

## Notes to consolidated financial statements

### Investment securities impairment

The following tables present the fair value and gross unrealized losses for investment securities by aging category at December 31, 2019 and 2018.

December 31, 2019 (in millions)	Investment securities with gross unrealized losses					
	Less than 12 months		12 months or more		Total fair value	Total gross unrealized losses
	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses		
<b>Available-for-sale securities</b>						
Mortgage-backed securities:						
U.S. GSEs and government agencies	\$ 16,966	\$ 53	\$ 3,058	\$ 36	\$ 20,024	\$ 89
Residential:						
U.S.	1,072	3	423	3	1,495	6
Non-U.S.	13	—	420	1	433	1
Commercial	1,287	12	199	1	1,486	13
<b>Total mortgage-backed securities</b>	<b>19,338</b>	<b>68</b>	<b>4,100</b>	<b>41</b>	<b>23,438</b>	<b>109</b>
U.S. Treasury and government agencies	23,003	145	5,695	30	28,698	175
Obligations of U.S. states and municipalities	186	1	—	—	186	1
Certificates of deposit	77	—	—	—	77	—
Non-U.S. government debt securities	3,970	13	1,406	4	5,376	17
Corporate debt securities	—	—	—	—	—	—
Asset-backed securities:						
Collateralized loan obligations	10,364	11	7,756	45	18,120	56
Other	1,639	9	753	11	2,392	20
<b>Total available-for-sale securities</b>	<b>58,577</b>	<b>247</b>	<b>19,710</b>	<b>131</b>	<b>78,287</b>	<b>378</b>
<b>Held-to-maturity securities</b>						
Mortgage-backed securities:						
U.S. GSEs and government agencies	5,186	62	81	—	5,267	62
<b>Total mortgage-backed securities</b>	<b>5,186</b>	<b>62</b>	<b>81</b>	<b>—</b>	<b>5,267</b>	<b>62</b>
U.S. Treasury and government agencies	50	1	—	—	50	1
Obligations of U.S. states and municipalities	—	—	—	—	—	—
Asset-backed securities:						
Collateralized loan obligations	3,421	—	1,375	—	4,796	—
<b>Total held-to-maturity securities</b>	<b>8,657</b>	<b>63</b>	<b>1,456</b>	<b>—</b>	<b>10,113</b>	<b>63</b>
<b>Total investment securities with gross unrealized losses</b>	<b>\$ 67,234</b>	<b>\$ 310</b>	<b>\$ 21,166</b>	<b>\$ 131</b>	<b>\$ 88,400</b>	<b>\$ 441</b>