

# Looking to evaluate the real value of your mortgage servicing rights?

**MSRKINETICS (MSRK)** is your answer. Andrew Davidson & Co., Inc. (AD&Co) has created an MSR valuation and credit analysis tool to surpass all others. We've integrated our flagship LoanDynamics borrower behavior model and our proprietary Home Price, Interest Rate, and Unemployment models with an MSR cashflow engine and robust financial engineering algorithms to provide a solution for valuation, credit analysis and hedging.

MSRKINETICS is available directly from AD&Co and can be delivered as a Desktop application, using your on-premises intranet or private cloud or as a REST API for integration with proprietary systems.

**Value Decomposition:** MSRK is equipped with many useful functions aimed at explaining the economic value of an MSR asset well beyond a single number. Given your costs to service and finance the asset, earnings from float and ancillary fees, the MSR value decomposition functionality quantifies the contribution of up to seven components of the MSR's total value – the actual servicing fee and cost to service being just two of the components. The application can be used to value the base servicing fee, the excess servicing fee, and the combination of the two.

**Hedging:** MSRK not only quantifies rate risk factors, but also non-rate risk factors, reporting commonly ignored exposures, such as model risk and housing price risk. By combining MSR assets with a user defined hedging strategy such as an MBS/TBA hedge, MSRK quantifies expected returns attributable to bearing prepayment-model risk. The user can also simulate the effectiveness of an interest rate swap.

**MSR Tail Risk:** MSRK can be used to quantify tail risk emanating from economic stress and model error. AD&Co has developed a proprietary 20 scenario grid to simulate economic stress in concert with model error. As one moves away from a base case projection towards extreme adverse economic scenarios, either from a prepayment or credit exposure perspective, there is a growing likelihood that model error will be amplified. MSRK probability weights the outcomes of these scenarios using a modified Vasicek approach to capture tail risk in terms of both economic and model risk.

**Advanced and Traditional CCAR:** Identify capital requirements for this mark to market asset. MSRK offers both the traditional Comprehensive Capital Analysis and Review (CCAR) model and our proprietary and more *advanced* Comprehensive Capital Analysis and Review (ACCAR) model. The latter allows for re-pricing MSR assets forward, along each of the required stress scenarios, but without having the foresight of whether a particular scenario will continue. Under the advanced analysis, MSRK artfully restores the market conditions that would exist at each point in the future should any of the CCAR scenarios unfold.

**What If Analysis:** MSRK allows the user to enter the costs to service, the financing cost, and the fee/earnings structure to assess the sensitivity of the MSR asset to changes in these servicer-specific variables. The user can run custom scenarios to see the asset's sensitivity to economic shocks and even tune the underlying borrower behavior model to be better aligned with the user's servicing practices and performance.

**Customization and Tunings:** MSRK allows users to customize servicing assumptions and economic scenarios to better align with user servicing practices and performance. The system can use custom tunings, including risk-neutral prepayment tunings.

## MSR Valuation and Risk:

Value and Risk ▾		Summary		Loan-Level	\$	Export Results	All Positions ▾	Choose Fields	Records 1 - 3 of 3					
Loan ID	Position Type	Price	Multiple	OAS	Yield Duration	WAL (FC)	Spread (FC)	CPR (FC)	Effective Duration	Effective Convexity	Turnover Sensitivity	Refi Sensitivity	Prepay Sensitivity	
GSE 5.5 80 750	MSR	1.1887	4.75	549	3.83	12.39	6.91	838	11.52	-20.47	-2.89	-1.90	-1.23	-3.13
MSR Total	MSR	1.1887	4.75	549	3.83	12.39	6.91	838	11.52	-20.47	-2.89	-1.90	-1.23	-3.13
TBA 5.5	Hedge	99.1200		94	3.93	5.69	5.53	165	14.82	3.65	-1.07	0.09	-0.09	0
-TBA 6.0	Hedge	100.7100		98	3.47	5.70	3.79	161	22.01	3.07	-1.05	0.03	-0.12	-0.09
Grand Total	Total	1.1810		153	19.54	11.74	7.61	773	8.62	-0.36	-3.64	0.15	-0.13	0.02

## MSR Decomposition:

MSR Decomposition ▾		Summary		Loan-Level	Export Results	Choose Fields	Records 1 - 4 of 4			
Loan ID	Current Balance	Price	Base Fee	Excess Fee	Escrow	Float	Ancillary Income	Cost	Recapture	
GSE 3.0 GWAC 80 750	\$280,632.48	1.4986	1.3066	0	0.1525	0.1863	0.2747	-0.4356	0.0141	
GSE 4.0 GWAC 80 750	\$290,613.78	1.5107	1.3022	0	0.1449	0.1958	0.2752	-0.4216	0.0142	
GSE 5.0 GWAC 80 750	\$293,276.65	1.4641	1.2263	0	0.1358	0.2066	0.2692	-0.3876	0.0138	
GSE 7.5 GWAC 80 750	\$300,000.00	1.0643	0.7497	0	0.0795	0.2445	0.1819	-0.2121	0.0209	
Total	\$1,164,522.91	1.3811	1.1418	0	0.1276	0.2088	0.2495	-0.3624	0.0158	

## Features and Capabilities

### At a Glance

MSRKinetics is powered by our LoanDynamics Model and OAS Subroutine and integrated with an MSR-specific cash flow generator to:

- Create and manage multiple analyses
- Include flexible visualizations and reporting
- Enhance visualizations and reporting results
- Expose global MSR costs and assumptions with ability to override
- Tune the model including Risk-Neutral dials

### Delivery

MSRKinetics is available directly from AD&Co and can be delivered in multiple ways:

- Desktop application
- On-premises intranet deployment or private cloud
- REST API for integration with proprietary systems

### Supporting Resources

- User Guide



**Andrew Davidson & Co.** is a leading provider of risk intelligence solutions. Founded in 1992 by **Andrew Davidson**, we are internationally recognized for our leadership in the development of financial research and analytics for loans and MBS products, valuation and hedging strategies, housing policy and GSE reform, and credit-risk transfer transactions. With over 30 years of risk management experience and a deep base of market knowledge, our team of experts turn data into meaningful insights.

### Leadership in Reliable Risk Intelligence