CIPHER RESEARCH REPORT

STREAMING COMPANIES PART 2

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In **Streaming Companies Part 1** we outlined the key characteristics of streaming companies and highlighted the vital risk inherent in this lucrative model – project risk.

In Part 2 we show the approach we take in valuing streaming companies.

In **The Real Value Of Gold In the Ground** we explain our approach in valuing mineral assets. We apply the same fundamental valuation to the individual assets in the portfolio of a streaming company.

There is of course an argument to be made that the streaming company has contractual security over the future gold production and is not concerned with the overall health of mining operations, therefore risk is mitigated.

For the most part this argument holds true and has worked well for streaming companies, albeit at the expense of miners' equity holders; in some cases however as we showed with Sandstorm and Luna Gold in **Part 1** if the economics are not robust enough everyone loses.

In our approach to valuing streaming companies, on a project level we apply the same fundamental valuation as we do for advanced developers and producers. On a company-wide level the approach is the following:

VALUING STREAMING COMPANIES

The following tables display summaries of the financial/operating history of the four largest streamers followed by the ratio analysis we apply when valuing them:

ROYAL GOLD														
FINANCIALS **(In millions $US)**	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**
Revenues	278	237	289	263	216	137	74	66	48	28	25	21	16	12
COGS	33	9	0	0	0	0	0	0	0	0	0	0	1	1
Net Earnings	53	63	73	98	77	29	41	24	20	11	11	9	7	11
CFO	192	147	173	162	147	48	30	39	24	19	15	13	12	7
Current assets	791	736	744	445	169	371	319	211	96	85	56	52	37	14
Total Assets	293	2,892	2,373	2,376	1,903	1,861	810	546	357	172	102	94	86	30
Total Liabilities	510	519	510	513	415	428	50	51	26	10	11	11	11	2
Share Capital	2,171	2,165	1,692	1,692	1,360	1,356	703	464	311	167	104	102	101	58
Retained Earnings	185	190	181	160	100	52	47	19	9	-4	-11	-18	-25	-29
Dividends	56	53	44	30	22	15	10	11	6	5	4	3	2	1

Acronyms: COGS = Cost of Goods Sold, CFO = Cash Flow from Operations

ROYAL GOLD														
RATIO ANALYSIS	**2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**
ROIC (CFO/Share Cap + Net Debt)	10.2	7.6	11.8	9.2	9.2	3.4	6.9	12.9	10.1	20.1	25.2	22.0	15.5	16.2
ROIC (NI/Share Cap + Net Debt)	2.8	3.3	5.0	5.6	4.8	2.1	9.5	7.9	8.2	12.3	19.5	14.6	9.0	23.4
EV$/CFO	17.1	17.7	23.8	21.9	30.9	88.1	93.4	64.5	66.3	51.2	61.2	52.9	31.5	55.0
MC$/CFO	13.4	17.7	23.8	21.9	30.9	88.1	93.4	64.5	66.3	51.2	61.2	52.9	31.5	55.0
EV$/Revenues	11.8	11.0	14.2	13.5	21.0	31.2	38.0	38.0	33.4	33.6	35.8	33.2	23.3	33.1
MC$/Revenues	9.3	11.0	14.2	13.5	21.0	31.2	38.0	38.0	33.4	33.6	35.8	33.2	23.3	33.1
Dividend/CFO	29.2	36.3	25.4	18.2	15.1	30.2	34.1	28.3	23.5	25.8	24.6	19.3	20.4	12.1
Dividend Yield (Dividend/MC)	1.4	1.5	1.0	0.7	0.8	0.6	0.6	1.2	0.6	0.7	1.0	0.6	0.6	2.2

Acronyms: ROIC= Return on Invested Capital, NI= Net income, MC= Market Capitalization, EV= Enterprise Value, CFO = Cash Flow from Operations

SILVER WHEATON												
FINANCIALS (In millions $US)	**Q3 2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**
Revenues	448	620	706	850	730	423	239	167	175	159	71	11
COGS	129	151	139	117	86	83	64	44	51	53	38	6
Net Earnings	7	200	375	586	550	153	118	17	92	85	25	2
CFO	300	432	534	719	626	320	166	111	119	105	30	8
Current assets	84	338	101	785	845	436	233	9	12	61	121	21
Total Assets	5,009	4,648	4,390	3,189	2,872	2,635	2,238	1,271	1,208	663	266	157
Total Liabilities	666	1,019	1,023	82	172	373	513	383	426	21	2	3
Share Capital	2,818	2,038	1,879	1,812	1,794	1,783	1,333	662	540	530	194	119
Retained Earnings	1,552	1,620	1,513	1,297	835	344	344	226	209	112	27	1
Dividends	51	80	160	124	64	0	0	0	0	0	0	0

SILVER WHEATON												
RATIO ANALYSIS	**Q3 2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**
ROIC (CFO/Share Cap + Net Debt)	11.8	15.9	19.1	64.9	55.9	18.6	10.3	10.7	12.5	21.4	40.0	8.2
ROIC (NI/Share Cap + Net Debt)	0.3	9.8	20.0	32.3	30.7	8.6	8.8	2.6	17.0	16.1	13.1	1.5
EV$/CFO	**18.5**	**20.7**	**18.9**	**15.4**	**19.3**	**25.2**	**22.5**	**28.7**	**26.4**	**19.8**	**18.1**	**4.7**
MC$/CFO	**17.0**	**19.1**	**17.1**	**16.3**	**20.4**	**25.4**	**20.8**	**25.4**	**22.9**	**20.2**	**22.0**	**6.9**
EV$/Revenues	**12.4**	**14.4**	**14.3**	**13.0**	**16.6**	**19.1**	**15.6**	**19.1**	**17.9**	**13.1**	**7.7**	**3.6**
MC$/Revenues	**11.4**	**13.3**	**13.0**	**13.8**	**17.5**	**19.2**	**14.4**	**16.9**	**15.6**	**13.3**	**9.3**	**5.2**
Dividends/CFO	17.0	18.5	30.0	17.2	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividend Yield (Dividend/MC)	1.0	1.0	1.7	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FRANCO NEVADA								
FINANCIALS (In millions $US)	**Q3 2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
Revenues	322	443	401	427	411	233	200	151
COGS	69	73	60	59	63	8	7	8
Net Earnings	56	107	12	103	-7	74	81	40
CFO	228	267	249	306	288	163	122	109
Current assets	719	699	912	878	894	599	540	248
Total Assets	3,312	3,467	3,045	3,244	2,901	2,234	2,021	1,504
Total Liabilities	65	61	81	95	67	132	91	70

Share Capital	3,684	3,657	3,133	3,117	2,804	1,922	1,849	1,549
Retained Earnings	-239	-198	-213	-121	-136	70	-9	-15
Dividends (DRIP)	70	91	102	78	49	33	28	22

DRIP= Dividend Reinvestment Plan

FRANCO NEVADA								
RATIO ANALYSIS	**Q3 2015**	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**
ROIC (CFO/Share Cap + Net Debt)	10.0	8.8	10.8	13.1	14.6	11.2	8.7	7.9
ROIC (NI/Share Cap + Net Debt)	2.5	3.5	0.5	4.4	-0.3	5.1	5.8	2.9
EV$/CFO	22.4	27.3	22.2	20.6	15.2	18.3	18.5	14.7
MC$/CFO	24.5	29.7	25.5	23.1	18.0	21.2	22.2	16.3
EV$/Revenues	15.9	16.5	13.8	14.8	10.6	12.8	11.3	10.6
MC$/Revenues	17.4	17.9	15.9	16.6	12.6	14.8	13.6	11.8
Dividends/ CFO	30.8	34.0	40.8	25.4	17.1	20.4	23.1	20.0
Dividend Yield (Dividend/MC)	1.3	1.1	1.6	1.1	0.9	1.0	1.0	1.2

SANDSTORM						
FINANCIALS (In millions $US)	**Q3 2015**	**2014**	**2013**	**2012**	**2011**	**2010**
Revenues	43	56	60	56	30	3
COGS	11	14	15	12	8	1
Net Earnings	-18	12	-75	22	12	-3
CFO	26	35	32	38	21	0
Current Assets	50	93	102	147	13	29
Total Assets	408	431	380	342	153	132
Total Liabilities	9	10	10	5	1	1
Share Capital	460	457	383	281	126	108
Retained Earnings	-36	-18	-29	28	6	-7
Dividends	0	0	0	0	0	0

SANDSTORM						
RATIO ANALYSIS	**Q3 2015**	**2014**	**2013**	**2012**	**2011**	**2010**
ROIC (CFO/Share Cap + Net Debt)	8.2	9.4	11.1	26.9	18.2	0.6
ROIC (NI/Share Cap + Net Debt)	-5.8	3.1	-25.6	15.7	11.0	-3.6
EV$/CFO	9.6	14.1	18.9	19.2	18.7	409.4
MC$/CFO	10.8	16.5	21.8	23.0	19.3	469.6
EV$/Revenues	5.8	8.8	10.2	13.0	12.9	60.2
MC$/Revenues	6.5	10.3	11.7	15.5	13.3	69.1
Dividends/ CFO	0.0	0.0	0.0	0.0	0.0	0.0
Dividend Yield (Dividend/MC)	0.0	0.0	0.0	0.0	0.0	0.0

OPERATIONAL HEALTH & RETURN ON INVESTED CAPITAL

Since the core operating activity of streaming & royalty companies is investing in mines rather than operating them, Return on Invested Capital becomes central to our analysis operating efficiency. The following tables compare the historic averages:

Average for the Life of the Company					
Ratio	**Royal Gold**	**Silver Wheaton**	**Franco Nevada**	**Sandstorm**	**Average**
ROIC (CFO/Share Cap + Net Debt)	9.6%	25.5%*	10.7%	14.8%	15.1%
ROIC (NI/Share Cap + Net Debt)	4.3%	18.3%**	3.0%	-0.3%	6.3%
EV$/CFO	21.7	21.2	19.9	16.1	19.7
MC$/CFO	20.9	20.6	22.6	18.3	20.6
EV$/Revenues	13.9	14.8	13.3	10.1	13.0
MC$/Revenues	13.4	14.3	15.1	11.5	13.6
Dividends as % of CFO	24.5%	18.6%	26.5%	-	23.2
Dividend Yield (Dividend/MC)	0.8%	1.1%	1.2%	-	1.0%

Current financial reporting period (Q3 2015)					
Ratio	**Royal Gold**	**Silver Wheaton**	**Franco Nevada**	**Sandstorm**	**Average**
ROIC (CFO/Share Cap + Net Debt)	3.8%	11.8%	10.0%	8.2%	8.5%
ROIC (NI/Share Cap + Net Debt)	-2.2%	0.3%	-0.6%	-5.2%	-1.9%
EV$/CFO	15.1	15.5	23.3	8.96	15.7
MC$/CFO	11.8	14.1	25.4	10.17	15.4
EV$/Revenues	4.8	10.4	16.5	5.41	9.3
MC$/Revenues	3.7	9.4	18.0	6.14	9.3
Dividends as % of CFO	52.6%	17.0%	30.8	-	33.4%
Dividend Yield (Dividend/MC)	2.2%	1.0%	1.3%	-	1.5%

We use two measures of Return On Invested Capital

Cash From Operations (CFO)/Share Cap + Net Debt and **Net Income (Net Income)/Share Capital + Net Debt**

Share Capital reflects the value of all equity investments made in the company; Share Capital + Net Debt reflects all equity and debt investments made in the company. Cash Flow from Operations and Net Income as a percentage of total investment are measures of return on invested capital.

The companies with the highest ROICs typically enjoy the highest valuation multiples on the market. Silver Wheaton appears to be an exception at present. One reason might be that the company is in a review process with Revenue Canada, for tax evasion and will most likely be paying penalties. This potential reduction in Return On Invested Capital appears be built into the market price at present.

Enterprise Value /Cash Flow from Operations (CFO) & Market Capitalization/ Cash Flow from Operations (CFO)
The two ratios show reflect how the market values the operations of streaming &royalty companies.

Historically EV$/CFO and MC$/CFO for Streaming & Royalty companies have been consistent averaging 20Xs and ranging within 15-25Xs CFO. This comes to show that the market values streaming & royalties companies consistently based on their profitability, which in turn depends on selecting good mines to deliver the promised gold.

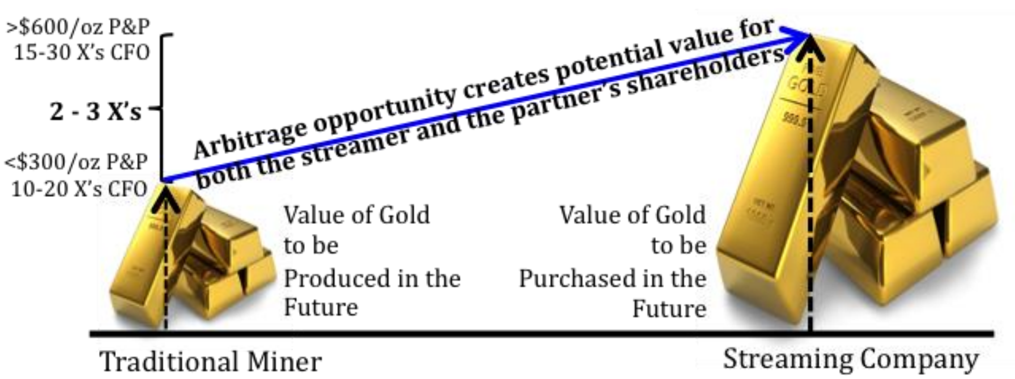
As we already established fundamentally the profitability of these companies depends on the strength of the underlying assets. An example of how underperforming assets affect the streaming company is the recent performance of Sandstorm. Sandstorm's CFO to market price multiples have fallen in the last two years (currently trading around 10Xs from their historic average of around 17X). This is a result of their decreased ROIC due to key asset underperformance - the closing of the Aurizona Mine in Brazil (Luna Gold) in early 2015.

VALUE ARBITRAGE OPORTUNITY

An important point to make is that the market values gold in the ground and gold produced by traditional miners lower than gold attributed to a streaming company. This creates a certain value arbitrage opportunity, which can be captured by timely and wise investment in a streamer with quality projects in their portfolio.

The table below compares Enterprise Value to Cash Flow from Operations and Proven and Attributable Probable Reserves for the three segments indicated:

Sector	Historic Average	
	EV/CFO	EV/P&P
Streaming & Royalties	29.0	606
Major Miners	26.0	480
Mid-Tier Miners	11.9	338



In years of rising gold prices, streaming and royalty companies are valued higher by the market. CFO multiples were as high as 30Xs in the years leading up to 2012 as investors expect higher cash flows and earnings. With the exception of Franco Nevada, recent CFO price multiples for all companies have fallen to an average of around 15Xs from historic 20Xs following the fall in the price of gold.

In our opinion Franco Nevada has maintained higher valuations because of their Consistent Return On Invested Capital coupled with high asset diversification, which mitigates the risk of mine closure and default.

In addition Franco Nevada has been consistently returning the highest percentage of free cash flows to shareholders and has maintained the highest average dividend yield, although our analysis does not shows a positive correlation between dividend pay and market price multiples. A good example here is Sandstorm; the company has never paid dividends yet until recently (Aurizona Mine closure) maintained ratios very much on par with the other streamers. Similarly Silver Wheaton had not pay dividends up until 2011 and actually enjoyed higher price multiples during that time.

In the next part of the series on streaming companies we will review some value benchmarks and outline our future expectations for the four major streamers.

For more information on this and other topics related to the metals and mining markets, please contact **info@cipherresearch.com**

About Cipher Research

Cipher Research Ltd. is an independent research and analysis company covering Metals and Mining markets. We develop comprehensive valuation models applying the disciplines of Geology, Economics, Statistics and Finance ("Geonomics"). Our valuation models have proven to be successful in generating investing and trading strategies.

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