

## Contractual maturities and yields

The following table presents the amortized cost and estimated fair value at December 31, 2019, of JPMorgan Chase's investment securities portfolio by contractual maturity.

By remaining maturity December 31, 2019 (in millions)	Due in one year or less		Due after one year through five years		Due after five years through 10 years		Due after 10 years <sup>(b)</sup>		Total
<b>Available-for-sale securities</b>									
Mortgage-backed securities									
Amortized cost	\$	1	\$	58	\$	11,073	\$	114,516	\$ 125,648
Fair value		1		58		11,251		116,985	128,295
Average yield <sup>(a)</sup>		1.99%		2.78%		2.76%		3.40%	3.34%
U.S. Treasury and government agencies									
Amortized cost	\$	10,687	\$	92,805	\$	26,353	\$	9,317	\$ 139,162
Fair value		10,700		93,039		26,446		9,251	139,436
Average yield <sup>(a)</sup>		1.82%		1.84%		1.90%		1.98%	1.86%
Obligations of U.S. states and municipalities									
Amortized cost	\$	123	\$	193	\$	825	\$	26,552	\$ 27,693
Fair value		124		202		883		28,601	29,810
Average yield <sup>(a)</sup>		4.13%		4.68%		5.28%		4.86%	4.87%
Certificates of deposit									
Amortized cost	\$	77	\$	—	\$	—	\$	—	\$ 77
Fair value		77		—		—		—	77
Average yield <sup>(a)</sup>		0.50%		—%		—%		—%	0.50%
Non-U.S. government debt securities									
Amortized cost	\$	6,672	\$	11,544	\$	2,898	\$	313	\$ 21,427
Fair value		6,682		11,791		3,001		313	21,787
Average yield <sup>(a)</sup>		2.17%		1.84%		1.29%		1.67%	1.87%
Corporate debt securities									
Amortized cost	\$	205	\$	206	\$	412	\$	—	\$ 823
Fair value		207		212		426		—	845
Average yield <sup>(a)</sup>		4.49%		4.14%		3.50%		—%	3.91%
Asset-backed securities									
Amortized cost	\$	17	\$	2,352	\$	7,184	\$	20,923	\$ 30,476
Fair value		17		2,353		7,177		20,902	30,449
Average yield <sup>(a)</sup>		0.62%		2.78%		2.86%		2.77%	2.79%
<b>Total available-for-sale securities</b>									
Amortized cost	\$	17,782	\$	107,158	\$	48,745	\$	171,621	\$ 345,306
Fair value		17,808		107,655		49,184		176,052	350,699
Average yield <sup>(a)</sup>		1.99%		1.87%		2.27%		3.47%	2.73%
<b>Held-to-maturity securities</b>									
Mortgage-backed securities									
Amortized Cost	\$	—	\$	—	\$	5,850	\$	30,673	\$ 36,523
Fair value		—		—		6,114		31,512	37,626
Average yield <sup>(a)</sup>		—%		—%		3.06%		3.10%	3.10%
U.S. Treasury and government agencies									
Amortized cost	\$	—	\$	51	\$	—	\$	—	\$ 51
Fair value		—		50		—		—	50
Average yield <sup>(a)</sup>		—%		1.47%		—%		—%	1.47%
Obligations of U.S. states and municipalities									
Amortized cost	\$	—	\$	—	\$	99	\$	4,698	\$ 4,797
Fair value		—		—		106		4,990	5,096
Average yield <sup>(a)</sup>		—%		—%		3.91%		4.04%	4.04%
Asset-backed securities									
Amortized cost	\$	—	\$	—	\$	5,296	\$	873	\$ 6,169
Fair value		—		—		5,296		873	6,169
Average yield <sup>(a)</sup>		—%		—%		3.19%		3.11%	3.18%
<b>Total held-to-maturity securities</b>									
Amortized cost	\$	—	\$	51	\$	11,245	\$	36,244	\$ 47,540
Fair value		—		50		11,516		37,375	48,941
Average yield <sup>(a)</sup>		—%		1.47%		3.13%		3.23%	3.20%

(a) Average yield is computed using the effective yield of each security owned at the end of the period, weighted based on the amortized cost of each security. The effective yield considers the contractual coupon, amortization of premiums and accretion of discounts, and the effect of related hedging derivatives. Taxable-equivalent amounts are used where applicable. The effective yield excludes unscheduled principal prepayments; and accordingly, actual maturities of securities may differ from their contractual or expected maturities as certain securities may be prepaid.

(b) Substantially all of the Firm's U.S. residential MBS and collateralized mortgage obligations are due in 10 years or more, based on contractual maturity. The estimated weighted-average life, which reflects anticipated future prepayments, is approximately 6 years for agency residential MBS, 3 years for agency residential collateralized mortgage obligations and 3 years for nonagency residential collateralized mortgage obligations.