January 25, 2023

All figures in USD unless otherwise stated

Large-Caps

Franco-Nevada Corporation	FNV
Wheaton Precious Metals Corp.	WPM
Royal Gold, Inc.	RGLD
Osisko Gold Royalties Ltd	OR
Sandstorm Gold Ltd.	SAND
Triple Flag Precious Metals Corp.	TFPM

Mid-Caps & Small-Caps

Altius Minerals Corporation	ALS
Ecora Resources Plc	ECOR
Gold Royalty Corp.	GROY
Metalla Royalty & Streaming Ltd.	MTA
Trident Royalties Plc	TRR
Elemental Altus Royalties Corp	ELE
Nova Royalty Corp.	NOVR
Vox Royalty Corp.	VOX
Empress Royalty Corp.	EMPR

Please refer to the applicable disclosures on the back page Source: Atrium Research, CapitalIQ, FactSet, Company Documents Ben Pirie | Equity Research Analyst | bpirie@atriumresearch.ca | 647-688-9661

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What you need to know:

- Mining royalties and streams are low-risk alternatives to investing directly in mining companies and commodities
- Royalties and streams have vastly outperformed gold miners over the last 20 years since they are not exposed to exploration risk, capex inflation, or dilution risk while boasting high EBITDA margins and ROIC
- Recent trends include a focus on battery metals, large-scale M&A, and increasing prevalence due to poor equity prices among miners

What are Mining Royalties?

Mining royalties are agreements between a mining operator and a government or royalty company where the mining operator makes payments to the royalty owner in exchange for a cash payment or the right to extract minerals from a specific area. Royalties are typically structured as a percentage of the total production or total sales (commodity agnostic). Royalties typically do not have any responsibility for the capex or opex of the mining operation, meaning royalties get all the upside of increased production without any of the costs. These deals are typically perpetual, thus if the mining company continues to develop its asset and produce more gold in the long-term, the royalty firm continues to get paid every quarter.

What are Mining Streams?

Mining streams are agreements between a mining operator and a streaming company that allows the streaming company to purchase a portion of future production at a predetermined price (usually a discount to spot) in exchange for an upfront cash payment. There is typically a maximum output received by the streaming company in these deals (capped upside). Streams provide mining companies with a source of financing to continue developing their properties while securing a future buyer for its production. These deals are typically for a byproduct commodity since the mining company is not necessarily valued in the public markets based on byproduct production, but its main commodity.



Figure 1: Royalties & Streams Graphic (Source: Investor News)

We believe that the main investment driver for royalties and streams is management's capital allocation skills and network of mining executives; selecting solid projects that will grow over time and finding advantageous deals.

Why Do We Like Them?

No Mining Risk

Royalty and streaming companies are not exposed to exploration and development risk, meaning their cashflow is relatively stable and predictable. This is a very different type of investment compared to buying producers, developers, or explorers since these are financial instruments engineered to generate stable FCF and returns.

Royalties and streams are also less exposed to swings in commodity prices, both to the downside and upside since their margins will not expand/decline as much as a mining producer would. We think this factor will begin to get appreciated further by the street as markets continue to be highly volatile over the next year.

No Capex Inflation Risk

With inflation hitting all major cost inputs for mining companies over the last year, global AISCs have increased significantly; meaning that the abnormally high ROEs and FCF conversion posted by mining producers in 2021 and 2022 are likely over. This is not the case for royalty and streaming companies as they do not have any capex or major opex. We think that this can result in further multiple expansion for royalty and streaming equities in 2023 as investors begin to see capex inflation hit the major producers' financial statements. For instance, in Q3, Barrick's AISC increased 23% YoY to \$1,269/oz while Newmont's AISC increased 13% YoY to \$1,271; during the same quarter, Franco Nevada's opex decreased 3% YoY.

High Margins & High ROIC

Our company universe has an average EBITDA margin over the last twelve months of 64%, with the three largest players averaging 78%. This has steadily increased over the last five years due to rising metals prices and improving operational efficiencies. At the peak of the last commodity cycle (2012), the largest three royalty/streaming equities had 84% EBITDA margins on average, implying there is further margin expansion ahead as the current commodity supercycle progresses.

At \sim \$1800/oz gold, mining and streaming firms have proven to post 12%+ ROICs, trending upward over the last five years with commodity prices (Figure 3). This trumps the 9% average seen in the 2012 peak, given the lower cost of capital and development of major projects. Given that the industry has had a mature and stable valuation (\sim 20x EBITDA) for years now, we think ROIC and EBTIDA growth will be the drivers of investment performance going forward.

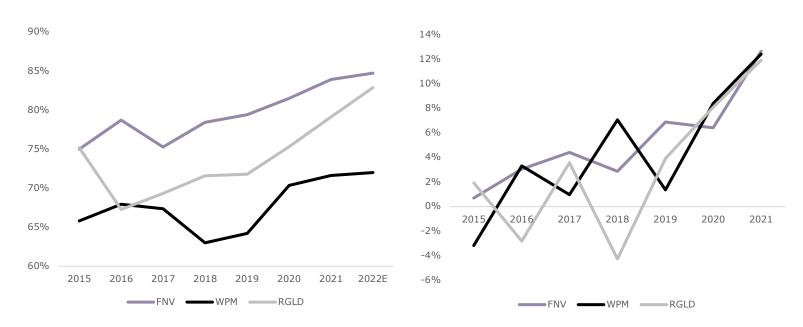


Figure 2: EBITDA Margins (Source: FactSet)

Figure 3: ROIC (Source: FactSet)

Diversified Exposure

The royalty and streaming equities are largely diversified amongst various projects, geographies, and commodities. For example, FNV is diversified across 416 assets (113 producing) spanning 17 countries. This provides additional de-risking to the royalty/streaming stories and justifies the premium multiple.

Fair Valuation

Our royalties and streaming universe currently trades at 16x 2023E EBITDA and 19x 2023E CFPS (Figure 4), which we think is objectively low based on our views of a 5-10 year commodity supercycle ahead of us. We think that in the medium term that the major royalties/streams can consistently post 12% ROICs and 85% EBITDA margins given the stability in the gold price above ~\$1,800/oz, providing justification for multiple expansion. When we look back at the historical valuation of FNV, WPM, and RGLD (Figure 5), we find a tight band around 17-22x forward EBITDA which is in line with their current valuation (21x on average). As mentioned above, it is possible that this is the mature multiple for the industry and if so, the ROIC and FCF generation will determine investment returns (our base case).

We would also like to highlight that royalties and streams are sheltered from financing/dilution risk, unlike their mining counterparts. The royalty/streaming economics often do not change when a mining operator raises money, providing another justification for the premium multiple.

	Ticker	Share Price	Mkt Cap	EV	Dividend	EBITDA	ROIC	EV/EBITDA		P/CF	
		(US\$M)	(US\$M)	(US\$M)	Yield	Margin (LTM)	(LTM)	2022E	2023E	2022E	2023E
Large Caps											
Franco-Nevada Corporation	FNV	148.24	28,412	27,360	0.9%	84%	13%	24.7x	23.8x	28.9x	27.5x
Wheaton Precious Metals Corp.	WPM	45.72	20,664	20,171	1.3%	71%	13%	26.1x	23.3x	27.1x	24.4x
Royal Gold, Inc.	RGLD	128.31	8,423	8,753	1.0%	78%	9%	19.0x	17.3x	20.7x	18.5x
Osisko Gold Royalties Ltd	OR	13.76	2,531	2,535	1.3%	46%	4%	22.9x	18.2x	23.0x	18.7x
Sandstorm Gold Ltd.	SAND	6.04	1,800	2,313	0.8%	69%	7%	22.4x	17.4x	14.2x	16.8x
Triple Flag Precious Metals Corp.	TFPM	13.40	2,691	2,605	1.5%	78%	4%	21.9x	15.6x	17.7x	15.2x
Average					1.1%	71%	8%	22.8x	19.3x	21.9x	20.2x
Mid-Caps & Small Caps											
Altius Minerals Corporation	ALS	16.88	804	823	1.3%	76%	6%	12.1x	15.3x	14.0x	19.3x
Ecora Resources Plc	ECOR	1.87	480	501	6.2%	89%	26%	3.5x	6.7x	3.5x	6.5x
Gold Royalty Corp.	GROY	2.52	363	355	1.2%	N/A	N/A	N/A	N/A	N/A	N/A
Metalla Royalty & Streaming Ltd.	MTA	5.32	239	246	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
Trident Royalties Plc	TRR	0.60	176	194	0.0%	N/A	N/A	36.1x	18.8x	N/A	20.1x
Elemental Altus Royalties Corp	ELE	0.93	140	159	0.0%	45%	N/A	35.2x	8.7x	N/A	13.9x
Nova Royalty Corp.	NOVR	1.20	102	107	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
Vox Royalty Corp.	VOX	2.30	102	99	1.7%	13%	N/A	32.9x	12.7x	32.2x	22.7x
Empress Royalty Corp.	EMPR	0.25	22	25	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
Average					1.2%	56%	16%	24.0x	12.4x	16.5x	16.5x
Universe Average					1.1%	65%	10%	23.4x	16.1x	20.1x	18.5x

Figure 4: Peer Group Analysis (Source: FactSet)

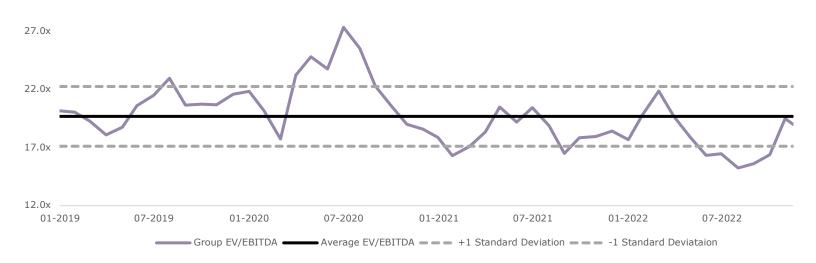


Figure 5: FNV, WPM, RGLD Valuation History (Source: FactSet)

How Are These Deals Structured?

There are three main types of royalty structures:

- Net smelter returns royalties (NSR)
- Net profit interest royalties (NPI)
- Gross overriding royalties (GOR)

An NSR is determined by the amount of proceeds generated by the sale of minerals after they have been processed at a smelter; there may be additional costs in this structure including transportation, insurance, and security. The NPI structure is based on a fixed percentage of net income (i.e., after all operating expenses and taxes). Typically, NPIs are not payable until the mining operator has recouped its capital investment. The GOR structure entitles the royalty owner to a share of the gross revenue less any costs to bring the commodity ready for sale. GORs are mainly used for diamonds and oil & gas.

Another key element of the structuring is ensuring that the royalty extends through perpetuity and will survive through bankruptcy or ownership changes. Royalties/streams can also be structured into different parts of the capital structure with minimum payment scheduling to make them more debt-like. Overall, royalties and streams are highly customizable and depend on the jurisdiction of the asset.

Recent Trends

Focus on battery metals – As of late, the global push for electrification has driven massive demand for battery metals. This has brought significant price increases for most battery metals as well as the exploration and producing equities. In addition, government policy is quickly changing in the favour of the battery metal industry which will further increase awareness and investment in this space. We believe royalties will play a major role in the funding of these critical metals projects and will benefit from the current opportunities in this space for the next several decades.

Harder to raise money in public markets – As the cost of capital in the junior mining space has significantly increased over the last year, we think that streaming and royalty financings will become even more common. Royalties and streams have steady cashflow and thus can borrow money or raise equity favourably; this becomes an inherent competitive advantage if the current financial market conditions continue (i.e., low liquidity, smaller financings, lack of interest in mining equities). This can result in further multiple expansion for the royalties and streaming equities as they can effectively deploy capital into high IRR projects.

Large scale M&A

- May 5th, 2022 Sandstorm Gold acquires Nomad Royalty for US\$590M
- June 15th, 2022 Elemental Royalties and Altus Strategies Merger
- July 11th, 2022- Royal Gold acquires Great Bear Royalties for US\$153M
- September 28th, 2022 Gold Royalty Corp. acquired royalty portfolio from Nevada Gold Mines (Barrick Newmont JV)
- November 10th, 2022 Triple Flag and Maverix Metals Merger

Performance vs. Miners & Commodities

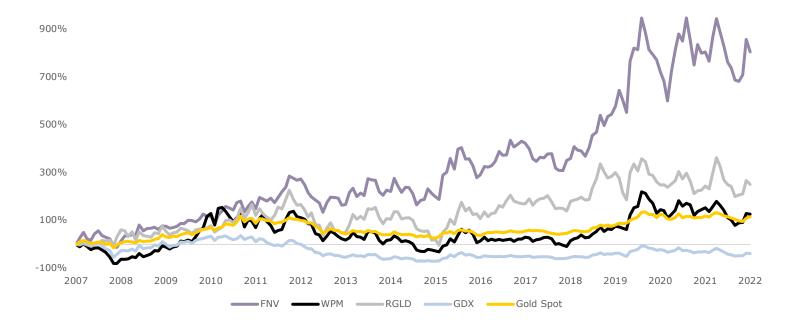


Figure 6: 15-Year Performance Comparison

Key Small/Mid-Cap Players

Trident Royalties Plc (TRR:LON)

TRR is a mining royalty company focusing on accretive transactions targeting the small-to-mid size transactions which are often overlooked in a royalty space which is dominated by larger players. Trident is well diversified, holding royalties across precious, base, battery metals, and bulk materials. The Company, led by Adam Davidson, sees opportunity in the relatively untapped non-precious metals royalty sector and is positioning itself accordingly with less than half of its portfolio in precious metals. TRR's portfolio is made up of 22 assets with 12 in production and 63% in tier-1 jurisdictions (Canada, the U.S., and Australia). Trident recently agreed to sell its pre-production gold royalties for six projects which it acquired from Talga Resources to Franco Nevada for cash proceeds of up to \$15.8M.

Empress Royalty Corp. (EMPR:TSXV)

Empress Royalty is a global royalty company with a portfolio of 17 precious metal assets focusing on gold and silver. 13 of its assets are in Canada, minimizing jurisdictional risk and increasing investor confidence. EMPR has strategic partnerships with Endeavour Financial and Terra Capital who bring unique mining finance experience, deal structuring, and access to capital markets. With major projects coming online in 2023, the Company expects revenues to triple from \$2.7M in 2022 to over \$8.0M in 2023. EMPR is led by Alexandra Sherron (CEO & President) who has over 20 years of experience in the mining industry and investment banking.

Nova Royalty Corp. (NOVR:TSXV)

NOVR aims to take advantage of the global energy transition by owning royalties on copper and nickel deposits. Nova's projects are owned by large-cap operators including First Quantum, Teck, Newmont, Hudbay, Lundin, and Anglo. The portfolio consists of one producing asset, eight development assets and 13 exploration assets spanning across North and South America. The Company's founder and CEO Alex Tsukernik has over 15 years of experience in metals & mining as a merchant and investment banker.

Vox Royalty Corp. (VOX:TSXV)

Vox Royalty's portfolio consists of over 50 royalties and streams with an 80% weighting to Australia, Canada, and the U.S, mainly covering precious metals assets. This consists of seven producing mines, 23 development projects (10 of which are nearing production), and 32 exploration projects. Vox also has a unique proprietary database that assists in identifying new opportunities. Vox initiated a quarterly US\$0.01/share dividend in September 2022, implying a 1.7% yield. Founder and CEO Kyle Floyd has over 10 years of experience in royalty and streaming as well as investment banking.

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RATING	COVERED COMPANIES
BUY	1
HOLD	0
SELL	0

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