



Name	Loan Balance (1)	Interest Rate (2)	Dollar Weighted Interest Rate (1 x 2)	Weighted Average Coupon Sum (1 x 2) / Sum (1)	
Applebee	\$ 20,000.00	16.75%	\$ 3,350.00		
Baker	\$ 25,000.00	15.50%	\$ 3,875.00		
Coles	\$ 15,000.00	17.65%	\$ 2,647.50		
Davidson	\$ 12,000.00	16.99%	\$ 2,038.80		
Ellis	\$ 17,250.00	14.99%	\$ 2,585.78		
Franklin	\$ 13,250.00	17.25%	\$ 2,285.63		
Henderson	\$ 16,000.00	15.00%	\$ 2,400.00		
Ionetta	\$ 19,995.00	17.85%	\$ 3,569.11		
Jackson	\$ 14,250.00	16.75%	\$ 2,386.88		
	\$ 152,745.00		\$25,138.68	16.46%	Weighted Average Coupon

Name	Loan Balance (1)	Maturity in Months (2)	Dollar Weighted Maturity (1) x (2)	Weighted Average Maturity in Months	
Applebee	\$ 20,000.00	60	\$ 1,200,000.00		
Baker	\$ 25,000.00	72	\$ 1,800,000.00		
Coles	\$ 15,000.00	36	\$ 540,000.00		
Davidson	\$ 12,000.00	60	\$ 720,000.00		
Ellis	\$ 17,250.00	48	\$ 828,000.00		
Franklin	\$ 13,250.00	60	\$ 795,000.00		
Henderson	\$ 16,000.00	72	\$ 1,152,000.00		
Ionetta	\$ 19,995.00	72	\$ 1,439,640.00		
Jackson	\$ 14,250.00	72	\$ 1,026,000.00		
	\$ 152,745.00		\$ 9,500,640.00	62.20	Weighted Average Maturity
				Months	

## PLEASE READ THE FOLLOWING PRIOR TO USING THE NCUA YIELD MODEL.

Examiners may use this optional workbook to evaluate a credit union's indirect lending profitability analysis. Examiners will assess key assumptions for reasonableness in a credit union's analysis, including prepayment rates, default proportion and loss severity. Credit unions should base assumptions on actual performance of a static loan pool at least two years old.

**This model projects an expected return for a static loan pool.\* A credit union should assess a range of possible returns by changing the input assumptions.**

### **This model's calculations are based on the following computational assumptions:**

1) The principal balance represents a pool of loans. You input a **weighted average coupon (WAC)** and **weighted average maturity (WAM)**.

The worksheet is not designed to analyze a single loan. The beginning principal is the initial pool balance.

2) Each month has 30 days and each year has 360 days.

3) The maximum WAM is 72 months, although shorter periods may be specified.

4) All payments, prepayments, and defaults occur on the 30th day each month. This model does not account for deferrals of principal and interest. Recoveries and insurance proceeds occur instantly, on the 30th day of the month of default.

5) The premium on loans purchased is paid by the credit union to the vendor in full at the time the loan is originated.

6) **Constant Prepayment Rate (CPR)** reflects prepayments from early payoffs, refinancings, and defaults. The model uses prepayments expressed in terms of CPR (rather than an absolute percentage of the original balance, or ABS). CPR is a measure of the prepayment rate at which loans are expected to prepay, expressed as an annual percentage of the outstanding balance.

CPR reflects the result of compounding on a single monthly mortality (SMM). If a constant percent of the outstanding balance prepays each month, then the dollar amount of prepayments declines over time. By way of example, using a 4 percent SMM, on a \$100,000 non-amortizing loan pool, \$4,000 ( $\$100,000 \times .04$ ) would prepay in the first month, but only \$3,840 ( $\$96,000 \times .04$ ) would prepay in the second month. In the first year the CPR would be 38.73 percent, i.e.,  $[1 - (1 - .04)^{12}]$ , and the remaining balance at the end of the first year would be \$61,270, i.e.,  $[(1 - .3873) \times 100,000]$ . The remaining balance on an amortizing loan pool would be smaller by the amount of amortization.

7) The **Default Proportion** reflects the percentage of prepayments (CPR) attributed to default on a gross basis (recoveries should be excluded). For example, if 60% of the prepayments are attributed to defaulted loans, enter 60% in the Default Proportion box. The annual default percentage equals the CPR multiplied by the Default Proportion. Losses will be projected by multiplying the constant prepayment rate by the Default Proportion rate multiplied by the Loss Severity.

8) The model requires input of a **Loss Severity**. For example, if data indicates an average defaulted loan balance of \$10,000 results in an average loss of \$2,000, input a loss severity of 20%. The Loss Severity should reflect the proceeds from any insurance coverage. For purposes of this model, it is assumed that recoveries occur the same month a default occurs.

9) For servicing fees, all outstanding loans balances are subject to the servicing fee.

\* Static loan pool means a series of loans underwritten with the same criteria during the same month, quarter, or year. Static loan pools do not take into consideration the addition of new loan originations outside of the specified time period.

NCUA Yield Model

Performance Statistics				Cash Flow:		Cash Flow and Non-cash Flow:			Cash Flow:		Cash Flow Reduction:		Cash Flow:		Cash Flow:		
				Month	Beginning Loan Principal	Monthly Payment	Contractual Principal (included in Monthly Payment)	Prepayment of Principal (also includes non-cash flow Loss Dollars)	Interest (included in Monthly Payment)	Ending Principal Balance	Servicing Fee	Default Dollars (included in Prepayments)	Losses (included in Prepayments)	Direct & Indirect CU Costs	Input your adjustments (positive for inflows, negative for outflows)	Net Cash Flows	Month
Loan Information				Time Varying CPR (Prepayments)	Time Varying Default Proportion	Time Varying Loss Severity											
Beginning Principal	\$1,000,000			0	1,000,000.00					1,000,000.00						(1,150,000.00)	0
WAM (enter whole months)	66	10.00%	70.00%	1	1,000,000.00	\$23,973.86	\$8,973.86	\$6,663.16	15,000.00	982,362.98	1,250.00	6,064.22	1,212.84	833.33		\$29,340.84	1
WAC	18.00%	10.00%	70.00%	2	982,362.98	\$23,764.29	\$9,028.84	\$6,508.51	14,735.44	964,825.63	1,227.95	5,955.96	1,191.19	818.64		\$29,035.01	2
		10.00%	70.00%	3	964,825.63	\$23,556.55	\$9,084.16	\$6,354.72	14,472.38	947,386.75	1,206.03	5,848.30	1,169.66	804.02		\$28,731.55	3
<b>Servicing Fees/Costs</b>		10.00%	70.00%	4	947,386.75	\$23,350.63	\$9,139.82	\$6,201.79	14,210.80	930,045.13	1,184.23	5,741.25	1,148.25	789.49		\$28,430.44	4
Purchase Premium	15.00%	10.00%	70.00%	5	930,045.13	\$23,146.50	\$9,195.83	\$6,049.71	13,950.68	912,799.60	1,162.56	5,634.79	1,126.96	775.04		\$28,131.66	5
Purchase Fee	\$150,000	10.00%	70.00%	6	912,799.60	\$22,944.17	\$9,252.17	\$7,896.46	13,691.99	895,648.97	1,141.00	5,528.92	1,105.78	760.67		\$27,835.18	6
Servicing Fee (%)	1.50%	10.00%	70.00%	7	895,648.97	\$22,743.60	\$9,305.86	\$7,748.04	13,434.73	878,592.06	1,119.56	5,423.63	1,084.73	746.37		\$27,540.98	7
Direct & Indirect CU Costs	1.00%	10.00%	70.00%	8	878,592.06	\$22,544.78	\$9,365.90	\$7,598.44	13,178.88	861,627.73	1,098.24	5,318.91	1,063.78	732.16		\$27,249.04	8
		10.00%	70.00%	9	861,627.73	\$22,347.70	\$9,423.29	\$7,449.64	12,924.42	844,754.80	1,077.03	5,214.75	1,042.95	718.02		\$26,959.34	9
<b>Yield Analysis</b>		10.00%	70.00%	10	844,754.80	\$22,152.35	\$9,481.03	\$7,301.64	12,671.32	827,972.13	1,055.94	5,111.15	1,022.23	703.96		\$26,671.85	10
Bond Equivalent Yield	5.32%	10.00%	70.00%	11	827,972.13	\$21,958.70	\$9,539.12	\$7,154.42	12,419.58	811,278.59	1,034.97	5,008.10	1,001.62	689.98		\$26,386.56	11
Monthly Yield	5.26%	10.00%	70.00%	12	811,278.59	\$21,766.75	\$9,597.57	\$7,007.98	12,169.18	794,673.04	1,014.10	4,905.59	981.12	676.07		\$26,103.45	12
		15.00%	70.00%	13	794,673.04	\$21,576.47	\$9,656.38	\$6,860.00	11,920.10	774,456.66	993.34	4,792.00	1,478.40	662.23		\$25,820.50	13
		15.00%	70.00%	14	774,456.66	\$21,286.23	\$9,669.38	\$6,728.88	11,616.85	754,499.41	968.07	4,677.51	1,440.30	645.38		\$25,539.55	14
WAL (months) cash flows	24.92	15.00%	70.00%	15	754,499.41	\$20,999.88	\$9,682.39	\$6,601.24	11,317.49	734,797.78	943.12	4,561.47	1,402.69	628.75		\$25,264.56	15
WAL (months) principal	27.32	15.00%	70.00%	16	734,797.78	\$20,717.39	\$9,695.43	\$6,468.43	11,021.97	715,348.31	918.50	4,446.83	1,365.57	612.33		\$24,991.04	16
<b>Enter data in yellow cells only.</b>		15.00%	70.00%	17	715,348.31	\$20,438.71	\$9,708.52	\$6,325.23	10,730.92	696,147.60	894.19	4,331.96	1,328.91	596.12		\$24,711.71	17
		15.00%	70.00%	18	696,147.60	\$20,163.76	\$9,721.55	\$6,187.25	10,442.21	677,192.28	870.18	4,218.28	1,292.73	580.12		\$24,434.50	18
		15.00%	70.00%	19	677,192.28	\$19,892.52	\$9,734.64	\$6,078.60	10,157.88	658,479.04	846.49	4,103.02	1,257.00	564.33		\$24,159.31	19
		15.00%	70.00%	20	658,479.04	\$19,624.93	\$9,747.74	\$5,976.70	9,877.19	640,004.68	823.10	3,987.60	1,221.74	548.73		\$23,884.76	20
		15.00%	70.00%	21	640,004.68	\$19,360.94	\$9,760.87	\$5,878.01	9,600.07	621,765.72	800.01	3,872.60	1,186.92	533.34		\$23,611.68	21
		15.00%	70.00%	22	621,765.72	\$19,100.49	\$9,774.01	\$5,782.48	9,326.49	603,759.23	777.21	3,759.23	1,152.55	518.14		\$23,340.83	22
		15.00%	70.00%	23	603,759.23	\$18,843.56	\$9,787.17	\$5,697.00	9,056.39	585,981.99	754.70	3,646.39	1,118.61	503.13		\$23,071.29	23
		15.00%	70.00%	24	585,981.99	\$18,590.07	\$9,800.34	\$5,612.76	8,789.73	568,430.88	732.48	3,534.88	1,085.11	488.32		\$22,804.93	24
		35.00%	70.00%	25	568,430.88	\$18,340.00	\$9,813.54	\$5,529.69	8,526.46	549,919.45	710.54	3,424.54	1,053.00	473.69		\$22,540.95	25
		35.00%	70.00%	26	549,919.45	\$17,693.30	\$9,609.51	\$5,446.46	8,083.79	510,645.49	673.65	3,311.49	1,021.62	449.10		\$22,281.98	26
		35.00%	70.00%	27	510,645.49	\$17,069.40	\$9,409.72	\$5,374.51	7,659.68	483,561.27	638.31	3,201.51	1,000.23	425.54		\$22,025.63	27
		35.00%	70.00%	28	483,561.27	\$16,467.50	\$9,214.08	\$5,302.42	7,253.42	457,620.82	604.45	3,091.45	1,000.23	402.97		\$21,771.66	28
		35.00%	70.00%	29	457,620.82	\$15,886.83	\$9,022.51	\$5,231.15	6,864.31	432,779.90	572.03	2,982.90	1,000.23	381.35		\$21,521.28	29
		35.00%	70.00%	30	432,779.90	\$15,326.63	\$8,834.93	\$5,161.09	6,491.70	408,995.88	540.97	2,874.88	1,000.23	360.63		\$21,271.22	30
		35.00%	70.00%	31	408,995.88	\$14,786.18	\$8,651.24	\$5,091.24	6,134.94	386,227.74	511.24	2,769.74	1,000.23	340.83		\$21,021.64	31
		35.00%	70.00%	32	386,227.74	\$14,264.79	\$8,471.38	\$5,021.39	5,793.42	364,435.97	482.78	2,664.35	1,000.23	321.86		\$20,771.69	32
		35.00%	70.00%	33	364,435.97	\$13,761.79	\$8,295.25	\$4,956.54	5,466.54	343,582.53	455.54	2,559.54	1,000.23	303.70		\$20,521.69	33
		35.00%	70.00%	34	343,582.53	\$13,276.52	\$8,122.78	\$4,892.94	5,153.74	323,630.81	429.48	2,454.26	1,000.23	286.32		\$20,273.61	34
		35.00%	70.00%	35	323,630.81	\$12,808.37	\$7,953.91	\$4,831.36	4,854.46	304,545.55	404.54	2,349.55	1,000.23	269.69		\$20,025.61	35
		45.00%	70.00%	36	304,545.55	\$12,356.72	\$7,788.54	\$4,764.21	4,568.18	286,292.81	380.68	2,244.81	1,000.23	253.79		\$19,777.47	36
		45.00%	70.00%	37	286,292.81	\$11,921.00	\$7,626.61	\$4,692.93	4,294.39	265,123.27	357.87	2,140.05	1,000.23	238.58		\$19,529.47	37
		45.00%	70.00%	38	265,123.27	\$11,511.85	\$7,468.80	\$4,621.85	4,027.85	245,231.64	331.40	2,035.64	1,000.23	223.94		\$19,281.52	38
		45.00%	70.00%	39	245,231.64	\$11,120.46	\$7,311.98	\$4,552.40	3,767.47	226,547.26	306.54	1,930.54	1,000.23	209.36		\$19,033.82	39
		45.00%	70.00%	40	226,547.26	\$10,766.05	\$7,166.87	\$4,483.21	3,512.22	209,003.19	281.18	1,826.18	1,000.23	195.79		\$18,787.63	40
		45.00%	70.00%	41	209,003.19	\$9,767.13	\$6,632.08	\$4,414.05	3,257.05	192,536.06	261.25	1,721.25	1,000.23	178.17		\$18,542.65	41
		45.00%	70.00%	42	192,536.06	\$9,292.46	\$6,404.41	\$4,346.83	2,998.04	177,085.81	240.67	1,616.67	1,000.23	160.45		\$18,298.56	42
		45.00%	70.00%	43	177,085.81	\$8,840.85	\$6,184.56	\$4,280.65	2,742.29	162,595.60	221.36	1,511.36	1,000.23	142.57		\$18,055.44	43
		45.00%	70.00%	44	162,595.60	\$8,411.19	\$5,972.26	\$4,214.75	2,488.93	149,011.59	203.24	1,406.24	1,000.23	125.50		\$17,814.56	44
		45.00%	70.00%	45	149,011.59	\$8,002.42	\$5,767.24	\$4,149.55	2,235.17	136,282.80	186.26	1,301.26	1,000.23	108.18		\$17,574.91	45
		45.00%	70.00%	46	136,282.80	\$7,613.51	\$5,569.26	\$4,084.24	2,004.24	124,360.98	170.35	1,196.35	1,000.23	91.35		\$17,337.79	46
		45.00%	70.00%	47	124,360.98	\$7,243.50	\$5,378.08	\$4,018.45	1,785.41	113,200.43	155.45	1,091.45	1,000.23	74.37		\$17,102.33	47
		45.00%	70.00%	48	113,200.43	\$6,891.47	\$5,193.46	\$3,952.04	1,569.01	102,757.93	141.50	1,000.23	1,000.23	58.33		\$16,868.43	48
		45.00%	70.00%	49	102,757.93	\$6,556.55	\$5,015.18	\$3,884.21	1,351.37	92,992.54	128.45	906.45	1,000.23	43.65		\$16,636.65	49
		45.00%	70.00%	50	92,992.54	\$6,237.91	\$4,843.02	\$3,816.99	1,139.89	83,865.53	116.24	811.24	1,000.23	29.50		\$16,407.50	50
		45.00%	70.00%	51	83,865.53	\$5,934.75	\$4,676.77	\$3,748.50	1,257.98	75,340.26	104.83	706.83	1,000.23	16.79		\$16,181.51	51
		45.00%	70.00%	52	75,340.26	\$5,646.33	\$4,516.22	\$3,681.98	1,130.10	67,382.05	94.18	601.18	1,000.23	4.78		\$15,957.52	52
		45.00%	70.00%	53	67,382.05	\$5,371.92	\$4,361.19	\$3,612.76	1,010.73	59,958.11	84.23	506.23	1,000.23	3.51		\$15,734.51	53
		45.00%	70.00%	54	59,958.11	\$5,110.85	\$4,211.48	\$3,544.21	2,709.24	53,037.39	74.95	411.95	1,000.23	2.81		\$15,511.81	54
		45.00%	70.00%														