Mortgage servicing rights

MSRs represent the fair value of expected future cash flows for performing servicing activities for others. The fair value considers estimated future servicing fees and ancillary revenue, offset by estimated costs to service the loans, and generally declines over time as net servicing cash flows are received, effectively amortizing the MSR asset against contractual servicing and ancillary fee income. MSRs are either purchased from third parties or recognized upon sale or securitization of mortgage loans if servicing is retained. Refer to Notes 2 and 15 of JPMorgan Chase's 2021 Form 10-K for a further description of the MSR asset, interest rate risk management, and the valuation of MSRs.

The following table summarizes MSR activity for the three and six months ended June 30, 2022 and 2021.

(in millions, except where otherwise noted)	As of or for the three months ended June 30, 2022	2021	As of or for the six months ended June 30, 2022	2021
Fair value at beginning of period	**$ 7,294**	$ 4,470	**$ 5,494**	$ 3,276
MSR activity:				
Originations of MSRs	**181**	419	**596**	823
Purchase of MSRs	**160**	395	**875**	574
Disposition of MSRs [(a)]	**(614)**	(25)	**(671)**	(24)
Net additions/(dispositions)	**(273)**	789	**800**	1,373
Changes due to collection/realization of expected cash flows	**(236)**	(182)	**(468)**	(369)
Changes in valuation due to inputs and assumptions:				
Changes due to market interest rates and other[(b)]	**653**	(500)	**1,547**	336
Changes in valuation due to other inputs and assumptions:				
Projected cash flows (e.g., cost to service)	**–**	1	**–**	(23)
Discount rates	**–**	–	**–**	–
Prepayment model changes and other[(c)]	**1**	(29)	**66**	(44)
Total changes in valuation due to other inputs and assumptions	**1**	(28)	**66**	(67)
Total changes in valuation due to inputs and assumptions	**654**	(528)	**1,613**	269
Fair value at June 30	**$ 7,439**	$ 4,549	**$ 7,439**	$ 4,549
Changes in unrealized gains/(losses) included in income related to MSRs held at June 30	**$ 654**	$ (528)	**$ 1,613**	$ 269
Contractual service fees, late fees and other ancillary fees included in income	**395**	307	**765**	598
Third-party mortgage loans serviced at June 30, (in billions)	**576**	465	**576**	465
Servicer advances, net of an allowance for uncollectible amounts, at June 30, (in billions)[(d)]	**1.2**	1.7	**1.2**	1.7

(a) Includes excess MSRs transferred to agency-sponsored trusts in exchange for stripped mortgage backed securities ("SMBS"). In each transaction, a portion of the SMBS was acquired by third parties at the transaction date; the Firm acquired the remaining balance of those SMBS as trading securities.

(b) Represents both the impact of changes in estimated future prepayments due to changes in market interest rates, and the difference between actual and expected prepayments.

(c) Represents changes in prepayments other than those attributable to changes in market interest rates.

(d) Represents amounts the Firm pays as the servicer (e.g., scheduled principal and interest, taxes and insurance), which will generally be reimbursed within a short period of time after the advance from future cash flows from the trust or the underlying loans. The Firm's credit risk associated with these servicer advances is minimal because reimbursement of the advances is typically senior to all cash payments to investors. In addition, the Firm maintains the right to stop payment to investors if the collateral is insufficient to cover the advance. However, certain of these servicer advances may not be recoverable if they were not made in accordance with applicable rules and agreements.