

# What Multiple of Your Investment Do You Expect and In What Period? ©

Arthur Lipper

Investors in royalties and other securities may describe investments they have made as the multiple of their original investment that was returned. This is often without regard to the time it took to achieve the result.

The more professional approach is to review investment success in terms of the Internal Rate of Return (IRR) achieved, which accounts for both time and multiple.


In the traditional approach, where an equity position is acquired at an initial valuation and then sold a number of years later, hopefully at a higher valuation, the IRR is calculated point-to-point. A 10 fold increase achieved after 10 years yields a 25.9% IRR, according to industry-standard tables such as this one:

<b>YEARS</b>	2	3	4	5	6	7	8	9	10
2	41.4	73.2	100.0	123.6	144.9	164.6	182.8	200	216.2
3	26.0	44.2	58.7	71.0	81.7	91.3	100.0	108.0	115.4
4	18.9	31.6	41.4	49.5	56.5	62.7	68.2	73.2	77.8
5	14.9	24.6	32.0	38.0	43.1	47.6	51.6	55.2	58.5
6	12.2	20.1	26.0	30.8	34.5	38.3	41.4	44.2	46.8
7	10.4	17.0	21.9	25.8	29.2	32.0	34.6	36.9	38.9
8	9.1	14.7	18.9	22.3	25.1	27.5	29.7	31.6	33.4
9	8.0	13.0	16.7	19.6	22.0	24.1	26.0	27.7	29.2
10	7.2	11.6	14.9	17.5	19.6	21.5	23.1	24.6	25.9

The IRR calculation for a royalty investment is somewhat different from the traditional point-to-point approach, because a royalty measures a series of payments during the investment period, not just the the final one. In the following table, for 10 years of the 20

years of a \$5 million royalty investment, cumulative royalty payments are slightly over \$50.0 million in the 10<sup>th</sup> year, yielding a 10x multiple. But the IRR for this series of payments is 48%, because royalty payments by the 4<sup>th</sup> year exceeded the amount invested and therefore the IRR became positive.

Welcome User : **al al**



## REX Royalty Financing Analytics

For Project - **RSDO10**

**ROYALTY FINANCING  
CALCULATOR**  
EQUITY RETENTION - INCREASING INCOME

Total Royalty : **\$5,000,000**  
Maturity : **20 years**

Price/Earning Ratio : **20**  
Net-After-Tax : **40.00%**

Year	Projected Revenues	Royalty Rate	Royalty Distribution	Cumulative Royalties	Annual Current Yield	Percent of Cost	Compound Annual RoR	IRR (%)	Business Value
1	6,000,000	10.00%	600,000	600,000	12%	12%	-88%	-88	48,000,000
2	12,000,000	10.00%	1,200,000	1,800,000	24%	36%	-40%	-44.64	96,000,000
3	24,000,000	10.00%	2,400,000	4,200,000	48%	84%	-5.65%	-6.88	192,000,000
4	36,000,000	10.00%	3,600,000	7,800,000	72%	156%	11.76%	15.5	288,000,000
5	54,000,000	10.00%	5,400,000	13,200,000	108%	264%	21.43%	29.84	432,000,000
6	81,000,000	10.00%	8,100,000	21,300,000	162%	426%	27.32%	39.52	648,000,000
7	101,250,000	5.00%	5,062,500	26,362,500	101.25%	527.25%	26.81%	42.67	810,000,000
8	126,562,500	5.00%	6,328,125	32,690,625	126.56%	653.81%	26.45%	45	1,012,500,000
9	158,203,125	5.00%	7,910,156	40,600,781	158.2%	812.01%	26.2%	46.73	1,265,625,000
10	197,753,906	5.00%	9,887,695	50,488,476	197.75%	1009.76%	26.01%	48.02	1,582,031,248

This is the Analytics table for the full 20 years, showing a 52% IRR for the anticipated series of royalty payments.

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10	197,753,906	5.00%	9,887,695	50,488,476	197.75%	1009.76%	26.01%	48.02	1,582,031,248
11	247,192,383	5.00%	12,359,619	62,848,095	247.19%	1256.95%	25.87%	49.01	1,977,539,064
12	308,990,479	5.00%	15,449,524	78,297,619	308.99%	1565.94%	25.77%	49.76	2,471,923,832
13	386,238,098	5.00%	19,311,905	97,609,524	386.24%	1952.18%	25.68%	50.34	3,089,904,784
14	482,797,623	5.00%	24,139,881	121,749,405	482.8%	2434.98%	25.61%	50.8	3,862,380,984
15	603,497,028	5.00%	30,174,851	151,924,256	603.5%	3038.48%	25.56%	51.15	4,827,976,224
16	754,371,285	5.00%	37,718,564	189,642,820	754.37%	3792.85%	25.51%	51.43	6,034,970,280
17	942,964,107	5.00%	47,148,205	236,791,025	942.96%	4735.81%	25.47%	51.65	7,543,712,856
18	1,178,705,134	5.00%	58,935,257	295,726,282	1178.71%	5914.52%	25.44%	51.83	9,429,641,072
19	1,473,381,417	5.00%	73,669,071	369,395,353	1473.38%	7387.9%	25.41%	51.97	11,787,051,336
20	1,841,726,771	5.00%	92,086,339	461,481,692	1841.73%	9229.63%	25.39%	52.09	14,733,814,168

The point is this: a description of an overall royalty investment result should take into consideration the timing and amount of all interim payments.

It is possible for royalty investors and issuers to determine either agreed royalty payment terms or agreed minimum level royalty payment terms. This can be accomplished by using either a Royalty Satisfied Discount Obligation (RSDO) or by the royalty issuer agreeing to an annual minimum royalty payment.

An RSDO allows investors to pay a discounted amount in advance, in order to receive a projected series of royalty payments over a given time period.

The following table allows a user to enter the amount to be paid for a royalty, the number of years of royalty payment and the percentage of cost the royalty payments shall equal. The current features of the website calculators show a 10 times return. In the new and simplified calculator, the noted factors reflecting the cost, maturity and cumulative royalty payment will be calculated for an additional basis of negotiation between issuers and investors.

## **Table to come**

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