobility SE, which is reflected in our consolidated balance sheets in *Other assets* as of the second quarter of 2022. The fair value of the preferred equity approximated the carrying value of Spin at the time of the transaction.

Electriphi, Inc. ("Electriphi"). On June 18, 2021, we acquired Electriphi, a California-based provider of charging management and fleet monitoring software for electric vehicles. Assets acquired primarily include goodwill, reported in *Other assets*, and software, reported in *Net property*. The acquisition did not have a material impact on our financial statements.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 22. ACQUISITIONS AND DIVESTITURES *(Continued)*

Ford Lio Ho Motor Co., Ltd. ("FLH"). On April 1, 2021, we completed the sale of our controlling financial interest in FLH and its wholly owned subsidiary FLH Marketing & Service Limited, which resulted in deconsolidation of our Ford Taiwan subsidiary in the second quarter of 2021. FLH will continue to import, manufacture, and sell Ford-branded vehicles through at least 2025. We recognized a pre-tax gain of $161 million, which was reported in *Other income/(loss), net* in the second quarter of 2021.

Getrag Ford Transmissions GmbH ("GFT"). Prior to March 2021, Ford and Magna International Inc. ("Magna") equally owned and operated the GFT joint venture for the purpose of developing, manufacturing, and selling transmissions. We accounted for our investment in GFT as an equity method investment. During the first quarter of 2021 and prior to our acquisition, GFT recorded restructuring charges, of which our share was $40 million. These charges are included in *Equity in net income/(loss) of affiliated companies.*

On March 1, 2021, we acquired Magna's shares in the restructured GFT. The purchase price, which was subject to post-closing revisions, was $275 million. The restructured GFT includes the Halewood, UK and Cologne, Germany transmission plants, but excludes the Bordeaux, France transmission plant and China interests acquired by Magna. We concluded with Magna that these businesses would be better served under separate ownership. The Sanand, India transmission plant continues under joint Ford/Magna ownership. As a result of the transaction, we consolidated the restructured GFT, remeasured our prior investment in GFT at its $275 million fair value, and recognized in *Other income/(loss), net* a pre-tax gain of $178 million during 2021 and post-closing revisions resulting in a pre-tax gain of $2 million during the first quarter of 2022. We estimated the fair value of GFT in negotiations with Magna based on the income approach. The significant assumptions used in the valuation included GFT's cash flows that reflect the approved business plan, discounted at a rate typically used for a company like GFT.

Argo AI, LLC ("Argo AI"). On June 1, 2020, we completed a transaction with VW that resulted in Ford and VW holding equal interests in Argo AI, which together comprised a majority ownership of the entity. See Note 14 for more information about our retained investment in Argo AI following this transaction.

Ford Credit Segment

In the first quarter of 2020, Ford Credit completed the sale of its wholly-owned subsidiary Forso Nordic AB, recognizing a pre-tax loss of $4 million, reported in *Other income/(loss), net*, and cash proceeds of $1.3 billion.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 23. ACCUMULATED OTHER COMPREHENSIVE INCOME/(LOSS)

The changes in the balances for each component of accumulated other comprehensive income/(loss) attributable to Ford Motor Company for the years ended December 31 were as follows (in millions):

	2020	2021	2022
Foreign currency translation			
Beginning balance	$ (4,626)	$ (5,526)	$ (5,487)
Gains/(Losses) on foreign currency translation	(1,107)	200	(1,199)
Less: Tax/(Tax benefit) (a)	(206)	143	(2)
Net gains/(losses) on foreign currency translation	(901)	57	(1,197)
(Gains)/Losses reclassified from AOCI to net income (b)	1	(18)	268
Other comprehensive income/(loss), net of tax (c)	(900)	39	(929)
Ending balance	$ (5,526)	$ (5,487)	$ (6,416)
Marketable securities			
Beginning balance	$ 71	$ 156	$ (19)
Gains/(Losses) on available for sale securities	155	(209)	(576)
Less: Tax/(Tax benefit)	37	(52)	(139)
Net gains/(losses) on available for sale securities	118	(157)	(437)
(Gains)/Losses reclassified from AOCI to net income	(45)	(23)	19
Less: Tax/(Tax benefit)	(12)	(5)	5
Net (gains)/losses reclassified from AOCI to net income	(33)	(18)	14
Other comprehensive income/(loss), net of tax	85	(175)	(423)
Ending balance	$ 156	$ (19)	$ (442)
Derivative instruments			
Beginning balance	$ (488)	$ (266)	$ (193)
Gains/(Losses) on derivative instruments	207	(169)	346
Less: Tax/(Tax benefit)	39	(20)	83
Net gains/(losses) on derivative instruments	168	(149)	263
(Gains)/Losses reclassified from AOCI to net income	66	280	80
Less: Tax/(Tax benefit)	12	58	21
Net (gains)/losses reclassified from AOCI to net income (d)	54	222	59
Other comprehensive income/(loss), net of tax	222	73	322
Ending balance	$ (266)	$ (193)	$ 129
Pension and other postretirement benefits			
Beginning balance	$ (2,685)	$ (2,658)	$ (2,640)
Prior service (costs)/credits arising during the period	(21)	—	—
Less: Tax/(Tax benefit)	(6)	—	—
Net prior service (costs)/credits arising during the period	(15)	—	—
Amortization and recognition of prior service costs/(credits) (e)	63	27	21
Less: Tax/(Tax benefit)	10	6	4
Net prior service costs/(credits) reclassified from AOCI to net income	53	21	17
Translation impact on non-U.S. plans	(11)	(3)	13
Other comprehensive income/(loss), net of tax	27	18	30
Ending balance	$ (2,658)	$ (2,640)	$ (2,610)
Total AOCI ending balance at December 31	$ (8,294)	$ (8,339)	$ (9,339)

(a) We do not recognize deferred taxes for a majority of the foreign currency translation gains and losses because we do not anticipate reversal in the foreseeable future. However, we have made elections to tax certain non-U.S. operations simultaneously in U.S. tax returns, and have recorded deferred taxes for temporary differences that will reverse, independent of repatriation plans, in U.S. tax returns. Taxes or tax benefits resulting from foreign currency translation of the temporary differences are recorded in *Other comprehensive income/(loss), net of tax*.
(b) Reclassified to *Other income/(loss), net*.
(c) Excludes a loss of $1 million, a gain of $4 million, and a loss of $4 million related to noncontrolling interests in 2020, 2021, and 2022, respectively.
(d) Reclassified to *Cost of sales*. During the next twelve months we expect to reclassify existing net losses on cash flow hedges of $160 million. See Note 20 for additional information.
(e) *Amortization and recognition of prior service costs/(credits)* is included in the computation of net periodic pension cost/(income). See Note 17 for additional information.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 24. VARIABLE INTEREST ENTITIES

A VIE is an entity that either (i) has insufficient equity to finance its activities without additional subordinated financial support, or (ii) has equity investors who lack the characteristics of a controlling financial interest. We consolidate VIEs of which we are the primary beneficiary. We consider ourselves the primary beneficiary of a VIE when we have both the power to direct the activities that most significantly impact the entity's economic performance and the obligation to absorb losses or the right to receive benefits from the entity that could potentially be significant to the VIE. Assets recognized as a result of consolidating these VIEs do not represent additional assets that could be used to satisfy claims against our general assets. Liabilities recognized as a result of consolidating these VIEs do not represent additional claims on our general assets; rather, they represent claims against the specific assets of the consolidated VIEs.

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We have the power to direct the significant activities of an entity when our management has the ability to make key operating decisions, such as decisions regarding budgets, capital investment, manufacturing, or product development. For securitization entities, we have the power to direct significant activities when we have the ability to exercise discretion in the servicing of financial assets, issue additional debt, exercise a unilateral call option, add assets to revolving structures, or control investment decisions.

VIEs of Which We are Not the Primary Beneficiary

Certain of our affiliates are VIEs in which we are not the primary beneficiary. Our maximum exposure to any potential losses associated with these unconsolidated affiliates is limited to our equity investments, accounts receivable, loans, and guarantees and was $2.8 billion and $1.0 billion at December 31, 2021 and 2022, respectively, of which $113 million of guarantees related to certain obligations of our VIEs in 2022 are also included in Note 25. The decrease in maximum exposure from December 31, 2021 is primarily explained by Argo AI (see Note 14), partially offset by the investment in BlueOval SK (as described below).

On July 13, 2022, Ford, SK On Co., Ltd., and SK Battery America, Inc. (a wholly owned subsidiary of SK On) completed the creation of BlueOval SK, LLC, a 50/50 joint venture that will build and operate electric vehicle battery plants in Tennessee and Kentucky to supply batteries to Ford and Ford affiliates. BlueOval SK is a variable interest entity of which we are not the primary beneficiary, and we use the equity method of accounting for our investment. As of December 31, 2022, Ford has contributed to BlueOval SK $691 million of its agreed capital contribution of up to $6.6 billion through 2026, subject to any adjustments agreed to by the parties.

VIEs of Which We are the Primary Beneficiary

Securitization Entities. Through Ford Credit, we securitize, transfer, and service financial assets associated with consumer finance receivables, operating leases, and wholesale loans. Our securitization transactions typically involve the legal transfer of financial assets to bankruptcy remote SPEs. We generally retain a portion of the economic interests in the asset-backed securitization transactions, which could be retained in the form of a portion of the senior interests, the subordinated interests, cash reserve accounts, residual interests, and servicing rights. The transfers of assets in our securitization transactions do not qualify for accounting sale treatment. In most cases, the bankruptcy remote SPEs meet the definition of VIEs for which we are the primary beneficiary and, therefore, are consolidated. We account for all securitization transactions as if they were secured financing and therefore the assets, liabilities, and related activity of these transactions are consolidated in our financial statements. See Note 19 for additional information on the accounting for asset-backed debt and the assets securing this debt.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 25. COMMITMENTS AND CONTINGENCIES

Commitments and contingencies primarily consist of guarantees and indemnifications, litigation and claims, and warranty and field service actions.

Guarantees and Indemnifications

Financial Guarantees. Financial guarantees and indemnifications are recorded at fair value at their inception. Subsequent to initial recognition, the guarantee liability is adjusted at each reporting period to reflect the current estimate of expected payments resulting from possible default events over the remaining life of the guarantee. The maximum potential payments for financial guarantees were $357 million and $518 million at December 31, 2021 and 2022, respectively. The carrying value of recorded liabilities related to financial guarantees was $36 million and $31 million at December 31, 2021 and 2022, respectively.

Our financial guarantees consist of debt and lease obligations of certain joint ventures, as well as certain financial obligations of outside third parties, including suppliers, to support our business and economic growth. Expiration dates vary through 2037, and guarantees will terminate on payment and/or cancellation of the underlying obligation. A payment by us would be triggered by failure of the joint venture or other third party to fulfill its obligation covered by the guarantee. In some circumstances, we are entitled to recover from a third party amounts paid by us under the guarantee.

Non-Financial Guarantees. Non-financial guarantees and indemnifications are recorded at fair value at their inception. We regularly review our performance risk under these arrangements, and in the event it becomes probable we will be required to perform under a guarantee or indemnity, the amount of probable payment is recorded. The maximum potential payments for non-financial guarantees were $453 million and $273 million at December 31, 2021 and 2022, respectively. The carrying value of recorded liabilities related to non-financial guarantees was $38 million and $0 at December 31, 2021 and 2022, respectively.

Included in the $273 million of maximum potential payments at December 31, 2022 are guarantees for the resale value of vehicles sold in certain arrangements to daily rental companies. The maximum potential payment of $267 million as of December 31, 2022 represents the total proceeds we guarantee the rental company will receive on resale. Reflecting our present estimate of proceeds the rental companies will receive on resale from third parties, we do not expect we will have to pay under the guarantee.

In the ordinary course of business, we execute contracts involving indemnifications standard in the industry and indemnifications specific to a transaction, such as the sale of a business. These indemnifications might include and are not limited to claims relating to any of the following: environmental, tax, and shareholder matters; intellectual property rights; power generation contracts; governmental regulations and employment-related matters; dealer, supplier, and other commercial contractual relationships; and financial matters, such as securitizations. Performance under these indemnities generally would be triggered by a breach of contract claim brought by a counterparty, including a joint venture or alliance partner, or a third-party claim. While some of these indemnifications are limited in nature, many of them do not limit potential payment. Therefore, we are unable to estimate a maximum amount of future payments that could result from claims made under these unlimited indemnities.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 25. COMMITMENTS AND CONTINGENCIES *(Continued)*

Litigation and Claims

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Various legal actions, proceedings, and claims (generally, "matters") are pending or may be instituted or asserted against us. These include, but are not limited to, matters arising out of alleged defects in our products; product warranties; governmental regulations relating to safety, emissions, and fuel economy or other matters; government incentives; tax matters, including trade and customs; alleged illegal acts resulting in fines or penalties; financial services; employment-related matters; dealer, supplier, and other contractual relationships; intellectual property rights; environmental matters; shareholder or investor matters; and financial reporting matters. Certain of the pending legal actions are, or purport to be, class actions. Some of the matters involve or may involve claims for compensatory, punitive, or antitrust or other treble damages in very large amounts, or demands for field service actions, environmental remediation programs, sanctions, loss of government incentives, assessments, or other relief, which, if granted, would require very large expenditures.

The extent of our financial exposure to these matters is difficult to estimate. Many matters do not specify a dollar amount for damages, and many others specify only a jurisdictional minimum. To the extent an amount is asserted, our historical experience suggests that in most instances the amount asserted is not a reliable indicator of the ultimate outcome.

We accrue for matters when losses are deemed probable and reasonably estimable. In evaluating matters for accrual and disclosure purposes, we take into consideration factors such as our historical experience with matters of a similar nature, the specific facts and circumstances asserted, the likelihood that we will prevail, and the severity of any potential loss. We reevaluate and update our accruals as matters progress over time.

For the majority of matters, which generally arise out of alleged defects in our products, we establish an accrual based on our extensive historical experience with similar matters. We do not believe there is a reasonably possible outcome materially in excess of our accrual for these matters.

For the remaining matters, where our historical experience with similar matters is of more limited value (i.e., "non-pattern matters"), we evaluate the matters primarily based on the individual facts and circumstances. For non-pattern matters, we evaluate whether there is a reasonable possibility of a material loss in excess of any accrual that can be estimated. Our estimate of reasonably possible loss in excess of our accruals for all material matters currently reflects indirect tax, customs, and regulatory matters, for which we estimate the aggregate risk to be a range of up to about $2 billion.

As noted, the litigation process is subject to many uncertainties, and the outcome of individual matters is not predictable with assurance. Our assessments are based on our knowledge and experience, but the ultimate outcome of any matter could require payment substantially in excess of the amount that we have accrued and/or disclosed.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 25. COMMITMENTS AND CONTINGENCIES *(Continued)*

Warranty and Field Service Actions

We accrue the estimated cost of both base warranty coverages and field service actions at the time of sale. We establish our estimate of base warranty obligations using a patterned estimation model, using historical information regarding the nature, frequency, and average cost of claims for each vehicle line by model year. We establish our estimates of field service action obligations using a patterned estimation model, using historical information regarding the nature, frequency, severity, and average cost of claims for each model year. In addition, from time to time, we issue extended warranties at our expense, the estimated cost of which is accrued at the time of issuance. Warranty and field service action obligations are reported in *Other liabilities and deferred revenue*. We reevaluate the adequacy of our accruals on a regular basis.

We recognize the benefit from a recovery of the costs associated with our warranty and field service actions when specifics of the recovery have been agreed with our supplier and the amount of recovery is virtually certain. Recoveries are reported in *Trade and other receivables, net* and *Other assets.*

The estimate of our future warranty and field service action costs, net of estimated supplier recoveries, for the years ended December 31 was as follows (in millions):

	2021	2022
Beginning balance	$ 8,172	$ 8,451
Payments made during the period	(3,952)	(4,166)
Changes in accrual related to warranties issued during the period	4,102	4,028
Changes in accrual related to pre-existing warranties	221	1,134
Foreign currency translation and other	(92)	(254)
Ending balance	$ 8,451	$ 9,193

Changes to our estimated costs are reported as changes in accrual related to pre-existing warranties in the table above. Our estimate of reasonably possible costs in excess of our accruals for material field service actions and customer satisfaction actions is a range of up to about $700 million in the aggregate.

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NOTE 26. SEGMENT INFORMATION

We report segment information consistent with the way our chief operating decision maker ("CODM") evaluates the operating results and performance of the Company. Accordingly, we analyze the results of our business through the following segments: Automotive, Mobility, and Ford Credit. Items not included within our segments are reported and reviewed as part of Corporate Other, Interest on Debt, and Special Items.

On January 1, 2023, we implemented a new operating model and reporting structure. With this change, we will analyze the results of our business through the following reportable segments: Ford Blue, Ford Model e, and Ford Pro (combined, replacing the Automotive segment); Ford Next (previously Mobility); and Ford Credit. As a result of the change, beginning with our Quarterly Report on Form 10-Q for the quarter ending March 31, 2023, we will report our results in these five reportable segments. Company adjusted earnings before interest and taxes ("EBIT") will include the financial results of these five reportable segments and Corporate Other, and net income will comprise the financial results of the five reportable segments and Corporate Other, as well as Interest on Debt, Special Items, and Taxes.

Below is a description of our reportable segments and other activities as of December 31, 2022.

Automotive Segment

The Automotive segment primarily includes the sale of Ford and Lincoln vehicles, service parts, and accessories worldwide, together with the associated costs to develop, manufacture, distribute, and service the vehicles, parts, and accessories. This segment includes revenues and costs related to our electrification vehicle programs and enterprise connectivity. The segment includes the following regional business units: North America, South America, Europe, China (including Taiwan), and the International Markets Group.

Mobility Segment

The Mobility segment primarily includes development costs for Ford's autonomous vehicles and related businesses, Ford's equity ownership in Argo AI (a developer of autonomous driving systems), and other mobility businesses and investments. For additional information about our investment in Argo AI, see Note 14.

Ford Credit Segment

The Ford Credit segment is comprised of the Ford Credit business on a consolidated basis, which is primarily vehicle-related financing and leasing activities.

Corporate Other

Corporate Other primarily includes corporate governance expenses, interest income (excluding interest earned on our extended service contract portfolio that is included in our Automotive segment) and gains and losses from our cash, cash equivalents, and marketable securities (excluding gains and losses on investments in equity securities), and foreign exchange derivatives gains and losses associated with intercompany lending. Corporate governance expenses are primarily administrative, delivering benefit on behalf of the global enterprise, that are not allocated to operating segments. These include expenses related to setting and directing global policy, providing oversight and stewardship, and promoting the Company's interests. Corporate Other assets include: cash, cash equivalents, and marketable securities; tax related assets; other investments; and other assets managed centrally.

Interest on Debt

Interest on Debt is presented as a separate reconciling item and consists of interest expense on Company debt excluding Ford Credit. The underlying liability is reported in the Automotive segment and in Corporate Other.

FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 26. SEGMENT INFORMATION *(Continued)*

Special Items

Special Items are presented as a separate reconciling item. They consist of (i) pension and OPEB remeasurement gains and losses, (ii) gains and losses on investments in equity securities, (iii) significant personnel expenses, dealer-related costs, and facility-related charges stemming from our efforts to match production capacity and cost structure to market demand and changing model mix, and (iv) other items that we do not necessarily consider to be indicative of earnings from ongoing operating activities. Our management ordinarily excludes these items from its review of the results of the operating segments for purposes of measuring segment profitability and allocating resources. We also report these special items separately to help investors track amounts related to these activities and to allow investors analyzing our results to identify certain infrequent significant items that they may wish to exclude when considering the trend of ongoing operating results.

NOTE 26. SEGMENT INFORMATION *(Continued)*

Key financial information for the years ended or at December 31 was as follows (in millions):

	Automotive	Mobility	Ford Credit	Corporate Other	Interest on Debt	Special Items	Eliminations/Adjustments	Total
2020								
Revenues	$ 115,894	$ 47	$ 11,203	$ —	$ —	$ —	$ —	$ 127,144
Income/(Loss) before income taxes	1,706	(1,052)	2,608	(726)	(1,649)	(2,003) (a)	—	(1,116)
Depreciation and tooling amortization	5,209	8	3,269	52	—	236	—	8,774
Interest expense	—	—	3,402	—	1,649	—	—	5,051
Investment-related interest income	158	—	94	200	—	—	—	452
Equity in net income/(loss) of affiliated companies	296	(133)	20	1	—	(142)	—	42
Cash outflow for capital spending	5,483	44	40	175	—	—	—	5,742
Total assets	62,741	3,459	157,637	45,410	—	—	(1,986) (b)	267,261
2021								
Revenues	$ 126,150	$ 118	$ 10,073	$ —	$ —	$ —	$ —	$ 136,341
Income/(Loss) before income taxes	7,397	(1,030)	4,717	(1,084)	(1,803)	9,583 (c)	—	17,780
Depreciation and tooling amortization	5,024	8	1,666	53	—	567	—	7,318
Interest expense	—	—	2,790	—	1,803	—	—	4,593
Investment-related interest income	112	—	38	104	—	—	—	254
Equity in net income/(loss) of affiliated companies	567	(258)	31	2	—	(15)	—	327
Cash outflow for capital spending	5,979	46	44	158	—	—	—	6,227
Total assets	68,969	3,325	134,428	51,730	—	—	(1,417) (b)	257,035
2022								
Revenues	$ 148,980	$ 99	$ 8,978	$ —	$ —	$ —	$ —	$ 158,057
Income/(Loss) before income taxes	9,692	(926)	2,657	(1,008)	(1,259)	(12,172) (d)	—	(3,016)
Depreciation and tooling amortization	5,159	5	2,281	72	—	157	—	7,674
Interest expense	—	—	3,334	—	1,259	—	—	4,593
Investment-related interest income	75	—	178	386	—	—	—	639
Equity in net income/(loss) of affiliated companies	667	(315)	27	1	—	(3,263) (e)	—	(2,883)
Cash outflow for capital spending	6,284	23	58	204	—	297	—	6,866
Total assets	69,933	392	137,954	49,132	—	—	(1,527) (b)	255,884

(a) Primarily reflects Global Redesign actions, mark-to-market adjustments for our global pension and OPEB plans, and the field service action for Takata airbag inflators, partially offset by the gain on our investment in Argo AI as a result of the transaction with Argo AI and VW in the second quarter of 2020.
(b) Primarily includes eliminations of intersegment transactions occurring in the ordinary course of business.
(c) Primarily reflects gains/(losses) on our Rivian investment and mark-to-market adjustments for our global pension and OPEB plans, partially offset by Global Redesign actions and the loss on extinguishment of debt.
(d) Primarily reflects gains/(losses) on our Rivian investment and the impairment of our Argo AI equity method investment.
(e) Primarily reflects the impairment of our Argo AI equity method investment.

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FORD MOTOR COMPANY AND SUBSIDIARIES
NOTES TO THE FINANCIAL STATEMENTS

NOTE 26. SEGMENT INFORMATION *(Continued)*

Geographic Information

We report revenue on a "where-sold" basis, which reflects the revenue within the country in which the ultimate sale or financing is made to our external customer.

Total Company revenues and long-lived assets, split geographically by our country of domicile (the United States) and other countries where our major subsidiaries are domiciled, for the years ended December 31 were as follows (in millions):

	2020		2021		2022	
	Revenues	Long-Lived Assets (a)	Revenues	Long-Lived Assets (a)	Revenues	Long-Lived Assets (a)
United States	$ 82,535	$ 45,360	$ 87,012	$ 44,271	$ 105,481	$ 41,925
Canada	8,711	5,111	11,153	5,773	12,590	5,739
United Kingdom	6,110	1,401	7,607	1,383	8,220	1,264
Germany	6,526	3,197	6,237	2,708	6,471	2,483
Mexico	1,030	3,669	1,440	3,903	1,813	4,255
All Other	22,232	6,296	22,892	5,462	23,482	4,371
Total Company	$ 127,144	$ 65,034	$ 136,341	$ 63,500	$ 158,057	$ 60,037

(a) Includes *Net property* and *Net investment in operating leases* from our consolidated balance sheets.

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FORD MOTOR COMPANY AND SUBSIDIARIES
Schedule II — Valuation and Qualifying Accounts
(in millions)

Description	Balance at Beginning of Period	Charged to Costs and Expenses	Deductions	Balance at End of Period
For the Year Ended December 31, 2020				
Allowances deducted from assets				
Credit losses	$ 530	$ 840	$ 38 (a)	$ 1,332
Doubtful receivables	49	28	20 (b)	57
Inventories (primarily service part obsolescence)	462	226 (c)	—	688
Deferred tax assets	843	1,301 (d)	163	1,981
Total allowances deducted from assets	$ 1,884	$ 2,395	$ 221	$ 4,058
For the Year Ended December 31, 2021				
Allowances deducted from assets				
Credit losses	$ 1,332	$ (306)	$ 100	$ 926
Doubtful receivables	57	3	13 (b)	47
Inventories (primarily service part obsolescence)	688	36 (c)	—	724
Deferred tax assets	1,981	(670) (d)	244	1,067
Total allowances deducted from assets	$ 4,058	$ (937)	$ 357	$ 2,764
For the Year Ended December 31, 2022				
Allowances deducted from assets				
Credit losses	$ 926	$ 50	$ 119	$ 857
Doubtful receivables	47	57	11 (b)	93
Inventories (primarily service part obsolescence)	724	(6) (c)	—	718
Deferred tax assets	1,067	(242) (d)	3	822
Total allowances deducted from assets	$ 2,764	$ (141)	$ 133	$ 2,490

(a) Finance receivables deemed to be uncollectible and other changes, principally amounts related to finance receivables sold and translation adjustments. For the year ended 2020, includes $(252) million related to the adoption of ASU 2016-13 for cumulative pre-tax adjustments recorded to retained earnings as of January 1, 2020.
(b) Accounts receivable deemed to be uncollectible as well as translation adjustments.
(c) Net change in inventory allowances, including translation adjustments.
(d) Change in valuation allowance on deferred tax assets including translation adjustments.

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Revisionsberättelse

Till bolagsstämman i Ford VHC AB, org.nr 556566-7895

Rapport om årsredovisningen

Uttalanden

Vi har utfört en revision av årsredovisningen för Ford VHC AB för år 2022.

Enligt vår uppfattning har årsredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av Ford VHC ABs finansiella ställning per den 31 december 2022 och av dess finansiella resultat för året enligt årsredovisningslagen. Förvaltningsberättelsen är förenlig med årsredovisningens övriga delar.

Vi tillstyrker därför att bolagsstämman fastställer resultaträkningen och balansräkningen för Ford VHC AB.

Grund för uttalanden

Vi har utfört revisionen enligt International Standards on Auditing (ISA) och god revisionssed i Sverige. Vårt ansvar enligt dessa standarder beskrivs närmare i avsnittet Revisorns ansvar. Vi är oberoende i förhållande till Ford VHC AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

Styrelsens ansvar

Det är styrelsen som har ansvaret för att årsredovisningen upprättas och att den ger en rättvisande bild enligt årsredovisningslagen. Styrelsen ansvarar även för den interna kontroll som de bedömer är nödvändig för att upprätta en årsredovisning som inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag.

Vid upprättandet av årsredovisningen ansvarar styrelsen för bedömningen av bolagets förmåga att fortsätta verksamheten. De upplyser, när så är tillämpligt, om förhållanden som kan påverka förmågan att fortsätta verksamheten och att använda antagandet om fortsatt drift. Antagandet om fortsatt drift tillämpas dock inte om styrelsen avser att likvidera bolaget, upphöra med verksamheten eller inte har något realistiskt alternativ till att göra något av detta.

Revisorns ansvar

Våra mål är att uppnå en rimlig grad av säkerhet om huruvida årsredovisningen som helhet inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag, och att lämna en revisionsberättelse som innehåller våra uttalanden. Rimlig säkerhet är en hög grad av säkerhet, men är ingen garanti för att en revision som utförs enligt ISA och god revisionssed i Sverige alltid kommer att upptäcka en väsentlig felaktighet om en sådan finns. Felaktigheter kan uppstå på grund av oegentligheter eller misstag och anses vara väsentliga om de enskilt eller tillsammans rimligen kan förväntas påverka de ekonomiska beslut som användare fattar med grund i årsredovisningen.

En ytterligare beskrivning av vårt ansvar för revisionen av årsredovisningen finns på Revisorsinspektionens webbplats: www.revisorsinspektionen.se/revisornsansvar. Denna beskrivning är en del av revisionsberättelsen.

Rapport om andra krav enligt lagar och andra författningar

Uttalanden

Utöver vår revision av årsredovisningen har vi även utfört en revision av styrelsens förvaltning för Ford VHC AB för år 2022 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

Vi tillstyrker att bolagsstämman disponerar vinsten enligt förslaget i förvaltningsberättelsen och beviljar styrelsens ledamöter ansvarsfrihet för räkenskapsåret.

Fotokopians överensstämmelse
med originalet intygas:
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2024-01-28

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Grund för uttalanden

Vi har utfört revisionen enligt god revisionssed i Sverige. Vårt ansvar enligt denna beskrivs närmare i avsnittet Revisorns ansvar. Vi är oberoende i förhållande till Ford VHC AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

Styrelsens ansvar

Det är styrelsen som har ansvaret för förslaget till dispositioner beträffande bolagets vinst eller förlust. Vid förslag till utdelning innefattar detta bland annat en bedömning av om utdelningen är försvarlig med hänsyn till de krav som bolagets verksamhetsart, omfattning och risker ställer på storleken av bolagets egna kapital, konsolideringsbehov, likviditet och ställning i övrigt.

Styrelsen ansvarar för bolagets organisation och förvaltningen av bolagets angelägenheter. Detta innefattar bland annat att fortlöpande bedöma bolagets ekonomiska situation, och att tillse att bolagets organisation är utformad så att bokföringen, medelsförvaltningen och bolagets ekonomiska angelägenheter i övrigt kontrolleras på ett betryggande sätt.

Revisorns ansvar

Vårt mål beträffande revisionen av förvaltningen, och därmed vårt uttalande om ansvarsfrihet, är att inhämta revisionsbevis för att med en rimlig grad av säkerhet kunna bedöma om någon styrelseledamot i något väsentligt avseende:

- företagit någon åtgärd eller gjort sig skyldig till någon försummelse som kan föranleda ersättningsskyldighet mot bolaget, eller
- på något annat sätt handlat i strid med aktiebolagslagen, årsredovisningslagen eller bolagsordningen.

Vårt mål beträffande revisionen av förslaget till dispositioner av bolagets vinst eller förlust, och därmed vårt uttalande om detta, är att med rimlig grad av säkerhet bedöma om förslaget är förenligt med aktiebolagslagen.

Rimlig säkerhet är en hög grad av säkerhet, men ingen garanti för att en revision som utförs enligt god revisionssed i Sverige alltid kommer att upptäcka åtgärder eller försummelser som kan föranleda ersättningsskyldighet mot bolaget, eller att ett förslag till dispositioner av bolagets vinst eller förlust inte är förenligt med aktiebolagslagen.

En ytterligare beskrivning av vårt ansvar för revisionen av förvaltningen finns på Revisorsinspektionens webbplats: www.revisorsinspektionen.se/revisornsansvar. Denna beskrivning är en del av revisionsberättelsen.

Anmärkning

Årsredovisningen har inte upprättats i sådan tid att det varit möjligt att, enligt 7 kap. 10 § aktiebolagslagen, hålla årsstämma inom sex månader efter räkenskapsårets utgång.

Göteborg 2023-12-14

PricewaterhouseCoopers AB

Johan Brobäck
Auktoriserad revisor